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City of Columbia City, Indiana Stormwater Quality Management Plan Part C – Program Implementation Certification

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Chapter 1 – Existing Stormwater Quality Management Overview

1.0 Initial Evaluation of Columbia City’s Stormwater Quality Management

This chapter describes the City of Columbia City’s stormwater quality management efforts prior to the development and implementation of the proposed Stormwater Quality Management Plan provided in the following chapters.

The following subsections are summaries of the material presented in the City of Columbia City’s Part B submittal.

1.1 Current Stormwater Management

The Columbia City Stormwater Utility and Stormwater Management Board was formed in March 2002. In March 2004, the Stormwater Management Board, which had originally consisted of three members, disbanded and all stormwater management responsibilities were transferred to the Board of Public Works. The Board of Public Works meets on a weekly basis. Both the City’s utilities and outside consultants provide the Board with the resources necessary to manage the City’s stormwater.

At the time this stormwater quality management plan was drafted, the City was in the process of creating a monthly stormwater user fee. The fee will be a function of a given land use’s imperviousness. This rates and charges fee has since been implemented and is defined in Ordinance Number 2006-19.

Prior to the development of the Stormwater Quality Management Plan, the Columbia City Board of Works did not have a Stormwater Quality Ordinance.

1.2 MS4 Area Boundary Narrative

The MS4 Area Boundary is defined as the City of Columbia City’s corporate limits. The MS4 Area Boundary Narrative Summary can be found in **Appendix A**. The mapped boundary of the MS4 area is shown on the MS4 Conditions Map, **Appendix B**.

1.3 Watersheds

United States Geological Survey National Hydrogeological Database was used and six primary watersheds were identified within the City’s corporate limits. The 14-digit hydrogeological unit codes (HUCs) and the names for the watersheds are:

1. No. 05120104020040: Blue River – North Tributary/Columbia City
2. No. 05120104010040: Eel River – Solon Ditch

1.4 Receiving Streams

The following water bodies were identified in the Part B submittal as receiving streams. There have been no changes since that submittal.

1. Eel River
2. Blue River
3. Phillips Ditch

1.5 Outfalls

A comprehensive Stormwater Outfall Inventory was completed in the Spring of 2009. For reference, the stormwater outfalls are shown on the MS4 Conditions Map, **Appendix B**.

1.6 Estimate of the Linear Feet of MS4, Segregated by Conveyance Type

The City of Columbia City has estimated that there are approximately 56,700 linear feet (10.74 miles) of pipes and 13,300 linear feet (2.52 miles) of ditches. Therefore, the MS4 Conveyance System is approximately 13.26 miles in length. Based on the above discussion, it has been estimated that 100% of Columbia City's MS4 Conveyance System has been mapped to date.

1.7 Description of Current Structural and Nonstructural BMPs

The City of Columbia City has one municipally owned retention basin and three privately owned retention basins. The public retention basin is located at Morsche's Park. The retention basin is effective in slowing down the discharge rate from its watershed area. Slowing down the discharge rate can prevent erosion from high water velocities downstream. The retention pond also settles out some solids and, if well vegetated, can filter pollutants. This BMP can improve water quality because it tends to remove pollutants before they leave the retention basin area. Also, this BMP can improve water quality because it does not create additional pollutants by causing downstream erosion.

This existing structural BMP is shown on the MS4 Conditions Map, **Appendix B**.

An initial evaluation of nonstructural BMPs was performed as a part of the Part B submittal process. The current nonstructural BMPs are generally described in Chapters 3 through 8. The existing nonstructural BMP programs were reviewed for sufficiency. The programs were altered as necessary to comply with the requirements of Rule 13.

1.8 Current Land Uses

Industrial Areas: The industrial areas identified are shown on the MS4 Conditions Map within **Appendix B**. These will be visually monitored for potential pollutants during the ongoing characterization of this plan. Additional data gathering from monitoring points along the receiving streams may generate additional key observations.

Agricultural Areas: The agricultural areas investigated are shown on the MS4 Conditions Map within **Appendix B**. These areas will be visually monitored for potential pollutants during the ongoing characterization of this plan. A partnering relationship with the Whitley County SWCD will further aid in monitoring of the agricultural sector. As data is gathered from monitoring points along the receiving streams, additional key observations may be generated.

Existing Monitoring Points: Existing monitoring points and monitoring data were evaluated. It was found that the existing monitoring points and their corresponding data did not allow for conclusions to be made about land usage and their effect on stormwater quality. Since the original Bonar study, monitoring points have been determined and

testing criteria have been established. The monitoring locations are shown on the MS4 Conditions Map, **Appendix B**.

1.9 Sensitive Areas

Endangered species such as the bat and the bald eagle are likely to be present in the Columbia City area. Both have been sighted and/or are assumed to be present due to the fact the correlation between their choice for habitats and the undeveloped (rural) forested geography of the area. However, there are no identifiable sensitive areas with respect to endangered species habitats.

Public surface water supply intakes are not an issue for the City of Columbia City. The City obtains its drinking water from groundwater. Thus, there are no sensitive areas with respect to public surface water supply intakes.

The banks of the Blue River are steep and make the River virtually inaccessible to the public. Areas in which the public can gain access or come in contact with the river directly are few, if any. Thus, there are no sensitive areas with respect to public access/full body contact recreation areas.

The waters of Columbia City are not among those identified as “waters of the state that are designated for exceptional use” or as “water of high quality”, nor are they among those identified as “Outstanding State Resource Waters.” Thus, there are no sensitive areas with respect to outstanding state resource waters. Although the Eel River is listed on the “Outstanding River’s List” and could be considered a sensitive area.

There are no known sensitive areas identified by the local community.

Palustrine wetlands were the only wetlands identified in the City’s Long-Term Control Plan by the National Wetlands Inventory. Palustrine wetlands lack flowing water and typically include inland marshes and swamps. Thus, there are no sensitive areas with respect to wetlands.

These sensitive areas are shown on the MS4 Conditions Map in **Appendix B**.

1.10 Areas Having Reasonable Potential for Causing Water Quality Problems

Correlative conclusions between existing water quality data and potential problem areas could not be made from the existing data that was gathered and analyzed. Monitoring point locations were recommended in an effort to gather more useful data. With the new data, identifying water quality problem areas should be possible by the end of this 5-year term.

The City’s ordinances establish legal authority to carry out such activities as inspection, surveillance, and monitoring or enforcement procedures necessary to ensure compliance with the minimum control measures (MCMs) identified in later chapters.

1.11 Identification of Areas Causing Stormwater Pollution from Existing Water Quality Data

A water quality testing program has been implemented to identify potential sources of stormwater pollution. The test points and testing standard can be found in **Appendix B**.

Chapter 2 – Proposed Stormwater Quality Management Plan

2.0 Purpose

The purpose of a Stormwater Quality Management Plan (SWQMP) in Phase II of the U.S. Environmental Protection Agency's (EPA) stormwater program originates from the 1990 Clean Water Act (CWA) which aims to preserve, protect, and improve the nation's water resources from polluted stormwater run-off. A SWQMP requires the institution of controls on the unregulated sources of stormwater discharges, otherwise referred to as non-point source pollutants that have proven to be the greatest cause to the impairment of our nation's water resources.

2.1 Governing Authority

The Columbia City Board of Public Works will continue to serve as the managers and overall governing authority of the City of Columbia City's Stormwater Quality Management Plan. In addition to the Board, the City's Outside Operations Manager, the City's Utility Departments, the Whitley County Soil and Water Conservation District and the City's Street Department will also be included as major stakeholders in the development, implementation, and maintenance of the proposed Stormwater Quality Management Plan that follows.

2.2 Minimum Control Measures and their Measurable Goals

The following Stormwater Quality Management Plan (SWQMP) includes six minimum control measures (MCMs): (1) public education and outreach; (2) public participation and involvement; (3) illicit discharge detection and elimination; (4) construction site stormwater run-off control (which is also referred to as erosion control); (5) post-construction run-off control; and (6) pollution prevention and good housekeeping. These minimum control measures aim to preserve, protect, and improve Columbia City's water resources with respect to polluted stormwater run-off.

Providing outreach and educating the public helps to ensure greater support by the public and greater compliance with the SWQMP itself. The public education and outreach program, outlined in Chapter 3, aims to increase the number of persons residing within the corporate limits of Columbia City that are educated about stormwater quality by 5%. The goal is to achieve the 5% increase by the end of the 5-year permit term.

An active and involved community is crucial to the success of a stormwater management program because it allows for: broader public support by giving citizens partial responsibility of the program; shorter implementation schedules; a broader base of expertise and economic benefits; and a lead into other programs. The public participation and involvement program, outlined in Chapter 4, aims to increase the number of persons residing within the corporate limits of Columbia City that participate in stormwater quality programs by 5%. The goal is to achieve the 5% increase by the end of the 5-year permit term.

Recognizing the adverse effects illicit discharges can have on receiving water, Chapter 5 allows the MS4 Operator to detect and eliminate illicit discharges by gaining a thorough awareness of the entire stormwater sewer system. The illicit discharge detection and

elimination program aims to reduce the amount of stormwater pollution caused by illicit discharges within the corporate limits of Columbia City by 10%. The goal is to achieve the 10% reduction by the end of the 5-year permit term.

Construction site stormwater management in areas undergoing new development or redevelopment is necessary to keep polluted stormwater run-off from entering the MS4 conveyances that discharge into the City of Columbia City's receiving waters, untreated. The construction site run-off control program, outlined in Chapter 6, aims to reduce the amount of total suspended solids leaving individual construction sites by 80%. The goal is to achieve the 80% reduction during the construction period of any new development required to gain local approval.

Similarly, post-construction stormwater management in areas undergoing new development or redevelopment is necessary to keep run-off from entering the MS4 conveyances that discharge into the City of Columbia City's receiving waters, untreated. The post-construction stormwater run-off control program, outlined in Chapter 7, aims to reduce the amount of total suspended solids leaving any new site development or redevelopment after construction by 80%. The goal is to achieve the 80% reduction for all new site developments required to gain local approval.

The pollution prevention and good housekeeping measure is meant to improve or protect receiving water quality by altering municipal facilities operations. The pollution prevention and good housekeeping program, outlined in Chapter 8, aims to reduce the amount of stormwater pollution currently caused within operational areas of Columbia City by 10%. The goal is to achieve the 10% reduction by the end of the 5-year permit term.

2.3 Narrative Summary of Structural BMPs Allowed for New Development & Redevelopment

The following structural BMPs are proposed to be allowed for new development and redevelopment. The goal of these structural BMPs is to prevent 80% of the total suspended solids (TSS) leaving any new development or redevelopment construction site from entering the City's conveyance system.

Stormwater Ponds: Stormwater ponds are constructed stormwater retention basins with a permanent pool (or micro-pool) of water. Runoff from each rain event is captured and treated in the pool. This includes wet ponds; wet extended detention ponds; micro-pool extended detention ponds; and multiple pond systems.

Detention Basins (Dry): A dry detention basin is an area used to detain stormwater for a relatively short period of time. The area should be dry between storms. The basin allows for particles and pollutants to settle out of stormwater.

Catch Basins: Catch basin inserts are small filtering devices installed in each catch basin to trap suspended solids and other pollutants. Catch basin inserts are available in a variety of designs.

Stormwater Wetlands: Stormwater wetlands are constructed, artificial wetland systems used for stormwater management. They consist of a combination of shallow marsh areas, open water, and semi-wet areas above the permanent pool. This includes

shallow wetlands; extended detention wetlands; pond/wetland systems; and pocket wetlands.

Bioretention Areas: Bioretention areas are shallow stormwater basins or landscaped areas that utilize engineered soils and vegetation to capture and treat stormwater runoff.

Sand Filters: Sand filters are multi-chamber structures designed to treat stormwater runoff through filtration using a sand bed as its primary filter media. This includes surface sand filters and perimeter sand filters.

Water Quality Swales: Water quality swales are vegetated open channels that are designed and constructed to capture and treat stormwater runoff within dry cells. This includes dry swales.

Biofilters: Biofilters provide some filtering capabilities. However, they cannot meet the 80% TSS reduction goal and must therefore be used only as pretreatment measures or as part of a treatment train. This includes filter strips and grass channels.

2.4 Narrative Summary of Structural BMP Selection Criteria

The following are selection criteria for structural BMPs that are allowed for new development and redevelopment. Again, the goal of these structural BMPs is to prevent 80% of the total suspended solids (TSS) leaving any new development or redevelopment construction site from entering the City's conveyance system.

Development of Open Land: The following BMPs are appropriate when developing individual lots of open land for commercial strips, light industry, and institutions: bioretention; wet ponds; detention basins; artificial wetlands; sand filters; water quality swales; catch basins; and biofilters. Again, biofilters may only be used in combination with other appropriate BMPs in order to obtain a percentage reduction goal of 80%.

The following BMPs are appropriate when developing open land for commercial or industrial subdivisions: wet ponds; detention basins; and wetlands.

The following BMPs are appropriate when developing open land for residential properties: bioretention; wet ponds; detention basins; artificial wetlands; water quality swales; and biofilters.

Redevelopment of a Commercial Building or Strip with Medium Imperviousness: The following BMPs are appropriate when redeveloping a commercial building or strip with medium imperviousness into another commercial development or strip: bioretention; sand filters; catch basins; wet ponds; detention basins; and wetlands.

Redevelopment of a Commercial Building or Strip that is Small or has High Imperviousness: The following BMPs are appropriate when redeveloping a commercial building or strip that is small or has high imperviousness into another commercial development or strip: bioretention; sand filters; and catch basins.

