PARK CITY

STORMWATER

MANAGEMENT PROGRAM

Originally Prepared: 2003
MS4 Inclusion Revision: June 2016
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1.0. ACRONYMS

BMP – Best Management Practices

CWA – Clean Water Act

EPA – Environmental Protection Agency

IDDE – Illicit Discharge Detection and Elimination

MCM – Minimum Control Measure

MEP – Maximum Extent Practicable

MS4 – Municipal Separate Storm Sewer System

NOI – Notice Of Intent

NPDES – National Pollutant Discharge Elimination System

O&M – Operations and Maintenance

SOP – Standard Operating Procedures

SWMP – Stormwater Management Plan

SWPPP – Stormwater Pollution Prevention Plan

TMDL – Total Maximum Daily Load

UPDES – Utah Pollutant Discharge Elimination System

2.0. KEY PERSONS

Park City Municipal Corporation, Public Utilities Department
1053 Iron Horse Drive, Park City, UT 84060
(435) 615-5307

Clint McAffee, Public Utilities Director (435) 615-5339
clint.mcaffee@parkcity.org

Jason Christensen, Water Resources Manager (435) 615-5331
jason.christensen@parkcity.org

Chris Morgan, Stormwater Coordinator (435) 615-5306
christine.morgan@parkcity.org

Troy Dayley, Streets Manager (435) 615-5637
troy@parkcity.org

3.0. INTRODUCTION

Park City is located on the Wasatch back, on the south end of Summit County and east of Salt Lake City. Historically Park City started in 1860s as a mining town for silver and other minerals. Fires, worker strikes, dropping mineral prices, explosions, heavy snows and mine shaft collapses have shaped the story of this historic mining town. Mining ceased in 1982, when it became unprofitable. In the 1930s skiing began in the area and increased in popularity as mining dropped off. With the announcement of the 2002 Winter Olympics in 1995, and the popularity of the Sundance Film Festival, Park City has flourished as a mountain and ski resort community.

The city is located in the upper elevations of the Wasatch Mountain range. The population is approximately 7,500, but more than doubles during periods of winter. Elevations in the city generally range between 6,600 feet and 9,400 feet above mean sea level, with most of the city at 7,600. A portion of the city drains to the east through Silver Creek to Echo Reservoir and to the Weber River. The eastern portion of the City drains to McLeod Creek toward East Canyon Creek and reservoir and ultimately to the Weber River in the Morgan area. The Weber River finally drains into the Great Salt Lake.

The Park City stormwater system consists of curb and gutters, inlet boxes, piping, a few typical open channel sections, swales and canals. Most stormwater facilities drain through piping to the creeks mentioned above. There are a few detention basins that exist within the system. Many of the streets use curb and gutter to collect stormwater runoff with the remaining using swales or ditches. The city is served by a sanitary sewer system that is treated by the Snyderville Basin Water Reclamation District. There are some existing septic tank systems in the city, but all new developments are required to connect to the public sanitary sewer system.

4.0. COVERAGE UNDER THIS PERMIT

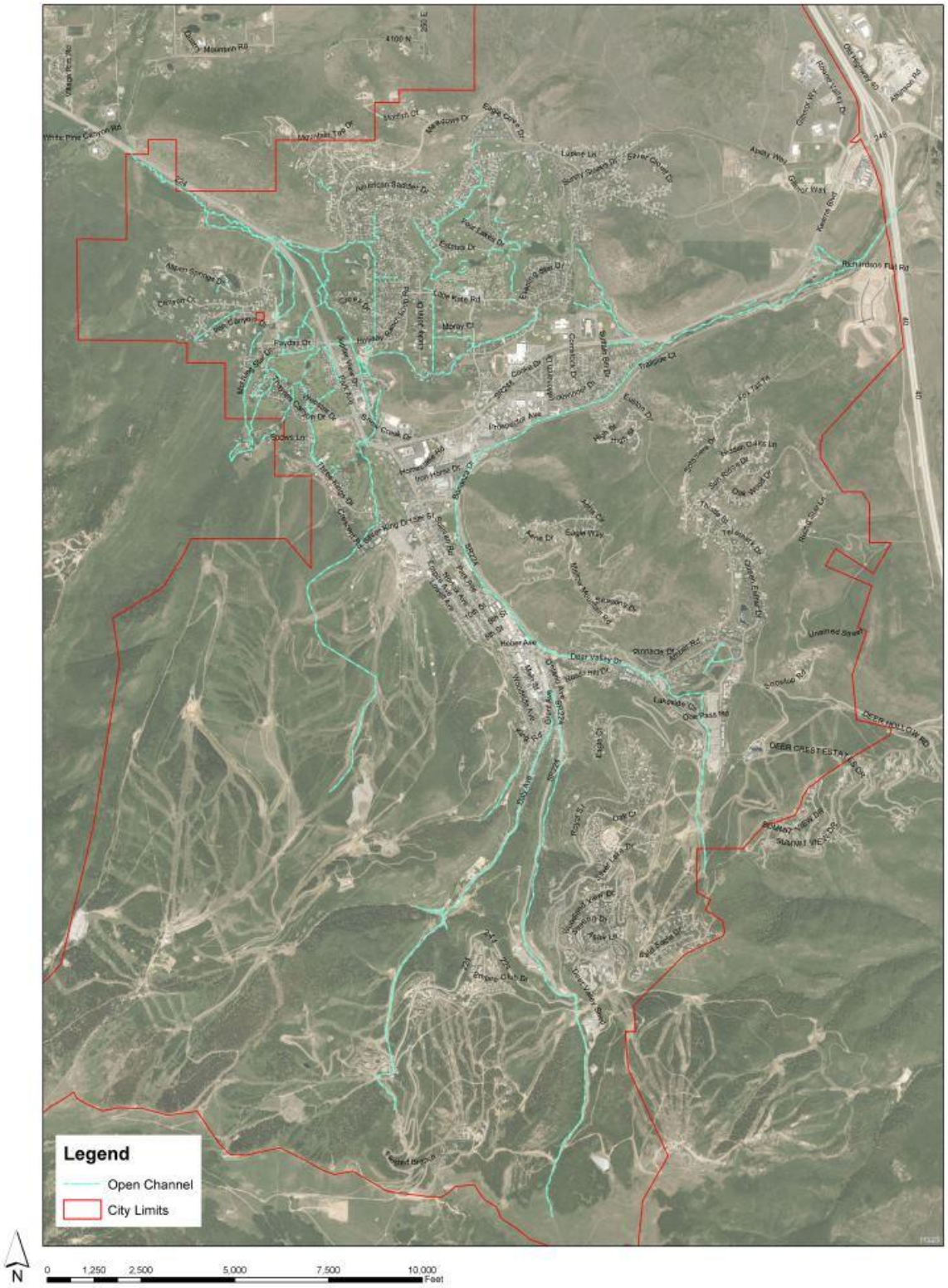
Polluted stormwater runoff is often transported to municipal separate storm sewer systems (MS4s) and ultimately discharged into local rivers and streams without treatment. EPA's Stormwater Phase II Rule establishes an MS4 stormwater management program that is intended to improve the Nation's waterways by reducing the quantity of pollutants that are introduced into storm sewer systems during storm events. Common pollutants include oil and grease from roadways, roadway salts and deicing materials, pesticides and fertilizers from lawns, pet waste, sediment from construction sites, and carelessly discarded trash, such as cigarette butts, paper wrappers, and plastic bottles. When deposited into nearby waterways through MS4 discharges, these pollutants can impair the waterways, thereby discouraging use of the resource, contaminating water supplies, and interfering with the habitat for fish, other aquatic organisms, and wildlife.

