



HIGHLAND CITY

2016

Storm Water Management Plan

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ACRONYMS

DEFINED

BMP	Best Management Practices
CWA	Clean Water Act
DWQ	Utah Division of Water Quality
DWSP	Dry Weather Screening Program
EMC	Event Mean Concentration
EPA	Environmental Protection Agency
ESU	Equivalent Service Unit
GIS	Graphical Information Systems
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
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UPDES	Utah Pollutant Discharge Elimination System

Chapter One: Introduction

This document is the City of Highland's Stormwater Management Plan (SWMP), in response to the State of Utah's National Pollutant Discharge Elimination Systems Phase II permit (UTR 090000, February 26, 2016). This SWMP has been developed to meet the requirements of the Phase II regulations relating to the National Pollutant Discharge Elimination System (NPDES) part of the Clean Water Act (CWA) which is being administered by the Utah Division of Water Quality.

The NPDES Permit requires that the City of Highland produce a Stormwater Management Plan (SWMP) and update it regularly to reflect Highland's actions and planned actions in meeting the NPDES permit requirements.

The City's SWMP aims to reduce the discharge of pollutants into receiving waters, surface waters, and ground waters within Highland to the maximum extent practicable (MEP), to apply all known and reasonable technologies to address stormwater pollutants, and protect these waters from degradation. These goals will be accomplished by the implementation of all aspects of this SWMP. The City may intentionally exceed some NPDES Permit requirements to better protect water resources and to keep those resources safe for human contact and able to sustain aquatic ecosystems/species.

This document is organized according to the six NPDES Permit SWMP elements. The six elements are as follows:

- I. Education and Outreach: *Efforts to educate the public through flyers, pamphlets, web pages, presentations, etc. This effort will be in conjunction with the Utah County Storm Water Coalition.*
- II. Public Involvement and Participation: *Ensure that the public can help in the education of storm water issues and to ensure that the public has a say in the implementation and content of the SWMP.*

- III. Illicit Discharge Detection and Elimination: *Used to detect, map, and eliminate the discharge of non-storm water in to the City's storm water system.*
- IV. Controlling Runoff from Development/Redevelopment and Construction Sites: *Minimize the discharge of sediments and other pollutants from construction sites in the storm water system.*
- V. Long Term Storm Water Management in New Development and Redevelopment/Post Construction Storm Water Management: *Used to ensure that the BMPs will and are functioning properly after the completion of construction.*
- VI. Municipal Operations and Maintenance: *Minimize the pollutant discharge from municipal owned facilities.*

Within each section, requirements of the permit and the minimum control measures are individually detailed.

This SWMP document will be updated as program components change. This will occur on an annual basis at a minimum. The SWMP provides a comprehensive strategy that will outline and direct the Highland City Stormwater Utility's priorities and activities.

Chapter Two: Background

Highland City is named after the highland grazing fields found in Scotland. Highland is located in the north end of Utah County and covers an area of approximately seven (7 mi²) square miles. The City was established in 1977 and has a current population of approximately 16,500 residents.

Highland City is divided by two state roads: SR-92 which connects I-15 to American Fork Canyon and SR-74 which runs from American Fork, Utah to Alpine, Utah. The City has two major drainage features at the edge of the community; American Fork River to the southeast and Dry Creek to the northwest.

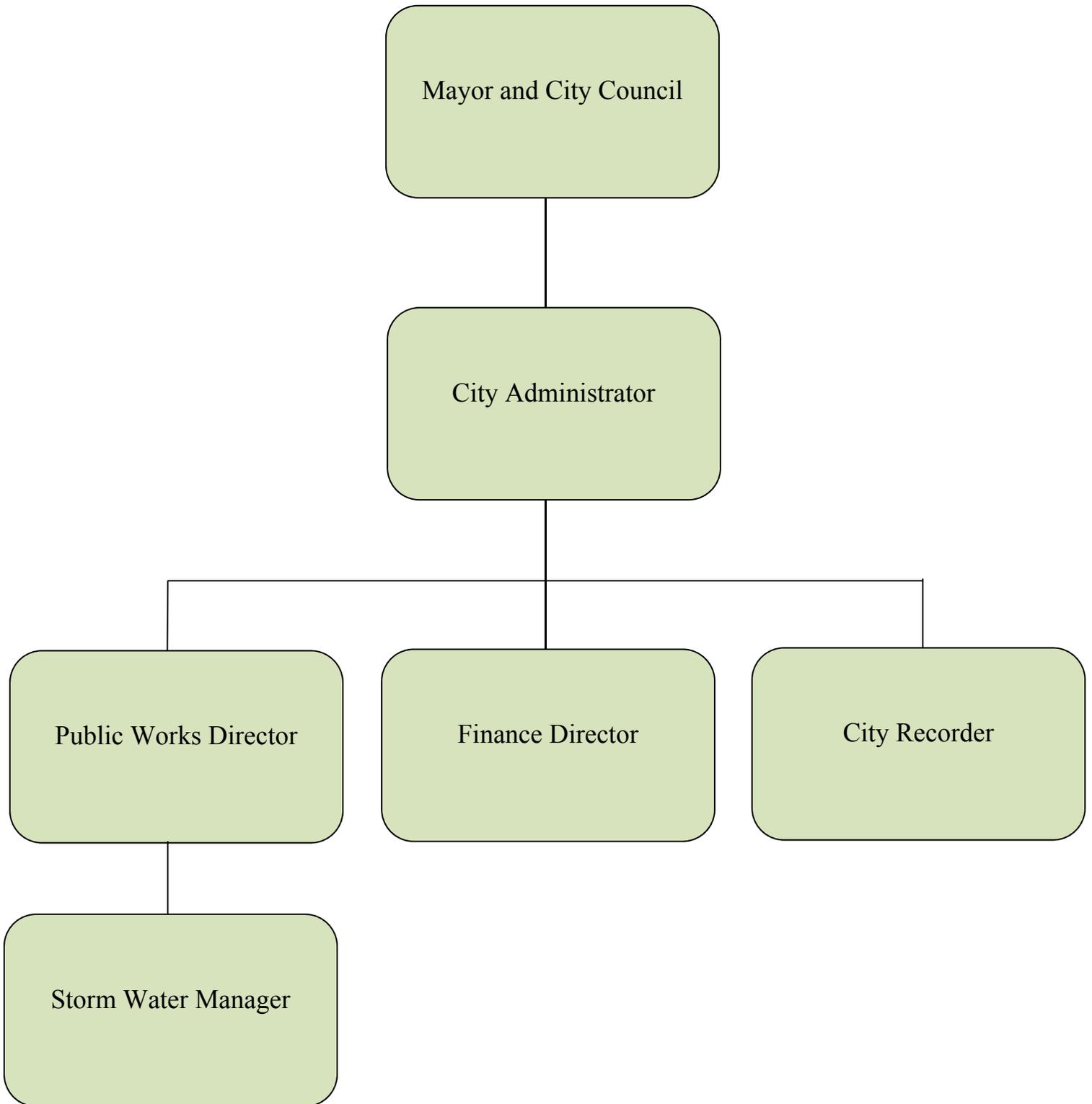
Being at the foothills of both the Traverse and Wasatch Mountains, Highland is on an alluvium. Most of the underlying soil materials are sand and gravel. Because of these materials, Highland City has chosen to use sumps for a majority of the drainage system.

In the northwest area of Highland, the City has implemented a traditional storm water system consisting of conveyance piping, inlets, and detention basins.

In September 2000, Highland City instituted a Storm Drain Utility Fee for the purpose of managing and constructing a storm water drainage system. Budgets required for the development and implementation of specific drainage related BMPs will be appropriated from this source in the Highland City Operating Budget.

The City is organized as a council-administrator form of government. The City Council is the responsible budgeting and policy making decision body in the City of Highland. The City Administrator is responsible for the day to day operations of the City. The City Administrator has designated the Public Works Director to oversee the implementation of the SWMP. The following is an abbreviated organizational chart showing the lines of responsibility for the implementation of the SWMP.

Highland City Abbreviated Organizational Chart



Clean Water Act History

Growing public awareness and concern for controlling water pollution led to the enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act (CWA).

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States. It gives the Environmental Protection Agency (EPA) the authority to implement pollution control programs. The CWA also sets water quality standards for all contaminants in surface waters. The CWA makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained.

The NPDES program is designed to track point sources of pollution. Point sources are defined as single, identifiable sources that discharge pollutants into the environment. They require the implementation of controls necessary to minimize the discharge of these pollutants. The NPDES program initially targeted easily detected sources of water pollution such as municipal sewage and industrial process wastewater, and was successful in improving water quality. However, the NPDES program did not address other significant sources of water quality impairment such as storm water runoff.

In 1987 the CWA was amended to address the environmental impact of storm water by adding Section 402(p), which established a comprehensive, two-phase approach to storm water control. This two phase approach, Phase I and Phase II storm water regulations, treat storm water discharges from municipalities as point sources of pollution. As a result, local governments covered by the Phase I and Phase II regulations must – like all point source dischargers – obtain federally enforceable NPDES permits under the CWA.

