

RESOLUTION NO. 06-21-2016E

A RESOLUTION ADOPTING A STORM WATER MANAGEMENT PROGRAM FOR THE CITY OF CEDAR HILLS, UTAH.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CEDAR HILLS, UTAH, as follows:

**Section 1
Program Adopted**

That certain document entitled Cedar Hills Storm Water Management Program (“Program”) that was adopted on November 9, 2010, by Resolution 11-09-2010A is hereby amended and adopted by reference. Said Program shall be applicable in guiding the management of storm water within the City and is on file at the Office of the City Recorder.

**Section 2
Intent**

1. It is the intent of the City Council, through the adoption of the Program, to develop best management practices to address the six minimum control measures established by the Environmental Protection Agency and administered by the Utah Department of Environmental Quality.
2. This document, as may from time to time be amended, shall constitute the Program for Storm Water Management with the City.

**Section 3
Conflicts**

Wherever the terms of this Program shall conflict with the terms of any other application regulation, the more stringent shall apply, unless relief therefrom shall be granted by the City Council.

**Section 4
Enforcement - Remedies for Violation - Penalty**

1. Injunction, Mandamus, Abatement
The City Council, Zoning Administrator, City Engineer, or any owner of real property within the City upon which a violation occurs or is about to occur may, in addition to other remedies provided by law including filing of misdemeanor charges, institute injunction, mandamus, abatement or any other appropriate action or proceeding to prevent, enjoin, abate or remove any unlawful discharge or act. As such, authority to detect, enforce, inspect, eliminate, and correct violations of non-storm water discharges including illegal dumping, spills, and illicit discharge shall reside with said City Council, Zoning Administrator, City Engineer, or designee.

**Section 5
Severability**

If any section, sentence, clause, or phrase of this resolution is held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause, or phrase of this resolution.

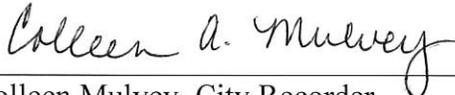
All resolutions or policies in conflict herewith are hereby repealed.

PASSED AND APPROVED THIS 21st DAY OF JUNE, 2016.



Gary Gygi, Mayor

ATTEST:



Colleen Mulvey, City Recorder



Storm Water Management Program Plan

Permittee: City of Cedar Hills

Permit Number: UTR090000

Location of MS4: Lat 40 25' 06" Lon 111 45" 06"

Submitted with this permit is the following:

- A map of the MS4 location
- Information Regarding the overall quality concerns, priorities, and measureable goals specific to the Permittee that were considered in the development and/or revisions to the SWMP document
- A description of the program elements that will be implemented in each of the six minimum control measures
- A description of any modifications to ordinances or long-term/ongoing processes implemented in accordance with the previous MS4 general permit for each of the six minimum control measures
- A description of how the Permittee intends to meet the requirements Permit as described in Part 4.0 (MS4 General Permit) by either referencing existing program areas that already meet the Permit requirements or a description and relevant measurable goals that include, as appropriate, the year by which the Permittee will achieve required actions, including interim milestones.
- If applicable indication of joint submittal of Co-Permittees and the associated responsibility in meeting requirements of the SWMP

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations"

Authorized Signature

Date



CEDAR HILLS

STORM WATER MANAGEMENT PROGRAM

Adopted by the Cedar Hills City Council on August 3, 2004

Updated on November 9, 2010

Updated on July 1, 2016



Engineers, Inc.

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Supplemental guides are available for implementation and documentation of the Storm Water Management Plan.

- Supplemental Guide to Storm Water Management for Contractors
- Supplemental Guide to Storm Water Management for Public Works
- IDDE Program
- Documentation
- City Ordinances
- State/City Permits
- Maps/Map Book
- Storm Water Coalition

**Contact the City of Cedar Hills to obtain these guides.
801-785-9668 or www.cedarhills.org**

PART 1

INTRODUCTION

A. STORM WATER PHASE II OVERVIEW

The Environmental Protection Agency (EPA) published the Storm Water Phase II Rule on December 8, 1999. The Utah Department of Environmental Quality acts as the administrator of the program for the EPA in the State of Utah. To comply with the requirements of the Phase II Rule, municipalities must obtain an “Authorization to Discharge Municipal Storm Water under the Utah Pollutant Discharge Elimination System (UPDES)” from the State of Utah.

The Storm Water Phase II Rule requires municipalities in urbanized areas to develop and implement a Storm Water Management Program (SWMP). The SWMP is the most substantial part of the UPDES Permit.

The SWMP must address six minimum control measures:

1. Public education and outreach on storm water impacts
2. Public involvement/participation
3. Illicit discharge detection and elimination
4. Construction site storm water runoff control
5. Post-construction storm water management in new development and redevelopment
6. Pollution prevention/good housekeeping for municipal operations

Municipalities must develop best management practices (BMPs) to address the requirements of each of these six minimum control measures. They must also establish measurable goals for the BMPs. Municipalities must conduct a review of the effectiveness of the SWMP, and submit a corresponding report to the State annually. The SWMP must be updated every 5 years.

B. OVERVIEW OF STORM WATER MANAGEMENT PROGRAM

The Cedar Hills Storm Water Management Program (SWMP) consists of the following:

Part 1 Introduction

Part 2 BMPs Performed by Cedar Hills City

This contains the BMPs that will be performed by Cedar Hills Staff to address the requirements of the minimum control measures of the Phase II Rule

Part 3 Storm Water Technical Manual

This contains technical requirements for land development and construction activities.

Part 4 Construction and Post Construction Best Management Practices

This contains the BMP fact sheets that would be used during and after land development and construction activities.

APPENDIX A: SUPPLEMENTAL GUIDE TO STORM WATER MANAGEMENT FOR CONTRACTORS

APPENDIX B: SUPPLEMENTAL GUIDE TO STORM WATER MANAGEMENT FOR PUBLIC WORKS

APPENDIX C: IDDE PROGRAM

APPENDIX D: DOCUMENTATION

APPENDIX E: CITY ORDINANCES

APPENDIX F: STATE/CITY PERMITS

APPENDIX G: MAPS/MAP BOOK

APPENDIX H: STORM WATER COALITION

C. DESCRIPTION OF CEDAR HILLS CITY

Cedar Hills is built upon an alluvial fan or bench, created thousands of years ago when it was a shoreline of Lake Bonneville. Early settlers referred to the area as “the Bench.” Because of the growth of cedar trees, the area was later referred to as Cedar Hills. Cedar Hills was established as a community in 1977 and the current population is about 10,261 residents.

Cedar Hills is bordered by the Wasatch Mountains on the east, by Highland City on the north and west, and on the south by Pleasant Grove. It is approximately 2.7 square miles in size with the Murdock Canal and the Salt Lake Aqueduct traversing across the city.

Land in Cedar Hills is almost all residential with few large tracts of developable land remaining. There are two (2) elementary schools, seven (7) church buildings an 18-hole golf course and a small partially occupied tract of land set aside for commercial development. Use of the land for agricultural purposes is almost nonexistent. Residential lot sizes in Cedar Hills have a large span of sizes, with average lot sizes being around 10,000 square feet.

Cedar Hills operates their own culinary, sewer, and pressurized irrigation systems throughout the City. Nearly all development in Cedar Hills is connected to the sanitary sewer system, which discharges to the Timpanogos Special Service District located in American Fork.

Cedar Hills’ storm drainage system consists of curbed streets, piped and open conveyance, sumps and open retention basins. The storm water drains through percolation and evaporation.

The land in Cedar Hills slopes steeply at the foothills on the east side, and gradually flattens to slopes less than 5% on the western portion of the city. While there are no long term precipitation measuring stations in Cedar Hills, Cedar Hills likely averages around 20 inches of precipitation annually at the foot of the Wasatch Mountains.

Soils in Cedar Hills vary considerably. The westerly soils are mostly sands, silts, and gravels. Soils on the east side of the city include clays and gravel. Soils at the foot of the Wasatch Mountains consist of alluvial deposits.

D. AREAS OF STORM WATER QUALITY CONCERN IN CEDAR HILLS

In the process of developing the Cedar Hills Storm Water Management Program (SWMP), the Steering Group identified the following as the primary areas of storm water quality concern:

- A. Sediment entering the storm drainage system from construction sites.
- B. There are some areas where discharges to Manila Ditch are unregulated, both in terms of quality and quantity.
- C. Materials on existing street surfaces are washed into the storm drainage system (soil, debris, road salt).
- D. There are 4 culinary water wells in town, two of which are at greater risk of surface water contamination. There are two Cedar Hills wells, one near 9980 North 4500 West, one near 10405 N Cottonwood Drive, and two Manila Water Company wells in the area of 4150 West Cedar Hills Drive. The Cedar Hills wells are deeper and protected from surface water by several impervious layers. The Manila Water Company wells are shallower, and may be more susceptible to surface water contamination.

The following was added in 2010:

- E. 1) The City operates and maintains a municipal storm drainage system that consists of collectors, piped and open conveyance, detention basins and sumps (class v injection wells). With these assets, the City has some unique challenges as it addresses its storm drainage system. Most of the city is located on highly permeable sands and gravels that comprise “the bench.”
- 2) The City has taken advantage of the highly permeable soils for management of storm drainage and relies heavily upon sumps for storm drainage disposal.
- 3) There are currently more than 50 sumps within the City, most of which are located on public property. Runoff is directed into these sumps, which discharge directly to the underlying soils. Even though the use of sumps is an acceptable method of runoff disposal, untreated storm drainage runoff can potentially reach the underlying groundwater aquifer, which supplies the culinary water to a number of the communities in Northern Utah County.
- F. The City has determined that at this time no storm water discharge is contributing to a 303(d) listed waterbody.

E. RESPONSIBLE PARTIES

Organization: The program will outline an organizational structure that delineates the lines of authority and responsibilities of individuals responsible for the Plan. It will also define how the City will fund the operations associated with this plan.

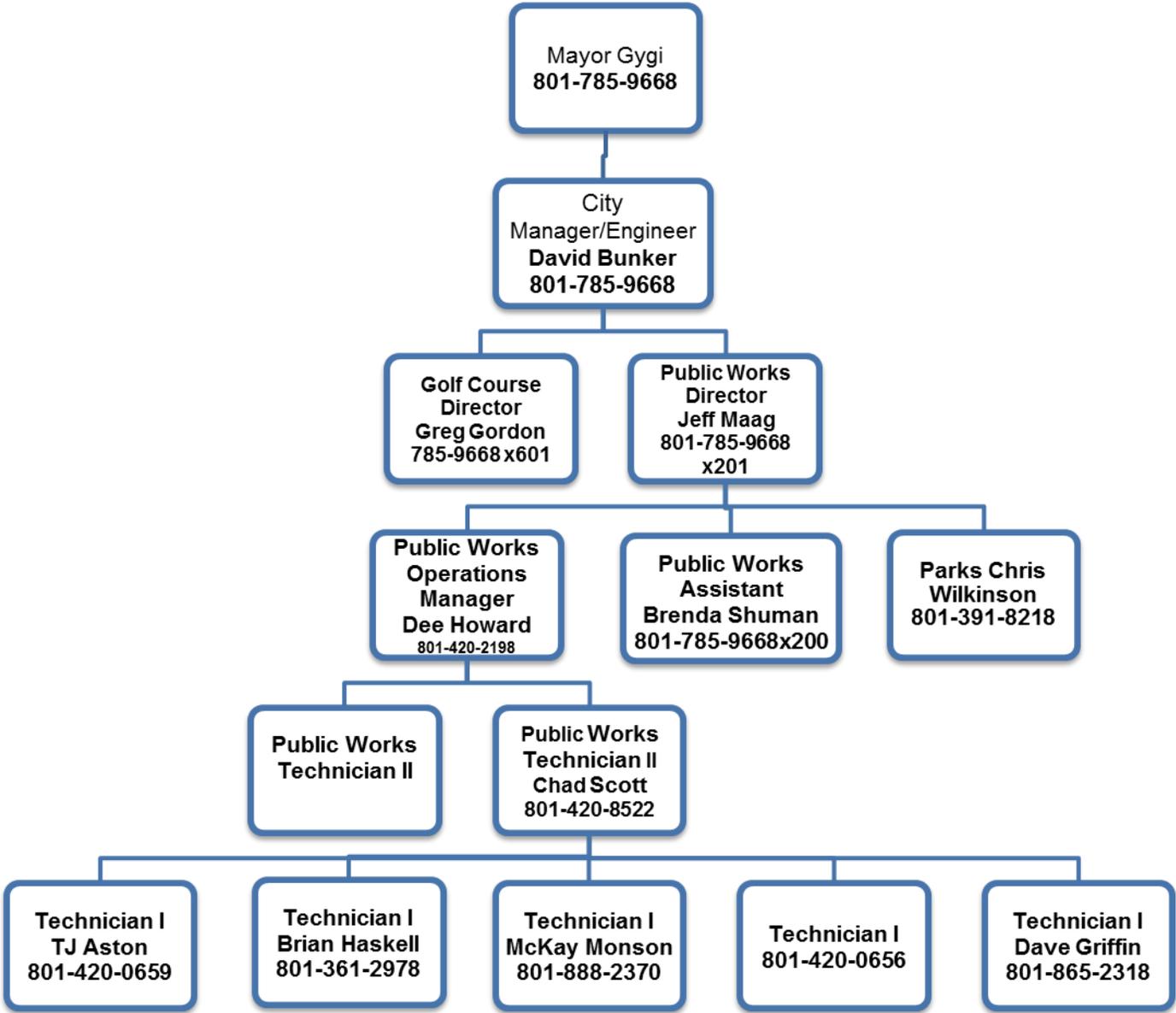
NOTICE of UNDERSTANDING

Let it be known that the City of Cedar Hills understands and agrees that storm water issues are real and require attention on an administrative level. However, the City of Cedar Hills insists that this attention should be provided with fore thought and planning at each specific area of jurisdiction. Furthermore, the City of Cedar Hills cannot acknowledge that the generic requirements issued by the State of Utah Department of Environmental Quality Division of Water Quality, MS4 General UPDES Permit correctly address the specific nature of this community. By mandating excessive requirements and not funding the implementation of those requirements places a tremendous and unfair financial burden on the citizens of the City of Cedar Hills.

The State of Utah should provide funding to conduct mandated programs.

While the City of Cedar Hills is not in agreement with the Division of Water Qualities methods; the City of Cedar Hills will continue to make a good faith effort to meet the requirements set forth in the MS4 UPDES Permit.

City of Cedar Hills
Public Works Department Organization



Duties and Responsibilities

- Mayor: The role of the Mayor is to listen, understand, and represent the interests of the City through legislation and policy via City Council
- City Manager: Liaison with City Council and Public Works
- Engineer/Public Works Director: Liaison with the administration and Public Works; General coordination and administrator of the Storm Water Management Plan (SWMP); Storm drain mapping; Plan review
- Assistant Public Works Director/Operations Manager: Oversee SWMP program specifics and works with department heads; Responsible for shared facilities and general work areas including; equipment wash area, salt/materials storage areas, storm drain system maintenance, general BMP maintenance; Coordinate with Public Works Director; Reporting; Tracking/Documentation of activities and actions; Site inspections/compliance
- Technician 3: Water department maintenance work area; Training water department personnel, chemical storage in work area; Water department equipment operation/maintenance; Site inspections/compliance
- Parks Department: Contractor responsible to coordinate with Public Works staff and parks personnel, Pesticide, herbicide, and fertilizer, (PHF) program; Mowing program
- Golf Course Director: Coordinate with golf course grounds staff and Public Works; Pesticide, herbicide, and fertilizer (PHF) program; Chemical and fertilizer storage in work area; Course equipment operation/maintenance; Mowing program
- Technician 2: Oversee duty assignments and supervision of water, sewer, and pressurized irrigation projects; Water department maintenance work area; Training water department personnel, Chemical storage in work area; Water department equipment operation/maintenance. Oversee duty assignments and supervision of parks/trails, streets, and storm water management; Streets department equipment operation/maintenance; Training department personnel; Chemical storage in work area; Snow plowing/Street Sweeping program; Salt /Materials stockpile areas
- Technician 1: Perform various duties with a specific focus on fleet/vehicle maintenance, street and sidewalk projects, and gathering speed/traffic data. Perform various duties with a specific focus on signage, parks/trails, and weed abatement. Perform various duties with a specific focus on meter maintenance, lateral inspections, pumps/prv maintenance, and facility/building inspections. Perform various duties with a specific focus on Blue Stakes, capital projects, events, and storm water maintenance/management.

PART 2

BMPs PERFORMED BY CEDAR HILLS CITY

A. INTRODUCTION

PART 2, BMPs PERFORMED BY CEDAR HILLS CITY contains those BMPs that will be performed by Cedar Hills City employees to address the six minimum control measures of the Phase II Rule.