Redevelopment of Transportation Infrastructure: The following BMPs are appropriate when increasing or expanding transportation infrastructure: water quality swales; wet ponds; detention basins; artificial wetlands; and catch basins.

Allowed BMPs, selection criteria for appropriate BMPs and performance standards for individual BMPs are discussed in more detail in the City’s Development Standards Manual.

2.5 Schedule for On-going Receiving Water Characterization

The characterization of Columbia City’s receiving waters was inconclusive given that past testing locations, monitoring parameters, monitoring frequency, and monitoring protocol were inconsistent. Therefore, the following program was implemented in 2005 to establish a baseline for the quality of the City’s receiving streams.

Locations: Locations of monitoring points were developed based on land use information in relation to the receiving stream locations. Monitoring points were developed in a manner so that the data will cover significant stretches of the receiving streams. The purpose of the layout of the monitoring points is to first collect data over a large area. Then, collected data will be analyzed to further associate particular land uses with stormwater pollution. Monitoring points may be changed in the future to gain a better understanding of more specific areas.

There is at least one monitoring point for each receiving stream. If a receiving stream begins within Columbia City’s corporate limits, the receiving stream only has one monitoring point. If a receiving stream begins outside of Columbia City’s corporate limits, a monitoring point was established nearest a point that the receiving stream enters Columbia City’s corporate limits. A second monitoring point was established for the same receiving stream at a point where the receiving stream leaves the corporate limits.

Current Monitoring Locations

Monitoring Point	Receiving Stream	Location on Receiving Stream
1	Eel River	CR 100 South Bridge at Corporate Limits
2	Blue River (Upper)	Bike Trail Bridge in Morsches Park
3	Blue River (Lower)	Radio Road Bridge
4	Phillips Ditch (Upper)	North of Storm Sewer Outfalls of Ryan Road
5	Phillips Ditch (Lower)	At S.R. 205 Near Corporate Limits

Parameters: The parameters on the following table will be tested at each location for each testing event.

Monitoring Parameters

Parameter	Unit	Sample
Oil and grease	mg/l	grab
CBOD5 (Carbonaceous biochemical oxygen demand)	mg/l	grab
COD (Chemical oxygen demand)	mg/l	grab
TSS (Total suspended solids)	mg/l	grab
TKN (Total Kjeldahl nitrogen)	mg/l	grab
Total phosphorus	mg/l	grab
pH	s.u.	grab
NH ₃ (Ammonia)	mg/l	grab
Nitrate plus nitrite nitrogen	mg/l	grab
E. coli	Colonies/100ml	grab
DO (Dissolved Oxygen)	mg/l	grab
Total Cadmium	mg/l	grab
Hardness – Calcium Carbonate	mg/l	grab
Total Zinc	mg/l	grab
Arsenic	mg/l	grab
Total Copper	mg/l	grab
Total Lead	mg/l	grab
Total Mercury	mg/l	grab
Total Nickel	mg/l	grab

Frequency: Monitoring started in May of 2005 and will continue to be done on an annual basis each May for the duration of the City's NPDES permit. Monitoring will include one dry weather sample and one wet weather sample for each of the five sampling locations.

Protocol: All five dry weather samples will be taken on the same day. A dry weather sample should be taken after a minimum of four days without rainfall. The wet weather samples will be taken within 24 hours of the end of the rain event.

2.6 Narrative Summary of the Current & Projected Stormwater Budget

Current financing of stormwater projects originates from Columbia City's Wastewater Utility funds and interim Stormwater Utility funds. Ultimately all financing will be provided by Stormwater Utility funds. The City of Columbia City will initiate a Stormwater Management User Fee to generate additional revenue received from the anticipated Civil City General Funds. A budget analysis is included in addendum B. Each fee includes professional fees, municipal wages and benefits, as well as reproduction costs.

Monies allocated to each category are subject to change. Individual programs may require more or less money, depending on their efficiency and/or success throughout the 5-year permit term.

2.7 Timetable for Program Implementation

The table on the following page identifies the milestones fully implementing the requirements set forth in Rule 13. A copy of 327 IAC 15-13 is included in **Appendix C**. Rule 327 IAC 15-5 (Rule 5) is referenced in Rule 13. A copy of Rule 5 is included in **Appendix D**. In addition, there are 5-year implementation schedules for each of the activities, programs and controls proposed in each of the minimum control measure chapters, Chapters 3-8.

Implementation Schedule

Rule 13 Requirement	Milestones*
Stormwater Quality Management Plan:	Components throughout term of permit
Part A: Initial Application submitted	With NOI letter
Part B: Baseline Characterization and Report submitted	May 1, 2004
Part C: Program Implementation submitted	November 2, 2004
Public Education and Outreach MCM Implementation:	Throughout term of permit
Public education and outreach program development certification submitted	November 2, 2004
Public Involvement /Participation MCM Implementation:	Throughout term of permit
Public involvement and participation program development certification submitted	November 2, 2004
Illicit Discharge Detection/Elimination MCM implementation:	Throughout term of permit
Illicit discharge plan and regulatory mechanism certification submitted	November 2, 2004
25% of stormwater outfall systems mapped	Each year after November 2, 2004
All known stormwater outfall systems, with pipe diameters 12 inches or greater or open ditches with 2 feet or larger bottom width, mapped	November 2, 2008
Construction Site Run-Off Control MCM Implementation:	Throughout term of permit
Construction site program plan and regulatory mechanism certification submitted	November 2, 2005
Post-construction Run-Off Control MCM Implementation:	Throughout term of permit
Operational and maintenance plan certification submitted	November 2, 2005
Post-construction program plan and regulatory mechanism certification submitted	November 2, 2005
Municipal operations pollution prevention and good housekeeping MCM implementation:	Throughout term of permit
Operations pollution prevention program development certification submitted	November 2, 2004

* Compliance deadlines have been set based on the date in which IDEM received Columbia City's NOI Letter. This occurred on November 2, 2003.

2.8 Programmatic Indicators

The table on the following pages identifies the party or parties with which the MS4 Operator will correspond with in order to obtain all of the information necessary to include each programmatic indicator in the annual report to IDEM.

The MS4 Operator is responsible for contacting the follow responsible parties to inform them of their duties to rack the corresponding measurable goals at the beginning of each permit year. It is then the responsibility of each party listed to provide the MS4 Operator with the information that they have tracked each year.

Programmatic Indicator	Chapter Section	Responsible Party	Affected Parties
i) Number or percentage of citizens that have an awareness of stormwater quality issues	3.1 Initial Assessment of Constituents	MS4 Operator Whitley SWCD	Same
ii) Number and description of meetings, training sessions, and events conducted to involve citizens.	3.2 Public Education Program	MS4 Operator Whitley SWCD	Same
ii) Number and description of meetings, training sessions, and events conducted to involve citizens. iii) Number and percentage of citizens that participate in stormwater quality improvements projects	4.2 Public Participation and Involvement	MS4 Operator Whitley SWCD	Same
iv) Number and location of storm drains marked or cast	4.2.1 Storm Drain Stenciling	MS4 Operator Whitley SWCD	See Chapter Section 7.5 also
x) Number of, and estimated amount of material collected from HHW collection xi) Number and location of citizen drop-off centers for automobile fluids xii) Number or percentage of citizens that participate in HHW collections	4.2.4 Household Hazardous Waste Collection	MS4 Operator	Same
xvi) Number of public informational requests received related to construction sites	4.2.5 Incident Reporting	MS4 Operator Whitley SWCD	Same

Programmatic Indicator	Chapter Section	Responsible Party	Affected Parties
v) Estimated or actual linear feet or percentage of MS4 conveyances mapped vi) Number and location of MS4 area outfalls mapped	5.1 Development of a MS4 Conveyance Map	MS4 Operator Whitley SWCD	Same
vii) Number and location of MS4 area outfalls screened for illicit discharges viii) Number and location of illicit discharges detected ix) Number and location of illicit discharges eliminated	5.3 Development of a Detection and Elimination of Illicit Discharges Plan	MS4 Operator Whitley SWCD	Same
xiii) Number of construction sites permitted for stormwater quality xiv) Number of construction sites inspected xv) Number and type of enforcement actions taken against construction site operators	6.2 Site Plan Review Process (Construction)	MS4 Operator Whitley SWCD	Same

Programmatic Indicator	Chapter Section	Responsible Party	Affected Parties
<p>xvii) Number, type and location of structural BMPs installed</p> <p>xviii) Number, type and location of structural BMPS inspected</p> <p>xix) Number, type and location of structural BMPs maintained, or improved, to function properly</p> <p>xx) Type and location of nonstructural BMPs utilized</p> <p>xxi) Estimated acreage or square footage of open space preserved and mapped</p> <p>xxii) Estimated acreage or square of mapped pervious and impervious surfaces</p> <p>xxiii) Number and location of retail gasoline outlets or municipal, state, federal, or institutional refueling areas with installed BMPs</p>	7.2 Site Plan Review Process (Post-Construction)	MS4 Operator Whitley SWCD	Same
iv) Number and location of storm drains marked or cast	7.4 Development of an Operational and Maintenance Plan for all Structural BMPs	MS4 Operator Whitley SWCD	Same
<p>xxvii) Estimated linear feet or percentage and location of MS4 conveyances cleaned or repaired</p> <p>xxxii) Estimated amount of material by weight collected from catch basin, trash rack, or other structural BMP cleaning.</p>	8.1.2 Stormwater Structure Cleaning, Inspection and Maintenance	Water Dept. Superintendent	Same

Programmatic Indicator	Chapter Section	Responsible Party	Affected Parties
xxxiii) Estimated amount of material by weight collected from street sweeping	8.1.3 Pavement Sweeping	Street/Sewer Superintendent	Same
xxviii) Estimated linear feet or percentage and location of roadside shoulders and ditches stabilized	8.1.4 Roadside Shoulder and Ditch Stabilization	Street/Sewer Superintendent Whitley SWCD	Same
xxvi) Estimated linear feet or percentage and location of unvegetated swales and ditches that have an appropriately-sized vegetated filter strip	8.1.5 Roadside Vegetation Care	Street/Sewer Superintendent Whitley SWCD	Same
xxix) Number and location of stormwater outfall areas remediated from scouring conditions	8.1.6 Outfall Inspection, Cleaning and Maintenance	Water Dept. Superintendent Whitley SWCD	Same
xxx) Number and location of de-icing salt and sand storage areas covered or otherwise improved to minimize stormwater exposure xxxi) Estimated amount, in tons, of salt and sand used for snow and ice control	8.2.1 Salt and Sand Storage and Application	Street/Sewer Superintendent	Same
xxiv) Number and location of entity facilities that have containment for accidental releases	8.2.3 Containment Facilities for Accidental Pollution	Street/Sewer, Electric and Water Superintendents	Same
xxv) Estimated acreage or square footage and location where pesticides and fertilizers are applied by the regulated MS4 entity	8.2.7 Minimization of Pesticides and Fertilizer Usage	MS4 Operator	Same
xxxiv) Number or percentage and location of canine parks sited at least 150 feet away from a surface water body	8.2.8 Proper Disposal of Animal Wastes	MS4 Operator	Same

Chapter 3 – Public Education and Outreach MCM

3.0 Introduction

This chapter describes the public education and outreach minimum control measure, one of six measures an operator of a Phase II-regulated small municipal separate storm sewer system (MS4) is required to include in its stormwater management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) stormwater permit.

According to the EPA, an informed and knowledgeable community is crucial to the success of a stormwater management program. Educating the public helps to ensure greater support by the public and greater compliance with the program itself.

Each education and outreach activity is accompanied by its own implementation schedule. The implementation schedule informs the MS4 Operator, and their designated personnel, of the tasks to complete for each year. The MS4 Operator will ask that the parties responsible for each education activity record and report annually on the items to be tracked so that the MS4 Operator may include them in the annual report to IDEM.

Measurable Goal: The public education and outreach program that follows aims to increase the number of persons residing within the corporate limits of Columbia City that are educated about stormwater quality by 5%. The goal is to achieve the 5% increase by the end of the 5-year permit term.

3.1 Initial Assessment of Constituents

During the early stages of Columbia City's Stormwater Quality Management Plan, a Water Quality Survey (which covered both the constituents' awareness of water quality issues as well as to inquire about their level of participation in stormwater quality issues) was created and distributed to the City's constituents to comply with 327 IAC 15-13-12 Sec. 12 (c). In order to include every demographic in the City, this survey was mailed to every utility customer. A copy of the survey is included in **Appendix E**.

The Water Quality Survey was distributed by mail. The residents of the City of Columbia City were instructed to include their completed survey with their next utility payment. Columbia City utilities then forwarded the completed surveys to Bonar Group to be analyzed.

Of the 3,685 surveys that were sent out, 217 surveys were returned resulting in a 6% overall response rate. Ninety-one percent of the respondents identified themselves as residents of the community. While the majority of the surveys were filled out completely, a number of respondents skipped individual questions. This was taken into account in the final percentages used to assess the public's knowledge about water quality issues. Each question was analyzed independently of the total number of surveys returned. The number of respondents that left a question unanswered was subtracted from the total number of respondents (217) in order to determine the percentage of recipients that did answer the respective question.

When asked whether or not the Blue and Eel River are valuable resources, the majority of respondents (84%) agreed that they were, 1 % disagreed, and 14% had no opinion. The following education and outreach program will need to, at a minimum, support the fact that the Blue River and the Eel River are valuable resources to the City of Columbia City.