Phase I was publicized on November 16, 1990. The Phase I regulations require large sources of storm water discharge to apply for NPDES permits. Large sources include medium and large municipal storm drain systems serving 100,000 people or more as well as several categories of industrial activities including construction activity disturbing

five or more acres of land. The NPDES permits require cities to develop a storm water management program, track and oversee industrial facilities that are also regulated under the NPDES storm water program, conduct monitoring, and submit periodic reports.

Phase II regulations were publicized on December 8, 1999 and expand the scope of the NPDES program to include smaller local municipalities serving populations of less than 100,000. Similar to Phase I, Phase II requires local governments, referred to as small municipal separate storm sewer systems (small MS4) to obtain NPDES permit coverage. These local governments must design a storm water management program to include the development and implementation of six specified measures that reduce storm water pollution to the maximum extent practicable. Evaluation and reporting measures are also required. In addition, the rule sets requirements for construction activity that disturbs between one and five acres and extends a previously set deadline for municipalities that operate industrial activities regulated under Phase I.

DESCRIPTION OF THE PHASE II NPDES PROGRAM

The Phase II NPDES Program is intended to reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of storm water discharges that have the greatest likelihood of causing continued environmental degradation. Storm water discharges from urbanized areas are a concern because of the high concentration of pollutants found in these discharges. Concentrated development in urbanized areas substantially increases impervious surfaces, such as city streets, driveways, parking lots, and sidewalks, on which pollutants from human activities settle and remain until a storm event washes them into nearby storm drains or sumps. Common pollutants may include sediment, nutrients, oil and grease, organic compounds, and gross pollutants. Storm water runoff picks up, transports and discharges these pollutants, untreated, to waterways and groundwater via storm drain systems and sumps.

The NPDES Phase II program is implemented by the State of Utah under the Utah Pollutant Discharge Elimination System. The Utah Department of Environmental Quality, Division of Water Quality and its regional agencies are responsible for both interpreting the regulations and issuing the permits to local agencies that operate industrial facilities and MS4s. The updated State of Utah NPDES Small MS4 General Permit requirements were adopted on February 26, 2016.

PURPOSE OF THE STORM WATER MANAGEMENT PROGRAM

The purpose of the Storm Water Management Program is to implement and enforce a program designed to reduce the discharge of pollutants to the “maximum extent practicable” (MEP) to protect water quality. According to the State of Utah General Permit, the MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. Since knowledge about controlling urban runoff continues to evolve, so does that which constitutes the Maximum Extent Practicable. Reducing the discharge of storm water pollutants to the MEP in order to protect beneficial uses requires review and improvement, which includes seeking new opportunities. To do this, the City must effectively assess the SWMP on an annual basis by conducting and documenting an evaluation and assessment of each relevant element of its program and revising, as necessary, SWMP activities, control measures, BMPs, and measurable goals to meet the MEP.

MINIMUM CONTROL MEASURES AND ANNUAL REPORTING

The Phase II NPDES Program contains the following six program elements, termed “Minimum Control Measures” intended to reduce polluted runoff.

A. Public Education and Outreach

- Implement a public education program to distribute materials to the community or conduct equivalent outreach activities about the impacts of polluted storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

B. Public Participation/Involvement

- Comply with State and local public notice requirements when implementing a public participation/involvement program. This provides opportunities for citizens to participate in the storm water management program development and implementation, including effectively publicizing public hearings and encouraging citizen representatives to attend these community meetings.

C. Illicit Discharge Detection and Elimination

- Develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR 122.26(b)(2)) into the regulated Small MS4.
- Develop a storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the U.S., that receive discharges from those outfalls.
- To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the MS4 and implement appropriate enforcement procedures and actions.
- Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system that are not authorized by a separate NPDES permit.
- Inform public employees, businesses, and the general public of the hazards that are generally associated with illegal discharges and improper disposal of waste.
- Address the following categories of non-storm water discharges or flows (i.e., authorized non-storm water discharges) only if they are identified as significant contributors of pollutants to the Small MS4:
 - Water line flushing
 - Irrigation water

- Landscape irrigation
- Springs
- Diverted stream flows
- Water from crawl space pumps
- Rising ground waters
- Footing drains
- Potable water discharges
- Foundation drains
- Individual residential car washing
- Uncontaminated pumped ground water
- Dechlorinated swimming pool discharges
- Flows from riparian habitats and wetlands
- Uncontaminated groundwater infiltration to separate storm sewers
- Air conditioning condensation

Discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants of waters of the U.S.

D. Construction Site Runoff Control

- Develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the Small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from a construction activity disturbing less than one acre must be included in the SWMP if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The program must include the development and implementation of, at a minimum:
 - An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions, or other effective

mechanisms, to ensure compliance, to the extent allowable under State, or local law.

- Requirements for construction site operators to implement appropriate erosion and sediment control best management practices.
- Requirements for construction site operators to control waste, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste, that may cause adverse impacts to water quality, at the construction site.
- Procedures for site plan review which incorporate consideration of potential water quality impacts.
- Procedures for receipt and consideration of information submitted by the public.
- Procedures for site inspection and enforcement of control measures.

E. Post-Construction Runoff Control

- Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the Small MS4 by ensuring that controls are in place that would prevent or minimize water quality impacts.
- Develop and implement strategies, which include a combination of structural and/or non-structural BMPs appropriate for the community.
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under state or local law.
- Ensure adequate long-term operation and maintenance of BMPs.

F. Pollution Prevention/Good Housekeeping

- Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.
- Develop and implement employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet building maintenance, new construction and land disturbances, and storm water system maintenance.

For each of these six Minimum Control Measures, there are BMPs and associated Measurable Goals that will be implemented during the course of the 5-year permit term. Storm Water Management Programs must describe BMPs and associated Measurable Goals that will fulfill the requirements of the six Minimum Control Measures. It is through the implementation and evaluation of BMPs and Measurable Goals that municipalities will ensure that the objectives of the Phase II NPDES Program are met. BMPs and measurable goals incorporate adequate measures of effectiveness in terms of achieving permit requirements and protecting and restoring water quality and beneficial uses. The measurable goals must include, as appropriate, the months and years for scheduled actions, including interim milestones and frequency of the action.

ANNUAL REPORTING

The data collected for each BMP identified in this SWMP will be compiled and summarized in annual reports. The City will review results of the SWMP's control measures and program elements and measure how they obtain different outcome levels discussed in the Manual, annually. If the SWMP BMPs and measurable goals are found to be ineffective or do not achieve stated goals or desired "outcome levels," the City will revise them to optimize BMP effectiveness. As the City's Storm Water Management Program matures, assessments of the BMPs and measurable goals will begin to shift to higher outcome levels.

Chapter Three: Pollutants of Concern

There are a number of potential urban storm water pollutants of concern that the NPDES Phase II Storm Water Management Program aims to control. These urban pollutants may include sediment, nutrients, microbiological contaminants, hydrocarbons, pesticides, metals, additional organic compounds, and gross pollutants such as trash, green waste, and other debris that collects in storm drains or is dumped illegally into waterways. Urbanization and increases in population density directly affect the type of pollutant that enter storm drains.

BACKGROUND ON POLLUTANTS OF CONCERN

Sediment

Sediment is often a component of storm water that can be detrimental to aquatic life. Sediment can transport other pollutants that are adsorbed to grain surfaces, including bacteria, nutrients, metals, and hydrocarbons. Sediment is the primary component of “total suspended solids” (TSS), a common water quality analytical parameter.

Nutrients

Nutrients including nitrogen and phosphorous, the major plant nutrients used for fertilizing landscapes, may be found in storm water. High concentrations of these nutrients can result in excessive or accelerated growth of algae, resulting in impaired use of water in lakes and other sources of water supply. In addition, un-ionized ammonia (one of the nitrogen forms) can be toxic to fish.

In particular in accordance with the Small MS4 General NPDES Permit (UTR090000) the SWMP must specifically address the reduction of water quality impacts associated with nitrogen and phosphorus in discharges from MS4s. Highland City is part of the Utah County Coalition and participates in a collaborative effort to evaluate, identify, target, and provide outreach that addresses sources within Utah County. Additional

information can be found concerning the “Technical Basis for Utah’s Nutrient Strategy” at the following website. <http://nutrients.utah.gov/index.htm>

Pesticides

Pesticides (including herbicides, fungicides, rodenticides, and insecticides) have been detected in storm water throughout the nation. As pesticide use has increased, so too have concerns about adverse effects of pesticides on the environment and human health. Accumulation of these compounds in simple aquatic organisms, such as plankton, provides an avenue for biomagnifications through the food web, potentially resulting in elevated levels of toxins in organisms that feed on them, such as fish and birds.

Gross Pollutants

Gross Pollutants often defined as trash, debris, and floatables are often carried by storm water. Trash can include plastics, paper, yard debris, discarded household items, and other materials. Urbanization and increases in population density directly affect the type of pollution that enters storm drains. Typically resulting from an urban environment, industrial sites, and construction sites, trash and floatables are aesthetically unappealing. Gross pollutants also include plant debris (such as leaves and lawn clippings from landscape maintenance), human and animal excrement, street litter, plastics, trash, discarded household items, and other materials.

Chapter Four: Public Education and Outreach

The City of Highland is committed to ongoing opportunities for public involvement and participation in the development of this plan. The City of Highland has requested public review of the City's Stormwater Management Plan (SWMP) through the City's internet page.