All of the best management practices contained in PART 2, BMPs PERFORMED BY CEDAR HILLS CITY apply to activities of Cedar Hills City as opposed to the activities of those in the private sector.

Some of the best management practices in the Public Education and Outreach Practices will include participation with the Utah County Storm Water Coalition. See APPENDIX H, UTAH COUNTY STORM WATER COALITION.

B. BEST MANAGEMENT PRACTICES

The charts on the following pages contain the BMPs that will be performed by Cedar Hills City employees. The charts also include justification for each BMP, measurable goals for each BMP, the planned schedule of meeting the goals, and resource requirements associated with each BMP. Note that for best management practices that are already established practices in Cedar Hills, the measurable goal consists of continuing the practice, and the implementation schedule simply indicates that the BMP is “ongoing”.

MCM #1

Public Education and Outreach on Storm Water Impacts

This Minimum Control Measure will provide education materials to residents, businesses, institutions, commercial facilities, MS4-owned or operated facilities, and developers/contractors within The City of Cedar Hills's boundaries. The objective for MCM #1 is to promote behavior change methods for avoiding, minimizing, reducing and/or eliminating adverse impacts to storm water discharges; and the actions individuals can take to improve water quality, including encouraging participation in local environmental stewardship activities, based on the land uses and target audiences found within the community.

Various methods may be used over the course of the SWMP.

Examples of these methods:

- Materials will be distributed with City's billing, newsletter, and multimedia. **General public:** Maintenance of septic systems; effects of outdoors activities such as lawn care (use of pesticides, herbicides, fertilizers); benefits of on-site infiltration of storm water; effects of automotive work and car washing on water quality; proper disposal of swimming pool water; and proper management of pet waste. **Institutions and commercial facilities:** Proper lawn maintenance (use of pesticides, herbicides, fertilizer); benefits of appropriate on-site infiltration of storm water; building and equipment maintenance (proper management of wastewater); use of salt or other deicing materials (cover/prevent runoff to storm system and contamination to groundwater); proper storage to materials (emphasis pollution prevention); proper management of waste materials and dumpsters (cover and pollution prevention); and proper management of parking lot surfaces (sweeping).
- Information will be provided on the City's web site and multimedia (This information must cover the subjects as per Section 4.2.1 MS4 General Permit)
- We will participate with the Utah County Storm Water Coalition. The coalition provides information at the County Fair, training seminars, student education programs and others.

To measure the success of this MCM:

- Tracking will be completed for the number and type of information distributed.
- Survey study provided by Utah County Storm Water Coalition and information acquired by the residents.

Best Management Practice:

MINIMUM CONTROL MEASURE #1 PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

Part 2 - 2

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements
A. Distribute educational materials in utility billing, multimedia, and post on City website. Include specific information for the different target groups.	Educational materials promote public awareness of storm water issues. Such as: Illicit Discharges and improper disposal of waste	Include materials in mailing and multimedia two times per year. Attitude & Awareness Study	Ongoing	Employee time and mailing, equipment costs
B. Distribute water conservation information, with utility billings and multimedia during summer months.	Reducing excess runoff from landscaped areas may reduce the carry of lawn chemicals, nutrients (nitrogen, phosphorus) sediments to the storm drainage system	Include materials in mailing two times per year	Ongoing	Included in existing newsletter costs and employee time
C. Enact graduated culinary water rates to encourage conservation	Reducing excess runoff from landscaped areas may reduce the carry of lawn chemicals nutrients and sediments to the storm drainage system	Adopt ordinance containing graduated culinary water rates	Ongoing	Complete
D. Participate with the Utah County Storm water Coalition.	The Utah County Storm Water Management Program contains BMPs in behalf of the City	Document the information and results from coalition activities.	Ongoing	\$1064 annual fee and employee time

E. UCSWC survey study	Data will indicate public awareness of impacts to storm water discharges	Distribute survey study once per year	Ongoing	Employee time and equipment costs
F. Provide and document information given to engineers, contractors, developers, review staff and land use planners	Concerning the development of SWPPPs and BMPs for reducing adverse impacts to storm water runoff from development sites	Assess SWPPPs and BMP's in pre-con meetings	Ongoing	Employee time and resources
G. Provide and document information given to employees	Prohibition against and the water quality impacts associated with illicit discharge and improper disposal of waste	Review SOP's annually	Ongoing	Employee time and resources
H. Provide and document information given to MS4 engineers, development and plan review staff, land use planners	Learn about LID, green infrastructure practices, post-construction control and the associated BMPs chosen within the SWMP through education and training	Education and training	Ongoing	Employee time and educational fees

MCM #2

Public Involvement / Participation

This Minimum Control Measure will provide opportunities for the public to participate in and have input to the SWMP. The objective for MCM #2 is to have multiple perspectives and create personal ownership through involvement.

- The City uses an elected City Council governing body. This Council has direct input to the SWMP. They receive and relay suggestions or concerns from citizens and act as the Advisory Committee.
- The City sponsors community cleanup and maintenance opportunities.
- City participation with the Utah County Storm Water Coalition brings multiple jurisdictional communications and provides new or updated information.

To measure the success of this MCM:

- Document the suggestions / concerns from City Council.
- Keep records of date and locations of Annual Clean-Up Projects.

Best Management Practice:

MINIMUM CONTROL MEASURE #2: PUBLIC PARTICIPATION/INVOLVEMENT

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements
A. Assist Advisory Committee to implement the SWMP	This provides an opportunity for public involvement and input on the SWMP	Annual Review	Ongoing	Employee time and equipment costs
B. Review SWMP in a public meeting at the time of adoption	This facilitates public involvement in the SWMP	Adopt SWMP in a properly advertised public meeting	July 2016	Employee time and equipment costs
C. Sponsor storm drain inlet decal marking	Marking the inlets will increase public awareness of storm water contamination potential	Document who sets the decals and the number of decals set	Ongoing	Cost of decals
D. Sponsor community clean-up and other service opportunities	During clean-up projects, volunteers collect and dispose of debris that might otherwise enter the storm water system	Sponsor at least one time per year. Document date and locations	Annually	Included in General Fund budget
E. Participate with the Utah County Storm water Coalition.	The Utah County Storm Water Management Program developed by the Utah County Storm Water Coalition contains BMPs in behalf of the City	Document the information and results from coalition activities.	Ongoing	Included in MCM #1, BMP D

MCM #3

Illicit Discharge Detection and Elimination (IDDE)

This Minimum Control Measure will provide information and training to systematically find and eliminate sources of non-storm water discharges from the MS4 and to implement defined procedures to prevent illicit connections and discharges to the storm water system. The objective for MCM #3 is to eradicate illicit discharges to the storm water system through ordinance, education and enforcement.

Methods used include:

- The City, by ordinance, prohibits dumping of specified materials in the storm water system (7-3A-3) Continued mapping of the storm water system for management purposes
- Complete regular inspections
- Provide educational materials to employees, residents, and businesses. (MCM #1)
- Train all staff including landscape contractor

To measure the success of this MCM:

- Complete documentation of inspections and illicit discharge notices.
- Review documentation and evaluate changes.
- Maintain a current storm sewer map

Best Management Practice:

MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements
A. Map the Storm Drainage System and tracking the number and type of spills or illicit discharges identified	Mapping a system(GIS) is essential to effectively managing it	Review annually	Ongoing	Employee time and material/equipment costs
B. Develop an ordinance regulating storm drainage (Ord. Title 7 Ch.3 Article A)	An ordinance gives legislative authority to require that the quantity and quality of storm water discharge be regulated	Review annually	Ongoing	Employee time and material/equipment costs
C. Inspect high priority outfalls during dry weather periods to identify non-storm water discharges	Inspections of outfalls when there should be no discharge may help identify illicit discharges	Document inspection of outfalls once during the 5-year permit term	Ongoing	Employee time and material/ equipment costs
D. Inspect the storm drainage system	Inspections of the system may help identify materials that should not be present in the system, after which their source may be identified	Document annual inspection of storm drainage system	Ongoing	Employee time and equipment costs
E. Provide sanitary sewer to areas having septic systems and connect them to the sanitary sewer	Eliminating septic systems may result in reducing pollution resulting from failure of the septic systems.	Construct sewer improvements per capital improvement plan	Ongoing	As per budgeted projects in capital improvement plan

F. Provide educational material explaining the harmful effects of illicit discharges	Awareness of the serious impacts of illicit discharges may reduce illicit discharges	Doc. violations note changes, review annually	2014 Ongoing	Included with MCM #1 BMP A
G. Promote and provide services for the collection of household hazardous waste with the assistance of the Utah County Storm Water Coalition	Eliminate improper disposal of hazardous household waste	Provide services annually	Ongoing	Employee time and UCSWC fees
H. Training of all staff including all contracted staff (LPFD, landscape Co.)	IDDE program including identification, investigation, termination, cleanup, and reporting of illicit discharges including spills, improper disposal, and illicit connections.	Annually	Ongoing	Employee time

MCM #4

Construction Site Storm Water Runoff Control

This Minimum Control Measure will reduce Storm Water pollution by managing construction site run-off prevention methods. The objective for MCM #4 is to control potential construction site pollution in a manner that will restrict it from entering the storm water system.

Methods used include:

- Create City storm water regulations providing requirements for construction and methods of enforcement.
- Provide developers and contractors with required and suggested BMPs.
- Complete regular construction site inspections and post construction inspections.
- Review construction SWPPP during pre-construction meeting.

To measure the success of this MCM:

- Document the number of compliance inspections and violation notices issued each year.

Best Management Practice:

MINIMUM CONTROL MEASURE #4: CONSTRUCTION SITE RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements
A. Develop an ordinance regulating construction site storm drainage	An ordinance gives legislative authority to require that storm water discharge be regulated with the use of erosion and sediment control practices at construction sites	Update ordinance regulating construction site storm drainage	2018	Employee time and materials
B. Develop drainage design guidelines	These will contain the technical part of the storm water regulations	Publish drainage design guideline document	March 2004 – September 2004	40 hours of city employee time
C. Develop a set of standard BMPs	Standardized BMPs for use during and after construction will facilitate implementation	Add BMPs to construction standards document	Ongoing	Complete
D. Require that land developers provide a SWPPP to adequately address storm water quality in their development plans and maintain coverage under the current UPDES Storm Water General Permits for Construction Activities for the duration of the project	Planning adequate measures to mitigate storm water pollution during the land development should reduce pollution	Add Construction Site Storm Water Pollution Prevention Plan to submittal requirements and verify UPDES permit coverage has been established	Ongoing	Employee time and materials
E. Review Construction Site Storm Water Management Plan with contractors during preconstruction meeting	This encourages contractors to implement and maintain the required BMPs	Record and file minutes of preconstruction meetings	In place Ongoing	Included in current practice
F. Inspect construction sites to verify that storm water pollution prevention	Inspection is often necessary to achieve successful storm water pollution prevention	Conduct annual training meeting with inspectors	Ongoing	Employee time and material/equipment costs

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements
measures are adequate				
G. Conduct inspection of developments to verify streets and storm drainage facilities are clean before final acceptance	This encourages developers to maintain good pollution prevention measures and requires them to clean up any problems that have occurred	Adopt ordinance allowing the City to hold bond money until streets and storm drainage facilities are clean	Ongoing	Employee time and material/ equipment costs

MCM #5

Post Construction Runoff Control

This Minimum Control Measure will reduce storm water pollution through management and enforcement of post construction BMP commitments.

The objective for MCM #5 is to maintain BMP control of potential post-construction runoff pollution that could enter the storm water system.

Methods used include:

- Continue inspections and enforcement of the required and/or approved BMPs.
- Maintain ordinance regulating post construction run-off control.
- Provide and document information given to engineers, construction contractors, developers, development review staff, and land use planners concerning the development of storm water pollution prevention plans (SWPPPs) and BMPs for reducing adverse runoff from development sites.

To measure the success of this MCM:

- Annually review the number of inspection reports and citations issued.
- Annually review the maintenance records of privately owned storm water systems
- Inspect privately owned storm water systems once every five years

Best Management Practice:

MINIMUM CONTROL MEASURE #5: POST CONSTRUCTION RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements
A. Develop and maintain an ordinance regulating post construction site storm drainage	An ordinance gives legislative authority to require that storm water discharge be regulated and inspected by Permittee	Adopt ordinance regulating post construction site storm drainage	2020	Included in MCM #3, BMP B
B. Develop a set of standard BMPs	Standardized BMPs for use during and after construction will facilitate their implementation	Add BMPs to construction standards document	Ongoing	Employee time and material/equipment costs
C. Require that land developers/site owners create commercial/PUD operation and maintenance plans adequately addressing storm water runoff concerns	Requiring that site owners adequately address storm water quality should reduce pollution	Add commercial/PUD operation and maintenance plans to development submittal requirements	Ongoing	Included in MCM #4, BMP B
D. Inspect installation of post construction BMPs	Inspection is often necessary to achieve successful storm water pollution prevention	Conduct annual training meeting with inspectors	Ongoing	Employee time 1. Paid by property owner 2. Included in MCM #4, BMP F
E. Conduct inspection of post construction sites once every five years	Inspection of post construction BMPs are necessary to ensure that adequate maintenance is being performed to achieve continued storm water pollution prevention	1. During durability period, contract inspections with inspection firm 2. After durability period, document	Ongoing	Employee time and material/equipment costs

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements
		inspections		
F. Adopt narrower street cross section and encourage other LID techniques	A narrower street cross section should reduce runoff	Add narrower street cross section to construction standards	Ongoing	Complete
G. Develop a plan to retrofit sites that are adversely impacting water quality	New materials and/or methods may help reduce storm water pollution	retrofit plan evaluation completed	Ongoing	Employee time and material/equipment costs

MCM #6

Pollution Prevention/Good Housekeeping

This Minimum Control Measure will reduce storm water pollution through employee training and SOP use. The objective of MCM #6 is to prevent storm water pollution at municipal operations.

Methods used include:

- Identify “High Priority” facilities.
- Provide ongoing development of SOPs.
- The continued education and training of employees.
- Complete documentation and evaluation of the regular inspections.
- Have a regularly scheduled street sweeping program.

To measure the success of this MCM:

- Review and evaluate inspection reports for changes in the number of deficiencies.

Best Management Practice:

MINIMUM CONTROL MEASURE #6: POLLUTION PREVENTION/GOOD HOUSEKEEPING

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements
A. Sweep streets and parking lots	Cleaning materials from street and parking lot surfaces keeps it out of the storm drainage system	Sweep all streets and parking lots semi-annually	Ongoing	\$10,000, funded by storm drain utility fee
B. Inspect City owned facilities as required.(see 4.2.6.5.1)	Inspections of the facilities may help identify materials that should not be present	Review reports for number of deficiencies and evaluate.	Weekly, Quarterly, Annually	Employee time and material/equipment costs
C. Review storm drainage related procedures (SOPs) with Public Works Staff	Training should result in better storm water pollution prevention by public employees	Discuss procedures in annual training meeting	Ongoing	Employee time and material/ equipment costs
D. Appropriately dispose of municipal vehicle waste	Contracting with a company specializing in waste disposal should keep vehicle waste out of the storm drainage system	Maintain outsourced disposal for vehicle waste	October 2004; annually	Employee time and material/equipment cost hours of city employee time/year
E. Submit annual report to the Utah Department of Environmental Quality	Annual report is requirement of permit	Submit report by Oct. 1st	October 2004; annually	Employee time and material/equipment cost hours of city employee time/year

A. CONCLUSION

Cedar Hills City will measure progress towards each of the goals outlined in MCM #1 - 6. The BMPs contained in this chapter, in conjunction with the Construction Site and Post Construction Site BMPs found in Part 4 and the BMPs performed by the Utah County Storm Water Coalition satisfy all of the six minimum control measures established by the Storm Water Phase II Rule.

APPENDIX D, FORMS FOR REPORTING PROGRESS, contains forms for recording and reporting progress toward measurable goals. These forms can be used to compile the annual report to the State.

B. GRAPHICAL SUMMARY OF BMP IMPLEMENTATION SCHEDULE

The following pages contain a graphical summary of the implementation schedules of all of the city-performed best management practices. It illustrates the order of implementation of all of the BMPs, and shows when each must be implemented.

PART 3

STORM WATER TECHNICAL MANUAL

A. INTRODUCTION

The Storm Water Technical Manual contains requirements for land development and construction activities, as well as design criteria and guidelines for those performing such activities. It includes best management practices applicable to development and construction activities. It also includes the plan submittal requirements. However, it is recognized that not all technology or methods have been addressed in the Storm Water Technical Manual. It is possible to use alternative methods but they must be approved by the City Engineer. It is encouraged that methods employing Low Impact Development (LID) be considered. The City Engineer has authority to modify the requirements of the Storm Water Technical Manual as needed to accomplish reasonable and effective storm water pollution prevention objectives.