In 1990, EPA promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) stormwater program. The Phase I program for

MS4s requires operators of “medium” and “large” MS4s, that is, those that generally serve populations of 100,000 or greater, to implement a stormwater management program as a means to control polluted discharges from these MS4s. The Stormwater Phase II Rule extends coverage of the NPDES stormwater program to certain “small” MS4s but takes a slightly different approach to how the stormwater management program is developed and implemented.

In the State of Utah, the EPA has granted primacy to the State of Utah to oversee and manage the stormwater program. The State has adopted the Utah Pollutant Discharge Elimination System (UPDES) for that purpose. Park City has prepared this Stormwater Management Program (SWMP) to meet the requirements of the UPDES Stormwater Discharge Permit for Small MS4s.

5.0. MS4 LOCATION DESCRIPTION AND MAP



6.0. PERMIT APPLICATION AND NOTICE OF INTENT

Phase II Rule encourages the development of a stormwater management program by requiring a Notice of Intent (NOI) describing the stormwater management program to be submitted to the NPDES permitting authority. The Notice of Intent becomes the permit application.

7.0. LOCAL WATER QUALITY CONCERNS

The water quality within Park City has a history of contamination. East Canyon Creek is impaired for Dissolved Oxygen and Total Phosphorus. Silver Creek is impaired for Dissolved Zinc and Cadmium listed in the Total Maximum Daily Load (TMDL) for the creek. Both of these are from mine tailing from mining operations in the area decades ago.

With the history of mining in the area some locations have been contaminated with mine tailings and their associated chemicals.

8.0. WATER QUALITY

This SWMP has been developed to meet the requirements set forth in the UPDES UTR090000 permit and consists of the six minimum control measures established by the EPA for Phase II stormwater discharges as addressed the following sections. Implementation of these control measures are expected to result in reductions of pollutants discharged into receiving waters including sediments, trash, pathogens, fertilizers/nutrients, hydrocarbons, metals, pesticides, acid and base products, road salts and increased stream flow. These pollutants can negatively impact the environment as described in the following table.

Pollutant	Source	Impacts
Sediment	Construction sites, vehicle/boat washing, agricultural sites, erosion	Destruction of aquatic habitat for fish and plants, transportation of attached oils, nutrients and other chemical contamination, increased flooding. Sediment can transport other pollutants that are attached to it including nutrients, trace metals, and hydrocarbons. Sediment is the primary component of total suspended solids (TSS), a common water quality analytical parameter.
Nutrients (Phosphorus, Nitrogen, Potassium, Ammonia)	Fertilizers from agricultural operations, lawns and gardens; livestock and pet waste, decaying vegetation, sewer overflows and leaks	Harmful algal blooms, reduced oxygen in the water, changes in water chemistry and pH. Nutrients can result in excessive or accelerated gowth of vegetation, resulting in impaired use of water in lakes and other receiving waters.
Hydrocarbons (Petroleum Products, Benzene, Toluene, Ethyl Benzene, Xylene)	Vehicle and equipment fluid leaks, engine emissions, pesticides, equipment cleaning, leaking fuel storage containers, fuel spills, parking lot runoff	These pollutants are toxic to humans and wildlife at very low levels. Carcinogenic. Teratogenic.
Heavy Metals	Vehicle brake and equipment wear, engine emissions, parking lot runoff, batteries, paint and wood preservatives, fuels and fuel additives, pesticides, cleaning agents	Metals including lead, zinc, cadmium, copper, chromium and nickel are commonly found in stormwater. Metals are of concern because they are toxic to all life at very low levels. Carcinogenic. Teratogenic.
Toxic Chemicals (Chlorides)	Pesticides, herbicides, dioxins, PCB's, industrial chemical spills and leaks, deicers, solvents	Chemicals are of concern because they are toxic to all life at very low levels. Carcinogenic. Teratogenic.
Debris/Litter/Trash	Improper solid waste storage and disposal, abandoned equipment, litter	Aesthetically unpleasant. Risk of decay product toxicity. Risk of aquatic animal entrapment or ingestion and death.
Pathogens (Bacteria)	Livestock, human and pet waste, sewer overflows and leaks, septic systems	Humanhealth risks due to disease and toxic contamination of aquatic life.