When asked if they knew the name of the stream, river, or ditch closest to their place of residence the majority of respondents (65%) indicated that they did. Thirty-five percent indicated that they did not. The following education and outreach program will need to, at a minimum, aid the citizens in the identification of the City's receiving streams and conveyance system.

When asked whether or not stormwater is treated before it enters the City's conveyance system, 29% of Columbia City's respondents believe that it is, 36% were unsure, and 36% correctly identified that stormwater is not treated before it enters the community's conveyance system. The following education and outreach program will need to, at a minimum, educate the public on the differences between storm sewers and sanitary sewers.

When asked whether or not improper fertilization, improperly changing one's oil, and the improper disposal of household hazardous waste, can negatively impact stormwater quality, the majority (80%, 75%, and 93% respectively) of Columbia City's respondents agreed that these activities could negatively impact stormwater quality. A smaller majority agreed that improperly washing one's vehicle (56%) and improperly disposing of pet waste (60%) could negatively impact stormwater quality. The following education and outreach program will need to, at a minimum, educate the public on proper fertilization, properly changing automobile fluids and properly disposing of household hazardous wastes, but more importantly, proper car care and maintenance and the proper disposal of pet waste.

When asked to identify the primary source of stormwater pollution, the majority of respondents (58%) chose point source pollution, while only 42% correctly identified non-point source pollution. The following education and outreach program will need to, at a minimum, educate the public on non-point source pollution, its origin, why it is harmful to stormwater quality, and how to prevent it.

When asked to identify the City of Columbia City's primary source of drinking water, the majority of respondents (88%) correctly identified groundwater. The following education and outreach program will need to, at a minimum, educate the public on the relationships between stormwater quality and its effects on groundwater.

Columbia City's constituents will be re-evaluated on their knowledge of stormwater quality issues at the end of the 5-year permit term. This information should be used to assess, and if necessary, make changes to the public education and outreach program submitted for the next permit term.

In 2008 a Water Quality Survey was again sent to 1220 customers extracted from the City Utility billing data base. For ongoing surveys one third of the customer billing base will be sampled. This represents a valid statistical sample for this survey. 7% (80) of the survey forms were returned completed which was a 1% improvement from the 2005 survey return rate. The results of this survey and 2005 comparative statistics are

represented in Appendix E. Several new questions were added to the 2005 survey to gauge a better understanding of the effectiveness of existing and future stormwater programs and surveys.

3.2 Public Education Program

Together, the following activities encompass the public education and outreach program for the constituents of the City of Columbia City, who are otherwise referred to as the citizens of Columbia City.

3.2.1 Stormwater Web Page

Much of the information placed on the Stormwater Web Page, which is located on the City's website, will be generated from existing sources pertaining to stormwater and water quality in general. Additional materials specific to local needs will be generated as necessary.

3.2.1.1 Implementation Schedule

The implementation of a stormwater website will be the responsibility of MS4 Operator or designated party who will pursue the following schedule:

Year 16 (ending Nov 2019): Update the website while adding at least one additional feature.

Year 17 (ending Nov 2020): Update the website while adding at least one additional feature.

Year 18 (ending Nov 2021): Aided by the City's Manager of Information Systems, review the current website for potential improvements and make corresponding changes to the website.

Year 19 (ending Nov 2022): Update the website while adding at least one additional feature.

Year 20 (ending Nov 2023): Update the website while adding at least one additional feature.

3.2.1.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form locate at the end of this chapter.

- Number of visitors; and
- Number of inquiries

3.2.2 Activity Book

Activity books are typically produced with a target audience ranging from 2nd to 5th grade. The target audience for stormwater Activity Books will be 5th graders within the City of Columbia City and in some cases on a county wide basis.

The City of Columbia City is committed to using the most appropriate and feasible version of an Activity Book each year and annually reviews content to address topics identified in the Water Quality Survey. An annual evaluation will be conducted to ensure that Activity Books are current and educational.

3.2.2.1 Implementation Schedule

The implementation of Activity Books will be the responsibility of the Whitley County SWCD during 5th Grade Field Days. Field Days are an annual event held in September where all County 5th graders attend.

Year 16 (ending Nov 2019): Distribute an Activity Book to each 5th grader within the City of Columbia City.

Year 17 (ending Nov 2020): Distribute an Activity Book to each 5th grader within the City of Columbia City.

Year 18 (ending Nov 2021): Distribute an Activity Book to each 5th grader within the City of Columbia City.

Year 19 (ending Nov 2022): Distribute an Activity Book to each 5th grader within the City of Columbia City.

Year 20 (ending Nov 2023): Distribute an Activity Book to each 5th grader within the City of Columbia City. Review content of Activity Book for timeliness, topic and relevance.

3.2.2.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number of 5th graders enrolled in the Columbia City School District; and
- Number of Activity Books distributed.

3.3.3 Stormwater Presentations

The MS4 operator or his representative will make an annual presentation to the City Council outlining the elements of the City's annual report to IDEM regarding the Stormwater Quality Management Plan.

3.2.3.1 Implementation Schedule

The implementation of stormwater presentations will be the responsibility of the MS4 Operator or designated party who will pursue the following schedule:

Year 16 (ending Nov 2019): Prepare presentation material and speak on behalf of the Board of Works at a City Council meeting at the end of the permit year.

Year 17 (ending Nov 2020): Prepare presentation material and speak on behalf of the Board of Works at a City Council meeting at the end of the permit year.

Year 18 (ending Nov 2021): Prepare presentation material and speak on behalf of the Board of Works at a City Council meeting at the end of the permit year.

Year 19 (ending Nov 2022): Prepare presentation material and speak on behalf of the Board of Works at a City Council meeting at the end of the permit year.

Year 20 (ending Nov 2023): Prepare presentation material and speak on behalf of the Board of Works at a City Council meeting at the end of the permit year.

3.2.3.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Date of the presentation: and
- Attendance at each presentation.

3.3 Consistency with the Long-Term Control Plan (LTCP)

The Columbia City Sanitary District's Long-Term Control Plan was reviewed for its public education component to ensure that the public education efforts of this Stormwater Management Plan were neither in conflict with, nor duplicating the efforts of the LTCP.

The LTCP does not adequately address the public education of stormwater quality (refer to Chapter 4, as the LTCP does address public participation). Therefore, the efforts of this SWQMP, which aims to educate the public on stormwater quality issues as a result of impervious surfaces and non-point source pollution are not in conflict with or a duplication of public education efforts of the LTCP.

Chapter 4 – Public Participation and Involvement MCM

4.0 Introduction

The public participation and involvement minimum control measure is the second of six measures the operator of a Phase II regulated small municipal separate storm sewer system (MS4) is required to include in its stormwater management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) permit.

According to the EPA, the public can provide valuable input and assistance to a regulated small MS4's municipal stormwater management program and, therefore, requires that the public be given opportunities to play an active role in both the development and implementation of the program. An active and involved community is crucial to the success of a stormwater management program because it allows for: broader public support by giving citizens partial responsibility of the program; shorter implementation schedules; a broader base of expertise and economic benefits; and a lead into other programs.

Like the previous chapter, each participation and involvement activity is accompanied by its own implementation schedule. The implementation schedule informs the MS4 Operator and their designated personnel, of the tasks to be completed each year. The MS4 Operator will require that the parties responsible for each participation activity record and report annually on the items to be tracked so that the MS4 Operator may include them in the annual report to IDEM.

Measurable Goal: The public participation and involvement program that follows aims to increase the number of persons residing within the corporate limits of Columbia City that participate in stormwater quality programs by 5%. The goal is to achieve the 5% participation increase by the end of the 5-year permit term.

4.1 Initial Assessment of Constituents

As was stated in Chapter 3, the early stages of Columbia City's Stormwater Quality Management Plan included a Water Quality Survey. A copy of the survey is included in **Appendix E**. A second survey was taken in 2008 and the results are compared to 2003 in Appendix E. The number of surveys sent and received back is also included in this same appendix.

Also stated in Chapter 3, of the 3,685 surveys that were sent out, 217 surveys were returned resulting in a 6% overall response rate. While the majority of the surveys were filled out completely, a number of respondents skipped individual questions. This was taken into account in the final percentages used to assess the public's knowledge about water quality issues. Each question was analyzed independently of the total number of surveys returned. The number of respondents that left a question unanswered was subtracted from the total number of respondents (217) in order to determine the percentage of recipients that did answer the respective question.

When asked how often they attended festivals and events, such as the 4-H Fair, that are known to address environmental issues the majority of recipients responded by saying that they sometimes or rarely attend (56%). None of the respondents indicated that they were unaware that such events existed. In the 2008 survey, 82% of the respondents

indicated they frequently or sometimes attend these events while 18% rarely attended. There were no respondents that never attend these events. The following public participation and involvement program will need to, at a minimum, continue to increase attendance while providing stormwater quality information and activities at these festivals and events. In order to improve this result going forward, a series of three displays was ordered in 2009 that address the themes of proper yard fertilization, good car care practice, and seven simple steps to clean water. These displays have been used extensively at festivals and events and several public meeting areas. A log is kept that details the location and approximate number of people that have viewed these displays. This log is included in Appendix C.

When asked whether or not they participate in Columbia City's recycling program, the majority of respondents (84%) indicated that they frequently participate. Only 1% of the respondents indicated that they were not eligible for such a program. The following public participation and involvement program will need to, at a minimum, support the current recycling efforts within the City of Columbia City. The recycling contract for Columbia City was renewed in 2009 and a new provider was selected. As part of the new contract, the new provider no longer required that recyclables be separated by the customer. Initially, this decision appears to have increased the participation in the recycling program and increased the pounds of material returned to the recycling center.

When asked whether or not they participate in community-wide clean-up projects, the majority of respondents (57%) indicated that they rarely volunteer. Sixteen percent of respondents indicated that they were unaware that such activities took place. This objective was modified in 2009 to include specific questions, see Exhibit E, that gauge the constituent's willingness to participate in individual efforts for improved stormwater quality. These added issues include willingness to soil test, use of low phosphorus fertilizer, use of lawn friendly chemicals, prevention of excess fertilization, and proper disposal of pet waste.

Columbia City's constituents will be re-evaluated for their participation in stormwater quality programs and projects at the end of each 5-year permit term. This information should be used to assess, and if necessary, make changes to the public participation and involvement program submitted for the next permit term.

4.2 Public Participation Program

The following activities encompass the public participation and involvement program for the citizens of Columbia City.

4.2.1 Storm Drain Stenciling or Decaling

While educational in nature, storm drain stenciling or decaling directly and indirectly involves the public in the prevention of non-point source pollution; those citizens involved in stenciling or decaling activities as well as those citizens who spot and are able to identify drains as stormwater drains.

Stenciling or decal kits may be made available for loan at the Municipal Service Facility. Stenciling or decaling kits may include the following items:

- Storm drain stencils or decals;

- Door hanger cards or flyers;
- Refrigerator magnets;
- Map of stenciling area(s);
- Parent or guardian permission slips;
- Letter or authorization from Public Works to stencil;
- Traffic zone latex spray (note; one can = about ten drains or tubes of adhesive if using decals instead of stencils;
- Wire brush and whisk broom to clean gutter before painting or decaling;
- Work gloves and safety goggles for kids;
- Traffic safety vests and cones;
- Garbage bags (one for wet stencils ad one for litter headed for the drain and river);
- A large open box to shield against drifting overspray; and
- Clean up rags.

The MS4 Operator or designated party will also conduct a pre-survey before drains are marked to detect instances of dumping or littering. Participants will also note storm drains that are clogged with debris or otherwise show obvious signs of dumping. This will enable city crews to target their cleanup efforts. Volunteers will be instructed in advance on what kinds of pollutants to look for.

4.2.1.1 Implementation Schedule

The implementation of storm drain stenciling or decaling will be the responsibility of the MS4 Operator or his designee who will pursue the following schedule:

Year 16 (ending Nov 2019): Decal identified storm drains as directed by the MS4 Coordinator and field check existing markers for wear and possible replacement.

Year 17 (ending Nov 2020): Decal identified storm drains as directed by the MS4 Coordinator and field check existing markers for wear and possible replacement.

Year 18 (ending Nov 2021): Decal identified storm drains as directed by the MS4 Coordinator and field check existing markers for wear and possible replacement.

Year 19 (ending Nov 2022): Decal identified storm drains as directed by the MS4 Coordinator and field check existing markers for wear and possible replacement.

Year 20 (ending Nov 2023): Decal identified storm drains as directed by the MS4 Coordinator and field check existing markers for wear and possible replacement.

4.2.1.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- The number of stenciling or decal kits;
- Number and list of locations suspected of illicit discharges or spills;
- Estimated number of participants in attendance; and
- The number of drains stenciled or decaled.

4.2.2 Litter Clean-Up

Individual streamside and litter clean-up efforts by community groups, such as the *Indiana DNR Adopt-A-River*, are known to occur. These efforts will be encouraged and supported by the City of Columbia City with respect to this Stormwater Quality Management Plan. Any plans for stream side clean-up must take into consideration the steepness and inaccessibility of the Blue River.

4.2.2.1 Implementation Schedule

The implementation of litter clean-up shall be the responsibility of the MS4 Operator or designated party who will pursue the following schedule:

Year 16 (ending Nov 2019): Identify groups and organizations capable of and willing to participate in an annual litter clean-up event. Target a high litter area and provide signage and media awareness of clean-up efforts.

Year 17 (ending Nov 2020): Identify groups and organizations capable of and willing to participate in an annual litter clean-up event. Target a high litter area and provide signage and media awareness of clean-up efforts.