B. REQUIREMENTS FOR PROPOSED DEVELOPMENTS

1. Incorporate best management practices (BMPs) into development design to limit quantity of runoff and preserve quality of runoff

Storm water best management practices (BMPs) must be considered throughout the development process. PART 4, CONSTRUCTION AND POST CONSTRUCTION BEST MANAGEMENT PRACTICES of the Cedar Hills Storm Water Management Program contains fact sheets for BMPs whose use Cedar Hills City encourages. Section F.8, Storm Water Quality Criteria of this Storm Water Technical Manual identifies BMPs that are required on all Construction Site Storm Water Management Plans.

2. Prepare Construction Site Storm Water Management Plan

A Construction Site Storm Water Management Plan must be prepared and submitted with the development plans for approval. This requirement applies to all developments (except construction of a single family house, with associated on-site improvements). See section G of this chapter, CONSTRUCTION SITE STORM WATER MANAGEMENT PLAN CONTENTS for the required contents of the plan.

3. Provide financial guarantee that improvements contained in the Construction Site Storm Water Management Plan will be installed and maintained

Financial guarantee must be posted with Cedar Hills City prior to beginning construction. In the case of a subdivision of land, this will be included in the bond that is required for the cost of the subdivision improvements. In the case of site improvements, rather than a financial guarantee, non-monetary methods of enforcement already in place in Cedar Hills City (business licenses, utility services, building and occupancy permits) are available to encourage compliance with the improvements contained in the approved Construction Site Storm Water Management Plan.

At the time of development, the developer shall provide an estimate of the cost of the required improvements. The City will review the estimate and establish the dollar amount of the financial guarantee.

4. Prepare Post Construction Storm Water Management Plan

A Post Construction Storm Water Management Plan must be prepared and submitted with the development plans for approval. This requirement applies to all developments in which private improvements are constructed (other than construction of a single family house, with associated on-site improvements). See section H of this chapter, POST CONSTRUCTION STORM WATER MANAGEMENT PLAN CONTENTS for the required contents of the plan.

5. Obtain UPDES Permit (all sites having land disturbance area equal to or greater than 1 acre)

Developments having a disturbed area of 1 acre or more require a UPDES Storm Water General Permit for Construction activities from the Division of Water Quality of the Department of Environmental Quality of the State of Utah.

Obtaining the permit requires preparation of a Storm Water Pollution Prevention Plan (we would expect that the Construction Site Storm Water Management Plan previously described would suffice) and a Notice of Intent. The permit form is available on the Internet in PDF format at <https://secure.utah.gov/stormwater/main.html>. The developer must submit a copy of the Notice of Intent and proof of fee payment to the City before the site plan will be considered finalized.

Note that when a development of over 1 acre in size is phased, the permit is required for each phase, even if each phase is less than 1 acre in size.

C. REQUIREMENTS FOR CONSTRUCTION ACTIVITIES (OTHER THAN THOSE ASSOCIATED WITH INDIVIDUAL RESIDENTIAL STRUCTURES)

1. Provide instruction to construction site operators regarding the Construction Site Storm Water Management Plan

Prior to beginning work, developers and contractors must provide appropriate instruction to on-site construction supervisors and operators, regarding the requirements of the Construction Site Storm Water Management Plan. A copy of the approved plan must be present at the construction site.

2. Following Construction Site Storm Water Management Plan

The improvements shown in the approved Construction Site Storm Water Management Plan must be constructed as indicated in the plan. The appropriate activities outlined in the Construction Site Storm Water Management Plan must be performed prior to any other construction activities on the site. Cedar Hills City encourages modifications to the plan when needed to improve storm water management in light of site conditions. However, variations from the plan that reduce or eliminate elements of the plan must only be done with the approval of the Cedar Hills City Public Works Representative or City Engineer.

3. Monitor effectiveness of the elements included in the Construction Site Storm Water Management Plan, and make improvements as necessary to achieve the plan objectives.

After initial implementation of the improvements outlined in the approved Construction Site Storm Water Management Plan, rainfall activity will provide opportunity to observe the effectiveness of the storm water management improvements. Those responsible for construction activities must monitor the in-place storm water management improvements to assess their effectiveness; they must then make adjustments to the improvements as needed to accomplish effective storm water management.

4. Provide verification that improvements were constructed as approved

Following implementation of the improvements contained in the Construction Site Storm Water Management Plan, the preparer of the plan shall provide Cedar Hills City with a statement as to the condition of the improvements contained in the plan. The statement shall be made on a copy of the Construction Site Storm Water Management Plan document, and shall be signed.

If the improvements were constructed as approved, it shall include language verifying such. If the improvements were not constructed as approved, it shall state the differences, the reason for the differences, and provide an opinion as to the adequacy of the constructed improvements. This statement must be provided to Cedar Hills City at the time record drawings are submitted (in the case of public improvements) or prior to issuance of an occupancy permit (in the case of private site improvements)

D. REQUIREMENTS FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH INDIVIDUAL RESIDENTIAL STRUCTURES

1. Construction Site Storm Water Management Plan

While the Public Works Representative or City Engineer may require that a Construction Site Storm Water Management Plan be created on individual residential lots in special circumstances, generally no lot-specific plan is required.

2. Sediment Control on Small Construction Sites

The BMP fact sheet for Sediment Control on Small Construction Sites (SCSCS) is to be included as a part of the building permit. This BMP applies to construction and landscaping activities associated with individual residential structures, and shall be followed.

3. Owner or operator shall make adjustments to practices as needed to prevent storm water pollution

Sediment that is left in the street or on adjacent lots is evidence of inadequate sediment control. Where storm water pollution prevention measures are inadequate, or are not being properly followed, the Public Works Representative or City Engineer may refuse to perform inspections or shut down work on the project.

E. REQUIREMENTS FOR EXISTING DEVELOPMENTS

1. Following approved Post Construction Storm Water Management Plan

The owners of existing developments are responsible to maintain improvements and observe practices that were part of an approved Post Construction Storm Water Management Plan. Failure to adhere to the plan may result in failure of the City to renew business licenses, fines or other action as prescribed by Cedar Hills City Code.

2. Operator or owner makes adjustments to practices or improvements when necessary to achieve Post Construction Storm Water Management Plan objectives

Cedar Hills City encourages adjustments to the plan that enhance effective storm water management. However, significant reduction of practices contained in the plan is to be accomplished through formal modification of the plan and resubmission to the City Engineer for approval.

F. STORM WATER PERFORMANCE CRITERIA AND DESIGN GUIDELINES

The following storm drainage criteria and design guidelines apply to all storm drainage plans in Cedar Hills and shall be used in storm drainage calculations. The City Engineer has authority to modify the criteria and guidelines as needed to meet changing or unusual needs or conditions.

1. Contents of drainage system plan

- A. The drainage plan shall include an analysis of potential drainage problems, along with a proposal indicating how the surface water will be disposed of. Detention basins may be required to alleviate the impact on existing drainage facilities. Said plan shall also include the projected quantity of waters anticipated for a ten-year storm (piping), 100-year storm (detention facilities), and 100-year storm (retention facilities). All drainage facilities shall be installed in conformance with approved City drainage plans.
- B. The development shall include all necessary storm drainage appurtenances including collection boxes/basins, culverts, drain pipes, detention/retention basins, erosion control, energy dissipation structures, and drainage channels. In order to insure the safety of the occupants of a subdivision, the City may require the developer to cover or fence culverts, basins, and canals, at the discretion of the City Planning Commission and Council.

2. Design storm frequency

- A. Drainage facilities other than detention and retention facilities shall be adequate for a design ten-year storm
- B. Flood control facilities shall be designed for a 50-year storm
- C. Drainage basins (detention or retention) shall be designed for a 100-year storm (of all durations)

3. Drainage basin design

- A. Drainage basins shall be designed to have a minimum of one foot of freeboard, 3:1 slope (max.), and grass covering with a sprinkling system unless otherwise approved.
- B. Detention basins shall be designed with a maximum discharge rate of 0.2 cfs/acre, or as otherwise dictated by the City Engineer.
- C. All drainage basins shall include a spillway adequate to assure that minimum damage occurs as a result of basin overflow.
- D. All drainage basin calculations shall be compiled in the form of a report, and shall be stamped by a professional engineer, licensed in the State of Utah.

4. Drainage system design

- A. Maximum design capacity is 3.0 cfs for a standard bicycle safe 18” x 36” inlet grate.
- B. All surface drainage piping shall have a minimum diameter of 15-inches.
- C. All subsurface drainage piping shall have a minimum diameter of 8-inches.
- D. Manholes shall be installed at spacing no greater than 400 feet and at angle points in drainage and subsurface drainage piping.
- E. Minimum pipe slopes shall be the same as required by the Utah State Division of Health for sanitary sewers.
- F. Piping, testing, etc., shall comply with specific requirements as defined in the section of the specifications covering storm drainage requirements unless otherwise approved by the City Engineer.

5. Pretreatment facilities

- A. In areas where the highest water level in the ground is no closer than eight (8) feet to the ground surface and percolation rates are high, pre-treatment sumps may be used to dispose of surface waters.
- B. All pre-treatment manhole and storm water sumps shall be constructed to comply with applicable City Standards, and as indicated within standard drawing no. 506.
- C. All design data including percolation tests, etc., must be submitted with the drainage plan.
- D. For single lots or small areas, the above may be waived so that sumps can be installed or drainage directed on to private property with a drainage easement.

6. Storm water encroachment onto streets

Allowable use of streets for the initial storm water runoff in terms of pavement encroachment is as follows:

<u>Street Classification</u>	<u>Maximum Encroachment</u>
Rural	No curb over-topping. Flow may spread to crown of street.
Local	No curb over-topping. Flow may spread to crown of street.
Minor Collector	No curb over-topping. Flow spread must leave at least one lane in each direction free of water.
Major Collector	No curb over-topping. Flow spread must leave at least one lane in each direction free of water.

7. Intensity-Duration-Frequency (IDF) Curve

The Intensity Duration Frequency (IDF) curve shown below shall be used for storm drainage calculations in Cedar Hills City.

Design Rainfall Depths (Inches) for the Given Duration

Duration	10 Year	25 Year	50 Year	100 Year
5 min	0.20	0.23	0.26	0.29
10 min	0.31	0.36	0.41	0.45
15 min	0.39	0.46	0.52	0.58
30 min	0.55	0.63	0.72	0.80
60 min	0.69	0.80	0.91	1.01
2 hours	0.84	0.98	1.11	1.24
3 hours	0.98	1.16	1.31	1.46
6 hours	1.33	1.59	1.80	2.00
12 hours	1.64	1.98	2.24	2.49
24 hours	1.97	2.38	2.69	2.99

Design Rainfall Intensities (inches per hour) for the Given Duration

Duration	10 Year	25 Year	50 Year	100 Year
5 min	2.40	2.76	3.12	3.48
10 min	1.86	2.16	2.46	2.70
15 min	1.56	1.84	2.08	2.32
30 min	1.10	1.26	1.44	1.60
60 min	0.69	0.80	0.91	1.01
2 hours	0.42	0.49	0.56	0.62
3 hours	0.33	0.39	0.44	0.49
6 hours	0.22	0.27	0.30	0.33
12 hours	0.14	0.17	0.19	0.21
24 hours	0.08	0.10	0.11	0.12

8. Storm water quality criteria

A. Storm Water Treatment

Prior to discharging storm water; collected water must be treated in an attempt to prevent illicit discharges of sediment, oils, floatables and other pollutants.

B. Use of Best Management Practices

Cedar Hills City encourages the use of the BMP fact sheets included in PART 4, CONSTRUCTION AND POST CONSTRUCTION BEST MANAGEMENT PRACTICES. **The following BMPs are required to be a part of all Construction Site Storm Water Management Plans:**

* BMP Inspection & Maintenance	BMPIM
* Concrete Waste Management	CWM
* Dust Controls	DC
* Grading Practices	GP
* Portable Toilets	PT

There is no list of BMPs that is required on all Post Construction Storm Water Management Plans.

In addition to the required BMPs listed above, other BMPs from PART 4 that apply to a given development should be used. Cedar Hills City also encourages the use of practices in addition to those contained in the Cedar Hills Storm Water Management Program that may be suitable for a given development. Engineering judgment must be used in selecting BMPs for a given development.

C. Prohibited Practices

The following practices are specifically prohibited:

- Soil or construction materials may not be piled in streets
- Soil bridges over curb and gutter may not be constructed

G. CONSTRUCTION SITE STORM WATER MANAGEMENT PLAN CONTENTS

1. Purpose of the Construction Site Storm Water Management Plan

The purpose of the Construction Storm Water Management Plan is to control storm water runoff and reduce pollutants in storm water runoff during construction by accomplishing the following:

- A. Controlling soil erosion
- B. Controlling discharge of sediment into storm drainage facilities or off-site
- C. Prevent illicit discharges into on-site soils, into storm drainage facilities or off-site
- D. Prevent uncontrolled discharge of storm water to adjacent property
- E. Controlling construction waste
- F. Controlling dust

2. Contents of the Construction Site Storm Water Management Plan

The Construction Storm Water Management Plan is to be submitted with the site plans or improvement plans, and is to contain at least the following elements:

- A. Existing and proposed contours as shown on the grading plan
- B. Existing and proposed storm drainage improvements (Minimum design for a 24hr., 2year event. See Design Standards 2.7.6A8, Intensity-Duration Curve)
- C. Best management practices to accomplish the purpose of the plan--show the following for each BMP specified, as applicable:
 - i. Location and extent of specified BMP
 - ii. Timing of implementation, possibly in terms of planting season or number of days following commencement of grading
 - iii. Duration of implementation
 - iv. Any information in addition to or different from that shown on the BMP fact sheet as necessary to employ the BMP on the site
- D. BMP Fact sheets or other descriptive material for all specified BMPs
- E. Proposed re-vegetation—show the following:
 - i. Location and type of re-vegetation proposed
 - ii. Timing of re-vegetation, possibly in terms of planting season or number of days following commencement of grading
- F. Sequencing of construction activities and BMPs
- G. Name, address & telephone number of individual who has responsibility for implementation and maintenance of the plan.

H. POST CONSTRUCTION STORM WATER MANAGEMENT PLAN CONTENTS

1. Purpose of the Post Construction Storm Water Management Plan

The purpose of the Post Construction Storm Water Management Plan is to control storm water runoff and reduce pollutants in storm water runoff after construction is complete and the developed site is in operation. This is achieved by accomplishing the following:

- A. Controlling soil erosion
- B. Controlling discharge of sediment into storm drainage facilities or off-site
- C. Preventing illicit discharges into on-site soils, into storm drainage facilities or off-site

2. Contents of the Post Construction Storm Water Management Plan

The Post Construction Storm Water Management Plan is to be submitted with the site plans or improvement plans. It shall be contained on a plan sheet of its own, rather than being a part of another plan sheet, and is to contain at least the following:

- A. The site plan, including vicinity map, proposed contours, permanent storm drainage features, and landscaping.
- B. Best management practices to accomplish the purpose of the plan. Examples of appropriate BMPs may include those addressing operation and maintenance of storm drainage quality control facilities, operation and maintenance of storm water discharge control facilities, maintenance of landscaping, good housekeeping practices, etc.
- C. Show the following for each BMP specified:
 - i. Location and extent of specified BMPs, as appropriate
 - ii. Detailed schedule of execution for each specified BMP, in terms of starting time, duration, frequency, etc., as appropriate
 - iii. Any information in addition to or different from that shown on the BMP fact sheets as necessary to employ the BMPs on the site
- D. BMP fact sheets or other descriptive material for all specified BMPs. BMP fact sheets that are part of the Post Construction Storm Water Management Plan are to be on a separate sheet from those BMP fact sheets associated with the Construction Site Storm Water Management Plan.

- E. The following statement shall prominently appear on all Post Construction Storm Water Management Plans:

The holders of the business license at this site (or owner of the lot if there is no business license) are responsible to perpetually follow this Post Construction Storm Water Management Plan. Failure to follow the plan may result in the City refusing to renew business licenses or take other action against the property owner.

The objectives of the Plan are to:

1. Control soil erosion
2. Control discharge of sediment into storm drainage facilities or off-site
3. Prevent illicit discharges into on-site soils, into storm drainage facilities or offsite

If the objectives of the Plan are not being met, the site operator or owner shall make adjustments to the Plan as needed to accomplish its purposes.

Cedar Hills City encourages adjustments to the plan that enhance effective storm water management. However, significant reduction of practices contained in the plan is to be accomplished through formal modification of the plan and resubmission to the City Engineer.

I. PROPOSED CONSTRUCTION AND POST CONSTRUCTION STORM WATER MANAGEMENT PLAN REVIEW PROCEDURES

The Construction Storm Water Management Plan and Post Construction Storm Water Management Plan will be submitted to Cedar Hills City with the development plans. They will be reviewed along with the development plans, with storm water quantity and quality benefits in mind. The review procedure will be the same as for subdivision improvement plans and site plans.