Each control measure will include Standard Operating Procedures (SOPs) and Best Management Practices (BMPs) necessary for proper stormwater management. The BMPs and SOPs include specific tasks to meet the objective of each particular control measure. The BMPs and SOPs included in this SWMP will be implemented and reviewed throughout the permit term. This SWMP is intended to be a living document with BMPs added or deleted as new BMPs arise or are found to be ineffective.

Schedules for implementing the BMPs are provided along with each minimum control measure.

9.0. STORMWATER MANAGEMENT PLAN (SWMP)

General Information

This document contains a description of the community-specific Stormwater Management Program for Park City. The Program includes the following;

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

- Measurable goals for each minimum control measure (i.e., narrative or numeric standards used to gauge program effectiveness);
- Estimated months and years in which actions to implement each measure will be undertaken, including interim milestones and frequency; and
- The person or persons responsible for implementing or coordinating the stormwater program.

This document also contains the following information and documentation in its appendices:

- Appendix A – Supplemental Guide to Stormwater Management for Contractors and Developers
- Appendix B – Supplemental Guide to Stormwater Management for Public Utilities Departments
- Appendix C – Standard Operating Procedures, Documentation and Elements of the Illicit Discharge Detection and Elimination program

- Appendix D – General program documentation including inspection forms, enforcement logs, training logs, annual reports, maintenance records, observation reports, and other general documentation

- Appendix E – Copies of the most current city ordinances applicable to stormwater

- Appendix F – Copies of State permits and documents regulating the Park City stormwater program

- Appendix G – System maps and inventories

Permit Requirements

The chosen measurable goals, submitted in the Notice of Intent as a permit application, become the required stormwater management program; however, the NPDES permitting authority can require changes in the mix of chosen BMPs and measurable goals if all or some of them are found to be inconsistent with the provisions of the Phase II Final Rule. Likewise, the permittee can change its mix of BMPs if it determines that the program is not as effective as it could be.

Reports

The permit requires that the city review the SWMP annually, report on our activities and make any updates that might be required. The annual reports should use the form provided by the State. Generally, the annual report should include the following information:

- The status of compliance with permit conditions, including an assessment of the appropriateness of the selected BMPs and progress toward achieving the selected measurable goals for each minimum measure;

- Results of any information collected and analyzed, including monitoring data if any;

- A summary of the stormwater activities planned for the next reporting cycle;

- A change in any identified BMP or measurable goals for any minimum measure; and

- Notice of relying on another governmental entity to satisfy some of the permit obligations (if applicable).

Record Keeping

Records required by the State must be kept for at least 5 years and made accessible to the public at reasonable times during regular business hours. Records need not be submitted to the State unless the Permittee is requested to do so.

Deadlines

The following deadlines are recognized as part of the program:

Date	Description
January 1, 2020	Post Construction program implemented
April 1, 2018	Construction program implemented
January 1, 2019	IDDE program implemented

Penalties

The NPDES permit that the operator of a regulated small MS4 is required to obtain is federally enforceable, thus subjecting the Permittee to potential enforcement actions and penalties by the NPDES permitting authority if the permittee does not fully comply with application or permit requirements. This federal enforceability also includes the right for interested parties to sue under citizen suit provision (section 405) of CWA.

Ongoing Documentation Process

The SWMP itself has been organized to make it more of a working document with multiple appendices to help the City in record keeping and documenting our activities. Much of the documentation is or will be included in Appendix D. As part of this update, the existing BMPs and measureable goals have been reviewed and assessed for their effectiveness and contribution in helping to achieve the desired results.

This SWMP includes many forms and reports to help in the documentation efforts. Report forms, logs, evaluation forms and backup information is spread throughout the applicable appendices.

10.0. MINIMUM CONTROL MEASURES

10.1. Public Education and Outreach on Stormwater Impacts

Permit Requirements

The permit requirements for Public Education and Outreach on Stormwater Impacts can be found in Section 4.2.1 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements.2.1.1.1. The MS4 shall promote behavior change by the public to reduce water quality impacts associated with pollutants in stormwater runoff and illicit discharges. This is a multimedia approach targeted to specific audiences. The four audiences are: (1) residents, (2) businesses, institutions, and commercial facilities, (3) developers and contractors (construction), and (4) MS4 industrial facilities.

- The MS4 shall identify target pollutants and pollutant sources and their potential impacts relating to stormwater quality.
- The MS4 shall provide and document information given to the four focus audiences.
- The MS4 shall provide documentation or rationale as to why particular BMPs were chosen for its public education and outreach program.

Summary of Existing Efforts

Park City has a website that is located at www.Parkcity.com. This website includes a stormwater page that includes both general and specific information. The stormwater page is located under Public Utilities.

Park City, in cooperation with Recycle Utah and other entities, participates annually in a Water Festival to educate elementary school students on item related to water quality. Park City provides a model that illustrates how different types of pollution affect our water ways.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Park City has chosen to adopt the following BMPs. Each BMP is cross referenced alphabetically by code in the indicated appendix to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness. Only those BMPs listed below will be utilized by Park City as part of their SWMP at the present time.

BMP	Code	Appendix
Classroom Education On Stormwater	CESW	B
Educational Materials	EM	B
Employee Training	ET	B
Public Education/ Participation	PEP	B
Using Media	UM	B

Goals

In order to more fully realize the benefits of the BMPs the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Stormwater Phase II Rule for Education and Outreach.

10.2. PUBLIC INVOLVEMENT / PARTICIPATION

Permit Requirements

The permit requirements for Public Participation and Involvement on Stormwater Impacts can be found in Section 4.2.2 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements.

1. Comply with applicable State, and local public notice requirements to involve interest groups and stakeholders for their input on the SWMP.

2. Make available to the public a current version of the SWMP document for review and input for the life of the permit. This should be posted on the City's website.

Summary of Existing Efforts

Used Oil Recycling
Summit County Health Department accepts used oils and tires which can be brought for recycling.

Waste Collection
Twice a year in the spring and fall Recycle Utah conducts a general cleanup and a green waste cleanup. There are locations in which residence can bring their waste for the city to dispose of.