When updates are made, residents are invited to review and comment on the plan's content and the City's response to permit requirements. The City also provides a contact number for residents to call with questions throughout the year from the City's SWMP webpage.

In addition, Highland has held public discussions during city council meetings and city council works sessions to adopt local ordinances and to discuss NPDES Phase II Permit requirements. Additional community interactions on receiving waters and environmental stewardship have occurred during neighborhood planning efforts.

Because stormwater runoff is generated from dispersed land surfaces—pavements, yards, driveways, and roofs—efforts to control stormwater pollution must consider individual, household, and public behaviors and activities that can generate pollution from these surfaces. These common individual behaviors have the potential to generate stormwater pollution:

- Littering,
- Disposing of trash and recyclables,
- Disposing of pet-waste,
- Applying lawn-chemicals,
- Washing cars,
- Changing motor-oil on impervious driveways,
- Household behaviors like disposing leftover paint and household chemicals.

It takes individual behavior change and proper practices to control such pollution. Therefore it is important to make the public sufficiently aware and concerned about the significance of their behavior for stormwater pollution, through information and education, that they change improper behaviors.

Phase II MS4s are required to educate their community on the pollution potential of common activities, and increase awareness of the direct links between land activities, rainfall-runoff, storm drains, and their local water resources. Most importantly the requirement is to give the public clear guidance on steps and specific actions that they can take to reduce their stormwater pollution-potential.

Highland City has entered into an inter-local agreement with Utah County to develop and implement this Minimum Control Measure (Appendix C).

Chapter Five: Public Participation and Involvement

The Public Involvement/Participation section of the SWMP addresses the importance of public involvement with respect to protection of the storm water. Community participation involves a broader public support, shorter implementation schedule, a broader base of expertise, and the development of important relationships with other community and government programs when drawing upon the residences of the community.

The BMPs described in this section of the SWMP include opportunities for the public to take part in an active role in the development and implementation of the BMPs within the SWMP. Such opportunities include public notice process and efforts to reach out and engage all members of the Highland City Community.

A single regulatory agency or municipal office working alone cannot be as effective in reducing stormwater pollution as if it has the participation, partnership, and combined efforts of other groups in the community all working towards the same goal. The point of public involvement is to build on community capital to help spread the message on preventing stormwater pollution and to undertake group activities that highlight storm drain pollution.

BMP 2.1: PUBLIC NOTICE REQUIREMENTS AND PUBLIC OPINIONS

Description: Highland City will provide members of the community with the opportunity to participate by holding town hall meetings and public hearings with the City Council that will allow the public to comment on the Storm Water Management Plan. The City will also solicit comments from local contractors and business owners to gain a broader perspective on the required BMPs. Notification to the City residents will comply with all state and local public notice requirements.

Each stakeholder has a vested interest in solving stormwater management problems for the particular water body. Therefore, stakeholders should be informed of water quality issues in their community and asked to contribute their ideas and concerns. One way to do this is through stakeholder meetings, where participants can hear what others have to say and can contribute their own ideas.

Objective: Provide Highland residents, business owners, and developers the opportunity for public involvement in the development and implementation of the BMPs within this SWMP.

Responsible: The Public Works Director or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 2 in Appendix A.

BMP 2.2: STORM DRAIN MARKING

Description: Storm drain marking involves labeling storm drain inlets with plaques, tiles, painted, or pre-cast messages warning citizens not to dump pollutants into the drain. The messages are generally a simple phrase or graphic to remind those passing by that the storm drains connect to local water bodies and that dumping will pollute those waters.

Storm drain marking projects offer an excellent opportunity to educate the public about the link between storm drain systems and water quality.

Objective: Reduce sediments and pollutants into the receiving sumps and storm drain system by raising public awareness of the inter-connections.

Responsible: The Public Works Director or designee will be responsible for the implementation of this BMP. Municipal crews or volunteers will affix or stencil messages on storm drain inlets and sumps. This process will continue until each inlet has been labeled.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 2 in Appendix A.

Chapter Six: Illicit Discharge Detection and Elimination

An illicit discharge is defined as any discharge to the municipal separate storm sewer system (MS4) that is not composed entirely of storm water. These non-storm water discharges occur due to illegal collections to the storm drain system from business, residential, or commercial establishments. The IDDE section of the SWMP addresses non-storm water flows that are discharged into receiving waters or ground water via storm water conveyance systems or sumps.

The IDDE program will implement BMPs to assist in the identification of illicit discharges and removal of these discharges from the system. This IDDE program will also focus on the prevention of new illicit discharges to the storm water system by means of inspections, regulations, and mapping.

With the Highland City drainage system consisting predominantly of sumps, it becomes extremely difficult to monitor and detect illicit discharges. Maintenance and inspection operations become extremely important in making this a cost effective program.

This program will also be integrated with the Public Education and Outreach Program to promote awareness of the importance of protecting the storm water system from illicit discharge and the resultant impact to receiving waters. The following BMPs describe the implementation tasks and assessment tasks to be completed by Highland City for the IDDE program.

BMP 3.1: MAINTAIN STORM DRAIN SYSTEM MAP

Description: Runoff throughout the City is predominately in an east to west or a northeast to southwest direction. Most of the natural flow from storm events eventually drains either to American Fork River, Mitchell Hollow, or Cedar Hollow. These drainage features will convey runoff contributed from Highland to the adjacent communities such as American Fork and Lehi.

The City will locate sump inlets, storm drain inlets, and identify other drainage features throughout the City by use of GIS. For runoff systems that drain to irrigation facilities, an estimate of the capacity of the irrigation system will be determined to approximate the excess flow for storm water beyond the basic irrigation water rights. If an irrigation ditch accepts storm runoff but is to be abandoned, the City will evaluate the need to secure an easement or right-of-way for maintaining its use for storm water purposes.

Objectives: Identify all of the sumps, storm drain lines, detention and retention ponds, and outfall lines to waterways. By mapping this, a program of inspections can be developed and implemented by the City to better detect illicit discharges.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 3 in Appendix A.

BMP 3.2: ILLICIT DISCHARGE STORM WATER ORDINANCE

Description: Review and revise the ordinance that prohibits illicit discharges into the sumps and other storm drainage systems, and review enforcement procedures and actions annually.

Illicit discharges are defined as any discharge to the storm drain system that is not composed entirely of storm water. Examples of illicit discharges include sanitary wastewater, improper disposal of waste oil, paint, household toxics, and spills from roadway accidents. (Exceptions to this definition are categories of non-storm water discharges identified in UPDES Permit, Part IV.B.3.a.6.)

Objective: Implement an ordinance that allows for the enforcement of the IDDE program. Illicit discharge pollutants into the storm drain system, if not treated properly, will contribute to high levels of pollutants entering underground aquifers and waterways. An effective Storm Water Ordinance with enforcement procedures will contribute to the elimination of illicit discharges into the storm drain system.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 3 in Appendix A.

BMP 3.3: DRY WEATHER SCREENING & ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM.

Description:

(4.2.3.3) Develop, implement and prepare a plan to detect and address non-storm water discharges. Plan shall include:

(4.2.3.3.1) Develop and implement written systematic procedures for locating and listing priority areas. Document the selection basis, and update annually.

High priorities shall include: Areas upstream of sensitive waterbodies; areas with history of past illicit discharge; areas with history of illegal dumping; industrial, commercial, or mixed use areas; areas with older infrastructure; areas with history of sewer overflows.

(4.2.3.3.2) Continue a Dry Weather Screening Program (DWSP) designed to detect and address illicit discharges. Through the DWSP the City will inspect each sump, major and minor outfalls once per year. The DWSP consists of inspecting each sump and the major and minor outfalls that are managed by the City once per year during the five (5) year permit term. The Dry Weather Screening Program provides a framework to identify suspect sources as a basis for initiating more detailed drainage area investigations. All activities conducted under the Dry Weather Screening Program will be documented.

(4.2.3.4) Develop and implement SOPs for tracing the source of an illicit discharge. These SOPs as they are developed are included in Appendix E with the other SOPs.

(4.2.3.5) Develop and implement SOPs for characterizing the nature and threat of any illicit discharges. These SOPs as they are developed are included in Appendix E with the other SOPs.

(4.2.3.5.1) When the source is identified and confirmed, record the required information in the inspection sheet. Decision process must be documented.

The inspection sheet documents shall be stored in Appendix D.

(4.2.3.6) Develop and implement SOPs for ceasing the illicit discharge, including notification and follow-up.

These SOPs as they are developed are included in Appendix E with the other SOPs. The municipal code provides additional information to deter illicit discharges.

(4.2.3.6.1) Illicit Discharge Detection and Elimination (IDDE) investigations must be thoroughly documented

The documents shall be stored in Appendix D.

(4.2.3.7) Permittees shall inform public employees, businesses, and general public of hazards associated with illicit discharges and improper disposal of waste.

The website and or newsletter will be utilized for distribution of information regarding illicit discharges.

(4.2.3.8) Permittees shall promote or provide services for the collection of household hazardous waste.

The City website, Utah County Coalition efforts and City Newsletters will promote hazardous waste disposal sites.

(4.2.3.9) Permittees shall publicly list and publicize a hotline for public reporting of spills and other illicit discharges. A written record shall be kept of all calls, all follow-up actions taken, and any feedback.