Year 18 (ending Nov 2021): Identify groups and organizations capable of and willing to participate in an annual litter clean-up event. Target a high litter area and provide signage and media awareness of clean-up efforts.

Year 19 (ending Nov 2022): Identify groups and organizations capable of and willing to participate in an annual litter clean-up event. Target a high litter area and provide signage and media awareness of clean-up efforts.

Year 20 (ending Nov 2023): Identify groups and organizations capable of and willing to participate in an annual litter clean-up event. Target a high litter area and provide signage and media awareness of clean-up efforts.

4.2.2.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Estimated number of volunteers
- Targeted areas for litter control and results of implemented programs for those areas.

4.2.3 Tree Planting

Trees help to improve water quality and moderate stormwater runoff. Depending on the species of the tree and local soil conditions, trees can absorb a considerable amount of water. In addition, they utilize substances such as water-polluting nitrates, phosphorus, and potassium as food.

The City of Columbia City belongs to Tree City USA. As a result, they have active tree maintenances, tree removal, and tree planting programs. Armed with their own nursery, the City removes, plants, and prunes trees on an as-needed basis with the exception of Arbor Day in which case there is an annual tree planting ceremony. The following activity will further improve the City's tree planning efforts.

4.2.3.1 Implementation Schedule

The implementation of tree planting will be the responsibility of the MS4 Operator or designated party who will pursue the following schedule:

Year 16 (ending Nov 2019): Hold a voluntary tree planting event at a local elementary school and publicize the event on Arbor Day.

Year 17 (ending Nov 2020): Hold a voluntary tree planting event at a local elementary school and publicize the event on Arbor Day.

Year 18 (ending Nov 2021): Hold a voluntary tree planting event at a local elementary school and publicize the event on Arbor Day.

Year 19 (ending Nov 2022): Hold a voluntary tree planting event at a local elementary school and publicize the event on Arbor Day.

Year 20 (ending Nov 2023): Hold a voluntary tree planting event at a local elementary school and publicize the event on Arbor Day.

4.2.3.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Estimated number of participants in attendance; and
- Number of trees planted.

4.2.4 Household Hazardous Waste Collection

The Whitley County Solid Waste District accepts drop-offs of Household Hazardous Waste from Whitley County residents every Wednesday during business hours.

4.2.4.1 Implementation Schedule

The tracking of household hazardous waste collection for the purpose of stormwater quality management shall be the responsibility of the MS4 Operator or designated party who will pursue the following schedule:

Year 16 (ending Nov 2019): Coordinate with the Whitley County Solid Waste District to track and report on the measurable goals listed below.

Year 17 (ending Nov 2020): Coordinate with the Whitley County Solid Waste District to track and report on the measurable goals listed below.

Year 18 (ending Nov 2021): Coordinate with the Whitley County Solid Waste District to track and report on the measurable goals listed below.

Year 19 (ending Nov 2022): Coordinate with the Whitley County Solid Waste District to track and report on the measurable goals listed below.

Year 20 (ending Nov 2023): Coordinate with the Whitley County Solid Waste District to track and report on the measurable goals listed below.

4.2.4.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Date(s) of hazardous waste collection; and
- Amount of waste collected.

4.2.5 Incident Reporting

An incident reporting phone line and address will be established with the purpose of facilitating the public with a means of reporting illicit discharges and spills as

well as to inquire, share concerns about or request information concerning local construction activities. In addition, all written reports, concerns, comments, and requests will be tracked through the same departmental office. Both written and verbal communication will be tracked and routed to the appropriate party if action is required to be taken.

4.2.5.1 Implementation Schedule

The implementation of an incident reporting phone line shall be the responsibility of the MS4 Operator or designated party who will pursue the following schedule:

Year 16 (ending Nov 2019): Advertise the phone number and address in newspapers, on the City's website, as well as, other feasible means of communication. Track the measurable goal listed below.

Year 17 (ending Nov 2020): Advertise the phone number and address in newspapers, on the City's website, as well as, other feasible means of communication. Track the measurable goal listed below.

Year 18 (ending Nov 2021): Advertise the phone number and address in newspapers, on the City's website, as well as, other feasible means of communication. Track the measurable goal listed below.

Year 19 (ending Nov 2022): Advertise the phone number and address in newspapers, on the City's website, as well as, other feasible means of communication. Track the measurable goal listed below.

Year 20 (ending Nov 2023): Advertise the phone number and address in newspapers, on the City's website, as well as, other feasible means of communication. Track the measurable goal listed below.

4.2.5.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and type of advertisements for the phone line:
- Number of illicit discharges and spills reported by constituents; and
- Number of inquiries, concerns, and requests for information concerning local construction activities.

4.3 Consistency with the Long-Term Control Plan (LTCP)

As was done in Chapter 3, the Columbia City Sanitary District's Long-Term Control Plan was reviewed for its public participation component to ensure that the public participation efforts of this Stormwater Management Plan were neither in conflict with, nor duplicating the efforts of the LTCP.

The LTCP encourages public attendance and input at the Public Board of Works meetings. The purpose of public participation with respect to these meetings is to increase public awareness concerning the decrease or elimination of CSO's. Therefore, the public participation efforts of this SWQMP, which aim to involve the public on stormwater quality issues as a result of impervious surfaces and non-point source pollution, are not in conflict with or a duplication of public participation efforts of the LTCP.

Chapter 5 – Illicit Discharge Detection and Elimination MCM

5.0 Introduction

This chapter describes the Illicit Discharge Detection and Elimination minimum control measure, the third of six measures the operator of a Phase II regulated small municipal separate storm sewer system (MS4) is required to include in its stormwater management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) permit.

Federal regulations define an illicit discharge as any discharge that is not composed entirely of stormwater. Illicit discharges can enter the system through either direct connections or indirect connections. The result is untreated discharges that contribute high levels of pollutants to receiving water bodies. Recognizing the adverse effects illicit discharges can have on receiving waters, this chapter allows the MS4 Operator to detect and eliminate illicit discharges by gaining a thorough awareness of the entire stormwater sewer system.

Each section of this plan describes a Best Management Practice (BMP). Each BMP is accompanied by its own implementation schedule. This implementation schedule informs the MS4 Operator, and their designated personnel, of the tasks to complete for each year. The MS4 Operator will be required that the parties responsible for each detection and elimination activity record and report annually on the items to be tracked so that the MS4 Operator may include them in the annual report to IDEM.

Measurable Goal: The illicit discharge detection and elimination program aims to reduce the amount of stormwater pollution caused by illicit discharges within the corporate limits of Columbia City by 10%. The goal is to achieve the 10% reduction by the end of the 5-year permit term.

The following is the illicit discharge detection and elimination program.

5.1 Development of a MS4 Conveyance Map

The purpose of the MS4 conveyance map is to provide accurate location information for all components of the conveyance system. This includes identifying the location of all outfalls in the City and identifying the names and locations of water bodies that receive discharges from those outfalls. All known conveyance systems with a pipe diameter of twelve inches or larger and open ditches with a two-foot or larger bottom width will be mapped within the first five years of permit coverage. All outfalls on the Blue River and Phillips Ditch have been inspected and mapped.

The completed map will aid in the efforts of:

- Identifying the possible sources of dry weather flows
- Identifying the water bodies that dry weather flows may be affecting

5.1.1 Implementation Schedule

The implementation of the development of storm sewer mapping shall be the responsibility of the MS4 Operator who will pursue the following schedule:

Year 16 (ending Nov 2019): Physically inspect all outfalls on the Blue River and Phillips Ditch annually and make appropriate changes on the MS4 conveyance maps.

Year 17 (ending Nov 2020): Physically inspect all outfalls on the Blue River and Phillips Ditch annually and make appropriate changes on the MS4 conveyance maps.

Year 18 (ending Nov 2021): Physically inspect all outfalls on the Blue River and Phillips Ditch annually and make appropriate changes on the MS4 conveyance maps.

Year 19 (ending Nov 2022): Physically inspect all outfalls on the Blue River and Phillips Ditch annually and make appropriate changes on the MS4 conveyance maps.

Year 20 (ending Nov 2023): Physically inspect all outfalls on the Blue River and Phillips Ditch annually and make appropriate changes on the MS4 conveyance maps.

5.1.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Linear footage of MS4 mapped; and
- Number and location of MS4 area outfalls mapped.

5.2 Development of a Regulatory Mechanism

The purpose of the development of a regulatory mechanism such as an ordinance is to provide for the health, safety, and general welfare of all citizens within the MS4 area. This is accomplished through the regulation of non-stormwater discharges to the storm drainage system.

The objectives of an illicit discharge detection and elimination ordinance are:

- To regulate contribution of pollutants to the MS4 by stormwater discharges by any user
- To prohibit illicit connections and discharges to the MS4
- To establish legal authority to carry out all inspection, surveillance, monitoring, and to implement corrective actions necessary to ensure compliance with the ordinance

5.2.1 Implementation Schedule

The implementation of the development of an Illicit Discharge Detection and Elimination ordinance shall be the responsibility of the MS4 Operator who will pursue the following schedule:

Year 16 (ending Nov 2019): Review illicit discharge ordinance and note any suggested improvements. Update ordinance if necessary.

Year 17 (ending Nov 2020): Review illicit discharge ordinance and note any suggested improvements. Update ordinance if necessary.

Year 18 (ending Nov 2021): Review illicit discharge ordinance and note any suggested improvements. Update ordinance if necessary.

Year 19 (ending Nov 2022): Review illicit discharge ordinance and note any suggested improvements. Update ordinance if necessary.

Year 20 (ending Nov 2023): Review illicit discharge ordinance and note any suggested improvements. Update ordinance if necessary.

5.2.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and type of suggested improvements in ordinance; and
- Number and description of changes made to ordinance.

5.3 Development of a Detection and Elimination of Illicit Discharges Plan

The plan to detect and address illicit discharges is the central component of this minimum control measure. It allows the MS4 Operator to systematically find and remove illicit discharges from the entire MS4 area. All illicit discharge detection and elimination activities shall be documented on the reporting forms located at the end of this chapter.

This plan is divided into a three-step process:

- Locate Problems within Priority Areas
- Find the Source
- Remove or Correct Illicit Connections

All actions taken as required by this plan will be documented. The documentations will be retained to be incorporated in the annual report. This plan will also be reviewed and assessed at a minimum of every five years.

5.3.1 Locate Problems within Priority Areas

High priority areas are areas that are considered to be likely sources of illicit discharges, based on available information. These areas can include older sections of the City, commercial and industrial areas, high density areas, and unsewered areas.

Once the high priority areas have been located, a screening of these outfalls will be conducted via dry weather screening. Dry weather screening consists of visual investigation of stormwater outfalls at least seventy-two hours after a rainfall event. The presence of flow during dry weather can indicate an illicit discharge.

Problem areas and discharges identified through the dry weather screenings will be analyzed for pollutants of concern and other parameters. Field test kits will be used to test for pH, conductivity, and ammonia-nitrogen. Other parameters to be investigated during a visual screening include but are not limited to odor, color, temperature, deposits or stains, and damage to the outfall structure. Depending on visual inspection results, more analysis of dry weather discharges may follow.

After all high priority areas have been screened for illicit discharges, the remaining lower priority area screening will begin.

5.3.2 Find the Source

Once the outfalls with evidence of illicit discharges have been located, various methods will be used to detect the source of the discharge.

The procedure for source detection is as follows:

- Visual inspection of storm sewer system beginning at discharge location
- Trace discharge upstream by checking upstream manholes for evidence of discharge
- Area will likely be isolated between two manholes
- Once the problem area is isolated, the source will be determined through a means such as dye- or smoke-testing, excavation, or televising.

5.3.3 Remove or Correct Illicit Connections

Once an illegal discharge is located through field screening and confirmed through sampling, enforcement action may be required to have the source removed. There will be a graduated response to the discovery of an illegal connection beginning with voluntary compliance and escalating to enforcement actions if compliance is not obtained. The procedures of enforcement will be outlined in the City of Columbia City's Illicit Discharge Detection and Elimination ordinance.

5.3.4 Active Industrial Facilities Discharging into the Conveyance System

A reference list of all known active industrial facilities within the MS4 area discharging to the MS4 conveyance system is provided in **Appendix B**. Updated information regarding these and newly active industrial facilities will be submitted in each annual report.

5.3.5 Implementation Schedule

The implementation of the Detection and Elimination of Illicit Discharges Plan shall be the responsibility of the MS4 Operator who will pursue the following schedule:

Year 16 (ending Nov 2019): Review all outfalls on an annual basis and follow through with removing or correcting illicit discharges and recommend any maintenance that might be required.

Year 17 (ending Nov 2020): Review all outfalls on an annual basis and follow through with removing or correcting illicit discharges and recommend any maintenance that might be required.

Year 18 (ending Nov 2021): Review all outfalls on an annual basis and follow through with removing or correcting illicit discharges and recommend any maintenance that might be required.

Year 19 (ending Nov 2022): Review all outfalls on an annual basis and follow through with removing or correcting illicit discharges and recommend any maintenance that might be required.

Year 20 (ending Nov 2023): Review all outfalls on an annual basis and follow through with removing or correcting illicit discharges and recommend any maintenance that might be required.

5.3.6 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and location of MS4 area outfalls screened for illicit discharges;
- Illicit discharge sources detected; and
- Illicit discharge sources eliminated.

5.4 Public Education and Participation

It is acknowledged that outreach to public employees, businesses, property owners, and the general public will help gain support for and increase compliance with the stormwater program. Information and education regarding ways to detect and eliminate illicit discharges is an integral part of this minimum control measure.