Service Groups
There are local scout and church groups that have participated in street cleanup and litter reduction.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Park City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix.

BMP	Code	Appendix
Public Education/ Participation	PEP	B

Goals

In order to more fully realize the benefits of the BMPs the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Stormwater Phase II Rule for Public Involvement and Participation.

10.3. ILLICIT DISCHARGE DETECTION AND ELIMINATION

Permit Requirements

The permit requirements for Illicit Discharge Detection and Elimination on Stormwater Impacts can be found in Section 4.2.3 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements.

1. Maintain a storm sewer system map of the MS4, showing the location of all outfalls and the names and location of all State waters that receive discharges from those outfalls.

2. Through an ordinance, or other regulatory mechanism, a prohibition (to the extent allowable under State, or local law) on non-stormwater discharges into the MS4, and appropriate enforcement procedures and actions.

3. Develop and implement a plan to detect and address non-stormwater discharges, including spills, illicit connections, and illegal dumping to the MS4.

4. Develop and implement standard operating procedures (SOPs) for:

    a. tracing the source of an illicit discharge.
    b. characterizing the nature of, and the potential public or environmental threat posed by, any illicit discharges found or reported.
    c. ceasing the illicit discharge, including notification of appropriate authorities, property owners, and technical assistance for removing the source and follow-up inspections.

5. Inform public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste.

6. Promote or provide services for the collection of household hazardous waste.

7. Publicly list and publicize a hotline or other local number for public reporting of spills and other illicit discharges.

8. Develop a written spill/dumping response procedure, and a flowchart for internal use, including various responsible agencies and their contacts.

9. Adopt and implement procedures for program evaluation and assessment.

10. Train employees, at a minimum, annually on the IDDE program.

Summary of Existing Efforts

Illicit Spills
Currently, reports of spills are handled by the Fire Department or County Health Department.

Illicit Connections
The City has not generally experienced problems with individuals or businesses illicitly connecting their sanitary waste water piping to storm drains. More-common types of illicit discharges include spills from highway accidents, concrete truck wash out water, residential yard waste and debris being washed into the gutters, and general litter and debris (floatables) originating from retail businesses and the general public.

Mapping
The city has a fairly comprehensive, storm drain map showing the storm drain system and its points of discharge. A copy of this map is included in Appendix G.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Park City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix.

BMP	Code	Appendix
Community Hotline	CH	B,C
Employee Training	ET	B,C
Hazardous Waste Management	HWM	B,C
Illegal Dumping Control	IDC	B,C
Identify Illicit Connections	IIC	B,C
Illegal Solids Dumping Controls	ISDC	B,C
Map Stormwater Drains	MSWD	B,C
Non-Stormwater Discharge to Drains	NSWD	B,C
Ordinance Development	OD	B,C
Public Education/ Participation	PEP	B,C
Used Oil Recycling	UOR	B,C

Goals

In order to more fully realize the benefits of the BMPs the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Stormwater Phase II Rule for Illicit Discharge Detection and Elimination.

10.4. CONSTRUCTION SITE RUNOFF CONTROL

Permit Requirements

The permit requirements for Construction Site Runoff Control on Stormwater Impacts can be found in Section 4.2.4 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements

1. Have an ordinance or other regulatory mechanism requiring the implementation of proper erosion and sediment control practices on construction sites. This will include a requirement for a Stormwater Pollution Prevention Plan (SWPPP) and enforcement provisions.

2. Develop and implement Standard Operating Procedures (SOPs) for:

    a. pre-construction SWPPP reviews to ensure plans are complete and in compliance with State and Local regulations.

    b. construction site inspection and enforcement of construction stormwater pollution control measures.

3. Train staff to implement the construction stormwater program, including permitting, plan review, construction site inspections, and enforcement.

4. Establish procedures to maintain records of all projects disturbing greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development.

Summary of Existing Efforts

City Ordinances
The City currently has an ordinance that requires a stormwater construction activity permit for construction activities. The application for this permit requires a completed Stormwater Pollution Prevention Plan (SWPPP).

Site Plan Review Process
The City currently has a procedure requiring the submittal of construction drawings prior to approving a new development. This process does not specifically require water quality impacts to be considered.

Inspectors
The City has multiple RSI registered inspectors and is working to improve frequency and adequacy of construction site inspections.

Standard Drawings and Specifications
The city has a set of standard drawings and specifications for subdivision site development.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Park City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix .

BMP	Code	Appendix
Certification and Inspector Training	CCIT	A,B
Erosion Control Plan	ECP	A,B
Landscape and Irrigation Plan	LIP	A,B
Ordinance Development	OD	A,B
Zoning	ZO	A,B

Goals

In order to more fully realize the benefit of the BMP the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Stormwater Phase II Rule for Construction Site Runoff Control.

10.5. POST CONSTRUCTION RUNOFF CONTROL

Permit Requirements

The permit requirements for Post-Construction Runoff Control on Stormwater Impacts can be found in Section 4.2.5 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements

1. Have an ordinance or other regulatory mechanism requiring the implementation of long-term post-construction stormwater controls at new and redevelopment sites.

2. Develop an enforcement strategy and implement enforcement provisions of the ordinance.

3. Develop requirements or standards for new development and redevelopment projects to include stormwater controls or management practices that will prevent or minimize impacts to water quality.

4. Define specific hydrologic method for calculating runoff and flow rates to be used to size structural BMPs and facilitate plan review.

5. Adopt and implement procedures for site plan review which incorporate consideration of water quality impacts.

6. Develop, adopt and implement Standard Operating Procedures (SOPs) for site inspection and enforcement of post-construction stormwater control measures.

7. Provide adequate training for staff concerning post-construction stormwater management, plan review, inspections and enforcement.

8. Maintain an inventory of all post-construction structural stormwater control measures. This includes public and private facilities.

Summary of Existing Efforts

Ordinances
The City has an ordinance allowing a maximum stormwater discharge rate for new development. No other ordinances currently address runoff from construction sites or new development.