The City website has a complaint form, City phone numbers and a link to the Utah Department of Environment Quality to report any spills. The spills reports are collected quarterly and placed in Appendix D.

(4.2.3.9.1) Permittee must develop a written spill/dumping response procedure and flow chart for public referrals of illicit discharges.

Develop a flow chart for spill reporting and include in the Appendix D.

(4.2.3.10) Permittees shall adopt and implement procedures for program evaluation and assessment including a database.

A drawing showing the location of spill incidents and high priority areas is maintained in the city database. High priority sites shall be inspected annually. An assessment of the IDDE program shall be made annually and revisions to the program will be made at that time.

(4.2.3.11) Permittees shall at a minimum, annually train employees about the IDDE program

Trainings will be based off of SOPs developed for municipal activities.

Objective: Identify and eliminate any discharges into the sumps or storm drain system. Any dry weather flows that are identified are traced to their source. Dry weather screening will be conducted on all identified outfalls once during the permit term.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 3 in Appendix A.

Chapter Seven: Construction Site Storm Water Runoff Control

Phase II MS4s are required to develop a program to reduce pollutants in stormwater runoff to the MS4 for construction sites disturbing one or more acres including sites less than one acre that are part of a larger common plan. This primarily includes developing:

- BMP 4.1: Ordinance,
- BMP 4.2: Procedures for reviewing construction site plans,
- BMP 4.3: Procedures to receive and consider information submitted by the public,
- BMP 4.4: Procedures for inspections and enforcement of stormwater requirements at construction sites.
- BMP 4.5: Contractor Educutions

The Construction Site Storm Water Runoff Control Program section of the SWMP addresses water quality concerns for construction sites greater than or equal to one acre including sites less than one acre that are part of a larger common plan. Polluted storm water runoff from construction sites often flows to storm drainage systems and into receiving waters comparative to that which can be deposited naturally during several decades.

The resulting siltation can cause physical, chemical, and/or biological harm to sumps (causing complete blockage) and receiving waters. The BMPs described in this section of the SWMP includes the development of a construction site program designed to reduce pollutants in storm water runoff from construction activities.

This program will include procedures for construction site plan review, site inspections, public reporting, contractor education, and notification of permit requirements to all construction site owners/operators. Physical BMPs include but are not limited to: temporary on-site basins, check dams, energy dissipaters, silt fencing, channel linings, etc.

BMP 4.1: CONSTRUCTION SITE PROGRAM ORDINANCE

Description: The ordinance requires construction operators to use erosion and sediment controls, and maintain appropriate structural and non-structural BMPs to reduce pollutants discharged during times of soil disturbances or excavation activities, along with penalties to enforce and ensure compliance.

The ordinance provides the frame work for the Construction Site Storm Water Program, as well as the regulatory jurisdiction for enforcement. The ordinance will be reviewed annually to help assure compliance with appropriate regulations. Site plan review and approval procedures have been developed and incorporated in the design standards. Consideration for proper operation and maintenance of control measures is incorporated into the plan review process.

(4.2.4.2) Develop a written enforcement strategy and implement the enforcement provisions of the ordinance which shall include:

(4.2.4.2.1) SOPs that include specific processes and sanctions to minimize the occurrence of, and obtain compliance from violators using appropriate escalating enforcement procedures and actions.

The procedures for escalating enforcement actions when developed are included in the Appendix E.

Objective: An effective ordinance with enforcement procedures, requiring an erosion control plan and proper waste handling will contribute to the reduction of erosion, sediment transportation, and other pollution from construction sites.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 4 in Appendix A.

BMP 4.2: SITE PLAN AND SUBDIVISION REVIEW

Description: Develop procedures for site plan review that incorporate considerations for potential short and long-term water quality impacts and minimize these impacts, to the MEP. An erosion control plan must be submitted for review and approval prior to commencing grading operations.

(4.2.4.3) Develop and implement SOPs for pre-construction SWPPP review and keep records for five years or until construction is completed, whichever is longer.

(4.2.4.3.1) Conduct a pre-construction SWPPP review

SWPPPs are a required part of the approval process. A checklist created from the requirements of the general permit for construction activities is used to review plans.

(4.2.4.3.2) Incorporate consideration of potential water quality impacts and procedures for pre-construction review, use a checklist.

Water quality consideration is part of the review process and checklist.

(4.2.4.3.3) Incorporate procedures for an evaluation of opportunities for use of low impact design (LID) and green infrastructure.

LID consideration is part of the review process and checklist.

(4.2.4.3.4) Identify priority construction sites, including sites discharging directly into water recognized as impaired or high quality

Prioritizing construction sites is part of the review process and checklist.

Objective: Prevent erosion during the construction phase by implementing various erosion control measures as appropriate. Such measures may include temporary silt or sediment fences, sediment traps and detention ponds, temporary and permanent vegetation, etc.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 4 in Appendix A.

BMP 4.3: SITE INSPECTION

Description: Construction sites lacking adequate stormwater controls can contribute significant amounts of sediment to streams and lakes; therefore, the City will develop procedures for site inspection and enforcement of erosion control measures at construction sites to deter infractions. Procedures will include steps to identify priority sites for inspection and enforcement. To reduce the water quality impacts of active construction sites, the site inspections will ensure that construction projects install and maintain appropriate erosion and sediment control, stormwater management, and housekeeping BMPs.

(4.2.4.2.2) Documentation of all enforcement actions

Enforcement actions are recorded according to the documentation process.

(4.2.4.4) Develop and Implement SOPs for construction site inspection and enforcement.

SOPs will be reviewed, revised and placed into Appendix E.

(4.2.4.6) Permittee shall adopt and implement a procedure to maintain records of all projects. (e.g. plan review, inspections, enforcement actions)

The documentation process outlines the procedure for storing records. SWPPP review folder, plans in subdivision folder and web-based software for site inspection updates.

Objective: Ensure that BMPs are properly installed, maintained, and are reducing pollutants in storm water runoff from construction activities, to the MEP.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 4 in Appendix A.

BMP 4.4: PUBLIC REPORTING

Description: Public reporting can provide important assistance in preventing storm water pollution during construction activities. In order to accept such reporting, a procedure for the receipt and consideration of public inquiries, concerns, and information submitted regarding storm water runoff from local construction activities must be outlined. A phone number for the purpose of reporting possible violations will be made available at all public meetings including city council, planning commission, and neighborhood.

Objective: Encourage public participation in addressing storm water quality concerns during construction activities.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 4 in Appendix A.

BMP 4.5: CONTRACTOR EDUCATION

Description: Make available appropriate education and training material to construction site operators for minimizing storm water pollution during construction activities.

- "A Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices" - EPA
- "Construction Storm Water Fact Sheet" – DWQ
- Utah County Guidelines for Construction Site BMPs
- Highland City Design Standards.

Objective: Provide information and references for owners, designers and contractors to utilize in the planning and implementation of structural and non-structural BMPs to reduce pollutants discharged to the storm drain system during construction.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 4 in Appendix A.

Chapter Eight: Long Term Storm Water Management in New Development and Redevelopment/Post-Construction Storm Water Management

The Post-Construction Storm Water Management in New Development and Redevelopment Program addresses storm water runoff from new development and redevelopment projects that disturb greater than, or equal to, one acre. The program ensures that controls are in place that will protect water quality and reduce the discharge of pollutants to the maximum extent practicable.

This program will be integrated with the Construction Site Storm Water Runoff Control Program of the SWMP to ensure adequate long-term operation and maintenance of the BMPs. The following BMPs describe implementation tasks and assessment tasks to be completed by Highland City for the Post-Construction Storm Water Management in New Development and Redevelopment.

The best way to mitigate stormwater impacts from new developments is to use practices to treat, store, and infiltrate runoff onsite before it can have any negative effects downstream. Innovative site designs that reduce imperviousness and smaller-scale low impact development practices dispersed throughout a site are excellent ways to achieve the goals of reducing flows and improving water quality.

Phase II MS4s are required to address post-construction stormwater runoff from new development and redevelopments that disturb one or more acres. This primarily includes developing:

- An ordinance to address post-construction runoff,
- Strategies to implement a combination of structural and non-structural BMPs,
- A program to ensure adequate long-term operation and maintenance of BMPs.

BMP 5.1: POST-CONSTRUCTION STORM WATER ORDINANCE

Description: Develop an ordinance with requirements for post-construction runoff controls. Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly affect receiving water bodies. There are two forms of impacts associated with post-construction runoff.

The type and quantity of pollutants in storm water runoff increases following new development and redevelopment projects. As runoff flows over newly disturbed areas it picks up harmful sediment and chemicals from the unprotected surface and conveys it to receiving waters. By controlling development and preserving open space, the quantity of impervious surface is minimized, which has an effect of reducing both the quantity and quality of the runoff. The open space also allows for the protection of sensitive areas such as wetlands and riparian areas. BMPs can be either non-structural or structural.

(4.2.5.2) Develop an enforcement strategy which includes:

(4.2.5.2.1) Procedures that include specific processes and sanctions to minimize occurrence of, and obtain compliance from, repeat violators using escalating enforcement procedures.

The enforcement strategy will be included in or referenced by the ordinance.

(4.2.5.5.1) The ordinance or other regulatory mechanism shall include provisions for post-construction access for Permittees to inspect storm water control measures on private properties that discharge to the MS4 to ensure that adequate maintenance is being performed.