J. CONCLUSION

Inasmuch as the construction and post construction related best management practices will generally be carried out by those in the private construction industry, they will be implemented as specified in specific construction site and post construction storm water management plans as development occurs. The BMPs found in PART 2, BMPs PERFORMED BY CEDAR HILLS CITY, cover Cedar Hills City's efforts to assure that the plans are followed.

Cedar Hills City's Storm Water Technical Manual satisfies, in part, two of the six minimum control measures established by the Storm Water Phase II Rule: #4: Construction site storm water runoff control, and #5: Post-construction storm water management in new development and redevelopment.

PART 4 CONSTRUCTION AND POST CONSTRUCTION BEST MANAGEMENT PRACTICES

A. BMP INDEX

Cedar Hills City encourages the use of the following best management practices on Construction Site Storm Water Management Plans. As established in Section F.8.B of PART 3, STORM WATER TECHNICAL MANUAL, **BMPs with an asterisk are required to be a part of all Construction Site Storm Water Management Plans**

* BMP Inspection & Maintenance	BMPIM
* Concrete Waste Management	CWM
* Dust Controls	DC
* Grading Practices	GP
* Portable Toilets	PT

The City also encourages the use of BMP's on Post Construction Site Storm Water Management Plans. However, there is no list of BMP's that is required on all Post Construction Storm Water Management Plans.

Suggested Potential BMP's (See www.cedarhills.org for suggested BMP Fact Sheets)

Benching	BE
Biofilters	BF
Brush or Rock Filter	BRF
Building Repair, Remodeling & Construction	BRRC
Catch Basin Cleaning	CBC
Conservative Easement	CE
Contaminated or Erodible Surface Areas	CESA
Compaction	CP
Construction Road Stabilization	CR
Construction Sequencing	CS
Diversion Dike	DD
Earth Berm Barrier	EB
Erosion Control Blankets	ECB
Geotextiles and Mats	GM
Grassed Swales	GS
Hydromulching	HM
In-Line Storage	ILS

Infiltration	IN
Inlet Protection – Concrete Block	IPC
Inlet Protection – Excavated	IPE
Inlet Protection – Gravel	IPG
Inlet Protection – Silt Fence or Straw Bale	IPS
Minimize Directly Connected Impervious Areas	MDCIA
Material Storage	MS
Mulching	MU
Outlet Protection	OP
Oil/Water Separators and Water Quality Inlets	OWS
Pest Control	PC
Preservation of Existing Vegetation	PEV
Parking Lot Design	PLD
Parking Lot Sweeping/Vacuuming	PLSV
Rock Check Dams	RCD
Retention/Infiltration Device Maintenance	RIDM
Riprap	RR
Sand Bag Barrier	SBB
Street Cleaning	SC
Stabilized Construction Entrance and Wash Area	SCEWA
Sediment Control on Small Construction Sites	SCSCS
Slope Drain	SD
Storm Drain Flushing	SDF
Silt Fence	SF
Seeding and Planting	SP
Surface Roughening	SR
Sediment Trap	ST
Straw Bale Barrier	STB
Temporary Drains and Swales	TDS
Temporary and Permanent Seeding	TPS
Temporary Stream Crossing	TSC
Vehicle and Equipment Cleaning	VEC
Vehicle and Equipment Fueling	VEF
Vehicle and Equipment Maintenance & Repair	VEMR

B. BMP FACT SHEETS

The following sheets contain required BMP Fact Sheets for use in Cedar Hills.

BMP: BMP Inspection and Maintenance

BMPIM



APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices

DESCRIPTION:

Inspect and maintain all structural BMP's (both existing and new) on a routine basis to remove pollutants from entering storm drain inlets. This includes the establishment of a schedule for inspections and maintenance.

APPROACH:

Regular maintenance of all structural BMP's is necessary to ensure their proper functionality.

- Annual inspections.
- Prioritize maintenance to clean, maintain, and repair or replace structures in areas beginning with the highest pollutant loading.
- Clean structural BMP's in high pollutant areas just before the wet season to remove sediments and debris accumulated during the summer and fall.
- Keep accurate logs of what structures were maintained and when they were maintained.
- Record the amount of waste collected.

LIMITATIONS:

- Availability of trained staff



CEDAR HILLS

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Staffing
- Training
- Administrative

- High
- Medium
- Low

BMP: Concrete Waste Management

CWM



OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

DESCRIPTION:

Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

APPLICATIONS:

This technique is applicable to all types of sites.

INSTALLATION/APPLICATION CRITERIA:

- ▶ Store dry and wet materials under cover and away from drainage areas.
- ▶ Avoid mixing excess amounts of fresh concrete or cement on-site.
- ▶ Perform washout of concrete trucks off-site or in designated areas only.
- ▶ Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- ▶ On-site washout: Collect and retain all the concrete washout water and solids in leak proof containers or pit, so that this caustic material does not reach the soil surface.
- ▶ Train employees and subcontractors in proper concrete waste management.

LIMITATIONS:

- ▶ Off-site washout of concrete wastes may not always be possible.

MAINTENANCE:

- ▶ Inspect subcontractors to ensure that concrete wastes are being properly managed.
- ▶ Disposal of hardened concrete on a regular basis



Adapted from Salt Lake County BMP Fact Sheet

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

- High Impact
- Medium Impact
- Low or Unknown Impact

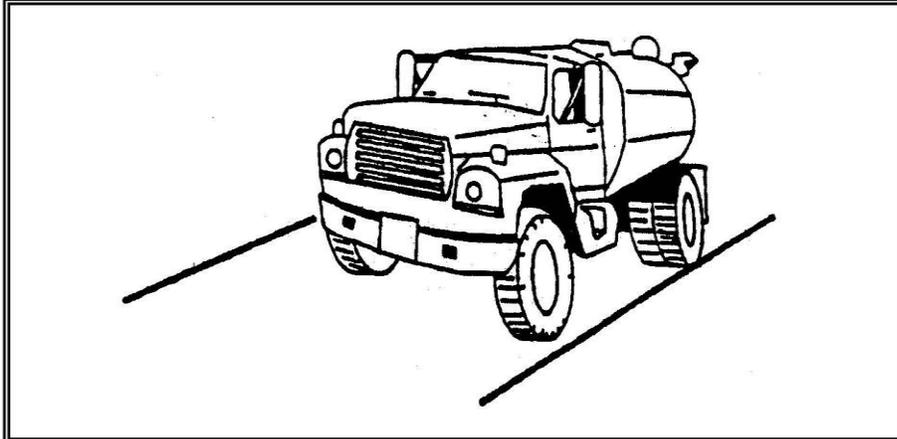
IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High Medium Low

BMP: Dust Controls

DC



DESCRIPTION:

Dust control measures are used to stabilize soil from wind erosion, and reduce dust by construction activities.

APPLICATION:

Dust control is useful in any process area, loading and unloading area, material handling areas, and transfer areas where dust is generated. Street sweeping is limited to areas that are paved.

INSTALLATION/APPLICATION CRITERIA:

- ▶ Two kinds of street sweepers are common: brush and vacuum. Vacuum sweepers are more efficient and work best when the area is dry.
- ▶ Mechanical equipment should be operated according to the manufacturers' recommendations and should be inspected regularly.
- ▶ Water may be sprayed on the ground surface to moisten dry soils, making it less susceptible to wind erosion.

LIMITATIONS:

- ▶ Street sweeping is labor and equipment intensive and may not be effective for all pollutants.
- ▶ Water sprayed from water trucks must be done at a rate such that the water is absorbed in the soil; if excessive amounts of water are used, it may run off, carrying soil with it.

MAINTENANCE:

If excess water results from water spraying, dust-contaminated waters should not be allowed to run off site. Areas may need to be resprayed to keep dust from spreading.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



Adapted from Salt Lake County BMP Fact Sheet

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High Medium Low

BMP: Grading Practices

GP



Soils exposed from land grading activities are very vulnerable to erosion

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

DESCRIPTION:

Control soil erosion by minimizing the exposure of bare soil to erosive forces. This is done by

- 1) limiting the amount of land disturbed at one time in preparation for construction
- 2) limiting the amount of time between the disturbance of soil and protection or stabilization of disturbed soils, and
- 3) using grading practices to protect exposed soils susceptible to storm water runoff.

Related practices include construction sequencing, preservation of existing vegetation, erosion control practices and sediment control practices.

APPROACH:

- Limit the area of disturbance to those areas requiring grading. This preserves existing vegetation and reduces the vulnerability of soil to erosion.
- Based on erosion potential and sediment control measures on the site, establish what areas are to be graded at one time.
- An undisturbed buffer zone containing vegetation at the lowest elevation of a construction site can reduce the transport of sediment off site.
- Initiate soil protection measures during the course of work to minimize the length of time soil is exposed to erosive forces.
- Conduct work in stages so that construction or soil stabilization occurs promptly after disturbance of soil.
- Establish a schedule governing the stabilization of disturbed slopes, both in terms of passage of time since commencement and completion of disturbance and in terms of planting season.
- Leaving the surface of the disturbed soil graded in a roughened condition (not smooth) can reduce the quantity and velocity of storm water runoff.
- Prevent storm water runoff from running onto steep slopes from above.
- Avoid long, steep cut or fill slopes that allow runoff water of sufficient quantity or velocity to cut into and erode the slope.

LIMITATIONS:

- The specific approach to grading on a particular site depends on the conditions of the site and surrounding land; engineering judgment is required to design the approach best suited for each site.

MAINTENANCE:

- Practices may need to vary from the approved plan if erosion problems appear when storm water runoff occurs.



CEDAR HILLS

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

- High Impact
- Medium Impact
- Low or Unknown Impact

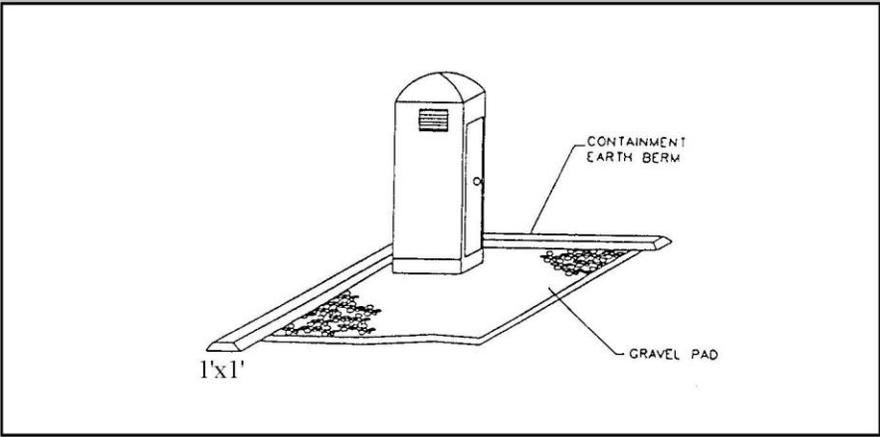
IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

BMP: Portable Toilets

PT



DESCRIPTION:

Temporary on-site sanitary facilities for construction personnel.

APPLICATION:

All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

INSTALLATION/APPLICATION CRITERIA:

- ▶ Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel.
- ▶ Position portable toilets so that they are secure and will not be tipped or knocked over and that they will be positioned at least 10 feet from any storm water conveyance, inlet, curb or gutter; or that they will have secondary containment if tipped.

LIMITATIONS:

No limitations.

MAINTENANCE:

- ▶ Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection.
- ▶ Regular waste collection should be arranged with licensed service.
- ▶ All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



Adapted from Salt Lake County BMP Fact Sheet

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

High Medium Low

APPENDIX A
SUPPLEMENTAL GUIDE TO
STORM WATER MANAGEMENT
FOR CONTRACTORS
(Small MS4 General UPDES Permit 4.2.4.)

- Design Methods and Considerations
- Procedure for Considering LID Practices
- SWPPP Review Criteria/Checklists
- Inspection Procedures/Checklist
- Construction Inspection Form (from State)
- NOT Procedures
- Construction BMP fact sheets
- Threatened/Endangered Species and Historic properties compliance efforts

APPENDIX B

SUPPLEMENTAL GUIDE TO STORM WATER MANAGEMENT FOR PUBLIC WORKS

(Small MS4 General UPDES Permit 4.2.6)

- Standard Operating Procedures (SOP) including department and/or responsible parties
- BMP Fact Sheets
- Process for including water quality in city projects
- Inspection Check list
- Inventory of City operated facilities (including high priority facilities) and storm water controls
- Floor drain inventory
- Retrofitting Existing Infrastructure

STANDARD OPERATING PROCEDURES

CITY OF CEDAR HILLS

Created: October 2010
Updated: July 2016

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BUILDINGS – Dumpsters/Garbage Storage

1. Preparation.
 - a. Train employees on proper trash disposal.
 - b. Locate dumpsters and trash cans in convenient, easily observable areas.
 - c. Provide properly-labeled recycling bins to reduce the amount of garbage disposed.
 - d. Install berms, curbing, or vegetation strips around storage areas to control water entering/leaving storage areas.
 - e. Whenever possible store garbage containers beneath a covered structure or inside to prevent contact with storm water.
2. Process.
 - a. Inspect garbage bins for leaks regularly, and have repairs made immediately by responsible party.
 - b. Request/use dumpsters, and trash cans with lids and without drain holes.
 - c. Locate dumpsters on a flat, hard surface that does not slope or drain directly into the storm drain system.
3. Clean-up.
 - a. Keep areas around dumpsters clean of all garbage.
 - b. Have garbage bins emptied regularly to keep from overflowing.
 - c. For cleaning, washing, painting, and other maintenance activities contact provider.
4. Documentation
 - a. Document training of employees

BUILDINGS – Material Storage, Heavy Equipment Storage, and Maintenance Areas

Permit Section: 4.2.6.6.2

1. Preparation
 - a. Store vehicles indoors where possible and in an area with no floor drains that lead to storm water system.
 - b. Watch for leaking equipment and vehicles.
 - c. Store materials in a dry place, if applicable on the floor.
2. Process
 - a. Use drip pans to collect leaking fluids from equipment or vehicles.
 - b. Repair leaking vehicles as soon as possible to protect storm drain system.
 - c. Wash vehicles and equipment in dedicated areas.
 - d. Properly dispose of materials that are expired or beyond use.
3. Clean-up
 - a. Properly clean any areas that have been polluted by leaking vehicles.

BUILDINGS – Parking Lot Maintenance

- b. Preparation.
 - c. Conduct regular employee training to reinforce proper housekeeping.
 - b. Restrict parking in areas to be swept prior to and during sweeping using regulations as necessary.
 - c. Perform regular maintenance and services in accordance with the recommended vehicle maintenance schedule on sweepers to increase and maintain efficiency.
2. Process.
- d. Sweep parking areas, as needed, or as directed by the city's responsible official.
 - b. Hand sweep sections of gutter if soil and debris accumulate.
 - c. Pick-up litter as required to keep parking areas clean and orderly.
3. Clean-up.
- e. Dispose of sweepings properly (appropriate solid waste facility).
 - b. Street sweepers to be cleaned out in a manner as instructed by the manufacturer and in a location that swept materials cannot be introduced into a storm drain.
 - c. Swept materials will not be stored in locations where storm water could transport fines into the storm drain system.
4. Documentation.
- f. Keep accurate logs to track swept parking areas and approximate quantities.
 - b. Document training of employees.

IDDE – Call-in Inspections

1. Preparation

- a. Have a system in place to receive phone calls and collect information regarding suspected illicit discharges.

2. Process

- a. Use the Incident Tracking Sheet to collect the appropriate information from the caller. Then, transfer the Incident Tracking Sheet to the proper authority (i.e. Department head, storm water specialist, construction inspector, code enforcement officer, or other assigned personnel).
- b. Promptly investigate reported incidents.
- c. If an illicit discharge of unknown source is confirmed, follow the procedure of SOP IDDE – Tracing Illicit Discharges.
- d. If an illicit discharge known source is confirmed, follow the procedure of SOP IDDE – Removing Illicit Discharges.

3. Clean up

- a. Clean catch basin, clean storm drain, or initiate spill response, as applicable. Follow relevant SOPs.

4. Documentation

- a. File all completed forms (ie. Incident tracking, catch basins cleaning, storm drain cleaning).
- b. Document any further action taken.
- c. Review incidents reported by citizens on an annual basis to look for patterns of illicit discharges and to evaluate the call-in inspection program.