Landscaping Plans
Developers are required to present a plan outlining landscaping plans to the city.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Park City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix.

BMP	Code	Appendix
BMP Inspection and Maintenance	BMPIM	A,B
Educational Materials	EM	A,B
Infrastructure Planning	IPL	A,B
Landscape and Irrigation Plan	LIP	A,B
Ordinance Development	OD	A,B

Goals

In order to more fully realize the benefit of the BMP the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Stormwater Phase II Rule for Post Construction Runoff Control.

10.6. POLLUTION PREVENTION / GOOD HOUSEKEEPING

Permit Requirements

The permit requirements for Pollution Prevention and Good Housekeeping on Stormwater Impacts can be found in Section 4.2.6 of the permit. A copy of the permit is included in Appendix F for reference. The permit outlines in general the following requirements

1. Develop and implement an operation and maintenance program for city-owned or operated facilities.

2. Maintain an inventory of city-owned or operated facilities and stormwater controls. Assess said list for their potential to discharge typical urban pollutants to the stormwater system.

3. Identify 'high-priority' facilities or operations that have a high potential to generate stormwater pollutants. Included with Standard Operating Procedures (SOPs) specific to municipal operations. The SOPs shall include appropriate pollution prevention and good housekeeping procedures for all of the following types of facilities and/or activities listed below:

   a. Buildings and facilities
   b. Material storage areas, heavy equipment storage areas and maintenance areas
   c. Parks and open spaces
   d. Vehicle and equipment
   e. Roads, highways, and parking lots
   f. Stormwater collection and conveyance system
   g. Other facilities and operations (those not listed, but would reasonably be expected to discharge contaminated runoff)

4. If a third-party is to conduct municipal maintenance or private developments conduct their own maintenance, the contractor shall be held to the same standard as the City. This should be outlined and defined in contracts.

5. Inspection schedules and logs should be part of the O&M program.

6. Develop and implement a process to assess the water quality impacts in the design of all new flood management structural controls that are associated with the MS4.

7. City construction projects shall comply with the requirements applied to private projects.

8. Include employee training on how to incorporate pollution prevention and good housekeeping techniques into municipal operations, including SOPs.

Summary of Existing Efforts

Existing Maintenance Program
The City currently maintains inlet boxes and other MS4 improvements on an as-needed basis. Streets are also swept as-needed.

Plan and Implementation Measures

In order to help meet the goals and objectives of this SWMP Park City has chosen to adopt the following BMPs for use within our city as applicable. Each BMP is cross referenced alphabetically by code to a fact sheet that describes the BMP, its applicability, its limitations, and its effectiveness in the indicated appendix.

BMP	Code	Appendix
Employee Training	ET	A,B
Housekeeping Practices	HP	A,B
Infrastructure Planning	IPL	A,B

Goals

In order to more fully realize the benefit of the BMP the city has set the following goals. The goals set along with the existing efforts fulfill the requirements of the Final Stormwater Phase II Rule for Pollution Prevention/Good Housekeeping.

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
1	Selected pollutants	Residents and Businesses	4.2.1.1 To educate audiences about impacts from stormwater discharge	Run KPCW radio ads for several weeks, once a year.	January 1, 2017	PEP and UM	Ads continue to run
1	Selected pollutants	Residents (4th graders)	4.2.1.1 To educate audiences on ways to avoid, minimize, and reduce impacts of stormwater discharge	Support Summit County annual water festival	Annually	PEP and CESW	Festival occurs annually
1	See list in "desired result" column	General Public	4.2.1.2 Information is provided to target audience on prohibitions against illicit discharges and improper disposal of waste including: maintenance of septic systems; effects of outdoor activities, such as lawn care; benefits of on-site infiltration of stormwater; effects of automotive work and car washing on water quality; proper disposal of swimming pool water; and propert management of pet wastes.	Include information on the website and include information in utility bills with annual insert	Ongoing	PEP and UM	Information is current on website and included in utility bills.

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
1	See list in "desired result" column	Institutions, Industrial and Commercial Facilities	4.2.1.3 Information is provided to target audience on prohibitions against illicit discharges and improper disposal of waste including: Proper lawn maintenance Benefits of appropriate on-site infiltration of stormwater Building and equipment maintenance Use of salt or other deicing materials Proper storage of materials Proper management of waste materials and dumpsters Proper management of parking lot surfaces.	Include information on the website and produce and distribute a brochure that is targeted to Institutions, Industrial and Commercial Facilities anually.	Jan 1, 2018	PEP and UM	Information is current on website and included and brochures are distributed.
1	Illicit discharge and waste	Engineers, Construction Contractors, Developers, and plan review staff	4.2.1.4 Reduce adverse impacts from development sites	Have annual training for contractors, document their attendace	Annually	EM	Training occurs annually

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
1	Illicit discharge and waste	Employees	4.2.1.5 Information is provided to target audience on prohibitions against illicit discharges and improper disposal of waste including: Equipment inspection to ensure timely maintenance Benefits of appropriate on-site infiltration of stormwater Minimization of use of salt or other deicing materials Proper storage of industrial materials Proper management of waste materials and dumpsters Proper management of parking lot surfaces.	Have city employee training annually on illicit discharges.	Annually, starting 2020.	ET	Training occurs annually
1	All pollutants	Permittee engineers, development and plan review staff, land use planners	4.2.1.6 Training on LID, Green Infrastructure, and post construction BMPs	Require an annual meeting with all engineers, development and plan review staff, and land use planners to review the city's LID goals. Discuss what has been done in the past year to meet the goals, and define the upcoming year's goals.	Jan 1, 2018		Annual meeting occurs
1	All pollutants	All Audiences	4.2.1.7 Evaluate the effectiveness of the public education program by a defined method.	Develop a survey to establish a baseline to be evaluated in 5 years	Jan 1, 2022		Baseline survey conducted. In 2022 conduct follow up survey.
1	All pollutants	All Audiences	4.2.1.8 Document why certain BMPs were chosen for public education program (over others)	Include an explanation in the SWMP.	Jan 1, 2019		Documented rationale included in the SWMP.