Objective: Develop and implement an effective ordinance requiring the implementation of post-construction runoff controls that will contribute to the reduction of erosion, sediment transportation, and other pollution from development sites.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 5 in Appendix A.

BMP 5.2: NEW DEVELOPMENT/REDEVELOPMENT PROGRAM

Description: Develop a program to ensure adequate long-term operation and maintenance of storm water controls at post construction sites.

(4.2.5.3) The Permittee's new development/redevelopment program must have requirements or standards to ensure that any storm water controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality. BMPs must be selected that address pollutants known to be discharged or anticipated to be discharged from the site.

Program will be placed in Appendix F once developed.

(4.2.5.3.1) The Permittee's new development/redevelopment program shall include nonstructural BMPs such as requirements and standards to minimize development in areas susceptible to erosion and sediment loss; to minimize the disturbance of native soils and vegetation; to preserve areas in the municipality that provide important water quality benefits; to implement measures for flood control; and to protect the integrity of natural resources and sensitive areas.

(4.2.5.3.2) For new development or redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, the program shall include a process which requires the evaluation of a Low Impact Development (LID) approach which encourages the implementation of BMPs that infiltrate, evapotranspire or harvest and use storm water from the site to protect water quality. Structural controls may include green infrastructure practices such as rainwater harvesting, rain gardens, permeable pavement, and vegetated swales. If an LID approach cannot be utilized, the Permittee must document an explanation of the reasons preventing this approach and the rationale for the chosen alternative controls on a case by case basis for each project.

(4.2.5.3.4) Each Permittee shall develop and define specific hydrologic method or methods for calculating runoff volumes and flow rates to ensure consistent sizing of

structural BMPs in their jurisdiction and to facilitate plan review. Within 180 days from the effective date of this Permit, new development or redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale must manage rainfall on-site, and prevent the off-site discharge of the precipitation from all rainfall events less than or equal to the 90th percentile rainfall event. This objective must be accomplished by the use of practices that are designed, constructed, and maintained to infiltrate, evapotranspire and/or harvest and reuse rainwater. The 90th percentile rainfall event is the event whose precipitation total is greater than or equal to 90 percent of all storm events over a given period of record. If meeting this retention standard is technically infeasible, a rationale shall be provided on a case by case basis for the use of alternative design criteria. The project must document and quantify that infiltration, evapotranspiration and rainwater harvesting have been used to the maximum extent technically feasible and that full employment of these control are infeasible due to site constraints.

(4.2.5.4) All Permittees shall adopt and implement procedures for site plan review which evaluate water quality impacts.

Objective: To develop and implement a new development/redevelopment program which complies with the General Permit requirements.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 5 in Appendix A.

BMP 5.3: POST-CONSTRUCTION MAINTENANCE

Description: Develop procedures to ensure adequate long-term operation and maintenance of storm water controls at post-construction sites. Proper operation and maintenance of the control measures will help to minimize pollutants in storm water runoff. This program will require the establishment of maintenance responsibility for the development. Improper maintenance or failure of storm water controls following construction can lead to adverse impacts on storm water quality.

(4.2.5.5.2) Permanent structural BMPs shall be inspected at least once during installation by qualified personnel. Upon completion the Permittee must verify that long-term BMPs were constructed as designed.

SOP will be placed in Appendix E once procedure is developed.

(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.

(4.2.5.6) Permittees shall ensure that all staff involved in post-construction storm water management, planning and review, and inspections and enforcement receive adequate training on an annual basis.

(4.2.5.7) The Permittee must maintain an inventory of all post-construction structural storm water control measures installed and implemented at new development and redeveloped sites that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale. This inventory shall include both public and private sector sites located within the Permittee's service area.

(4.2.5.7.2) Based on inspections conducted pursuant to Part 4.2.5.5., the Permittee must update the inventory as appropriate where changes occur in property ownership or the specific control measures implemented at the site.

Objective: Establishing procedures to ensure adequate long term operation and maintenance of storm water controls is imperative in reducing storm water pollution.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 5 in Appendix A.

Chapter Nine: Pollution Prevention/Good House Keeping Program

The Pollution Prevention/Good Housekeeping Program of the Storm Water Management Plan addresses routine activities in the operation and maintenance for drainage systems, roadways, parks and open spaces, and other municipal operations to help ensure a reduction in pollutants entering the storm drain systems. The program will implement BMPs to address specific roadway practices which include snow removal, de-icing, salt pile management, and road crew training.

This program will also focus on storm drainage system maintenance, maintenance yard practices, pesticide, herbicide and fertilizer program, spill prevention and response. This Pollution Prevention/Good Housekeeping Program will be integrated with other BMPs described within this Storm water management plan to promote awareness of water quality concerns in performing routine roadway maintenance and operation and other practices. The following BMPs describe implementation tasks and assessment tasks to be completed by Highland City for the Pollution Prevention/Good Housekeeping Program.

Municipalities conduct numerous activities that can pose a threat to water quality if practices and procedures are not in place to prevent pollutants from entering the MS4. These activities include winter road maintenance, minor road repairs, infrastructure work, automobile fleet maintenance, park maintenance, and building maintenance. Municipalities also conduct activities that remove pollutants from the MS4 when performed properly, such as parking lot and street sweeping, and storm drain system cleaning. Finally, municipal facilities can be sources of stormwater pollutants if BMPs are not in place to contain spills, manage trash, and handle non-stormwater discharges. The following is a list of some potential problems usually associated with a municipal operation:

Municipality Facility Activity	Potential Pollutants							
	Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides
Building and Grounds Maintenance and Repair	X	X	X	X	X	X	X	X
Parking/Storage Area Maintenance	X	X	X	X	X	X	X	
Waste Handling and Disposal	X	X	X	X	X	X	X	X
Vehicle and Equipment Fueling			X	X		X	X	
Vehicle and Equipment Maintenance and Repair				X		X	X	
Vehicle and Equipment Washing and Steam Cleaning	X	X	X	X		X	X	
Outdoor Loading and Unloading of Materials	X	X	X	X		X	X	X
Outdoor Container Storage of Liquids		X		X		X	X	X
Outdoor Storage of Raw Materials	X	X	X			X	X	X
Outdoor Process Equipment	X		X	X		X	X	
Overwater Activities			X	X	X	X	X	X
Landscape Maintenance	X	X	X		X			X

Municipal Program	Activities	Potential Pollutants							
		Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides
Roads, Streets, and Highways Operation and Maintenance	Sweeping and Cleaning	X		X	X		X		
	Street Repair, Maintenance, and Striping/Painting	X		X	X		X	X	
	Bridge and Structure Maintenance	X		X	X		X	X	
Plaza, Sidewalk, and Parking Lot Maintenance and Cleaning	Surface Cleaning	X	X			X	X		
	Graffiti Cleaning	X	X		X		X		
	Sidewalk Repair	X		X					
	Controlling Litter	X		X		X	X		
Fountains	Fountain and Pool Draining		X					X	
Landscape Maintenance	Mowing/Trimming/Planting	X	X	X		X			X
	Fertilizer & Pesticide Management	X	X	X					X
	Managing Landscape Wastes			X					X
	Erosion Control	X	X						
Drainage System Operation and Maintenance	Inspection and Cleaning of Stormwater Conveyance Structures	X	X	X		X		X	
	Controlling Illicit Connections and Discharges	X	X	X	X	X	X	X	X
	Controlling Illegal Dumping	X	X	X	X	X	X	X	X
	Maintenance of Inlet and Outlet Structures	X		X	X		X		
Waste Handling and Disposal	Solid Waste Collection		X	X	X	X	X	X	
	Waste Reduction and Recycling			X	X				
	Household Hazardous Waste Collection			X	X		X	X	
	Controlling Litter			X	X	X		X	
	Controlling Illegal Dumping	X		X		X	X		X
Water and Sewer Utility Operation and Maintenance	Water Line Maintenance	X				X	X		
	Sanitary Sewer Maintenance	X				X	X		
	Spill/Leak/Overflow Control	X	X			X		X	

Phase II MS4s are required to train staff on ways to protect stormwater, particularly when maintaining MS4 infrastructure and performing daily municipal activities, such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. This primarily includes:

- Developing inspection and maintenance procedures and schedules for stormwater BMPs,
- Implementing BMPs to treat pollutants from transportation infrastructure, maintenance areas, storage yards, sand and salt storage areas, and waste transfer stations,
- Establishing procedures for properly disposing of pollutants removed from the MS4,
- Identifying ways to incorporate water quality controls into new and existing flood management projects.

BMP 6.1: MAINTENANCE OF STORM DRAIN FACILITIES

Description: Maintain existing drainage system operation, maintenance, and cleaning procedures for the purpose of reducing pollutants in storm water runoff. Evaluate system and identify high maintenance systems or areas, maintenance schedules, long term inspection schedules, and long term inspection procedures for storm drain controls.

Personnel training is a component of this program. Proper system maintenance and employee training will help to reduce storm water impacts from such activities as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

Objective: Maintain and operate the storm water drain system in a manner that reduces the discharge of pollutants to the MEP.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 6 in Appendix A.

BMP 6.2: STREET CLEANING

Description: Review and assess current practices for street sweeping and any other procedure in place which keeps roadways open and free of debris.