An education program identifying the hazards of illicit discharges and improper waste disposal will be combined with the Public Outreach and Education minimum control measure (Chapter 3). Information and guidance for specific audiences will be incorporated into the stormwater website, activity books, displays for public events, civic club speaker agendas, and other programs.

Public participation programs pertaining to illicit discharge detection and elimination will be combined with the Public Participation and Involvement minimum control measure (Chapter 4). These programs include the coordination of a household hazardous waste recycling program and the establishment of a telephone notification system for reporting illicit discharges.

5.5 Annual Training of MS4 Personnel

Current Employees: Current employees involved in illicit discharge detection and elimination will be required to complete training. This training will involve education on testing equipment as well as policies and procedures to be used. This training will be documented. The documentation will be retained by the City.

During subsequent years, employees whose work involves illicit discharge detection and elimination will be required to complete an annual refresher training program. This training will be documented. The documentation will be retained by the City.

New Employees: New employees whose work involves illicit discharge detection and elimination will be required to complete training. This training will take place within the first two months of employment. This training will be documented. The documentation will be retained by the City.

5.5.1 Implementation Schedule

The implementation of the training for the MS4 personnel shall be the responsibility of the MS4 Operator who will pursue the following schedule:

Year 16 (ending Nov 2019): Continue training employees. Evaluate the policies, procedures, and training methods, and begin implementing any recommended changes.

Year 17 (ending Nov 2020): Continue training employees.

Year 18 (ending Nov 2021): Continue training employees.

Year 19 (ending Nov 2022): Continue training employees.

Year 20 (ending Nov 2023): Continue training employees. Evaluate the policies, procedures, and training methods, and begin implementing any recommended changes.

5.5.2 Items to be Tracked

The following item will be recorded on the corresponding reporting form located at the end of the chapter.

- Number of employees trained

5.6 Consistency with the Long-Term Control Plan (LTCP) and Combined Sewer Overflow Operational Plan (CSOOP)

The City of Columbia City's Long-Term Control Plan and Combined Sewer Overflow Operational Plan were reviewed for the illicit discharge detection and elimination component to ensure that the efforts of the Stormwater Management Plan were neither in conflict with, nor duplicating the efforts of the LTCP or the CSOOP.

Currently the City of Columbia City monitors the combined sewer overflows. There is now a program in place to monitor stormwater outfalls. Therefore, the efforts of this SWQMP, which aim to detect and eliminate illicit discharges from stormwater outfalls, are not in conflict with or a duplication of the efforts of either the LTCP or the CSOOP.

Chapter 6 – Construction Site Stormwater Run-Off Control MCM

6.0 Introduction

This chapter describes the construction site stormwater run-off control minimum control measure, the fourth of six measures the Operator of a Phase II regulated small Municipal Separate Storm Sewer System (MS4) is required to include in its stormwater management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) permit. The construction site stormwater runoff control MCM regulates areas undergoing new development or redevelopment of one acre or more.

Construction site stormwater management in areas undergoing new development or redevelopment is necessary because polluted stormwater run-off from construction sites often flows to MS4 conveyances and ultimately discharge into receiving waters untreated.

Each section of this plan describes a Best Management Practice (BMP). Each BMP is accompanied by its own implementation schedule. The implementation schedule informs the MS4 Operator, and their designated personnel, of the tasks to complete for each year. The MS4 Operator will require that the parties responsible for each construction site stormwater run-off control record and report annually on the items to be tracked so that the MS4 Operator may include them in the annual report to IDEM.

Measurable Goal: The construction site run-off control program aims to reduce the amount of total suspended solids leaving individual construction sites by 80%. The goal is to achieve the 80% reduction during the construction period of any new development required to gain local approval.

The following is the construction site run-off control program.

6.1 Development of a Regulatory Mechanism

The purpose of the regulatory mechanism for construction site stormwater run-off control is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within the MS4 area during construction activities. This regulatory mechanism applies to the following sites with land-disturbing activities: those involving construction activities with a land disturbance greater than or equal to one acre, or disturbances of less than one acre of land that are part of a larger common plan of development or sale if the larger common plan will ultimately disturb one or more acres of land.

The City of Columbia City will use an Ordinance titled “Erosion and Sediment Control” for its regulatory mechanism. The Ordinance will be written to be in accordance with 327 IAC 15-13 and 327 IAC 15-5.

The Ordinance will include construction site plan submittal requirements, a general description of the City’s review and inspection process, and a description of enforcement procedures.

6.1.1 Implementation Schedule

The implementation of the City's construction site run-off control regulatory mechanism, which is otherwise referred to as the "Erosion and Sediment Control" Ordinance, will be the responsibility of the MS4 Operator who will pursue the following schedule:

Year 16 (ending Nov 2019): Review the "Erosion and Sediment Control" ordinance and document any suggested improvements. Review the Columbia City Stormwater Development Manual and document any suggested improvements.

Year 17 (ending Nov 2020): Review the "Erosion and Sediment Control" ordinance and document any suggested improvements. Review the Columbia City Stormwater Development Manual and document any suggested improvements.

Year 18 (ending Nov 2021): Review the "Erosion and Sediment Control" ordinance and document any suggested improvements. Review the Columbia City Stormwater Development Manual and document any suggested improvements.

Year 19 (ending Nov 2022): Review the "Erosion and Sediment Control" ordinance and document any suggested improvements. Review the Columbia City Stormwater Development Manual and document any suggested improvements.

Year 20 (ending Nov 2023): Update the "Erosion and Sediment Control" ordinance and the Stormwater Development Manual to incorporate suggested improvements.

6.1.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and type of suggested improvements for the Ordinance; and
- Number and description of changes made to the Ordinance.

6.2 Site Plan Review Process

The development standards will be written to be in accordance with 327 IAC 15-13 and 327 IAC 15-5. According to 327 IAC 15-13, the permitting process and associated timetables for site plan and application submittals listed in 327 IAC 15-5 do not have to be followed. The City of Columbia City will develop standardized timetables for all construction site plan reviews and application submittals.

The City of Columbia City has chosen to review all construction site plans submitted and inspect the sites during construction. The City will give the SWCD the opportunity to review each of these plans prior to the City's approval of the submitted plans. Failure of

the SWCD to respond within a predetermined time period should not delay final action of the MS4 Operator to approve plans.

After the City gives approval, the construction site operator is responsible to submit a Notice of Intent (NOI) Letter to IDEM.

Before construction begins, the City will perform a site inspection to verify that BMPs that were proposed in the permit application have been installed. Periodic site inspections will be performed for the duration of the construction period. Inspection of construction sites will be prioritized based on size of development, proximity of the development to sensitive areas, and sites with a history of noncompliance.

For sites found to be in noncompliance with their approved permit, enforcement actions will be taken, such as, stop work orders and administrative fines.

For the duration of the MS4 permit term, the SWCD will be given the opportunity to review and inspect all MS4 Operated projects. Only after the local SWCD Director gives written permission to the City giving them the authority to perform self-monitoring will the MS4 Operator no longer be required to submit MS4 Operated projects to the SWCD for their review.

For MS4 operated projects, the site plan submittal will include additional items that are not required for non-MS4 operated projects. The additional items include a traffic phasing plan for those projects that have the potential to alter vehicular traffic routes, utility relocation areas, material hauling and transportation routes/roads, borrow pits, temporary staging and materials stock-pile areas, and temporary disposal areas for waste materials. These additional items will be for those projects that have the potential to directly impact the water quality of the MS4's receiving streams. This could be caused by construction activity such as temporary bridges for bridge replacement projects or where road construction activity is adjacent to a river or stream bank. It also includes areas where temporary roads must be constructed. Projects that use existing roads for rerouting need not required traffic phasing plans.

The City will review all projects within the MS4 area. They may choose to review projects within the extra-jurisdictional area and provide comments to the extra-jurisdictional review authorities for their consideration.

The site plan review process is generally described in the Ordinance and more detail will be provided in the City of Columbia City's Stormwater Development Standards Manual.

The MS4 Operator will be required to submit a monthly summary report of construction projects to IDEM. This certification form is located in **Appendix F**, State Form 51276 (R3/11-03).

6.2.1 Implementation Schedule

The implementation of the development of Site Plan Review Procedures will be the responsibility of the MS4 Operator who will pursue the following schedule:

Year 16 (ending Nov 2019): Approve the establishment of local plan review and comment procedures for all construction site plans and construction site

inspections, as described above and in the City of Columbia City's Stormwater Development Standards Manual.

Year 17 (ending Nov 2020): Review plan review and comment procedures for all construction site plans and construction site inspections and update as necessary.

Year 18 (ending Nov 2021): Review plan review and comment procedures for all construction site plans and construction site inspections and update as necessary.

Year 19 (ending Nov 2022): Review plan review and comment procedures for all construction site plans and construction site inspections and update as necessary.

Year 20 (ending Nov 2023): Review plan review and comment procedures for all construction site plans and construction site inspections and update as necessary.

6.2.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number of reviews by the SWCD;
- Number of construction sites permitted for stormwater quality;
- Number of construction sites inspected; and
- Number and type of enforcement actions taken against construction site operators.

6.3 Public Participation

The MS4 Operator will establish procedures for receipt and consideration of public inquiries, concerns and requests for information regarding local construction activities. These procedures will, at a minimum, implement a tracking process in which submitted public information, both written and verbal, documenting it and giving it to the appropriate staff.

These procedures, as well as their implementation timeline and measurable goal are addressed in Chapter 4, Public Participation and Involvement.

6.4 Annual Training of MS4 Personnel

Current Employees: Current employees whose work could affect stormwater quality, including but not limited to personnel involved in site plan review, inspection and enforcement, will be required to complete training on stormwater related policies,

programs, and procedures. This training will be documented. The documentation will be retained by the City.

During subsequent years, employees will be required to complete an annual refresher training program. This training will be documented. The documentation will be retained by the City.

New Employees: New employees whose work involves construction stormwater run-off control will be required to complete training. This training will take place within the first two months of employment. This training will involve instruction on plan review, inspection protocol, enforcement procedures and appropriate control measures. The training will be documented. The documentation will be retained by the City.

6.4.1 Implementation Schedule

The implementation of training for MS4 personnel will be the responsibility of the MS4 Operator who will pursue the following schedule:

Year 16 (ending Nov 2019): Develop, implement and document annual training for MS4 personnel on construction stormwater run-off controls.

Year 17 (ending Nov 2020): Develop, implement and document annual training for MS4 personnel on construction stormwater run-off controls.

Year 18 (ending Nov 2021): Develop, implement and document annual training for MS4 personnel on construction stormwater run-off controls.

Year 19 (ending Nov 2022): Develop, implement and document annual training for MS4 personnel on construction stormwater run-off controls.

Year 20 (ending Nov 2023): Develop, implement and document annual training for MS4 personnel on construction stormwater run-off controls. Evaluate training policies, procedures, and methods; and begin implementing recommended changes.

6.4.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and names of new employees trained about stormwater quality related policies and procedures; and
- Number and names of current employees trained about stormwater quality related policies and procedures.

Chapter 7 – Post-Construction Run-Off Control MCM

7.0 Introduction

This chapter describes the post-construction run-off control minimum control measure, the fifth of six measures the operator of a Phase II regulated small municipal separate storm sewer system (MS4) is required to include in its stormwater management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) permit.

Post-construction stormwater management in areas undergoing new development or redevelopment is necessary because run-off from these areas has been shown to significantly effect receiving waters. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction stormwater discharges is the most cost-effective approach to stormwater quality management.

Each section of this plan describes a Best Management Practice (BMP). Each BMP is accompanied by its own implementation schedule. The implementation schedule informs the MS4 Operator, and their designated personnel, of the tasks to complete each year. The MS4 Operator will require that the parties responsible for each post-construction site stormwater run-off control record and report annually on the items to be tracked so that the MS4 Operator may include them in the annual report to IDEM.

Measurable Goal: The post-construction stormwater run-off control program aims to reduce the amount of total suspended solids leaving any new site development after construction by 80%. The goal is to achieve the 80% reduction for all new developments required to gain local approval.

The following is the post-construction stormwater run-off control program.

7.1 Development of a Regulatory Mechanism

The purpose of the regulatory mechanism for post-construction stormwater run-off control is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within the MS4 area once construction activities have ceased.

The City of Columbia City has established an ordinance titled “Control of Post Construction Stormwater Runoff” for its regulatory mechanism. Through the Ordinance the MS4 Operator will implement planning procedures to promote improved water quality.

Planning procedures will include, at a minimum, the post-construction requirements of 327 IAC 15-5-6.5(a)(8). The Ordinance may also include the implementation of the following planning procedures identified in Rule 13 (327 IAC 15-13-16(b)).

- Buffer strip preservation and riparian zone preservation;
- Creation of filter strips;
- Minimization of land disturbance;
- Minimization of impervious surfaces;

- Disconnecting impervious surfaces;
- Maximization of open spaces; and
- Avoiding sensitive areas.

7.1.1 Implementation Schedule

The implementation of the City’s post-construction run-off control regulatory mechanism otherwise referred to as the “Post-Construction Run-off Control Ordinance” will be the responsibility of the MS4 Operator who will pursue the following schedule:

Year 16 (ending Nov 2019): On an annual basis, review the “Post-Construction Run-off Control Ordinance” and document possible changes that embrace new and improved BMP technologies and practices.

Year 17 (ending Nov 2020): On an annual basis, review the “Post-Construction Run-off Control Ordinance” and document possible changes that embrace new and improved BMP technologies and practices.

Year 18 (ending Nov 2021): On an annual basis, review the “Post-Construction Run-off Control Ordinance” and document possible changes that embrace new and improved BMP technologies and practices.