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
2	All pollutants	General public	4.2.2.1 Have a program or policy in place that allows for the public to provide input	Nofify the public on the website meeting State public noticing requirements when the SWMP update will be reviewed.	January 1, 2017	PEP	The program or policy is in place
2	All pollutants	General public	4.2.2.2 Have SWMP document available for public review before it's submitted to the state	Have a hard copy of the draft of the permit available on the website	July 1, 2016	PEP	SWMP document is available for public review a week before public hearing
2	All pollutants	General public	4.2.2.3 Have SWMP document available to the public at all times	Post the SWMP on the website	July 1, 2016	PEP	SWMP is updated and posted on the website
2	All pollutants	General public	4.2.2.3 Make updated SWMP document available to the public annually	Post updated SWMP annually	July 1, 2016	PEP	SWMP is updated and posted on the website annually
2	All pollutants	General public	4.2.2.4 Comply with State and Local public notice requirements	Update City Council on SWMP status annually	July 1, 2016	PEP	Understand what the state and local public notice requirements are.

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM 3 Illicit Discharge and Elimination

MCM	Target		City Responsibility	Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)	Commetns
	Pollutant(s)	Audience(s)							
3	All Pollutants	Contractors, Developers, City Council	City Engineer	4.2.3 Enforcement ability for stormwater rules	Create a stormwater ordinance and incorporate into municipal code	April 1, 2018	OD	If ordinance is in place and meets the permit requirements	
3	N/A	Public Works	City Engineer/PU Engineer	4.2.3.1 Maintain Stormwater Map	Develop a policy to update storm drain system map with all new developments	April 1, 2018	MSWD	If policy is in place and meets the permit requirements	Matt I added this to one.
3	N/A	Public Works	Water Resources / Stormwater Ops.	4.2.3.1 Maintain Stormwater Map	Update current storm drain information to identify city outfalls	August 14, 2017	MSWD	Map is updated to identify oufalls for UDOT, Irrigation, City, Private, Naturals Streams	
3	All Pollutants	All Audiences	Stormwater Ops.	4.2.3.2 Effectively prohibit, through ordinance or other regulatory mechanism, non-SW discharges. The IDDE program must have adequate legal authority to detect, investigate, eliminate and enforce against non-SW discharges.	Create a work order order to perform required outfall inspections each year	Jan 1, 2018	NSWD	If work order has been issued	
3	"	"	Stormwater Ops.	"	Complete first work order for screening	July 1 of each year	NSWD	Successful if completed by that date and staff is following SOP	
3	"	"	Stormwater Ops.	4.2.3.3.2 Field inspections of areas which are considered a priority shall be achieved by inspecting each priority area annually	Conduct field inspections of IDDE priority areas annually	December 31, 2018		Successful if reports are completed and filed	
3	All Pollutants	All Audiences	Water Resources	4.2.3.4 Develop and implement standard operating procedures for tracing the source of illicit discharge	Review and update existing SOP, provide training of flow charts	December 31, 2017	IIC	Successful if SOP is in place and training has been completed	
3	All Pollutants	All Audiences	Water Resources	4.2.3.5 Develop and implement standard operating procedures for characterizing the nature of any illicit discharges found or reported to the Permittee by the hotline developed in 4.2.3.9	Create the Incidence Response Flow Chart and train personnel	Jan 1, 2018	IIC, CH	Successful if completed by that date and staff is following Flow Chart	
	"	"	Water Resources	"	Add hot line number to website	Jan 1, 2018			
3	"	"	Water Resources / Stormwater Ops.	"	Review flow chart and SOP with staff and provide training annually.	Ongoing	IIC, CH	Successful if training is completed annually for all staff involved in incident reporting.	
3	All Pollutants	All Audiences	Water Resources	4.2.3.6 Implement SOPs for ceasing the illicit discharge. All IDDE investigations must be thoroughly documented and may be requested at any time by the Division.	Create the Incidence Response Flow Chart and train personnel	December 31, 2018	IDC, ISDC	Sucessful if SOPs implimented and followed.	

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM 3 Illicit Discharge and Elimination

MCM	Target: Pollutant(s)	Target: Audience(s)	City Responsibility	Desired Result	Measurable Goal	Milestone Date	Associated BMPs	Measure of Success (Effectiveness)	Commetns
1	All Pollutants	Public Employees, Businesses and Residents	Water Resources	4.2.3.7 Inform public employees, businesses, and general public of hazards associated with illicit discharges and improper disposal of waste	See MCM 1		PEP, ET	See MCM 1	
3	Household Hazardous Waste	Residents	Water Resources	4.2.3.8 Promote or provide services for the collection of household hazardous waste	Put the HHW Address and Phone number on City Web Site	Jan 1, 2018	UOR, HWM	Successful if complete by that date	When does this fall Chris?
3	Household Hazardous Waste	Residents	Water Resources	4.2.3.9 Publicly list and publicize a hotline or other telephone number for public reporting of spills and other illicit discharges	Put the HHW Address and Phone number on City Web Site	Jan 1, 2018	CH	Successful if complete by that date	When does this fall Chris?
3	All Pollutants	All Audiences	Water Resources	4.2.3.10 Adopt and implement procedures for program evaluation and assessment. Include a database for mapping, tracking of the spills or illicit discharges identified and inspections conducted	Create a spreadsheet for tracking Illicit Discharges, Incorporate process to receive Health Department reports	December 31, 2018	IIC, MSWD	Successful if complete by that date	

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM 4 Construction Site Runoff Control