IDDE - Opportunistic Illicit Discharge Observation

1. Preparation
 - a. Be alert for potential illicit discharges to the municipal storm water system while going about normal work activities.
2. Process
 - a. Call the appropriate authority (department head, storm water specialist, building inspector, code enforcement officer or a supervisor) if you see evidence of an illicit discharge.
 - b. Assess the general area of the illicit discharge to see if you can identify its source.
 - c. Whenever possible, take photographs of the suspected illicit discharge.
 - d. Responding storm water department personnel or code enforcement officer will complete the following:
 1. Use the IDDE Incident Tracking Sheet to document observations.
 2. Obtain sample for visual observation and complete an Outfall Inspection Form, if applicable.
 3. Follow the procedure of SOP IDDE - Tracing Illicit Discharges.
3. Clean-up
 - a. Clean catch basin, clean storm drain, or initiate spill response, as needed. Follow relevant SOPs.
4. Documentation
 - a. File all completed forms (Incident Tracking Form, Outfall Inspection Form, Catch Basin Cleaning Form and Storm Drain Cleaning Log).
 - b. Document any further action taken.

IDDE - Outfall Inspections

1. Preparation:
 - a. Know the past and present weather conditions. Conduct inspections during dry weather periods.
 - b. Gather all necessary equipment including: tape measure, clear container, clipboard with necessary forms, flashlight, and camera (optional).
 - c. Obtain maps showing outfall locations and identifiers.
 - d. Obtain outfall description and observations from previous inspections, so the outfall can be accurately identified and observations compared.

2. Process
 - a. Perform an inspection of each outfall at least once per year. Whenever, possible use the same personnel for consistency in observations.
 - b. Identify each outfall with a consistent and unique identifier. For example "Howard Slough-#13". Use maps and previous inspection reports to confirm the outfall identity and location.
 - c. If dry weather flow is present at the outfall, then document and evaluate the discharge by completing the following steps:
 1. Collect field samples for visual observations in a clean, clear container and in a manner that avoids stirring up sediment that might distort the observation.
 2. Characterize and record observations on basic sensory and physical indicators (e.g., outfall condition, flow, odor, color, oil sheen) on the Outfall Inspection Form.
 3. Compare observations to previous inspections.
 4. If the flow does not appear to be an obvious illicit discharge (e.g., flow is clear, odorless, etc.), attempt to identify the source of the flow (groundwater, intermittent stream, etc.)
 - d. If an illicit discharge (such as raw sewage, petroleum products, paint, etc.) is encountered or suspected, follow the procedure of SOP IDDE - Tracing Illicit Discharges.

3. Cleanup - as necessary

4. Documentation
 - a. File completed outfall inspection forms.
 - b. Update maps if new outfalls are observed and inspected.

IDDE - Removing Illicit Discharges

1. Preparation
 - a. Obtain available property ownership information for the source of the illicit discharge.
2. Process
 - a. Determine who is financially responsible; and follow associated procedures as given below.

For Private Property Owner:
Contact Owner,
Issue Notice of Violation for violations of the municipal ordinance, and
Determine schedule for removal.

For Municipal Facility:
Notify appropriate municipal authority or department head,
Schedule removal, and
Remove illicit connection.
 - b. Suspend access to storm drain if threats of serious physical harm to humans or the environment are possible.
 - c. Direct responsible party to initiate repairs/corrections/cleanup. Coordinate with enforcement official for escalating penalties in accordance with the municipal ordinance.
 - d. Repair/correct cause of discharge if municipality is responsible. Schedule the work through the appropriate municipal authority or department head..
 - e. Seek technical assistance from the Weber-Morgan Health Department or Utah Department of Water Quality, if needed.
3. Clean up
 - a. Confirm illicit discharge is removed or eliminated by follow-up inspection.
4. Documentation
 - a. Maintain records of notice of violation and penalties.
 - b. Document repairs, corrections, and any other actions required.

IDDE - Tracing Illicit Discharges

1. Preparation
 - a. Review / consider information collected when illicit discharge was initially identified and document using Incident Tracking Form or Outfall Inspection Form.
 - b. Obtain storm drain mapping for the area of the reported illicit discharge.
 - c. Gather all necessary equipment including: tape measure, clear container, clipboard with necessary forms, flashlight, and camera (optional).
2. Process
 - a. Survey the general area / surrounding properties to identify potential sources of the illicit discharge as a first step.
 - b. Trace illicit discharges using visual inspections of upstream points as a second step. Use available mapping to identify tributary pipes, catch basins, etc.
 - c. If the source of the illicit discharge cannot be determined by a survey of the area or observation of the storm drain system, then consider the following additional steps:
 1. Use weirs, sandbags, dams, or optical brightener monitoring traps to collect or pool intermittent discharges during dry weather.
 2. Smoke test or televise the storm drain system to trace high priority, difficult to detect illicit discharges.
 3. Dye test individual discharge points within suspected buildings.
 4. Consider collecting bacterial samples of flowing discharges to confirm/refute illicit discharge.
 - d. If the source is located, follow SOP IDDE - Removing Illicit Discharges.
 - e. If the source cannot be found, add the location to a future inspection program.
3. Clean up
 - a. Clean catch basin, clean storm drain, or initiate spill response, as applicable. Follow relevant SOPs.
4. Documentation
 - a. Document tracing results for future reference

MUNICIPAL – Municipally-Sponsored Events (outdoor festivals, parades, food trucks)

Permit Section: 4.2.6.4.5

1. Preparation
 - a. Prior to event, schedule crews to facilitate an effective clean up before contaminants and debris migrate to storm water system.
 - b. Provide any trash bags or other required tools for cleaning.
2. Process
 - a. Sweep parking areas, as needed, or as directed by the city's responsible official.
 - b. Hand sweep sections of gutter if debris accumulate.
 - c. Pick-up litter as required to keep parking areas clean and orderly.
3. Clean-up
 - a. Dispose of sweepings properly (appropriate solid waste facility).
 - b. Street sweepers to be cleaned out in a manner as instructed by the manufacturer and in a location that swept materials cannot be introduced into a storm drain.
 - c. Swept materials will not be stored in locations where storm water could transport fines into the storm drain system.
4. Documentation
 - a. Document any problems that arise.

PARKS – Chemical Application Pesticides, Herbicides, Fertilizers

1. Preparation

- a. Make sure your state Chemical Handling Certification is complete and up-to-date before handling any chemicals.
- b. Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- c. Use pesticides only if there is an actual pest problem and periodically test soils for determining proper fertilizer use
- d. Time and apply the application of fertilizers, herbicides or pesticides to coincide with the manufacturer's recommendation for best results ("Read the Label").
- e. Know the weather conditions. Do not use pesticides if rain is expected. Apply pesticides only when wind speeds are low (less than 5 mph).

Process

- f. Always follow the manufacturer's recommendations for mixing, application and disposal. ("Read the Label").
- g. Do not mix or prepare pesticides for application near storm drains, preferably mix inside a protected area with impervious secondary containment (preferably indoors) so that spills or leaks will not contact soils.
- h. Employ techniques to minimize off-target application (e.g. spray drift, over broadcasting,) of pesticides and fertilizers.

Clean-up

- i. Sweep pavements or sidewalks where fertilizers or other solid chemicals have fallen, back onto grassy areas before applying irrigation water.
- j. Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- k. Always follow all federal and state regulations governing use, storage and disposal of fertilizers, herbicides or pesticides and their containers. ("Read the Label")

Documentation

- l. Keep copies of MSD sheets for all pesticides, fertilizers and other hazardous products used.
- m. Record fertilizing and pesticide application activities, including date, individual who did the application, amount of product used and approximate area covered.

PARKS – Cleaning Equipment

1. Preparation
 - a. Review process with all Parks employees

2. Process
 - a. Wipe off dirt, dust and fluids with disposable towel
 - b. Wash equipment in approved wash station

3. Clean-up
 - a. Dispose of towels in proper trash receptacle
 - b. Sweep floor and dispose of debris.

PARKS – Open Space Management

2. Preparation
 - a. Provide a regular observation and maintenance of parks, golf courses, and other public open spaces.
 - b. Identify public open spaces that are used for storm water detention and verify that detention areas are included on the storm drain system mapping, inspection schedules, and maintenance schedules.

2. Process
 - c. Ensure that any storm drain or drainage system components on the property are properly maintained.
 - d. Avoid placing bark mulch (or other floatable landscaping materials) in storm water detention areas or other areas where storm water runoff can carry the mulch into the storm drainage system.
 - e. Follow all SOPs related to irrigation, mowing, landscaping, and pet waste management.

- b. Clean Up
 - c. Keep all outdoor work areas neat and tidy. Clean by sweeping instead of washing whenever possible. If areas must be washed, ensure that wash water will enter a landscaped area rather than the storm drain. Do not use soap for outdoor washing and building exterior.
 - d. Pick up trash on a regular basis. Verify that a sufficient number of trash containers are available and lids are closed. Contact Provider for trash container maintenance.
 - e. Documentation
 - f. Document any observed deficiencies for correction or repair.

PARKS – Right-of-way and Parks/Open Space Maintenance

Permit Section: 4.2.6.5

Preparation

- a. Locate all storm drain collection structures and inlets in the right-of-way.
- b. Call the Blue Stakes Center of Utah at least 2 working days before any digging or grading will be done, to reveal the location of any underground utilities.
- c. Dial 811 or 1-800-662-4111 if digging within Right-of-way.

2. Process

- a. Install temporary catch basin protection on affected basins
- b. Mow in a manner to minimize clippings blown toward collection structures inlets and water courses.
- c. Pick-up litter within Right-of-way to avoid catch basins from becoming plugged.

3. Clean-up

- a. Scrape and brush mowers at the shop – Sweep dry spoils and dispose at approved facilities.
- b. Wash equipment in approved wash station

4. Documentation

- a. Keep accurate logs to track when maintenance was done so areas don't go unmanaged.
- b. Document training of employees.

PARKS – Planting Vegetation (Starters)

1. Preparation

- g. Call the Blue Stakes Center of Utah at least 2 working days before any digging will be done, to reveal the location of any underground utilities.
- h. Dial 811 or 1-800-662-4111
- i. Decide where any spoils will be taken.

Process

- j. Dig holes; place spoils near the hole where they may easily be placed back around roots. Avoid placing spoils in the gutter.
- k. Bring each plant near the edge of the hole dug for it.
- l. Check the depth of the hole, and adjust the depth if necessary. The depth of the hole for a tree should be as deep as the root ball, so that the top of the root ball is level with the top of the hole.
- m. Carefully remove pot or burlap.
- n. Place the plant in the hole.
- o. Backfill the hole with existing spoils, compost, and a litter fertilizer if desired. Do not use excessive amendments.
- p. Water the plant.
- q. Stake the plant, if necessary, to stabilize it.

Clean-up

- r. Move any extra spoils into truck or trailer. Place the spoils on a tarp if there is likelihood that some of the dirt would be lost through openings in the bed.
- s. Sweep dirt from surrounding pavement(s) into the planter area
- t. Transport spoils to their designated fill or disposal area.

PARKS – Transporting Equipment

1. Preparation
 - a. Determine equipment needed for transport and method (trailer, truck bed) needed to transport equipment.
 - b. Conduct pre- trip inspection of equipment
2. Process
 - a. Load and secure equipment on trailer or truck
 - b. Load and secure fuel containers for equipment usage
3. Clean-up
 - a. Off load equipment
 - b. Store equipment and trailer in proper locate on
 - c. Conduct post-trip inspection of equipment
 - d. Wash equipment, if needed, according to the SOP for Cleaning Equipment SOP

STREETS/STORM DRAIN – Catch Basin/Conveyance Pipe Cleaning/Inspection/Repair

(Schedule for entire system completed every five years)

1. Preparation:
 - a. Clean sediment and trash off grate.
 - b. Do visual inspection on outside of grate.
 - c. Make sure nothing needs to be replaced.
 - d. Do inside visual inspection to see what needs to be cleaned and/or repaired.

2. Process
 - a. Clean using high powered vacuum equipment. Start vacuuming out standing water and sediment.
 - b. Use a high pressure washer to clean any remaining material out of catch basin, while capturing the slurry with the vacuum.
 - c. Move equipment downstream of pipe to next catch basin.

3. Clean-up
 - a. When vacuum equipment is full of sediment take it to the designated location and dump the sediment out of equipment into a drying bed.
 - b. When it evaporates, clean it up with a backhoe, put it into a dump truck and take it to the landfill.

4. Documentation
 - a. Keep logs of number of catch basins cleaned.
 - b. Record the amount of waste collected.
 - c. Keep any notes or comments of any problems.

STREETS/STORM DRAIN – Curb Painting

1. Preparation
 - a. Calculate the amount of paint required for the job
 - b. Use water based paints.
 - c. Determine locations of storm drain inlets and protect as needed.
 - d. Prepare surfaces to be painted.
 - e. Thoroughly sweep up all paint scrapings.
2. Process
 - a. Paint curb.
 - b. Use drip pans and drop clothes in areas of mixing paints and painting
 - c. Have available absorbent material and other BMP's ready for an accidental paint spill.
3. Clean-up
 - a. Paint out brushes and rollers as much as possible. Squeeze excess paint from brushes and rollers back into the containers prior to cleaning them.
 - b. Pour excess paint from trays and buckets back into the paint can containers and wipe with cloth or paper towels. Dispose of the towels according to the recommendations on the paint being used.
 - c. Rinse water-based paint brushes in the sink after pre-cleaning. Never pour excess paint or wastewater from cleanup of paint in the storm drain.
 - d. Dispose of waste collected by placing it in a garbage container. Left-over paint should be stored for later use (do not place these liquids in the garbage).

STREETS/STORM DRAIN – Retention Basin Cleaning

Structures must be inspected annually

1. Preparation:
 - a. Schedule the Pond cleaning work for a time when dry weather is expected.
 - b. Provide outlet protection where feasible to minimize the amount of debris that might leave basin during cleaning process.
2. Process
 - a. Do a visual inspection to make sure any grates, structures, manholes, boxes, and pipes are in good working order. Remove manhole covers and grates as necessary for inspecting.
 - b. Remove any sediment and trash from grates, placing it in a truck for disposal.
 - c. Start cleaning basin by using equipment to remove debris and sediment off the bottom.
 - d. Continue cleaning structures and pond bottom as necessary by sweeping and shoveling.
 - e. Take debris and sediment to the designated location and place into a drying bed.
 - f. When it evaporates, clean it up with a backhoe, put it into a dump truck and take it to the landfill.
3. Clean-up
 - a. After cleaning basin, clean off the concrete pads using dry methods (sweeping and shoveling).
 - b. Make sure they are swept up and clean.
 - c. Take the material that was removed to the landfill for final disposal.
4. Documentation
 - a. Keep a log of each retention basin cleaned. Include date, individuals involved in cleaning, and a description of the type of debris removed.
 - b. Record the amount of waste collected.
 - c. Keep any notes or comments of any problems.

STREETS/STORM DRAIN – Ditch Management

1. Preparation
 - a. Monitor ditches on a regular basis (Suggested interval?).
 - b. Maintain access to ditch channels wherever possible.
 - c. Contact affected property owners and utility owners.
2. Process
 - a. Identify areas requiring maintenance
 - b. Determine what manpower or equipment will be required.
 - c. Identify access and easements to area requiring maintenance.
 - d. Determine method of maintenance that will be least damaging to the channel and adjacent properties or utilities.
3. Clean-up
 - a. Stabilize all disturbed soils.
 - b. Remove all tracking from paved surfaces near maintenance site, if applicable.
 - c. Haul all debris or sediment removed from area to approved dumping site.
4. Documentation
 - a. Keep log of actions performed including date and individuals involved.
 - b. Record the amount of materials removed or imported.
 - c. Keep any notes or comments of any problems.
 - d. Use “before” and “after” photographs to document activities as applicable.

STREETS/PARKING LOT MAINTENANCE – Chip Seal

1. Preparation
 - a. Clean and dry areas where materials are to be applied.
 - b. Apply temporary covers to manholes and catch basins to prevent oil and materials from getting inside of them.
2. Process
 - a. Apply emulsion at recommended rate.
 - b. Spread chips closely behind emulsion distributor, slowly such that the chips do not roll when they hit the surface.
 - c. Roll chips. Rollers follow closely behind the chip spreader. Roll entire surface twice.
 - d. Maximum speed 5 mph.
3. Clean-up
 - a. All loose aggregate is removed from the roadway by sweeping it up (see SOP for Street Sweeping).
 - b. Remove excess asphalt and spills with shovels and scraping tools.
 - c. Remove the temporary covers from manholes and catch basins. If it appears that any chip seal materials have gotten into the inlet boxes, remove the material according to the SOP for inlet boxes.
 - d. Dispose of the waste material that has been swept and scraped up by taking it to the landfill.
4. Documentation
 - a. Record location and date on the maintenance database.

STREETS/ PARKING LOT MAINTENANCE – Slurry Seal

1. Preparation
 - a. Remove weeds from the roads. Sweep areas where materials are to be applied, and allow to dry, if necessary. Verify that existing pavement has been inspected for detrimental effects of poor drainage.
 - b. Cover/protect catch basins and manholes.
2. Process
 - a. Apply materials in a smooth and uniform manner. Slurry material should not run onto adjacent pavement surface, curb and gutter or waterways.
3. Clean-up
 - a. If loose aggregate is remaining in street or curb, sweep it up.
 - b. Ensure that excess emulsion materials are removed from the site and stored for later use in an area or container that is not exposed to the weather.
 - c. Remove covers/protection from catch basins, manholes, and valves.
4. Documentation
 - a. Record location and date on the maintenance database.