Year 19 (ending Nov 2022): On an annual basis, review the “Post-Construction Run-off Control Ordinance” and document possible changes that embrace new and improved BMP technologies and practices. Begin the process of updating the Ordinance.

Year 20 (ending Nov 2023): Update the “Post-Construction run-off Control Ordinance” to incorporate changes that embrace new and improved BMP technologies and practices.

7.1.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and type of suggested improvements for the Ordinance; and
- Number and description of changes made to the Ordinance.

7.2 Site Plan Review Process

The site plan review process will be generally described in the Ordinance and more detail will be provided in the City of Columbia City’s Stormwater Development Standards Manual.

The site plan review process will be written to be in accordance with 327 IAC 15-13 and 327 IAC 15-5. According to 327 IAC 15-13, the permitting process and associated timetables for site plan and application submittals listed in 327 IAC 15-5 do not have to

be followed. The City of Columbia City has developed standardized timetables for all site plan reviews and application submittals.

The City of Columbia City has delegated responsibility to the SWCD to review all site plans submitted and inspect all sites. The City will give the SWCD the opportunity to review and provide decision making input into each of these plans prior to the City's approval of the submitted plans. Failure of the SWCD to respond within a predetermined time period should not delay final action of the MS4 Operator to approve plans.

After the City gives approval, the construction site operator is responsible to submit a Notice of Intent (NOI) Letter to IDEM.

For the duration of the permit term, the SWCD will be given the opportunity to review and inspect all MS4 operated projects. Examples of MS4 operated projects include but are not limited to new road and utility projects. Only after the local SWCD representative gives written permission to the City giving them the authority to perform self-monitoring will the MS4 Operator no longer be required to submit MS4 operated projects to the SWCD for their review.

According to IAC 15-5, all site plan submittals must include a post-construction stormwater pollution prevention plan. In addition to the post-construction stormwater pollution prevention plan requirements in IAC 15-5, the MS4 Operator, where appropriate, will require the use of any combination of storage, infiltration, filtering, or vegetative practices to reduce the impact of pollutants in stormwater run-off on receiving waters. In addition to combining any number of the practices above, the following requirements will be followed:

- Infiltration practices will not be allowed in well-head protection areas;
- Discharges from an MS4 area will not be allowed in sink holes or fractured bedrock without treatment that results in the discharge meeting Indiana groundwater quality standards as referenced in 327 IAC 2-11;
- Any stormwater practice that is a Class V injection well must ensure that the discharge from such practices meets Indiana groundwater quality standards as referenced in 327 IAC 2-11;
- As site conditions allow, the rate at which water flows through the MS4 conveyances will be regulated to reduce outfall scouring and stream bank erosion;
- As site conditions allow, a vegetated filter strip at the appropriate width will be maintained along unvegetated swales and ditches;
- New retail gasoline outlets, new municipal, state, federal, or institutional refueling areas, or outlets and refueling areas that replace their existing tank systems will be required by MS4 ordinance or other regulatory means to design and install appropriate practices to reduce lead, copper, zinc and polyaromatic hydrocarbons in stormwater run-off.

The City will review all projects within the MS4 area. They may choose to review projects within the extra-jurisdictional area and provide comments to the extra-jurisdictional review authorities for their consideration.

The SWCD representative will provide a monthly summary report of active construction projects within the MS4 jurisdiction to the MS4 Operator for review.

7.2.1 Implementation Schedule

The implementation of the development of the Site Plan Review Process will be the responsibility of the MS4 Operator and SWCD representative who will pursue the following schedule;

Year 16 (ending Nov 2019): On an ongoing basis, review the site plan review process for effectiveness and modify as necessary to incorporate any new local, state, and federal directives.

Year 17 (ending Nov 2020): On an ongoing basis, review the site plan review process for effectiveness and modify as necessary to incorporate any new local, state, and federal directives.

Year 18 (ending Nov 2021): On an ongoing basis, review the site plan review process for effectiveness and modify as necessary to incorporate any new local, state, and federal directives.

Year 19 (ending Nov 2022): On an ongoing basis, review the site plan review process for effectiveness and modify as necessary to incorporate any new local, state, and federal directives.

Year 20 (ending Nov 2023): On an ongoing basis, review the site plan review process for effectiveness and modify as necessary to incorporate any new local, state, and federal directives.

7.2.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number of reviews by the SWCD;
- Number of sites permitted for stormwater quality;
- Number of sites inspected;
- Number, type, and location of structural BMPs installed;
- Type and location nonstructural BMPs utilized;
- Estimated acreage or square footage of open space preserved and mapped;
- Estimated acreage or square footage of mapped pervious and impervious surfaces; and

- Number and location of retail gasoline outlets or municipal, state, federal, or institutional refueling areas with installed BMPs.

7.3 Annual Training of MS4 Personnel

Current Employees: Current employees responsible for plan review, inspection, and enforcement of post-construction BMPs shall receive, at a minimum, annual training addressing such topics as appropriate control measures, inspection protocol, and enforcement. This training will involve instruction on inspection frequency, maintenance procedures, operational testing or observations to ensure proper functioning, review of new BMP practices, review of any new state and federal regulatory changes, preventative maintenance and record keeping. This training will be documented. The documentation will be retained by the City.

During subsequent years, employees will be required to complete an annual refresher training program. This training will be documented. The documentation will be retained by the City.

New Employees: New employees responsible for plan review, inspection, and enforcement of post-construction BMPs shall receive, at a minimum, annual training addressing such topics as appropriate control measures, inspection protocol, and enforcement. This training will take place within the first two months of employment. This training will involve instruction on inspection frequency, maintenance procedures, operational testing or observations to ensure proper functioning, review of new BMP practices, review of any new state and federal regulatory changes, preventative maintenance and record keeping. This training will be documented. The documentation will be retained by the City.

7.3.1 Implementation Schedule

The implementation of training for MS4 personnel will be the responsibility of the MS4 Operator who will pursue the following schedule:

Year 16 (ending Nov 2019): Complete employee training on an on-going basis to address any observed deficiencies and maintain the program to encompass new BMPs, directives and regulations concerning post-construction stormwater run-off controls.

Year 17 (ending Nov 2020): Complete employee training on an on-going basis to address any observed deficiencies and maintain the program to encompass new BMPs, directives and regulations concerning post-construction stormwater run-off controls.

Year 18 (ending Nov 2021): Complete employee training on an on-going basis to address any observed deficiencies and maintain the program to encompass new BMPs, directives and regulations concerning post-construction stormwater run-off controls.

Year 19 (ending Nov 2022): Complete employee training on an on-going basis to address any observed deficiencies and maintain the program to encompass new

BMPs, directives and regulations concerning post-construction stormwater run-off controls.

Year 20 (ending Nov 2023): Complete employee training on an on-going basis to address any observed deficiencies and maintain the program to encompass new BMPs, directives and regulations concerning post-construction stormwater run-off controls.

7.3.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and names of new employees trained about stormwater quality related policies and procedures; and
- Number and names of current employees trained about stormwater quality related policies and procedures.

7.4 Development of an Operational and Maintenance Plan for all Structural BMPs

The MS4 Operator will develop and implement a written operational and maintenance plan for all major structural stormwater BMPs. Operational and Maintenance plans for specific structural BMPs will be described in detail in the City of Columbia City's Stormwater Development Standards Manual.

Major Structural BMPs included in the Stormwater Development Standards Manual include, but are not limited to, detention basins and retention basins.

In situations where the structural BMP is privately owned, the maintenance and operation of the BMP is the responsibility of the private owner. In accordance with a maintenance agreement established in the Post-Construction Run-off Control Ordinance, the private owner will be required to properly maintain and operate the BMP in accordance with the Stormwater Development Standards.

The plan for all MS4 operational areas will also include the following:

Inspection Frequency: Major structural stormwater BMPs such as detention and retention basins will be inspected, at the minimum, on an annual basis to document maintenance and repair needs. Catch basins will be inspected in accordance with Section 8.1.2 of Chapter 8 – Pollution Prevention and Good Housekeeping MCM.

Maintenance Procedures: Maintenance and repair needs identified during inspections will be addressed in a timely manner. These needs may include preventative maintenance activities such as the removal of silt, litter and other debris, and grass cutting or vegetation removal.

7.4.1 Implementation Schedule

The implementation of the Operations and Maintenance Plan will be the responsibility of the MS4 Operator who will pursue the following schedule;

Year 16 (ending Nov 2019): Review the operation and maintenance plan to reflect added improvements and update the plan as required.

Year 17 (ending Nov 2020): Review the operation and maintenance plan to reflect added improvements and update the plan as required.

Year 18 (ending Nov 2021): Review the operation and maintenance plan to reflect added improvements and update the plan as required.

Year 19 (ending Nov 2022): Review the operation and maintenance plan to reflect added improvements and update the plan as required.

Year 20 (ending Nov 2023): Review the operation and maintenance plan to reflect added improvements and update the plan as required.

7.4.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of the chapter.

- Number, type, and location of structural BMPs inspected;
- Number, type, and location of structural BMPs maintained, or improved to function properly.
- Number of stormwater drains stenciled, decaled or cast.

Chapter 8 – Pollution Prevention and Good Housekeeping MCM

8.0 Introduction

The pollution prevention and good housekeeping minimum control measure is the last of six measures the operator of a Phase II regulated municipal separate storm sewer system (MS4) is required to include in its stormwater management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) permit.

According to the EPA, the pollution prevention and good housekeeping minimum control measure is a key element of the MS4 stormwater management program. This measure requires the MS4 Operator to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution generated from the City's operational areas. Areas of concern include streets, parking lots, open spaces, storage areas, and vehicle maintenance areas discharging to the stormwater conveyance system. The pollution prevention and good housekeeping measure is meant to improve or protect receiving water quality by altering municipal or facilities operations.

Each section of this plan describes a Best Management Practice (BMP). Each BMP is accompanied by its own implementation schedule. The implementation schedule informs the MS4 Operator, and their designated personnel, of the tasks to complete for each year. The MS4 Operator will require that the parties responsible for each pollution prevention and good housekeeping measure record and report annually on the items to be tracked so that the MS4 Operator may include them in the annual report to IDEM.

Measurable Goal: The pollution prevention and good housekeeping program aims to reduce the amount of stormwater pollution currently caused within operational areas of Columbia City by 10%. The goal is to achieve the 10% reduction by the end of the 5-year permit term.

The following is the pollution prevention and good housekeeping program.

8.1 Maintenance Activities, Schedules, and Inspection of BMPs

The following pollution prevention and good housekeeping measures include procedures for inspection, waste material removal, and record keeping for the City of Columbia City. The intent of this section is to reduce floatables and other pollutants discharged from the storm sewer system.

8.1.1 Litter Pick-Up

The following is the Litter Pick-Up program for all city park areas within the City of Columbia City.

Park Department personnel are responsible for collecting litter and debris on a minimum of a monthly basis. The weight of all material collected will be estimated and recorded. These findings will be included in the annual report to IDEM. Materials collected will be disposed of in accordance with Section 8.3 of this chapter.

8.1.1.1 Implementation Schedule

The implementation of the Litter Pick-Up program will be the responsibility of the Park Department Director.

Year 16 (ending Nov 2019): Review the Litter Pick-Up program identified above and make any adjustments to improve efficiency.

Year 17 (ending Nov 2020): Execute the procedures established in Year 6 and report any findings as required.

Year 18 (ending Nov 2021): Review the previous year's procedures, revising them as necessary, and continue with the litter pick-up program.

Year 19 (ending Nov 2022): Review the previous year's procedures, revising them as necessary, and continue with the litter pick-up program.

Year 20 (ending Nov 2023): Review the previous year's procedures, revising them as necessary, and proceed with the litter pick-up program. Perform a comprehensive review of the effectiveness of the existing program.

8.1.1.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number of Litter Pick-Up Sessions

8.1.2 Stormwater Structure and Conveyance Inspection, Cleaning, and Maintenance

Currently, the City of Columbia City cleans catch basins on a bi-annual basis with the City's jet machine. Debris covering the inlet grate is swept up during the City's street sweeping events also.

The following is the proposed Stormwater Structure and Conveyance Inspection, Cleaning and Maintenance program for all operational areas within the City of Columbia City.

MS4 Structure and Conveyance Cleaning and Inspection: Cleaning of the stormwater structures and conveyances will begin in the spring and continue through the fall. Once a structure or conveyance has been cleaned, the structure will then be inspected for needed repairs. The type, location, weight of material cleaned, and condition of the structure or conveyance will be recorded. All material will be disposed of in accordance with Section 8.3 of this chapter. At the end of the year the amount of materials collected and disposed of will be included in the annual report to IDEM.

MS4 Structure and Conveyance Maintenance, Repairs, and Improvements: Repairs or improvements to MS4 stormwater structures and conveyances will be performed on an as-needed basis. All maintenance, repairs, and improvements will be recorded, including the location and type of work performed. At the end of the year the number of MS4 structures and conveyances maintained repaired or otherwise improved upon will be included in the annual report to IDEM.

8.1.2.1 Implementation Schedule

The execution of the Stormwater Structure and Conveyance Inspection, Cleaning and Maintenance program will be the responsibility of the Water Dept. Superintendent. The following schedule will be pursued.

Year 16 (ending Nov 2019): Update the number and location of all known MS4 Structures and Conveyances and perform a physical inventory to check for any new or altered structures or conveyances. Complete cleanings and inspections according to schedule.