Objective: Operate procedures in a manner that reduces the discharge of pollutants, to the MEP, without compromising motorists' safety.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 6 in Appendix A.

BMP 6.3: UPDATE/PREPARE A STORM WATER MANAGEMENT PLAN OR A FACILITY SPECIFIC SOP FOR THE HIGH PRIORITY PUBLIC WORKS FACILITIES

Description: Identify, maintain, and control industrial facilities owned by Highland City Corporation that are subject to the State's UPDES Multi-Sector General Permit for discharges of storm water associated with industrial activity which ultimately discharge to the MS4. Proper management of these facilities will prevent migration of concentrated suspended material to storm drain systems.

(4.2.6.1) Permittee shall develop and keep a written inventory of Permittee-owned or operated facilities.

An inventory of City owned or operated facilities will be included in Appendix G.

(4.2.6.2) All permittees must initially assess the written inventory (4.2.6.1) for their potential to discharge pollutants to storm water. A description of the assessment process and findings must be included in the SWMP document.

An initial assessment of City owned property will be included in Appendix G.

(4.2.6.3) Identify the “high-priority” facilities or operations.

The properties with the highest pollution potential are the Public Works Facility. This is due to the onsite chemicals, salt storage and other hazardous materials kept on site.

(4.2.6.4) Each “high-priority” facility must develop a facility-specific SOP to protect water quality and reduce the discharge of pollutants. Include BMPs and LID techniques for all of the following types of facilities and/or activities listed:

Buildings and facilities, materials storage areas, heavy equipment storage areas and maintenance areas, parks and open space, and vehicle and equipment maintenance.

(4.2.6.9) Construction Projects under the direction of the Permittee shall comply with the requirements applied to private projects.

(4.2.6.10) Permittees shall provide training for all employees who have construction, operation, or maintenance job functions that are likely to impact storm water quality.

Staff will be trained per the SOPs that are prepared for their individual work.

Objective: Minimize pollutants entering storm drain system from equipment yards and maintenance facilities.

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 6 in Appendix A.

BMP 6.4: DEVELOP A PROCESS TO ASSESS WATER QUALITY IMPACTS FROM FLOOD MANAGEMENT STRUCTURAL CONTROLS

Description: (4.2.6.8) Develop and implement a process to assess the water quality impacts in the design of all new flood management structural controls. A description of this process must be included in the SWMP document.

The process will be included in Appendix H.

(4.2.6.8.1) Existing flood management structural controls must be assessed. A description of this process must be included in the SWMP document.

The process will be included in Appendix H.

Objective: Minimize water quality degradation due to Flood Management Structural Controls

Responsible: The Stormwater Manager or designee will be responsible for the implementation of this BMP.

Funding: The funding for this BMP will be provided through the Storm Water Utility Fee as adopted by the City Council.

Implementation and Assessment: See Table 6 in Appendix A.

Appendix A:

- BMP Table 2
- BMP Table 3
- BMP Table 4
- BMP Table 5
- BMP Table 6

BMP Number	Title	Objective	Concern	Permit Year					Measurable Goal
				1	2	3	4	5	
3.1	Storm Drain System Map	Identify all sumps, storm drain lines, detention and retention ponds, and outfall lines to waterways	Bacteria, nutrients, and sediments	X	X	X	X	X	Regularly update map to reflect and new drainage structures, retrofits, or alterations
3.2	Illicit Discharge Storm Water Ordinance	Review, pass, and enforce an ordinance that allows for the enforcement of the IDDE program	Enforcement authority to control illicit discharges	X	X	X	X	X	Complete review and passing of Ordinance by January 2017 Annual review of written ordinance Track & log citations for violations
3.3	Dry Weather Screening & Illicit Discharge Detection and Illimination Program	Identify and eliminate any illicit discharges into sumps or storm drain system. Trace any dry weather flows to source.	Illicit discharge locations	X	X	X	X	X	Identify, cite, and eliminate illicit discharge sites as needed.
3.3.1	Dry Weather Screening & Illicit Discharge Detection and Illimination Program	Develop and implement written systematic procedures for locating and listing priority areas.	Illicit discharge priority locations	X	X	X	X	X	List of illicit discharge priority locations and procedures by July 2017
3.3.4 & 5	Dry Weather Screening & Illicit Discharge Detection and Illimination Program	Develop and implement SOPs for tracing the source of illicit discharges and SOP for characterizing the nature and threat of any illicit discharges.	Illicit discharge illimination	X	X	X	X	X	SOPs prepared by 2017

3.3.6	Dry Weather Screening & Illicit Discharge Detection and Illimination Program	Develop and implement SOPs for ceasing the illicit discharge	Illicit discharge illimination	X	X	X	X	X	SOPs prepared by 2017
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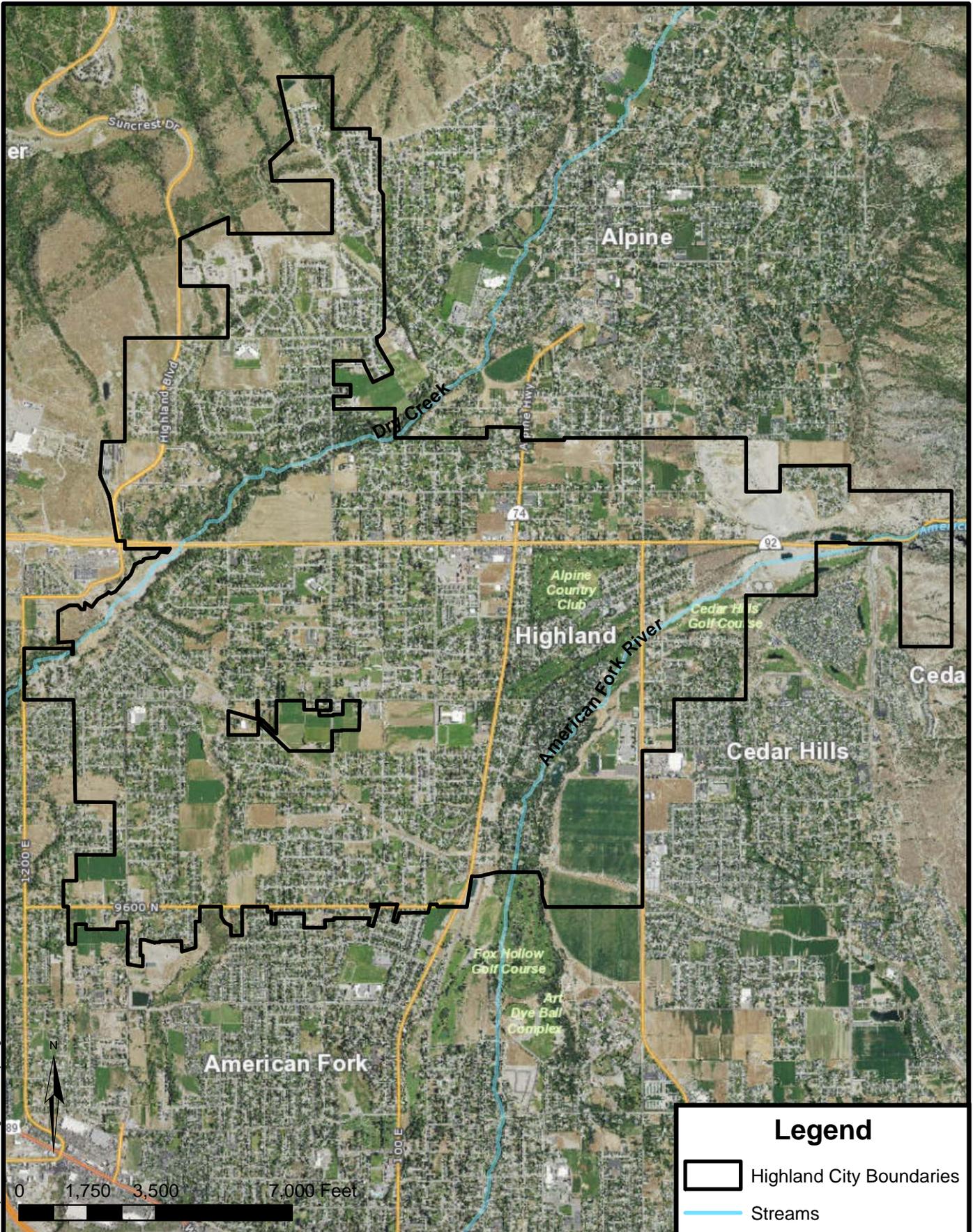
BMP Number	Title	Objective	Concern	Permit Year					Measurable Goal
				1	2	3	4	5	
4.1	Construction Site Program Ordinance	Review and enforce an ordinance that allows for the enforcement of the Construction Site Storm Water Program.	Sediment transportation and gross pollutants	X	X	X	X	X	Implement ordinance and erosion control plan Annual review of written ordinance
4.2	Site Plan and Subdivision Review	Implement various erosion control measures as appropriate	Erosion	X	X	X	X	X	Finalize site plan and subdivision review process, and make adjustments as needed
4.3	Site Inspection	Ensure that BMPs are properly installed and maintained, and are reducing pollutants to the MEP	Water quality impacts of active construction	X	X	X	X	X	Provide site inspections Create and maintain individual project files to track and log construction site storm water runoff control activities
4.4	Public Reporting	Encourage public participation in addressing storm water quality concerns during construction activities	Storm water pollution	X	X	X	X	X	Track and log all public reports Respond to reports within 24 hours or next business day
4.5	Contractor Education	Provide information and references for owners, designers, and contractors to utilize in the planning and implementation of BMPs	Storm water pollution during construction	X	X	X	X	X	Semi-annually host an educational conference for owners, designers, and contractors