STREETS/ PARKING LOT MAINTENANCE – Overlays, Patching and Pothole Repair

1. Preparation
 - a. Work to be performed during dry weather. (do not apply tack while surface is wet or may become wet)
 - b. Provide necessary traffic control measures.
 - c. Mark locations of manholes and valves on the curb
 - d. Manholes and catch basins are covered as needed to prevent oil and materials from getting inside the structures or system.
 - e. Cracks should be properly sealed. Alligator cracks and potholes should be removed and patched. Rutting should be milled.
 - f. Surface should be clean and dry.
 - g. Uniform tack coat applied and cured prior to placement of overlay.
 - h. If milling is required, install inlet protection as needed.
2. Process
 - a. Check hot asphalt mix for proper temperature, percentage asphalt, gradation, air voids and any other agency requirements.
 - b. Raise manhole lids and valves to elevation of new asphalt surface with riser rings.
 - c. Surface texture should be uniform, no tearing or scuffing.
 - d. Rolling should be done to achieve proper in-place air void specification.
3. Clean-up
 - a. After pavement has cooled, sweep gutters to remove loose aggregate.
 - b. Covering should be removed as soon as the threat of imported materials entering the system is reduced and prior to a storm event.
4. Documentation
 - a. Record location and date on the maintenance database .

STREETS/ PARKING LOT MAINTENANCE – Pavement Marking

1. Preparation
 - a. Calculate the amount of paint required for the job
 - b. Use water based paints.
 - c. Determine locations of storm drain inlets and protect as needed.
 - d. Prepare surfaces to be painted.
 - e. Thoroughly sweep up all paint scrapings.
2. Process
 - a. Paint pavement.
 - b. Use drip pans and drop clothes in areas of mixing paints and painting
 - c. Have available absorbent material and other BMP's ready for an accidental paint spill.
3. Clean-up
 - a. Paint out brushes and rollers as much as possible. Squeeze excess paint from brushes and rollers back into the containers prior to cleaning them.
 - b. Pour excess paint from trays and buckets back into the paint can containers and wipe with cloth or paper towels. Dispose of the towels according to the recommendations on the paint being used.
 - c. Rinse water-based paint brushes in the sink after pre-cleaning. Never pour excess paint or wastewater from cleanup of paint in the storm drain.
 - d. Dispose of waste collected by placing it in a garbage container. Left-over paint should be stored for later use (do not place these liquids in the garbage).

STREETS/ PARKING LOT MAINTENANCE – Crack Seal

1. Preparation
 - a. Determine what areas need repair and provide traffic control as needed.
 - b. Remove weeds from the road
 - c. Air-blast the cracks to remove sediments from the crack to allow for proper adhesion.
 - d. Ensure that surface is clean and dry.
2. Process
 - a. Proper temperature of material should be maintained.
 - b. Sufficient material is applied to form the specified configuration.
3. Clean-up
 - a. Excessive sealant application or spills are removed.
 - b. Sweep all loose debris from the pavement and dispose of it in the local landfill.
4. Documentation
 - a. Record location and date on the maintenance database.

STREETS/STORM DRAIN – Concrete Work (New)

1. Preparation

- a. Store dry and wet materials under cover, away from drainage areas
- b. Remove any damaged concrete that may need to be replaced.
- c. Prepare and compact sub-base.
- d. Set forms and place any reinforcing steel that may be required.
- e. Determine how much new concrete will be needed.
- f. Locate or construct approved concrete washout facility.
- g. Install inlet protection as needed.

2. Process

- a. Moisten sub base just prior to placing new concrete. This helps keep the soil from wicking moisture out of the concrete into the ground.
- b. Place new concrete in forms.
- c. Consolidate new concrete.
- d. Screed off surface
- e. Let concrete obtain its initial set.
- f. Apply appropriate surface finish.
- g. Remove forms when concrete is set.

3. Clean-up

- a. Perform washout of concrete trucks and equipment in designated areas only.
- b. Remove dirt or debris from street and gutter.

STREETS/STORM DRAIN – Garbage Storage

1. Preparation

- a. Locate dumpsters and trash cans with lids in convenient, easily observable areas.
- b. Provide properly-labeled recycling bins to reduce the amount of garbage disposed.
- c. Provide training to employees to prevent improper disposal of general trash.

2. Process

- a. Inspect garbage bins for leaks regularly, and have repairs made immediately by responsible party.
- b. Locate dumpsters on a flat, impervious surface that does not slope or drain directly into the storm drain system.
- c. Install berms, curbing or vegetation strips around storage areas to control water entering/leaving storage areas.
- d. Keep lids closed when not actively filling dumpster.

3. Clean-up

- a. Keep areas around dumpsters clean of all garbage.
- b. Have garbage bins emptied as often as needed to keep from overfilling.
- c. Wash out bins or dumpsters as needed to keep odors from becoming a problem. Wash out in properly designated areas only.

STREETS/STORM DRAIN – Snow Removal and De-icing

1. Preparation
 - a. Store de-icing material under a covered storage area.
 - b. Wash out vehicles (if necessary) in approved washout area before preparing them for snow removal.
 - c. Calibrate spreaders to minimize amount of de-icing material used and still be effective
 - d. Train employees in spill cleanup procedures and proper handling and storage of de-icing materials
2. Process
 - a. Load material into trucks carefully (to minimize spillage).
 - b. Periodically dry sweep loading area to reduce the amount of de-icing materials exposed to runoff.
 - c. Distribute the minimum amount of de-icing material needed to be effective.
 - d. Park trucks loaded with de-icing material inside when possible.
3. Cleanup
 - a. Sweep up all spilled de-icing material around loading area.
 - b. Clean out trucks after snow removal duty in approved washout area.

STREETS/PARKING LOT MAINTENANCE /STORM DRAIN – Street/Parking Lot Sweeping

1. Preparation
 - a. Streets are to be swept as needed or specified by the city. Street maps are used to ensure all streets are swept at a specified interval
2. Process
 - a. Drive street sweeper safely and pick up debris
 - b. When full, empty the sweeper in an approved dumping location.
3. Clean-up
 - a. Street sweepers are to be cleaned out in an approved location. Do not introduce swept material into storm drains.
 - b. Haul all dumped material to the landfill..
4. Documentation
 - a. Keep accurate logs to track streets swept and streets still requiring sweeping.
 - b. Log the amount of debris collected and hauled off.

VEHICLES – Fueling

1. Preparation

- a. Train employees on proper fueling methods and spill cleanup techniques.
- b. Install a canopy or roof over above ground storage tanks and fuel transfer areas.
- c. Absorbent spill clean-up materials and spill kits shall be available in fueling areas and on mobile fueling vehicles and shall be disposed of properly after use.

2. Process

- a. Shut off the engine.
- b. Ensure that the fuel is the proper type of fuel for the vehicle.
- c. Nozzles used in vehicle and equipment fueling shall be equipped with an automatic shut off to prevent overfill.
- d. Fuel vehicle carefully to minimize drips to the ground.
- e. Fuel tanks shall not be ‘topped off’.
- f. Mobile fueling shall be minimized. Whenever practical, vehicles and equipment shall be transported to a designated fueling area.
- g. When fueling small equipment from portable containers, fuel in an area away from storm drains.

3. Clean Up

- a. Immediately clean up small spills using dry absorbent material. Properly dispose of contaminated clean up materials.
- b. Large spills shall be contained as best as possible and Spill procedures followed.

4. Documentation

- a. Comply with storage tank records and monitoring requirements.
- b. Document training of employees.

VEHICLES – Vehicle and Equipment Maintenance/Storage

1. Preparation
 - a. Inspect parking areas for stains/leaks on a regular basis.
 - b. Provide drip pans and absorbents for leak control.
2. Process
 - a. Whenever possible, store vehicles inside where floor drains have been connected to a sanitary sewer system.
 - c. When inside storage is not available, Vehicles and equipment will be parked in an approved designated area.
 - d. Maintain vehicles to prevent leaks as much as possible.
 - f. If any leaks are discovered, a drip pan will be used to collect the fluids and the vehicle will be scheduled for repairs.
 - g. Clean up all spills using dry methods.
 - h. Never store leaking vehicles over a storm drain.
3. Clean Up
 - a. Any leaks that are spilled on the asphalt will be cleaned up with dry absorbent; the dry absorbent will be disposed of in the garbage.

VEHICLES – Washing

1. Preparation

- a. Provide wash areas for small vehicles inside a maintenance building that has a drain system attached to the sanitary sewer system.
- b. Provide wash areas for large vehicles on an approved outside wash pad that has a drain system which is attached to the sanitary sewer system.
- c. No vehicle washing will be done where the drain system is connected to the storm sewer system.

2. Process

- a. Minimize water and soap use when washing vehicles.
- b. When washing outside the building, it is the operators' responsibility to make sure all wash water is contained on the wash pad and does not have access to the storm drain.
- c. Never wash vehicles over or a storm drain.

3. Clean Up

- a. Sweep wash areas after every washing to collect what solids can be collected to prevent them from washing down the drain system.
- b. Clean solids from the settling pits on an as needed basis.

WATER – Planned Waterline Excavation Repair/Replacement

1. Preparation
 - a. Determine where discharge flow will go.
 - b. Place inlet protection at nearest downstream storm drain inlet.
 - c. Clean Gutters leading to inlet.
 - d. Isolate waterline to be worked on.
 - e. Neutralize any chlorine residual before discharging water.
2. Process
 - a. Make efforts to keep water from pipeline from entering the excavation
 - b. Direct any discharge to pre-determined area.
 - c. Backfill and compact excavation.
 - d. Remove excavated material and/or stock pile to approved area.
3. Clean up
 - a. Clear gutter/waterway where water flowed.
 - b. Clean up all areas around excavation.
4. Documentation
 - a. Complete paperwork

WATER – Unplanned Waterline Excavation Repair/Replacement

1. Preparation
 - a. Protect storm drain inlets downstream of repair.
2. Process
 - a. Slow the discharge.
 - b. Inspect flow path of discharged water.
 - c. Repair/replace damaged water line.
 - d. Back fill and compact back to grade.
 - e. Remove excess excavated material to an approved location.
3. Clean-up
 - a. Repair eroded areas as needed
 - b. Clean up the travel path of trucked excavated material

WATER – Transporting Dry Excavated Materials & Spoils

1. Preparation
 - a. Utilize truck with proper containment of materials.
 - b. Determine disposal site of excavated materials.
 - c. Determine a haul route.
2. Process
 - a. Load truck to appropriate level.
 - b. Check truck after loading for possible spillage.
 - c. Transport in a manner that will reduce spills & tracking
 - d. Utilize one route for transporting.
3. Clean-up
 - a. Clean loading area.
 - b. Clean transporting route.
 - c. Wash off truck and other equipment in a designated wash area.

WATER – Transporting Wet Excavated Materials & Spoils

1. Preparation
 - a. Utilize truck with containment for material.
 - b. Determine disposal site of excavated material.
 - c. Determine a haul route.
2. Process
 - a. Load truck in manner to minimize spillage & tracking of material.
 - b. Check truck after loading for possible spillage.
 - c. Transport in a manner that will reduce spills & tracking.
 - d. Utilize one route of transport.
3. Clean-up
 - a. Clean loading area.
 - b. Clean transporting route.
 - c. Wash off truck and other equipment in a designated wash area.

WATER – Waterline Flushing for Routine Maintenance

1. Preparation
 - a. Determine flow path of discharge to drain inlet.
 - b. Determine chlorine residual.
 - c. Neutralize chlorine residual.
2. Process
 - a. Clean flow path.
 - b. Protect inlet structures.
 - c. If needed, use diffuser to dissipate pressure to reduce erosion possibilities.
3. Clean-up
 - a. Clean flow path.
 - b. Remove inlet protection.
4. Documentation
 - a. Residual tests of discharge water.

WATER – Waterline Flushing after Construction/System Disinfection with Discharge to Storm Drain

1. Preparation
 - a. Determine chlorine content of discharged water, and select de-chlorination equipment to be used.
 - b. Determine flow path of discharge.
2. Process
 - a. Protect inlets in flow path.
 - b. Install de-chlorination equipment.
 - c. Sweep and clean water flow path.
 - d. Use diffuser in needed to reduce velocities.
3. Clean-up
 - a. Clean flow paths.
 - b. Pick up inlet protection.
4. Documentation
 - a. Residual test of discharged water

WATER – Chemical Handling/Transporting and Spill Response

1. Preparation
 - a. Understand MSDS sheet for handling of product.
 - b. Have necessary containment and spill kits at handling place.
2. Process
 - a. Begin transfer process.
 - b. Discontinue operations if spills occur.
 - c. Disconnect and store handling equipment.
3. Clean-up
 - a. Clean up spills with proper material.
 - b. Dispose of contaminated material at appropriate facility.
4. Documentation
 - a. Report spills to Utah County
 1. Utah County dispatch (801) 536-4123

BMP Fact Sheets

**See appendix A – Supplement Guide to Storm Water
Management for Contractors
Pages 12-18**

Process for including Water Quality in City Projects

See

CITY OF CEDAR HILLS DESIGN STANDARDS AND PUBLIC IMPROVEMENT SPECIFICATIONS

Storm water Technical Manual (2.7.6 9A)

WEEKLY VISUAL INSPECTION SOP

PREPARATION

- Identify “High Priority” facilities
- Map of location
- Become familiar with potential pollutants at the site

PROCESS

- Look for evidence of spills at the site
- If a spill is found assess the general area to identify its source
- Whenever possible take photographs of the suspected illicit discharge

CLEAN-UP

- Clean up spill immediately to prevent contact with precipitation or runoff
- Initiate spill response

DOCUMENTATION

- Fill out Weekly High Priority Inspection Log for facility and mark that the weekly inspection has been completed
- If a deficiency was found make note on the Weekly High Priority Inspection Log and fill out the Note Log for that particular facility

QUARTERLY COMPREHENSIVE INSPECTION SOP

PREPARATION

- Identify “High Priority” facilities
- Map of location
- Become familiar with potential pollutants at the site

PROCESS

- Look for evidence of spills at the site
- If a spill is found assess the general area to identify its source
- Whenever possible take photographs of the suspected illicit discharge
- Inspect all waste storage areas and dumpsters
 - Inspect for leaks
 - have repairs made immediately by responsible party
- Inspect vehicle maintenance and fueling areas
 - Look for pollutant generating areas and inspect
- Material handling areas
- Pollutant generating areas
- Perform a Visual Observation of Storm Water Discharges at High-Priority Facilities (or four times during the wet season)

CLEAN-UP

- Clean up spill immediately to prevent contact with precipitation or runoff
- Initiate spill response

DOCUMENTATION

- Fill out a quarterly comprehensive inspection sheet for each facility
- Document the inspection was complete on the Quarterly Comprehensive Log sheet along with the date it was completed

VISUAL STORM WATER DISCHARGE EXAMINATION REPORT

Quarterly

Name of Examiner _____ Permit No. UTR _____

Date of Examination: _____

Outfall location or ID number: _____

Nature of Discharge (i.e., runoff, land drain, irrigation or snowmelt) _____

Type of Monitoring:

<input type="checkbox"/> Dry Weather Screening Date of last Rainfall Event: _____	<input type="checkbox"/> Storm Water Monitoring Date of Rainfall Event: _____ Time of Event: _____ Precipitation: _____
--	--

Visual Quality of Storm Water Discharge (circle one)

At Time of Sampling:

After One Hour of Settling

Color: clear brown green rust other: _____

Odor: Yes / No

Clarity:

Floating Solids: Yes / No

Foam: Yes / No

Settled Solids: Yes / No

Suspended Solids: Yes / No

Oil Sheen: Yes / No

Other obvious indicators of storm water pollution: _____

Probable sources of any observed storm water contamination: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of

Examiner _____ Title _____

Signature _____ Date _____

VISUAL STORM WATER EXAMINATION SOP

1. Preparation:
 - a. Know the past and present weather conditions. Conduct inspections during dry weather periods.
 - b. Gather all necessary equipment including: tape measure, clear container, clipboard with necessary forms, flashlight, and camera (optional).
 - c. Obtain maps showing outfall locations and identifiers.
 - d. Obtain outfall description and observations from previous inspections, so the outfall can be accurately identified and observations compared.