Year 17 (ending Nov 2020): Update the number and location of all known MS4 Structures and Conveyances and perform a physical inventory to check for any new or altered structures or conveyances. Complete cleanings and inspections according to schedule.

Year 18 (ending Nov 2021): Update the number and location of all known MS4 Structures and Conveyances and perform a physical inventory to check for any new or altered structures or conveyances. Complete cleanings and inspections according to schedule. Make repairs and improvement as necessary.

Year 19 (ending Nov 2022): Update the number and location of all known MS4 Structures and Conveyances and perform a physical inventory to check for any new or altered structures or conveyances. Complete cleanings and inspections according to schedule. Make repairs and improvement as necessary.

Year 20 (ending Nov 2023): Update the number and location of all known MS4 Structures and Conveyances and perform a physical inventory to check for any new or altered structures or conveyances. Complete cleanings and inspections according to schedule. Make repairs and improvement as necessary. Review program for overall effectiveness.

8.1.2.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number, type, and location of all MS4 structures and conveyances cleaned and inspected;

- Amount of material collected; and
- Number, type, and location of all MS4 structures and conveyances repaired or otherwise improved upon.

8.1.3 Pavement Sweeping

Currently, the City of Columbia City provides street sweeping service between April and October or longer if weather permits. This program is limited to the Downtown Business District on a weekly basis or more if conditions warrant, while the remainder of the City is swept in seven to ten-day intervals. Additional street sweeping occurs after the Whitley County Old Settlers Day and Parade.

The following is the current Pavement Sweeping program for all operational areas within the City of Columbia City.

The City of Columbia City shall continue its pavement sweeping programs and procedures currently in place. All collected waste shall be disposed of in accordance with Section 8.3 of this chapter. The City will be required to record the amount of debris that they dispose of and report to the MS4 Operator so that it may be included in the annual report to IDEM.

8.1.3.1 Implementation Schedule

The execution of the Street Sweeping program will be the responsibility of the Street/Sewer Superintendent. The following schedule will be pursued.

Year 16 (ending Nov 2019): Update and improve upon the current pavement sweeping program as necessary, continuing the current or revised program throughout the year.

Year 17 (ending Nov 2020): Update and improve upon the current pavement sweeping program as necessary, continuing the current or revised program throughout the year.

Year 18 (ending Nov 2021): Update and improve upon the current pavement sweeping program as necessary, continuing the current or revised program throughout the year.

Year 19 (ending Nov 2022): Update and improve upon the current pavement sweeping program as necessary, continuing the current or revised program throughout the year.

Year 20 (ending Nov 2023): Update and improve upon the current pavement sweeping program as necessary, continuing the current or revised program throughout the year. Review program for effectiveness and improvements.

8.1.3.2 Items to be Tracked

The following item will be recorded on the corresponding reporting form located at the end of this chapter.

- Amount of material collected.

8.1.4 Roadside Shoulder and Ditch Stabilization

The following is the current Roadside Shoulder and Ditch Stabilization program for all operational areas within the City of Columbia City.

The roadside shoulder and ditch stabilization inspections will begin in the spring once the snow has melted and the areas of concern are clear for inspection. Roadways with shoulders or ditches will be inspected by the Street Department for possible maintenance work. Examples of possible maintenance include but are not limited to shoulder damage due to snow plowing and tire rutting, shoulder roadbed failure, ditches not draining properly, ditch side slope failure and channel erosion. Maintenance and repairs will be prioritized and then scheduled. All work performed will then be recorded and included in the annual report to IDEM.

Work performed in the right-of-way by CenturyLink and NIPSCO is required to be restored by same. It will be the Street Superintendent's responsibility to ensure that these restorations are completed in a timely and satisfactory manner.

8.1.4.1 Implementation Schedule

The execution of the Roadside Shoulder and Ditch Stabilization program will be the responsibility of the Street Superintendent. The following schedule will be pursued.

Year 16 (ending Nov 2019): Update the number and location of all known roads with shoulders or ditches, as necessary. Inspect roads listed in current year's timeline. Make repairs and improvements as necessary.

Year 17 (ending Nov 2020): Update the number and location of all known roads with shoulders or ditches, as necessary. Inspect roads listed in current year's timeline. Make repairs and improvements as necessary.

Year 18 (ending Nov 2021): Update the number and location of all known roads with shoulders or ditches, as necessary. Inspect roads listed in current year's timeline. Make repairs and improvements as necessary.

Year 19 (ending Nov 2022): Update the number and location of all known roads with shoulders or ditches, as necessary. Inspect roads

listed in current year's timeline. Make repairs and improvements as necessary.

Year 20 (ending Nov 2023): Update the number and location of all known roads with shoulders or ditches, as necessary. Inspect roads listed in current year's timeline. Make repairs and improvements as necessary. Perform a review of present procedures for improvement and effectiveness.

8.1.4.2 Items to be Tracked

The following items will be recorded on the appropriate engineering schematics.

- Estimated linear footage and the location of all known roads with ditches or shoulders; and
- Estimated linear footage and the location of all known roads with ditches or shoulders stabilized.

8.1.5 Roadside Vegetation Care

The following is the current Roadside Vegetation Care program for all operational areas within the City of Columbia City.

The roadside vegetation care inspections will begin in the spring once the snow has melted and the areas of concern are clear for inspection. Roadside vegetation will be inspected for possible maintenance needs. Examples of possible maintenance include but are not limited to vegetation damage due to snow plowing, tire rutting, utility dig ups during the fall and winter, and poor drainage. Maintenance and repairs will be prioritized and then scheduled. All work performed will then be recorded.

The Roadside Vegetation Care program will be combined with Roadside Shoulder and Ditch segment (8.1.4) and will adhere to the same reporting requirements.

8.1.5.2 Items to be Tracked

The following items will be recorded on the appropriate City Engineering schematics and be available for review.

- Estimated linear footage and the location of vegetated roadsides inspected; and
- Estimated linear footage and the location of vegetated roadsides remediated or otherwise improved.

8.1.6 Outfall Scouring Inspection and Remediation

The following is the current Outfall Inspection, Cleaning and Maintenance program for all operational areas within the City of Columbia City.

An annual inspection will occur when river levels are low enough to allow for visual inspections of outfall conditions. Outfalls will be inspected for: possible scouring or erosion around the conduit and adjacent conveyance embankment; and the general condition of the surrounding area. Maintenance and repairs will be prioritized and then scheduled. All work performed will then be recorded and included in the annual report to IDEM.

8.1.6.1 Implementation Schedule

The performance of Outfall Scouring Inspection and Remediation program will be the responsibility of the Water Dept. Superintendent or their designee. The following schedule will be pursued.

Year 16 (ending Nov 2019): Annually inspect all mapped outfalls (as identified in Chapter 5, Illicit Discharge Detection and Elimination), giving priority to areas of known concern. Inspect those outfalls listed in the current year's schedule. Make repairs and improvements as necessary.

Year 17 (ending Nov 2020): Annually inspect all mapped outfalls (as identified in Chapter 5, Illicit Discharge Detection and Elimination), giving priority to areas of known concern. Inspect those outfalls listed in the current year's schedule. Make repairs and improvements as necessary.

Year 18 (ending Nov 2021): Annually inspect all mapped outfalls (as identified in Chapter 5, Illicit Discharge Detection and Elimination), giving priority to areas of known concern. Inspect those outfalls listed in the current year's schedule. Make repairs and improvements as necessary.

Year 19 (ending Nov 2022): Annually inspect all mapped outfalls (as identified in Chapter 5, Illicit Discharge Detection and Elimination), giving priority to areas of known concern. Inspect those outfalls listed in the current year's schedule. Make repairs and improvements as necessary.

Year 20 (ending Nov 2023): Annually inspect all mapped outfalls (as identified in Chapter 5, Illicit Discharge Detection and Elimination), giving priority to areas of known concern. Inspect those outfalls listed in the current year's schedule. Make repairs and improvements as necessary. Perform an overall review of the program.

8.1.6.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and location of outfalls inspected for scouring conditions; and
- Number and location of outfalls repaired.

8.2 Controls for Minimizing Pollutants

The following pollution prevention and good housekeeping measures include procedures for reducing or eliminating the discharge of pollutants for the City of Columbia City.

8.2.1 Salt and Sand Storage and Application

Currently, the City of Columbia City stores its salt in a large pole building on an asphalt surface. All salt and sand stored by the City is now contained in a covered facility. Sand is mixed with the salt at a ratio of 1:1 to reduce the salt application rate.

The following is the proposed Salt and Sand Storage and Application controls for all operational areas within the City of Columbia City.

All salt and sand will continue to be stored in a covered structure. Salt and sand that is spilled outside of the covered facility but within the operational area will be swept up following the snow or ice event. The amount of salt and sand used will be documented and included in the annual report to IDEM.

8.2.1.1 Implementation Schedule

The implementation of Salt and Sand Storage and Application controls will be the responsibility of the Street/Sewer Superintendent. The following schedule will be pursued.

Year 16 (ending Nov 2019): Follow standard procedures for the delivery, storage, disbursement and cleanup of salt and sand applications

Year 17 (ending Nov 2020): Follow standard procedures for the delivery, storage, disbursement and cleanup of salt and sand applications.

Year 18 (ending Nov 2021): Follow standard procedures for the delivery, storage, disbursement and cleanup of salt and sand applications.

Year 19 (ending Nov 2022): Follow standard procedures for the delivery, storage, disbursement and cleanup of salt and sand applications.

Year 20 (ending Nov 2023): Follow standard procedures for the delivery, storage, disbursement and cleanup of salt and sand applications. Review existing procedures and implement changes as needed to reduce the potential stormwater pollution.

8.2.1.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form at the end of this chapter.

- Number and location of salt and sand storage facilities; and
- Estimated amount of salt and sand applied throughout the year.

8.2.2 Designated Snow Disposal Areas

Currently, the City of Columbia City places cleared snow on the bare earth in a City-owned lot. An asphalt trail separates the snow pile from a nearby water conveyance. As the snow melts, it drains to a low-lying field and ponds there until it has infiltrated the ground.

The following is the current Snow Disposal controls for all operational areas within the City of Columbia City.

The City of Columbia City may establish additional areas designated for snow disposal that have minimum potential for pollutants to runoff and impact the stormwater system, aside from the current designated area. Following the snowmelt, remaining debris will be collected and disposed of in accordance with Section 8.3 of this chapter.

8.2.2.1 Implementation Schedule

The implementation of Snow Disposal controls will be the responsibility of the Street/Sewer Superintendent. The following schedule will be pursued.

Year 16 (ending Nov 2019): Review the effectiveness of the existing designated disposal area, making changes as necessary, storing excess snow at the current designated or newly designated area if necessary.

Year 17 (ending Nov 2020): Review the effectiveness of the existing designated disposal area, making changes as necessary, storing excess snow at the current designated or newly designated area if necessary.

Year 18 (ending Nov 2021): Review the effectiveness of the existing designated disposal area, making changes as necessary, storing excess snow at the current designated or newly designated area if necessary.

Year 19 (ending Nov 2022): Review the effectiveness of the existing designated disposal area, making changes as necessary, storing excess snow at the current designated or newly designated area if necessary.

Year 20 (ending Nov 2023): Review the effectiveness of the existing designated disposal area, making changes as necessary, storing excess snow at the current designated or newly designated area if necessary.

8.2.2.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and location of areas used for disposal; and
- Amount of material collected and disposed of following snowmelt.

8.2.3 Containment Facilities for Accidental Pollution

Currently, the City of Columbia City has one outside storage facility which is the maintenance facility, located at 316 S Towerview Drive. This facility contains all stone aggregate, sewer/manhole material, electric transformers, and poles. There are no containment features in place. However, old transformers with PCB's are stored in a building in an OSHA approved secondary containment tank. There is an SPCC plan in place for any hazardous liquids for storage of over 600 gallons.

The following are the current Accidental Pollution controls for all operational areas within the City of Columbia City.

Provide facilities for containment of any accidental losses of concentrated solutions, acids, alkalis, salts, oils or other polluting materials. Spill kits have been provided for each site and are currently in place. Cabinets have also been provided for storage of aerosols, gasoline, chain saws and other volatile or toxic materials. In addition, all future storage areas will be required to have containment structure enclosures designed to meet current OSHA, State, and local codes.

8.2.3.1 Implementation Schedule

The execution of Accidental Pollution controls will be the responsibility of the Street/Sewer, Electric, WPCF, and Water Superintendents. The following schedule will be pursued.

Year 16 (ending Nov 2019): Monitor all storage areas of concentrated solutions, acids, alkalis, salts, oils or other polluting materials. Ensure that any new storage areas have containment structure enclosures designed to meet current OSHA, State, and local codes.

Year 17 (ending Nov 2020): Monitor all storage areas of concentrated solutions, acids, alkalis, salts, oils or other polluting materials. Ensure that any new storage areas have containment structure enclosures designed to meet current OSHA, State, and local codes.

Year 18 (ending Nov 2021): Monitor all storage areas of concentrated solutions, acids, alkalis, salts, oils or other polluting materials. Ensure that any new storage areas have containment structure enclosures designed to meet current OSHA, State, and local codes.

Year 19 (ending Nov 2022): Monitor all storage areas of concentrated solutions, acids, alkalis, salts, oils or other polluting materials. Ensure that any new storage areas have containment structure enclosures designed to meet current OSHA, State, and local codes.

Year 20 (ending Nov 2023): Monitor all storage areas of concentrated solutions, acids, alkalis, salts, oils or other polluting materials. Ensure that any new storage areas have containment structure enclosures designed to meet current OSHA, State, and local codes. Perform general review for program effectiveness.