MCM	Target			Desired Result	Measurable Goal	Milestone	Assoc.	Measure of Success
	Pollutant(s)	Audience(s)				Date	BMP	(Effectiveness)
4	Sediment, Construction Site Debris, Hydrocarbons	All Audiences	City Engineer	4.2.4.1 Raise awareness of contractors and developers on what is expected on construction sites	Require a SWPPP for every construction site over one acre or part of common plan of development	Jan 1, 2018	OD	Successful if 95% of all active construction sites have a working SWPPP
4	Sediment, Construction Site Debris, Hydrocarbons	All Audiences	City Engineer	4.2.4.2 Develop a written enforcement strategy and implement the enforcement provisions of the ordinance or other regulatory mechanism	Draft ordinance to include escalating enforcement provisions	April 1, 2018	OD	Successful if completed by milestone
4	"	"	City Engineer	4.2.4.2 Documentation and tracking of all enforcement actions	Develop and begin using a construction site enforcement action log	Jan 1, 2018	OD	Successful if we have a log and are using it
4	Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	City Engineer	4.2.4.3 Develop and implement SOP's for pre-construction SWPPP review for construction sites	Develop checklist and begin to do preconstruction reviews of SWPPP	April 1, 2018	ECP	Successful if we are conducting SWPPP reviews
4	"	"	City Engineer	4.2.4.3.1 Conduct a pre-construction meeting	Hold Pre-con meetings on all sites greater than 1 acre or as part of common plan of development	April 1, 2018		Successful if we are conducting Pre-con meetings, coordinate with building and zoning department
4	"	"	City Engineer	4.2.4.3.2 Incorporate into the SWPPP review procedures the consideration of potential water quality impacts and procedures for pre-construction review which shall include the use of a checklist.	Develop a policy to consider potential water quality impacts on all projects - private or municipal	April 1, 2018	ZO	Memo or other documentation on 90% of project reviews

MCM	Target			Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)						
4	"	"	City Engineer	4.2.4.3.3 Identify priority construction sites considering the following factors at a minimum: • Soil erosion potential • Site slope • Project size and type • Sensitivity of and proximity to receiving waterbodies • Non-SW discharges and past record of non-compliance by the operators of the construction sit	Review construction projects using SWPPP preconstruction review to determine if site is a priority.	Complete	ZO	Successful if we have post construction BMPs on 50% of projects
4	Sediment, Construction Site Debris, Hydrocarbons	Contractors and Developers	City Engineer/Code Enforcement	4.2.4.4.1 Inspections of all new construction sites ... at least monthly by qualified personnel	Conduct monthly inspections of all construction sites - Emphasize self inspections - sensitive areas to be inspected twice monthly	Jan 1, 2019	CCIT	Successful if 90% of all active construction sites are inspected monthly and documented
4	"	Contractors, developers and MS4 staff	City Engineer	4.2.4.4.2 The Permittee must include in its SWMP document a procedure for being notified by construction operators/owners of their completion of active construction so that verification of final stabilization and removal of all temporary control measures may be conducted.	Develop a written Notice of Termination process. Tie NOT to the Lanscape Bond held by the city.	Jan 1, 2018	ECP	Successful if 85% of all active construction sites are terminated appropriately
4	"	"	City Egnineer/Code Enforcement	4.2.4.4.3 Conduct Bi-weekly inspections on high priority construction sites, set policy that high priority and sensitive areas are the same	Inspect high priority sites	Jan 1, 2018	ECP	Successful if 85% of high priority sites are inspected bi-weekly

MCM	Target			Desired Result	Measurable Goal	Milestone	Assoc.	Measure of Success
	Pollutant(s)	Audience(s)				Date	BMP	(Effectiveness)
4	"	Contractors, developers and MS4 staff	City Egnineer/Code Enforcement	4.2.4.5 Provide training to city staff and 3rd party designers	Develop a city policy to require all SWPPP inspectors to be RSI certified	Jan 1, 2018	CCIT	Successful if completed by milestone
4	"	"	City Engineer	4.2.4.6 Maintain a log of permitted active construction sites	Establish a log	Done	ECP	Successful if active construction sites are recorded in the log

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM 5 Post-Construction Management

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
5	All Pollutants	All Audiences	4.2.5.1. Develop and adopt an ordinance or other regulatory mechanism that requires long-term post-construction stormwater controls at new development and redevelopment sites. (4.2.5.3.1 for flood control structure issues and 4.2.5.3.2 for LID)	Create an ordinance and implement into municipal code	Jan 1, 2020	OD	If review is complete
5	"	"	4.2.5.2.2 Documentation on how the requirements of the ordinance or other regulatory mechanism will protect water quality and reduce the discharge of pollutants to the MS4.	Draft a standard to require contractors and developers to submit documentation on: how long-term BMPs were selected, pollutant removal expected from the BMP, and technical basis supporting performance claims	Jan 1, 2020	IPL	If draft is completed by the milestone date
5	"	MS4 Staff, City Council	4.2.5.3.3 The Permittee must develop a plan to retrofit existing developed sites that are adversely impacting water quality.	Update Storm Drain Master Plan and Capital Improvement Plan to include Water Quality Projects	Jan 1, 2020	IPL	If CIP includes water quality projects

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
5	"	MS4 Staff, Contractors and Developers	4.2.5.3.4 Each Permittee shall develop and define specific hydrologic method or methods for calculating runoff volumes and flow rates…	Update design standards to reflect new permit requirements on 90th percentile storm	Jan 1, 2020	IPL	If standards have been reviewed and comments made
5	"	"	4.2.5.4.1 Review Stormwater Pollution Prevention Plans (SWPPPs)	See goals for MCM 4			
5	"	"	4.2.5.4.2 Permittees shall provide developers and contractors with preferred design specifications to more effectively treat stormwater for different development types...projects located in, adjacent to, or discharging to environmentally sensitive areas.	Locate environmentally sensitive areas within the MS4	Jan 1, 2020	IPL	Completed map identifying environmentally sensitive areas
5	"	"	"	Review map of sensitive areas and identify preferred method(s) of treating stormwater to discharge to those areas	Jan 1, 2020	IPL	List of preferred method(s)
5	"	"	4.2.5.4.3 Permittees shall keep a representative copy of information that is provided to design professionals;...the dates of the mailings and lists of recipients.	Keep a revision log for information in Appendix A - Supplemental Guide to Contractors and Developers	Jan 1, 2020	EM	If revision log is filled out for all revisions