2. Process
 - a. Perform an inspection of each outfall at least once per year. Whenever possible use the same personnel for consistency in observations.
 - b. Identify each outfall with a consistent and unique identifier. For example "Howard Slough-#13". Use maps and previous inspection reports to confirm the outfall identity and location.
 - c. If dry weather flow is present at the outfall, then document and evaluate the discharge by completing the following steps:
 1. Collect field samples for visual observations in a clean, clear container and in a manner that avoids stirring up sediment that might distort the observation.
 2. Characterize and record observations on basic sensory and physical indicators (e.g., outfall condition, flow, odor, color, oil sheen) on the Outfall Inspection Form.
 3. Compare observations to previous inspections.
 4. If the flow does not appear to be an obvious illicit discharge (e.g., flow is clear, odorless, etc.), attempt to identify the source of the flow (groundwater, intermittent stream, etc.)
 - d. If an illicit discharge (such as raw sewage, petroleum products, paint, etc.) is encountered or suspected, follow the procedure of SOP IDDE - Tracing Illicit Discharges.

QUARTERLY COMPREHENSIVE INSPECTIONS "High Priority" Facilities

Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan.

Inspection Frequency: Quarterly
Date of Evaluation _____

Area Evaluated	Evaluated Y/N	Mainten. Required Y/N	Comments
High Priority Facility	-	-	
Evidence of Spills?			List Pollutants:
If spill was it cleaned up?			
Any identified deficiencies?			
Waste Storage Areas			
Dumpsters			
Vehicle & Equipment Maint. areas			
Vehicle & Equipment fueling areas			
Material handling areas			
Pollutant generating areas			

This report shall be made and retained as part of the Storm Water Pollution Prevention Plan

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Examiner _____ Title _____

Signature _____ Date _____

SWPPP Inspection Checklist

Pre-inspection Items

- Contact Site Superintendent or Project Manager
- Review previous inspections – are there reoccurring problems?
- Proper equipment
 - Hard hat
 - Vest
 - Safety shoes
 - Safety glasses
 - Camera
 - GPS unit?
 - Inspector credentials

On-Site before inspecting

- Review SWPPP – updates and changes
- Review any specific concerns
- Check contractors inspection forms/issues

Inspection

- Use State Form – keep notes
- Check outfalls
- Check perimeter control
- Check entrances/exits
- Check erosion control BMPs
- Check sediment control BMPs
- Check for mud tracking
- Check stockpile/storage areas
- Check staging areas
- Take photos (only uncorrected violations)
- Keep photo log
- Review findings with superintendent/project manager

Post Inspection

- Review form, complete and clarify as needed
- File inspection form and photos
- Send copy of form to State – can be done monthly

Inventory of City-operated Facilities and Storm Water Controls

Facility	Control	Location	High Priority?	Notes
Golf Course	Golf Director	10640 N Club House Dr.		
Cart Barn			No	Cart Batteries, No SS drain
Club House			No	Sanitary Sewer drain
Grounds			No	No SS drain, grass maintenance
Maintenance			Yes	Fuel, oils, chemicals, No SS drains
Landscaped Retention Basins	Contract (Chris Wilkinson's)			
Canyon Heights		Canyon Heights Drive	No	No SS drain, grass maintenance
Cedar Hills		Cedar Hills Drive	No	No SS drain, grass maintenance
Cedar Run		Cedar Run Circle	No	No SS drain, grass maintenance
Redwood		Redwood Drive	No	No SS drain, grass maintenance
Silver Lake		Silver Lake Drive	No	No SS drain, grass maintenance
Timpanogos		Timpanogos Cove	No	No SS drain, grass maintenance
Valley View		Valley View Drive	No	No SS drain, grass maintenance
Parks	Contract (Chris Wilkinson's)			
Cedar Run		Cedar Run Circle	No	No SS drain, grass maintenance
Doral		10444 N Doral	No	No SS drain, grass maintenance
Heritage		4450 W Cedar Hills	No	SS drain/Restrooms, grass maint.
Heiselt's Hollow		3955 W Cedar Hills	No	SS drain/Restrooms, grass maint.
Mesquite		10440 N Mesquite	No	No SS drain, grass maintenance
Pine Hollow		8975 N Pine Hollow	No	No SS drain, grass maintenance
Sunset		9814 N Dorchester	No	SS drain/Restrooms, grass maint.
Timpanogos		9508 N Timp Cove	No	SS drain/Restrooms, grass maint.
Public Safety Building	PW Director	3925 W Cedar Hills Drive	No	SS drain, offices, only equipment and supply storage
Public Works/City Office Building	PW Director	10246 N Canyon Road	Yes	SS drain, offices, equipment and supply storage
Recreation Center	PW Director	10640 N Club House Dr.	No	SS drain, offices, grill, events room
BoosterPumpHouse	PW Director	10300 N Bayhill	No	No SS drain, culinary water only
Cottonwood Well	PW Director	10405 N Cottonwood	No	No SS drain, culinary water only
Harvey Well	PW Director	9980 N 4500 W	No	No SS drain, culinary water only
Lower Tank	PW Director	Heiselt's Hollow	No	No SS drain, culinary water only
PI Storage Tank	PW Director	Sage Vista Lane	No	No SS drain, irrigation water only
Upper Tank	PW Director	Sage Vista Lane	No	No SS drain, culinary water only

Floor Drain Inventory

Booster Station/Restroom Building- Bayhill: All floor drains discharge to sewer

Parks-Heiselt's Hollow Restroom Building: All floor drains discharge to sewer

Parks- Heritage Restroom Building: All floor drains discharge to sewer

Parks- Mesquite Restroom Building: All floor drains discharge to sewer

Parks- Sunset Restroom Building: All floor drains discharge to sewer

Parks- Timp Cove Restroom Building: All floor drains discharge to sewer

Public Safety Building: All floor drains and grease interceptor discharge to sewer; Maintenance Bay: All floor drains discharge to sewer

Public Works/ City Office Building: All floor drains and grease interceptor discharge to sewer; Maintenance Bay: All floor drains are capped

Recreation Center/Golf Clubhouse: All floor drains and grease interceptor discharge to sewer

Well- Cottonwood Building: All floor drains discharge to sewer

Well- Harvey Building: All floor drains discharge to sewer

RETROFITTING EXISTING INFRASTRUCTURE



THE
LANGDON
GROUP



GATEWAY
MAPPING
INC.

OTHER J-U-B COMPANIES

- 4.2.5.3.3 The Permittee must develop a plan to retrofit existing developed sites that are adversely impacting water quality. The retrofit plan must be developed to emphasize controls that infiltrate, evapotranspire or harvest and use storm water discharges. The plan must include a ranking of control measures to determine those best suited for retrofitting as well as those that could later be considered for retrofitting. The Permittee must include the following when developing the criteria for the retrofit plan:
- Proximity to waterbody
 - Status of waterbody to improve impaired waterbodies and protect unimpaired waterbodies
 - Hydrologic condition of the receiving waterbody
 - Proximity to sensitive ecosystem or protected area
 - Any upcoming sites that could be further enhanced by retrofitting storm water controls
- 4.2.6.7.1 Existing flood management structural controls must be assessed to determine whether changes or additions should be made to improve water quality. A description of this process and determinations should be included in the SWMP document.

Possible Steps to Retrofitting Existing Infrastructure

1. Start with a map of your existing storm water system
2. Evaluate existing Post Construction BMPs for retrofitting opportunities
3. Overlay existing and future land use mapping
4. Look at sub-catchments/drainage areas – prioritize based on land use, impaired waters, and sensitive areas
5. Start with High priority areas
 - a. Start at downstream end and look for property or opportunities to retrofit existing system for water quality
 - b. Review list of possible post construction BMPs
 - c. Work upstream to the upper ends of the high priority areas
 - d. Compile a list of potential projects
 - e. Create budgetary level costs for each project
 - f. Prioritize projects
 - g. Document findings – including reasons for prioritization
 - h. Integrate this list with existing Storm Water Capital Improvement Projects
6. Repeat for Medium priority areas
7. Repeat for Low priority areas
8. Budget for and implement projects
9. Consider retrofit options with all redevelopment projects

Questions to ask when considering retrofits

1. Are there any highly impacted areas?
2. Why are these areas highly impacted?
3. Where are they?
4. How does the existing system work in this area?
5. What BMPs might address the problems?
6. Is there room to retrofit at the end of the line?
7. Would projects upstream maximize water quality and minimize impacts?
8. What are the anticipated costs?
9. How soon can this be programmed?
10. Do we have retrofitting requirements when redeveloping?

APPENDIX C

IDDE PROGRAM

- IDDE Procedures/SOP's
- Flow chart
- Incoming Call Report Form
- Spill Response Procedure
- Spill Response Report Form
- Dry Weather Screening
- Illicit Discharge Inspection Form

IDDE SOPs

Standard Operating Procedures

IDDE - Call-in Inspections

IDDE - Opportunistic Illicit Discharge Observation

IDDE - Outfall Inspections

IDDE - Removing Illicit Discharges

IDDE - Tracing Illicit Discharges

IDDE - Call-in Inspections

1. Preparation
 - a. Have a system in place to receive phone calls and collect information regarding suspected illicit discharges.
2. Process
 - a. Use the Incident Tracking Sheet to collect the appropriate information from the caller. Then, transfer the Incident Tracking Sheet to the proper authority (i.e. department head, storm water specialist, construction inspector, code enforcement officer, or other assigned personnel).
 - b. Promptly investigate reported incidents.
 - c. If an illicit discharge of unknown source is confirmed, follow the procedure of SOP IDDE - Tracing Illicit Discharges.
 - d. If an illicit discharge known source is confirmed, follow the procedure of SOP IDDE - Removing Illicit Discharges.
3. Clean up
 - a. Clean catch basin, clean storm drain, or initiate spill response, as applicable. Follow relevant SOPs.
4. Documentation
 - a. File all completed forms (i.e. incident tracking, catch basins cleaning, storm drain cleaning).
 - b. Document any further action taken.
 - c. Review incidents reported by citizens on an annual basis to look for patterns of illicit discharges and to evaluate the call-in inspection program.

IDDE - Opportunistic Illicit Discharge Observation

1. Preparation
 - a. Be alert for potential illicit discharges to the municipal storm water system while going about normal work activities.
2. Process
 - a. Call the appropriate authority (department head, storm water specialist, building inspector, code enforcement officer or a supervisor) if you see evidence of an illicit discharge.
 - b. Assess the general area of the illicit discharge to see if you can identify its source.
 - c. Whenever possible, take photographs of the suspected illicit discharge.
 - d. Responding storm water department personnel or code enforcement officer will complete the following:
 1. Use the IDDE Incident Tracking Sheet to document observations.
 2. Obtain sample for visual observation and complete an Outfall Inspection Form, if applicable.
 3. Follow the procedure of SOP IDDE - Tracing Illicit Discharges.
3. Clean-up
 - a. Clean catch basin, clean storm drain, or initiate spill response, as needed. Follow relevant SOPs.
4. Documentation
 - a. File all completed forms (Incident Tracking Form, Outfall Inspection Form, Catch Basin Cleaning Form and Storm Drain Cleaning Log).
 - b. Document any further action taken.

IDDE - Outfall Inspections

1. Preparation:
 - a. Know the past and present weather conditions. Conduct inspections during dry weather periods.
 - b. Gather all necessary equipment including: tape measure, clear container, clipboard with necessary forms, flashlight, and camera (optional).
 - c. Obtain maps showing outfall locations and identifiers.
 - d. Obtain outfall description and observations from previous inspections, so the outfall can be accurately identified and observations compared.

2. Process
 - a. Perform an inspection of each outfall at least once per year. Whenever, possible use the same personnel for consistency in observations.
 - b. Identify each outfall with a consistent and unique identifier. For example “Howard Slough-#13”. Use maps and previous inspection reports to confirm the outfall identity and location.
 - c. If dry weather flow is present at the outfall, then document and evaluate the discharge by completing the following steps:
 1. Collect field samples for visual observations in a clean, clear container and in a manner that avoids stirring up sediment that might distort the observation.
 2. Characterize and record observations on basic sensory and physical indicators (e.g., outfall condition, flow, odor, color, oil sheen) on the Outfall Inspection Form.
 3. Compare observations to previous inspections.
 4. If the flow does not appear to be an obvious illicit discharge (e.g., flow is clear, odorless, etc.), attempt to identify the source of the flow (groundwater, intermittent stream, etc.)
 - d. If an illicit discharge (such as raw sewage, petroleum products, paint, etc.) is encountered or suspected, follow the procedure of SOP IDDE - Tracing Illicit Discharges.

3. Cleanup - as necessary

4. Documentation
 - a. File completed outfall inspection forms.
 - b. Update maps if new outfalls are observed and inspected.

IDDE - Removing Illicit Discharges

1. Preparation
 - a. Obtain available property ownership information for the source of the illicit discharge.
2. Process
 - a. Determine who is financially responsible; and follow associated procedures as given below.

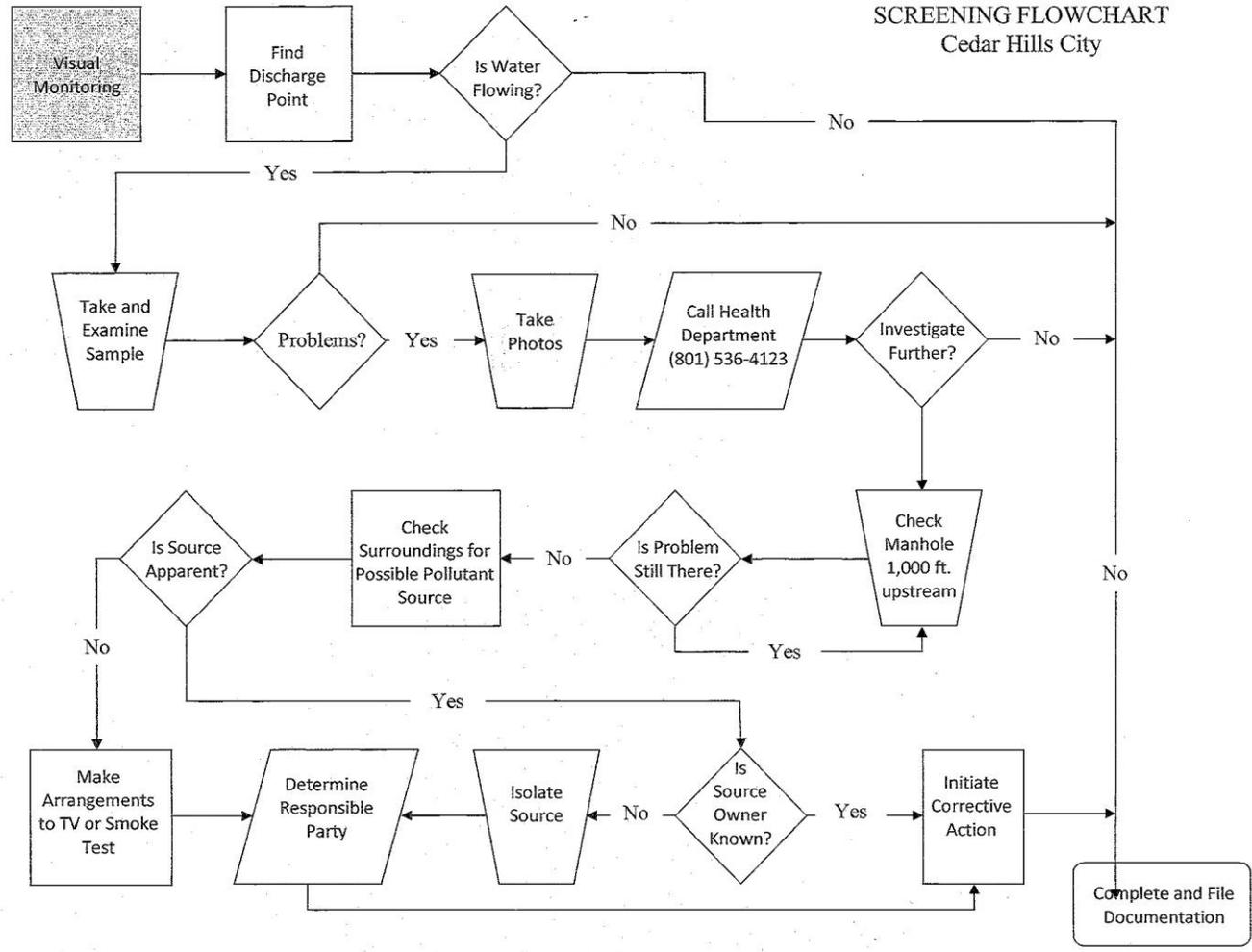
For Private Property Owner:
Contact Owner,
Issue Notice of Violation for violations of the municipal ordinance, and
Determine schedule for removal.

For Municipal Facility:
Notify appropriate municipal authority or department head,
Schedule removal, and
Remove illicit connection.
 - b. Suspend access to storm drain if threats of serious physical harm to humans or the environment are possible.
 - c. Direct responsible party to initiate repairs/corrections/cleanup. Coordinate with enforcement official for escalating penalties in accordance with the municipal ordinance.
 - d. Repair/correct cause of discharge if municipality is responsible. Schedule the work through the appropriate municipal authority or department head..
 - e. Seek technical assistance from the Weber-Morgan Health Department or Utah Department of Water Quality, if needed.
3. Clean up
 - a. Confirm illicit discharge is removed or eliminated by follow-up inspection.
4. Documentation
 - a. Maintain records of notice of violation and penalties.
 - b. Document repairs, corrections, and any other actions required.