8.2.3.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and location of existing storage facilities;
- Number and location of storage facilities that have containment for accidental release;
- Number and location of storage facilities retrofitted for containment for accidental releases.

8.2.4 Spill Prevention and Response when Fueling

The following is the current Operating Procedures for Spill Prevention and Clean up When Fueling for all operational areas for the City of Columbia City which was updated in 2008.

The City of Columbia City will prohibit unattended filling of gasoline or diesel tanks. They will also require facilities to store absorbent materials near areas where fueling activities occur. Waste will be disposed of in accordance with Section 8.3 of this chapter. Spills will

be recorded and the appropriate authority will be notified in accordance with procedures outlined in the Illicit Discharge Ordinance.

8.2.4.1 Implementation Schedule

The implementation of Operating Procedures for Spill Prevention and Clean up When Fueling will be the responsibility of the MS4 Operator or designee. The following schedule will be pursued.

Year 16 (ending Nov 2019): Update and improve upon current spill prevention procedures, continuing the current or revised program throughout the year.

Year 17 (ending Nov 2020): Update and improve upon current spill prevention procedures, continuing the current or revised program throughout the year.

Year 18 (ending Nov 2021): Update and improve upon current spill prevention procedures, continuing the current or revised program throughout the year.

Year 19 (ending Nov 2022): Update and improve upon current spill prevention procedures, continuing the current or revised program throughout the year.

Year 20 (ending Nov 2023): Update and improve upon current spill prevention procedures, continuing the current or revised program throughout the year.

8.2.4.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and location of spills while fueling; and
- Number and location of spills, while fueling that were properly contained.

8.2.5 BMPs for Vehicular Maintenance Areas

The following is the current BMP for Vehicular Maintenance Areas for all operational areas within the City of Columbia City.

Vehicle and equipment maintenance should be performed inside with proper containment and water treatment. Parked vehicles should be monitored closely for leaks and pans should be placed under any leaks to collect fluids.

All collected waste shall be disposed of in accordance with Section 8.3 of this chapter. The City of Columbia City will be required to record the

amount of debris and waste that they dispose of and report to the MS4 Operator so that it may be included in the annual report to IDEM.

8.2.5.1 Implementation Schedule

The implementation of BMPs for Vehicular Maintenance Areas will be the responsibility of the Mechanic and Street/Sewer Superintendent. The following schedule will be pursued.

Year 16 (ending Nov 2019): Follow existing procedures for recording and reporting the amount of fluids disposed of, or recycled, to the MS4 Operator. Continue current vehicular maintenance procedures.

Year 17 (ending Nov 2020): Follow existing procedures for recording and reporting the amount of fluids disposed of, or recycled, to the MS4 Operator. Continue current vehicular maintenance procedures.

Year 18 (ending Nov 2021): Update and improve upon the current vehicular maintenance procedures as necessary, continuing the current or revised procedures throughout the year.

Year 19 (ending Nov 2022): Update and improve upon the current vehicular maintenance procedures as necessary, continuing the current or revised procedures throughout the year.

Year 20 (ending Nov 2023): Update and improve upon the current vehicular maintenance procedures as necessary, continuing the current or revised procedures throughout the year.

8.2.5.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and location of facilities that perform on-site vehicular maintenance properly;
- Amount of material collected and disposed of; and
- Amount of material recycled.

8.2.6 Operational Wash Water Controls

Currently, the City of Columbia City washes its equipment in the wash bay of the Municipal Services Facilities. The wastewater is sent to the Water Pollution Control Facility (WPCF) for treatment, after it has passed through an oil separator.

The following is the current Operational Wash Water Controls for all operational areas within the City of Columbia City.

The City of Columbia City will continue its current vehicular and equipment washing procedures. Appropriate containment measures will be employed to keep pollutants from entering stormwater conveyance systems.

Hydrodemolition waste will also be prohibited from entering stormwater conveyances.

In 2009, modifications were completed at the City maintenance facility to reroute the vehicle washout to the Sanitary Sewer Collection System.

8.2.6.1 Implementation Schedule

The execution of Operational Wash Water Controls will be the responsibility of the MS4 Operator or designee. The following schedule will be pursued.

Year 16 (ending Nov 2019): Ensure that all washing facilities drain to the sanitary sewer system. Prevent hydrodemolition waste from entering stormwater conveyances.

Year 17 (ending Nov 2020): Ensure that all washing facilities drain to the sanitary sewer system. Prevent hydrodemolition waste from entering stormwater conveyances.

Year 18 (ending Nov 2021): Ensure that all washing facilities drain to the sanitary sewer system. Prevent hydrodemolition waste from entering stormwater conveyances.

Year 19 (ending Nov 2022): Ensure that all washing facilities drain to the sanitary sewer system. Prevent hydrodemolition waste from entering stormwater conveyances.

Year 20 (ending Nov 2023): Ensure that all washing facilities drain to the sanitary sewer system. Prevent hydrodemolition waste from entering stormwater conveyances.

8.2.6.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and location of wash facilities;
- Number and location of hydrodemolition activities; and
- Number and location of hydrodemoition activities properly contained.

8.2.7 Minimization of Pesticide and Fertilizer Usage

Currently, the city of Columbia City is in the development stage of an herbicide and pesticide program.

The following is the proposed BMPs for the Minimization of Pesticide and Fertilizer Use for all operational areas within the City of Columbia City.

Pesticides and fertilizers shall be used, applied, handled, stored, mixed, loaded, transported, and disposed of via Office of the Indiana State Chemist's Guidance Requirements. All applications and disposals shall be recorded and reported to the MS4 Operator to be included in the annual report to IDEM.

8.2.7.1 Implementation Schedule

The implementation of BMPs for the Minimization of Pesticide and Fertilizer Use will be the responsibility of the MS4 Operator or designee. The following schedule will be pursued.

Year 16 (ending Nov 2019): Review the proposed BMPs for the Minimization of Pesticide and Fertilizer Use identified above.

Year 17 (ending Nov 2020): Implement procedures for using, applying, handling, storing, mixing, loading, transporting, and disposing of pesticides and fertilizers in accordance with the Indiana State Chemist's Guidance Requirements.

Year 18 (ending Nov 2021): Implement procedures for using, applying, handling, storing, mixing, loading, transporting, and disposing of pesticides and fertilizers in accordance with the Indiana State Chemist's Guidance Requirements.

Year 19 (ending Nov 2022): Update, if necessary, and continue procedures for using, applying, handling, storing, mixing, loading, transporting, and disposing of pesticides and fertilizers in accordance with the Indiana State Chemist's Guidance Requirements.

Year 20 (ending Nov 2023): Update, if necessary, and continue procedures for using, applying, handling, storing, mixing, loading, transporting, and disposing of pesticides and fertilizers in accordance with the Indiana State Chemist's Guidance Requirements.

8.2.7.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Amount, type, location, and estimated square footage where pesticides were used. Amount, type, location, and estimated

square footage where fertilizers were used. Currently, these functions are performed by an application contractor, Dalton Brothers, and records of the aforementioned requirements are maintained by them.

- Amount and type of pesticides and fertilizers disposed of; including their method of disposal. See above contract with Dalton Brothers.

8.2.8 Proper Disposal of Animal Waste

Currently, the City of Columbia City does not have a Canine Park, or any other operational areas with a concentration of animal waste.

The following is the proposed BMPs for the Proper Disposal of Animal Wastes within the City of Columbia City.

At a minimum, canine parks, and other operational areas with a concentration of animal waste, will not be built any closer than 150 feet from a surface water body.

8.2.8.1 Implementation Schedule

The implementation of BMPs for the Proper Disposal of Animal Wastes will be the responsibility of the MS4 Operator. The following schedule will be pursued.

Year 16 (ending Nov 2019): If any canine park should come into existence, the City will review and develop codes or an ordinance for setback or disposal requirements for operational areas with concentrations of animal waste.

Year 17 (ending Nov 2020): If any canine park should come into existence, the City will review and develop codes or an ordinance for setback or disposal requirements for operational areas with concentrations of animal waste.

Year 18 (ending Nov 2021): If any canine park should come into existence, the City will review and develop codes or an ordinance for setback or disposal requirements for operational areas with concentrations of animal waste.

Year 19 (ending Nov 2022): If any canine park should come into existence, the City will review and develop codes or an ordinance for setback or disposal requirements for operational areas with concentrations of animal waste.

Year 20 (ending Nov 2023): If any canine park should come into existence, the City will review and develop codes or an ordinance for setback or disposal requirements for operational areas with concentrations of animal waste.

8.2.8.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and location of operational areas with concentrations of animal waste (i.e., canine parks) if applicable.

8.3 Waste Disposal from MS4 Systems and Operational Areas

The following pollution prevention and good housekeeping measures include procedures for implementing proper Waste Disposal from MS4 Systems and Operational Areas within the City of Columbia City.

Currently the City of Columbia City does not operate under a formal waste disposal program for their MS4 systems and operational areas.

The following is the proposed BMPs for the implementation of the proper disposal of wastes generated from MS4 systems and operational areas within the City of Columbia City.

All materials removed from separate storm sewer systems and operational areas, including dredge spoil, accumulated sediments, floatables, and debris must be recycled or reused or disposed of in accordance with applicable Federal, State and Local solid waste disposal regulations.

Hazardous waste will be disposed of in accordance with Federal, State and Local regulations.

8.4 Flood Management and Stormwater Quality Standards

The following pollution prevention and good housekeeping measures include procedures for implementing Flood Management and Stormwater Quality Standards for the City of Columbia City.

Currently, the City has existing stormwater infrastructure and structural BMPs that were built to manage stormwater quantity. The City currently has one MS4 operated retention or detention basins.

The following are the proposed BMPs for the implementation of Flood Management and Stormwater Quality Standards within the City of Columbia City.

The City will institute a program whereby existing stormwater flood management development will be reviewed to determine if stormwater quality control measures can be incorporated into the design.

8.4.1 Implementation Schedule

The implementation of BMPs for the implementation of Flood Management and Stormwater Quality Standards will be the responsibility of the Building and Planning Director and the designated MS4 inspector. The following schedule will be pursued:

Year 16 (ending Nov 2019): Review existing developments to determine if stormwater quality control can be incorporated into the design. Review construction plans for implementation.

Year 17 (ending Nov 2020): Review existing developments to determine if stormwater quality control can be incorporated into the design. Review construction plans for implementation.

Year 18 (ending Nov 2021): Review existing developments to determine if stormwater quality control can be incorporated into the design. Review construction plans for implementation.

Year 19 (ending Nov 2022): Review existing developments to determine if stormwater quality control can be incorporated into the design. Review construction plans for implementation.

Year 20 (ending Nov 2023): Review existing developments to determine if stormwater quality control can be incorporated into the design. Review construction plans for implementation.

8.4.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and location of existing facilities evaluated for stormwater quality control measures; including the type of control measures used; and
- Number and location of existing flood and stormwater management infrastructure retrofitted with stormwater quality control measures; including the type of control measure used.

8.5 Annual Training of MS4 Personnel

The following pollution prevention and good housekeeping measures include procedures for training existing and new employees for the City of Columbia City.

Current Employee Training: Current employees whose work could affect stormwater quality, including but not limited to: City maintenance staff, janitorial personnel, and police and fire personnel, will be required to complete training on stormwater related policies, programs and procedures. This training will be documented and retained.

During subsequent years current employees whose work could affect stormwater quality will be required to complete annual refresher training in various areas affecting stormwater quality and how it relates to their job. This training will be documented and retained.

Employees will be trained on topics, including but not limited to: proper disposal of hazardous waste, vegetative waste handling, fertilizer and pesticide application if applicable and the function of implemented BMPs.

New Employee Training: New employees whose work could affect stormwater quality will be required to complete training on stormwater related policies, programs, and procedures. The training will take place within the first two months of employment with the City or related governmental entity with authority within the City limits. This training will be documented and retained.

Employees will be trained on topics, including but not limited to: proper disposal of hazardous waste, vegetative waste handling, fertilizer and pesticide application and the function of implemented BMPs.

8.5.1 Implementation Schedule

The implementation of the Annual Training of MS4 Personnel Program will be the responsibility of the MS4 Operator or designee. The following schedule will be pursued.

Year 16 (ending Nov 2019): The City will evaluate the policies, procedures, and training methods; and begin implementing any recommended changes.

Year 17 (ending Nov 2020): The City will implement training policy and procedures and develop training methods for employees.

Year 18 (ending Nov 2021): The City will review the current training package for employees and develop changes in the training regimen to reflect current BMPs and any regulatory changes.

Year 19 (ending Nov 2022): The City will continue training employees.

Year 20 (ending Nov 2023): The City will evaluate the policies, procedures, and training methods and make appropriate changes to the training package.

8.5.2 Items to be Tracked

The following items will be recorded on the corresponding reporting form located at the end of this chapter.

- Number and names of new employees trained in stormwater quality related policies and procedures
- Number and names of current employees trained in stormwater quality related policies and procedures.

8.6 Consistency with the CSOOP and the LTCP

The City of Columbia City's Combined Sewer Overflow Operational Plan (CSOOP) and Long-Term Control Plan (LTCP) have been reviewed for their provisions on good

housekeeping and pollution prevention. It was found that both plans mentioned such areas as catch basin cleaning, street sweeping, leaf pick up, recycling, and hazardous waste collection. However, there is a lot of information reported in this MCM that was not covered in the CSOOP and LTCP.

The efforts of this SWQMP, which aim to improve or protect receiving water quality by altering municipal or facilities operations are not in conflict with or a duplication of the LTCP or the CSOOP.