BMP Number	Title	Objective	Concern	Permit Year					Measurable Goal
				1	2	3	4	5	
5.1	Post-Construction Storm Water Ordinance	Develop, write, pass, and enforce an ordinance that allows for the enforcement of the Post-Construction Storm Water Management program.	Erosion, sediment transportation, and gross pollutants	X	X	X	X	X	Annual review of written ordinance
5.2	New Development/Redevelopment (Post-Construction) Storm Water Program	Develop and implement a new development/redevelopment program which complies with the General Permit requirements	Adverse impacts on storm water quality	X	X	X	X	X	Revise program to include 2016 permit requirement by July 2017. Annual review of written program.
5.3	Post-Construction Maintenance	Establish procedures to ensure adequate long-term operation and maintenance of storm water controls	Adverse impacts on storm water quality	X	X	X	X	X	Track and log all reports Establish a post-construction BMP inspection process
5.4	Post-Construction Storm Water Program	Maintain Inventory & Inspection of all post-construction structural storm water control measures.	Adverse impacts on storm water quality	X	X	X	X	X	Update Inventory and keep records regarding inspections.

BMP Number	Title	Objective	Concern	Permit Year					Measurable Goal
				1	2	3	4	5	
6.1	Maintenance of Storm Drain Facilities	Maintain and operate the storm water drain system in a manner that reduces the discharge of pollutants to the MEP	Discharge of pollutants	X	X	X	X	X	Annually inspect and maintain each sump Review and update the sump inspection plan
6.2	Street Cleaning	Operate procedures in a manner that reduces the discharge of pollutants to the MEP without compromising motorist safety	Sediment and gross pollutants	X	X	X	X	X	Track and log all street sweeping activity Semi-annually sweep each street Prepare street sweeping schedule and map
6.3	Inventory of City owned or operated facilities.	Minimize pollutants entering the storm drain system from equipment yards and maintenance facilities	Sediment, gross pollutants, bacteria, and salt	X	X	X	X	X	Current inventory.
6.3.1	Update the Storm Water Management Plan for the Public Works Facility	Minimize pollutants entering the storm drain system from equipment yards and maintenance facilities	Sediment, gross pollutants, bacteria, and salt	X	X	X	X	X	Implement plan. Monthly site inspection. Annually update plan
6.4	Process to assess the water quality impacts of new flood management structural controls.	Avoid or minimize water quality impacts from new flood management structural controls.	Sediment and gross pollutants	X	X	X	X	X	Process to be developed by July 2017 with annual updates as needed.

Appendix B:

- Highland City Map



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HIGHLAND CITY MUNICIPAL BOUNDARIES

Legend

- Highland City Boundaries
- Streams

FIGURE 1

Appendix C:

- Utah County MCM

**INTERLOCAL COOPERATION AGREEMENT FOR NPDES
PHASE II STORM WATER PUBLIC EDUCATION AND
OUTREACH BEST MANAGEMENT PRACTICE COMPLIANCE**

THIS AGREEMENT, is entered into this 11th day of February, 2014, by and between PROVO, OREM, PLEASANT GROVE, AMERICAN FORK, SPRINGVILLE, SPANISH FORK, LEHI, PAYSON, UTAH COUNTY, LINDON, HIGHLAND, ALPINE, MAPLETON, SALEM, CEDAR HILLS, and EAGLE MOUNTAIN, political subdivisions of the State of Utah.

WITNESSETH:

WHEREAS, pursuant to the provisions of the Interlocal Cooperation Act, Title 11, Chapter 13, Utah Code Annotated, 1953 as amended, public agencies, including political subdivisions of the State of Utah as therein defined, are authorized to enter into written agreements with one another for joint or cooperative action; and

WHEREAS, the parties to this Agreement are public agencies as defined in the Interlocal Cooperation Act; and

WHEREAS, the parties desire to establish a joint undertaking to comply with National Pollution Discharge Elimination System (NPDES) Phase II Storm Water Permit Coverage;

NOW, THEREFORE, the parties do mutually agree, pursuant to the terms and provisions of the Interlocal Cooperation Act, as follows:

Section 1. EFFECTIVE DATE; DURATION

This Interlocal Cooperation Agreement shall become effective and shall enter into force, within the meaning of the Interlocal Cooperation Act, upon the submission of this Interlocal Cooperation Agreement to, and the approval and execution thereof by Resolution of the governing

bodies of each of the parties to this Agreement. Unless otherwise terminated as provided for herein, this Interlocal Cooperation Agreement shall be effective for a period of up to, but not exceeding, fifty (50) years. This Interlocal Cooperation Agreement shall not become effective until it has been approved by Resolution of all parties and reviewed as to proper form and compliance with applicable law by the attorney authorized to represent each of the parties hereto. Prior to becoming effective, this Interlocal Cooperation Agreement shall be filed with the official keeper of records of each of the parties hereto.

Section 2. ADMINISTRATION OF AGREEMENT

The parties to this Agreement do not contemplate nor intend to establish a separate legal entity under the terms of this Interlocal Cooperation Agreement. The parties hereto agree that, pursuant to Section 11-13-207, Utah Code Annotated, 1953 as amended, UTAH COUNTY shall act as the administrator responsible for the administration of this Interlocal Cooperation Agreement. The parties further agree that this Interlocal Cooperation Agreement does not anticipate nor provide for any organizational changes in the parties. The administrator agrees to keep all books and records in such form and manner as the Utah County Clerk/Auditor shall specify and further agrees that said books shall be open for examination by all parties to this Agreement, at reasonable times. The parties agree that they will not acquire, hold nor dispose of real or personal property pursuant to this Interlocal Agreement during this joint undertaking.

Section 3. PURPOSES

This Interlocal Cooperation Agreement has been established and entered into between the parties, for the purpose of a joint undertaking to comply with NPDES Phase II Storm Water Permit Public Education and Outreach Best Management Practices.

Section 4. MANNER OF FINANCING

The parties agree that they shall provide the following resources and/or assistance for this joint undertaking:

- a. COUNTY shall act as the administrator of this Agreement, pursuant to the terms of Section 2 hereof, and shall :
 1. Schedule and conduct Utah County Storm Water Coalition meetings which are necessary to correlate activities, set proposed budgets, and provide training opportunities.
 2. Provide information regarding best management practices for preventing storm water pollution that can be placed in a newsletter or other form of communication as determined by each member agency to be distributed to the public as each agency deems appropriate.
 3. Maintain contract with approved Storm Water Educational Instructor and ensure proper teaching material is being presented. Maintain a master list of approved schools to be given to approved Storm Water Educational Instructor. Provide for each member agency a list of schools visited, the dates of all visits, an estimated number of attending students, and the number of classes taught.
 4. Become a central warehouse for storm water educational materials and provide on demand materials for distribution. These materials could include informational pamphlets, activity books, pencils, note pads, magnets, videos, etc.
 5. Maintain storage of display information for booths to be used for city and

county activities and other events.

6. Provide, maintain, and promote an information system to the public for the disposal of household materials and chemicals to include internet and phone services. Citizens will be able to call a local, countywide phone number or access a website where gathered information for disposal sites will be distributed.
- b. Each party to this agreement will pay to Utah County within 30 days of receipt of an annual invoice from Utah County, the sums listed in Exhibit A to this Agreement, said sums to be used solely for the NPDES Storm Water Phase II Public Education and Outreach Best Management Practices. The sums listed in Exhibit A shall be reviewed, approved, and modified by agency representatives on an annual basis, based on a combination of the percentage of the party's total population to the total population of the County as determined by the most recent Mountainland Association of Government figures and the percentage of the party's total number of schools to the total school count as submitted by the member agencies.

Section 5. METHOD OF TERMINATION

This Interlocal Cooperation Agreement will automatically terminate at the end of its term herein, pursuant to the provisions of paragraph one (1) of this Agreement. Prior to the automatic termination at the end of the term of this Agreement, any party to this Agreement may terminate its participation in and responsibilities under this Agreement at any time and for any reason by providing a sixty (60) day written notice of termination to the other parties. This Agreement may not be terminated in any event, if termination would cause a violation of the parties' NPDES Storm Water Permit.

Section 6. INDEMNIFICATION

The parties to this Agreement are public entities. Each party agrees to indemnify and save harmless the other for damages, claims, suits, and actions arising out of a negligent error or omission of its own officials or employees in connection with this Agreement.

Section 7. ADDITION OF OTHER MEMBERS

Other entities may become parties to this Interlocal Cooperation Agreement, by executing an Addendum to this Agreement. In order for an entity to be added to this Agreement by Addendum, the Addendum must be approved by resolution of the governing body of the entity to be added and the Addendum must be reviewed for proper form and compliance with applicable law by the attorney for the entity to be added. Prior to becoming effective, this Interlocal Cooperation Agreement and any Addendum shall be filed with the official keeper of records of the entity being added to this Agreement.