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
5	"	"	"	Log name and date of distribution of Supplemental Guide to Contractors and Developers	Jan 1, 2020	EM	If log is up to date and current
5	"	"	4.2.5.5. All Permittees shall adopt and implement SOPs or similar type of documents for site inspection and enforcement of post-construction stormwater control measures.	Review and customize SOPs for inspection and enforcement of post-construction control measures	Jan 1, 2020	LIP	If inspection and enforcment SOPs are current and being utilized?
5	"	"	4.2.5.5.1 ... require private property owner/operators or qualified third parties to conduct maintenance and provide annual certification that adequate maintenance has been performed and the structural controls are operating as designed to protect water quality. In this case, the Permittee must require a maintenance agreement addressing maintenance requirements for any control measures installed on site.	Draft a maintenance agreement template	Jan 1, 2020	BMPIM	If draft is completed by the milestone date
5	"	"	"	Adopt a maintenance agreement template	Jan 1, 2020	BMPIM	If template is adopted and being used by milestone date

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
5	"	"	4.2.5.5.3 Inspections and any necessary maintenance must be conducted annually by either the Permittee or through a maintenance agreement, the property owner/operator. On sites where the property owner/operator is conducting maintenance, the Permittee shall inspect those stormwater control measures at least once every five years, ...	Inventory post-construction BMPs - see 4.2.5.7.1 for inventory inclusion items	Jan 1, 2020	BMPIM	If inventory is complete
5	"	"	"	Identify who is responsible to inspect and/or maintain each post-construction BMP	Jan 1, 2020	BMPIM	If list identifies person responsible for inspections/ maintenance
5	"	"	"	Develop inspection report form for post-construction BMPs	Jan 1, 2020	BMPIM	If form is completed
5	"	"	"	Conduct inspections annually for city owned BMP's	Jan 1, 2020	BMPIM	If completed inspection reports are properly filed

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM 5 Post-Construction Management

MCM	Target		Permit Reference/Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
5	"	MS4 staff	4.2.5.6. Permittees shall provide adequate training for all staff involved in post-construction stormwater management, planning and review, and inspections and enforcement.	Schedule and conduct training for appropriate personnel	Annually starting 2020	BMPIM	If all appropriate personnel are trained
5	"	"	4.2.5.7 Maintian an inventory of post construction BMP's	Inventory log updated annually	Ongoing		If log is updated

General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)
Measurable Goals

MCM 6 Pollution Prevention and Good Housekeeping

MCM	Target		Desired Result	Measurable Goal	Milestone	Assoc.	Measure of Success
	Pollutant(s)	Audience(s)			Date	BMP	(Effectiveness)
6	All pollutants	MS4 staff	4.2.6 ...All components of an O & M program shall be included in the SWMP document and must identify the department (and where appropriate, the specific staff) responsible for performing each activity described in this section…	Complete Org chart and define specific responsibilities for all departments shown	Jan 1, 2019	HP	If org chart is complete and up to date by milestone date
6	"	"	4.2.6.1 Permitees shall develop and keep current a written inventory of Permittee-owned or operated facilities	Complete listing of MS4 owned/operated facilities	Jan 1, 2019	HP	If list is completed by milestone date
6	"	"	4.2.6.2 All Permittees must initially assess the written inventory of Permittee-owned or operated facilities, operations and stormwater controls identified in Part 4.2.6.1. for their potential to discharge to stormwater the following typical urban pollutants:	Complete assessments and identify "high priority" facilities	Jan 1, 2019	HP	If assessments are completed and documentation recorded in SWMP
6	"	"	4.2.6.4 Each “high priority” facility identified in Part 4.2.6.3. must develop facility-specific standard operating procedures (SOPs) or similar type of documents.	Review, customize and update appropriate SOPs	Jan 1, 2019	HP	If SOPs are updated and current by milestone date

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
6	"	"	4.2.6.5.1 Weekly visual inspections: The Permittee must perform weekly visual inspections of “high priority” facilities in accordance with the developed SOPs to minimize the potential for pollutant discharge.	Develop weekly inspection form and log	Jan 1, 2019	HP	Completed inspection form and log
6	"	"	"	Conduct weekly inspections	Ongoing	HP	If at annual review all weekly inspections are logged and reports completed
6	"	"	4.2.6.5.2 Quarterly comprehensive inspections: At least once per quarter, a comprehensive inspection of “high priority” facilities, including all stormwater controls, must be performed	Develop quarterly inspection form(s) and log	Jan 1, 2019	HP	Completed inspection form and log
6	"	"	"	Conduct quarterly comprehensive inspections	Ongoing	HP	If at annual review all quarterly inspections are logged and reports completed

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
6	"	"	4.2.6.5.3 Quarterly visual observation of stormwater discharges: At least once per quarter, the Permittee must visually observe the quality of the stormwater discharges from the “high priority” facilities	Conduct quarterly visual observations of stormwater discharges at high priority facilities	Ongoing	HP	If at annual review all quarterly visual monitoring is completed and logged and reports completed
6	"	MS4 Staff, Contractors and Developers	4.2.6.8 The Permittee must develop and implement a process to assess the water quality impacts in the design of all new flood management structural controls that are associated with the Permittee or that discharge to the MS4.	Draft a policy/process to assess water quality impacts on all new flood control projects	Jan 1, 2019	IPL	If draft is prepared and ready for internal review process by milestone date
6	"	MS4 staff	4.2.6.8.1 Existing flood management structural controls must be assessed to determine whether changes or additions should be made to improve water quality.	See MCM 5 for goals (part of the retrofit program)			
6	"	"	4.2.6.10 Permittees shall provide training for all employees who have primary construction, operation, or maintenance job functions that are likely to impact stormwater quality.	See individual training goals within other MCMs			

MCM	Target		Desired Result	Measurable Goal	Milestone Date	Assoc. BMP	Measure of Success (Effectiveness)
	Pollutant(s)	Audience(s)					
6	"	"	"	Develop a training schedule	Jan 1, 2019	ET, HP	If schedule is complete by milestone date