Section 8. FILING OF INTERLOCAL COOPERATION AGREEMENT

Executed copies of this Interlocal Cooperation Agreement shall be filed with the official keeper of records of all parties to this Agreement and shall remain on file for public inspection during the term of this Interlocal Cooperation Agreement.

Section 9. ADOPTION REQUIREMENTS

This Interlocal Cooperation Agreement shall be (a) approved by Resolution of the governing body of each of the parties, (b) executed by a duly authorized official of each of the parties (c) submitted to and approved by an Authorized Attorney of each of the parties, as required by Section 11-13-202.5(3), Utah Code Annotated, 1953 as amended, and (d) filed in the official records of each party.

Section 10. LAWFUL AGREEMENT

The parties represent that each of them has lawfully entered into this Agreement, having complied with all relevant statutes, ordinances, resolutions, by-laws, and other legal requirements applicable to their operation.

Section 11. AMENDMENTS

This Interlocal Cooperation Agreement may not be amended, changed, modified or altered except by an instrument in writing which shall be (a) approved by Resolution of the governing body of each of the parties, (b) executed by a duly authorized official of each of the parties, (c) submitted to and approved by an Authorized Attorney of each of the parties, as required by Section 11-13-202.5(3), Utah Code Annotated, 1953 as amended, and (d) filed in the official records of each party.

Section 12. SEVERABILITY

If any term or provision of the Interlocal Cooperation Agreement or the application thereof shall to any extent be invalid or unenforceable, the remainder of this Interlocal Cooperation Agreement, or the application of such term or provision to circumstances other than those with respect to which it is invalid or unenforceable, shall not be affected thereby, and shall be enforced to the extent permitted by law. To the extent permitted by applicable law, the parties hereby waive any provision of law which would render any of the terms of this Interlocal Cooperation Agreement unenforceable.

Section 13. NO PRESUMPTION

Should any provision of this Agreement require judicial interpretation, the Court interpreting or construing the same shall not apply a presumption that the terms hereof shall be more strictly construed against the party, by reason of the rule of construction that a document is to be construed more strictly against the person who himself or through his agents prepared the same, it being

acknowledged that all parties have participated in the preparation hereof.

Section 14. BINDING AGREEMENT

This Agreement shall be binding upon the heirs, successors, administrators, and assigns of each of the parties hereto.

Section 15. NOTICES

All notices, demands and other communications required or permitted to be given hereunder shall be in writing and shall be deemed to have been properly given if delivered by hand or by certified mail, return receipt requested, postage paid, to the parties' recorder or clerk/auditor as the case may be; or at such other addresses as may be designated by notice given hereunder.

Section 16. ASSIGNMENT

The parties to this Agreement shall not assign this Agreement, or any part hereof, without the prior written consent of all other parties to this Agreement. No assignment shall relieve the original parties from any liability hereunder.

Section 17. GOVERNING LAW

All questions with respect to the construction of this Interlocal Cooperation Agreement, and the rights and liability of the parties hereto, shall be governed by the laws of the State of Utah.

Section 18. ENTIRE AGREEMENT

This Agreement shall constitute the entire Agreement between the parties and any prior understanding or representation of any kind proceeding the date of this Agreement shall not be binding upon either party except to the extent incorporated in this Agreement.

IN WITNESS WHEREOF, the parties have signed and executed this Interlocal Cooperation Agreement, after resolutions duly and lawfully passed, on the dates listed below:

UTAH COUNTY

Authorized by Resolution No. 2014-20, authorized and passed on the 11th day of February, 2014.

BOARD OF COUNTY COMMISSIONERS
UTAH COUNTY, UTAH

By: [Signature]
GARY J. ANDERSON, Chairman

ATTEST: Bryan Thompson
Utah County Clerk/Auditor

By: [Signature]
Deputy

APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

Jeff Buhman, Utah County Attorney

By: [Signature]
Deputy Utah County Attorney

PROVO CITY STORM WATER SERVICE DISTRICT

[Signature]
Mayor of Provo
TITLE

ATTEST: [Signature]
RECORDER FOR DISTRICT

APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR DISTRICT



CITY OF OREM

[Signature]
Mayor

ATTEST: Donna R. Weaver
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY

CITY OF PLEASANT GROVE

[Signature]
Mayor

ATTEST: Kathy J. Kessen
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

Christine M. Peltzer
ATTORNEY FOR CITY

CITY OF AMERICAN FORK

[Signature]
Mayor

ATTEST: *[Signature]*
DEPUTY RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY

CITY OF SPRINGVILLE

[Signature]
Mayor

ATTEST: *[Signature]*
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY

CITY OF SPANISH FORK

Steve Lutz
Mayor

ATTEST: Kent R. Clark
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

Jason Sant
Asst. ATTORNEY FOR CITY

CITY OF LEHI

Keith Wilson
Mayor

ATTEST: Stanley Bonasuy
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

Ryan V. Wood
ATTORNEY FOR CITY

CITY OF PAYSON

[Signature]
Mayor

ATTEST: Jeanette C. Winder
RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY



CITY OF LINDON

[Signature]
Mayor

ATTEST: Kathryn Moosman
RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY



CITY OF HIGHLAND

Mark DeHaven
Mayor

ATTEST: JOE Ann Bates
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

Tim Lovell
ATTORNEY FOR CITY

CITY OF ALPINE

Don Stoll
Mayor

ATTEST: Cheryl A. ...
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

David ...
ATTORNEY FOR CITY

CITY OF MAPLETON

Tr. Nell

Mayor

ATTEST:

Camille Brown

RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

E. J. Johnson

ATTORNEY FOR CITY

CITY OF SALEM

Paul A. Paulsen

Mayor

ATTEST:

Jeff Miller

RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

James Walker

ATTORNEY FOR CITY

CITY OF CEDAR HILLS

[Handwritten Signature]

Mayor

ATTEST: *[Handwritten Signature]*
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

[Handwritten Signature]
ATTORNEY FOR CITY

CITY OF EAGLE MOUNTAIN

[Handwritten Signature]
Mayor

ATTEST: *[Handwritten Signature]*
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

[Handwritten Signature]
ATTORNEY FOR CITY

Based on 2014-2015 Total Schools to be Visited

STORM WATER COALITION

MEMBER AGENCY ANNUAL FEE SCHEDULE

CITY	POPULATION COUNT	POPULATION COUNT %	SCHOOL COUNT	SCHOOL COUNT %	POPULATION COUNT \$	SCHOOL COUNT \$	BILL AMOUNT \$
PROVO	112488	22.54%	15	14.15%	\$ 2,866	\$ 6,109	\$ 8,975
OREM	88328	17.70%	18	16.98%	\$ 2,251	\$ 7,331	\$ 9,582
PLEASANT GROVE	33509	6.72%	7	6.60%	\$ 854	\$ 2,851	\$ 3,705
AMERICAN FORK	26263	5.26%	6	5.66%	\$ 669	\$ 2,444	\$ 3,113
SPRINGVILLE	29466	5.91%	6	5.66%	\$ 751	\$ 2,444	\$ 3,194
SPANISH FORK	34691	6.95%	10	9.43%	\$ 884	\$ 4,073	\$ 4,957
LEHI	47407	9.50%	9	8.49%	\$ 1,208	\$ 3,666	\$ 4,873
PAYSON	18294	3.67%	5	4.72%	\$ 466	\$ 2,036	\$ 2,503
COUNTY	10009	2.01%			\$ 255		\$ 255
LINDON	10070	2.02%	3	2.83%	\$ 257	\$ 1,222	\$ 1,478
HIGHLAND	15523	3.11%	4	3.77%	\$ 396	\$ 1,629	\$ 2,025
ALPINE	9555	1.91%	3	2.83%	\$ 243	\$ 1,222	\$ 1,465
MAPLETON	7979	1.60%	2	1.89%	\$ 203	\$ 815	\$ 1,018
SALEM	6423	1.29%	4	3.77%	\$ 164	\$ 1,629	\$ 1,793
CEDAR HILLS	9796	1.96%	2	1.89%	\$ 250	\$ 815	\$ 1,064
EAGLE MOUNTAIN	21415	4.29%	5	4.72%	\$ 546	\$ 2,036	\$ 2,582
SARATOGA SPRINGS	17781	3.56%	7	6.60%	\$ 453	\$ 2,851	\$ 3,304
TOTAL	498997	100.00%	106	100.00%	\$ 12,714	\$ 43,172	\$ 55,886

*Population count based on 2010 Census figures as per Mountainland Association of Governments

Appendix D: ILLICIT DISCHARGE DETECTION AND ELIMINATION

- Spills Response Flowchart
- SOPs for Outfall Screening
- Field Inspection Sheet

Appendix E:

- Standard Operating Procedures (SOPs)
 - SOP for tracing the source of an illicit discharge.
 - SOP for characterizing illicit discharge.
 - SOP to cease illicit discharge
 - SOP for escalating enforcement action
 - SOP for Pre-Construction SWPPP review
 - Checklist for review of SWPPP's
 - SOP for construction site inspections
 - SOP for permanent structural BMP Inspections

Appendix F:

- New Development/Redevelopment Program (Post Construction)

Appendix G:

- List of City owned & operated facilities
- Assessment of Facilities