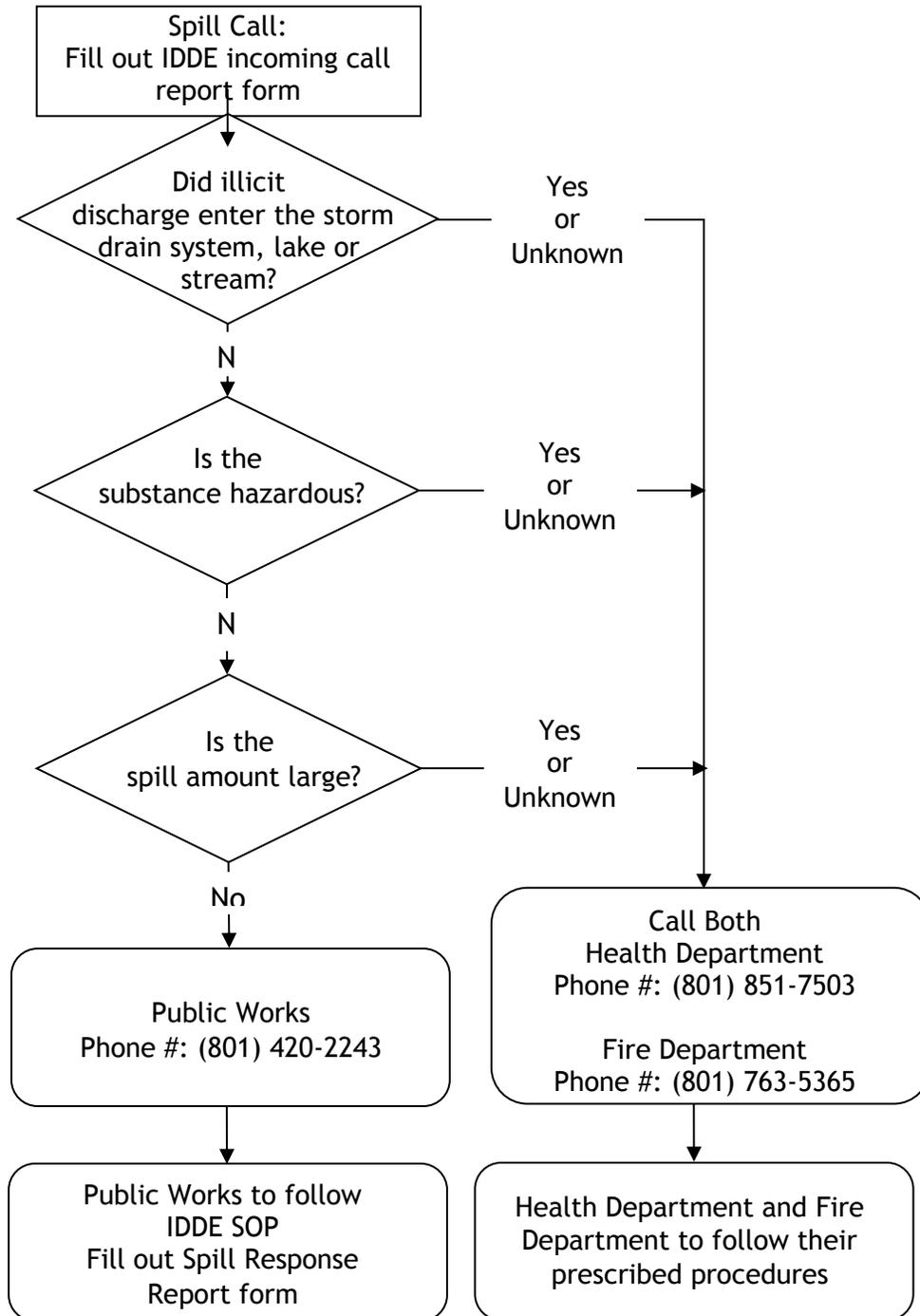
IDDE - Tracing Illicit Discharges

1. Preparation
 - a. Review / consider information collected when illicit discharge was initially identified and document using Incident Tracking Form or Outfall Inspection Form.
 - b. Obtain storm drain mapping for the area of the reported illicit discharge.
 - c. Gather all necessary equipment including: tape measure, clear container, clipboard with necessary forms, flashlight, and camera (optional).
2. Process
 - a. Survey the general area / surrounding properties to identify potential sources of the illicit discharge as a first step.
 - b. Trace illicit discharges using visual inspections of upstream points as a second step. Use available mapping to identify tributary pipes, catch basins, etc.
 - c. If the source of the illicit discharge cannot be determined by a survey of the area or observation of the storm drain system, then consider the following additional steps:
 1. Use weirs, sandbags, dams, or optical brightener monitoring traps to collect or pool intermittent discharges during dry weather.
 2. Smoke test or televise the storm drain system to trace high priority, difficult to detect illicit discharges.
 3. Dye test individual discharge points within suspected buildings.
 4. Consider collecting bacterial samples of flowing discharges to confirm/refute illicit discharge.
 - d. If the source is located, follow SOP IDDE - Removing Illicit Discharges.
 - e. If the source cannot be found, add the location to a future inspection program.
3. Clean up
 - a. Clean catch basin, clean storm drain, or initiate spill response, as applicable. Follow relevant SOPs.
4. Documentation
 - a. Document tracing results for future reference.

DRY WEATHER
SCREENING FLOWCHART
Cedar Hills City



INCIDENT RESPONSE FLOW CHART CITY of CEDAR HILLS



IDDE INCOMING CALL REPORT FORM

(For Phone Operator)

Date of Illicit Discharge _____ Time _____

Duration _____

Address of Discharge _____

Name of person discharging (If applicable) _____

Name & phone number of person making the call _____

Chemical name or identity of any substance involved in the release _____

Is substance hazardous? _____

Estimate of Quantity Spilled?

Did the illicit discharge enter a waterbody? (Lake or Stream)

Did the illicit discharge enter the storm drain system? (Manhole or storm drain pipe)

Yes No Any known or anticipated acute or chronic health risks for exposed individuals associated with the emergency spill:

See Illicit Discharge determination form

Spill/Dumping Response Plan (S.O.P)

Follow these steps if a spill occurs:

1. Stop source
2. Contain Spill
3. Call Supervisor
4. Identify substance
5. Quantify spill
6. Did spill leave the site?
7. Call Utah County Storm Water Hotline (801-851-7873)
8. Call County Health Department (801-851-7503)
9. Call State Environmental Emergency Response (801-536-4123)
10. Cleanup & dispose
11. Document
(Use Spill Response Report from SWPPP Appendix C)

SPILL/DUMPING RESPONSE REPORT FORM

(For Public Works Crew)

Date of Spill _____ Time _____

Duration _____

Chemical name or identity of any substance involved in the release

Is it a hazardous substance?

Estimate of Quantity

Spilled _____

Who Responded?

Cleaning Method

Used _____

Any Discharge to Storm Drain?

Any known or anticipated acute or chronic health risks for exposed individuals associated with the emergency spill:

Where proper precautions taken, including evacuation, if necessary?

Was Spill Reported to the State? Yes No

DRY WEATHER SCREENING AND VISUAL STORM WATER DISCHARGE EXAMINATION REPORT

Name of Examiner _____ Permit No. UTR _____

Date of Examination: _____

Outfall location or ID number: _____

Nature of Discharge (i.e., runoff, land drain, irrigation or snowmelt) _____

Type of Monitoring:

<input type="checkbox"/> Dry Weather Screening Date of last Rainfall Event: _____	<input type="checkbox"/> Storm Water Monitoring Date of Rainfall Event: _____ Time of Event: _____ Precipitation: _____
--	--

Visual Quality of Storm Water Discharge (circle one)

At Time of Sampling:

After One Hour of Settling

Color: clear brown green rust other: _____

Odor: Yes / No

Clarity:

Floating Solids: Yes / No

Foam: Yes / No

Settled Solids: Yes / No

Suspended Solids: Yes / No

Oil Sheen: Yes / No

Other obvious indicators of storm water pollution: _____

Probable sources of any observed storm water contamination: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Examiner _____ Title _____

Signature _____ Date _____

APPENDIX D

DOCUMENTATION

- Justification for Changes
- BMP Performance Recording Forms
- Enforcement Actions
- Training Schedule
- Training Log
- Privately Owned Storm Water Systems Inventory
- Privately Owned Storm Water System Inspection
- Inspection Log
- Construction Document Log
- Decision Making Process Elements
- Program Evaluation Forms
- Annual Reports

JUSTIFICATION FOR CHANGES

Updating Storm Water Management Program: Updates to the Storm Water Management Program must be done in accordance with Section 4.4 of the MS4 Permit with the following information submitted to the State.

BMP Name: _____

BMP Description: _____

Explanation of ineffectiveness or infeasibility _____

Affected Goal _____

Replacement BMP Name: _____

Replacement BMP Description: _____

Anticipated Effectiveness/feasibility _____

Analysis of Replacement BMP: _____

- See attachments:
- Old BMP Fact Sheets
 - Effectiveness Data
 - Replacement Fact Sheet
 - Anticipated Effectiveness Data
 - Analysis Information

Certification and Signature. (6.8.3) (by Principal Executive Officer or Ranking Elected Official)
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

MS4 Name

Print name

Signature

Date

JUSTIFICATION FOR CHANGES

Updating Storm Water Management Program: Updates to the Storm Water Management Program must be done in accordance with Section 4.4 of the MS4 Permit with the following information submitted to the State.

BMP Name: See Attached

BMP Description: _____

Explanation of ineffectiveness or infeasibility None

Affected Goal None

Replacement BMP Name: None

Replacement BMP Description: None

Anticipated Effectiveness/feasibility _____

Analysis of Replacement BMP: _____

- See attachments:
- Old BMP Fact Sheets
 - Effectiveness Data
 - Replacement Fact Sheet
 - Anticipated Effectiveness Data
 - Analysis Information

Certification and Signature. (6.8.3) (by Principal Executive Officer or Ranking Elected Official)
 I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

MS4 Name

Print name

Signature

Date

STORM WATER MANAGEMENT PLAN – 2015

Justification for Changes

The City of Cedar Hills has reviewed their current Storm Water Management Plan (SWMP) as part of the renewal process for a Small MS4 General UPDES Permit.

A number of changes have been made in the appendices. These changes involve standard operating procedures, documentation and forms. Language changes have been made to clarify and expand the illicit discharge, training, education, and post construction programs.

No BMPs have been removed from the current program. A few of the prior BMPs have had additional language inserted to expand coverage, such as in the education of multiple target audiences. New BMPs have been added to help schedule programs, such as evaluating and retrofitting post construction BMPs as needed.

The City of Cedar Hills is confident that the recently updated SWMP as submitted will improve storm water management within its jurisdiction.

BMP PERFORMANCE RECORDING FORMS

APPENDIX D, BMP PERFORMANCE RECORDING FORMS contains blank forms upon which performance towards those BMPs that will be performed by Cedar Hills City employees can be recorded.

Timely recording of BMP activities on the forms will help create an accurate record of performance towards BMP goals, and will facilitate compilation of the annual report to the State.

BMP REQUIREMENTS

1. MINIMUM CONTROL MEASURE #1: PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Distribute informational and educational materials in utility billing, multimedia and on City web site.	Educational materials promote public awareness of storm water issues.	Include materials in mailing two times per year	December 2004

PERFORMANCE

ACTIVITY CONDUCTED

DATE CONDUCTED

We all live downstream (Mailing / Web Site) _____

OTHER DOCUMENTATION

BMP REQUIREMENTS

1. MINIMUM CONTROL MEASURE #1: PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Distribute water conservation information with utility billings and multimedia during summer months	Reducing excess runoff from landscaped areas may reduce the carry of lawn chemicals, nutrients and sediment to the storm drainage system	Include materials in billings two times per year	March – August 2003 and each year thereafter

PERFORMANCE

ACTIVITY CONDUCTED

DATE CONDUCTED

Water Conservation (Mail and Web Site) _____

OTHER DOCUMENTATION

BMP REQUIREMENTS

1. MINIMUM CONTROL MEASURE #1: PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Enact graduated culinary water rates to encourage conservation	Reducing excess runoff from landscaped areas may reduce the carry of lawn chemicals, nutrients and sediments to the storm drainage system	Adopt ordinance containing graduated culinary water rates	April 2003

PERFORMANCE

ACTIVITY CONDUCTED

DATE CONDUCTED

OTHER DOCUMENTATION

BMP REQUIREMENTS

1. MINIMUM CONTROL MEASURE #1: PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Participate with the Utah County Storm Water Coalition	The Utah County Storm Water program contains BMPs in behalf of the City	Document the information and results from coalition activities	See Utah County Storm Water Management Program

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

1. MINIMUM CONTROL MEASURE #1: PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
E. Document overland overflowing of irrigation water on residential and commercial properties	Data will indicate public awareness of storm water issues	Complete inspection two times per year	2011

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

2. MINIMUM CONTROL MEASURE #2: PUBLIC PARTICIPATION/INVOLVEMENT

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Assist Advisory Committee to implement the SWMP	This provides an opportunity for public involvement and input on the SWMP	Annual review	March 2004 – April 2004

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

2. MINIMUM CONTROL MEASURE #2: PUBLIC PARTICIPATION/INVOLVEMENT

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Review SWMP in a public meeting at the time of adoption	This facilitates public involvement in the SWMP		July 2016

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

2. MINIMUM CONTROL MEASURE #2: PUBLIC PARTICIPATION/INVOLVEMENT

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Sponsor storm drain inlet decal marking	Marking the inlets will increase public awareness of storm water contamination potential	Document who sets the decals and the number of decals set	August 2004; ongoing

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

2. MINIMUM CONTROL MEASURE #2: PUBLIC PARTICIPATION/INVOLVEMENT

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Sponsor community clean-up and other service opportunities	During clean-up projects, volunteers collect and dispose of debris that might otherwise enter the storm water system	Sponsor at least one time per year – Document dates and locations	May 2003; annually

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

3. MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Map the Storm Drainage System and track the number / type of spills and illicit discharges identified	Mapping a system is essential to effectively managing it	Publish Storm Drainage System map and review annually	September 2004

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

3. MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Develop an ordinance regulating storm drainage (Ord. Title 7 Ch. 3 Article A)	An ordinance gives legislative authority to require that the quantity and quality of storm water discharge be regulated	Adopt ordinance regulating storm drainage and review annually	November 2005

PERFORMANCE

<u>ACTIVITY CONDUCTED</u>	<u>DATE CONDUCTED</u>
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OTHER DOCUMENTATION

BMP REQUIREMENTS

3. MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Inspect outfalls during dry weather periods to identify non-storm water discharges	Inspections of outfalls when there should be no discharge may help identify illicit discharges	Document inspection of outfalls once during the 5-year permit term	August 2004; annually thereafter

PERFORMANCE

ACTIVITY CONDUCTED

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OTHER DOCUMENTATION

BMP REQUIREMENTS

3. MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Inspect the storm drainage system	Inspections of the system may help identify materials that should not be present in the system, after which their source may be identified	Document annual inspection of storm drainage system	annually

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

3. MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
E. Provide sanitary sewer to areas having septic systems and connect them to the sanitary sewer	Eliminating septic systems may result in pollution resulting in failure of the septic systems.	Construct sewer improvements per capital improvement plan	Ongoing

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

3. MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
F. Provide educational material explaining the harmful effects of illicit discharges	Awareness of the serious impacts of illicit discharges may reduce illicit discharges	Document violations and note changes, review annually	Ongoing

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

3. MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
G. Promote and provide services for the collection of household hazardous waste with the assistance of the Utah County Storm Water Coalition	Eliminate improper disposal of hazardous household waste	Provide services annually	Ongoing

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

3. MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
H. Training of all staff including all contracted staff (LPFD, landscape Co.)	IDDE program including identification, investigation, termination, cleanup, and reporting of illicit discharges including spills, improper disposal, and illicit connections.	Annually	Ongoing

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

4. MINIMUM CONTROL MEASURE #4: CONSTRUCTION SITE RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Develop an ordinance regulating construction site storm drainage	An ordinance gives legislative authority to require that storm water discharge be regulated with the use of erosion and sediment control practices at construction sites	Update ordinance regulating construction site storm drainage	2018

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

4. MINIMUM CONTROL MEASURE #4: CONSTRUCTION SITE RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Develop drainage design guidelines	These will contain the technical part of the storm water regulations	Publish drainage design guideline document	March 2004 – September 2004

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

4. MINIMUM CONTROL MEASURE #4: CONSTRUCTION SITE RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Develop a set of standard BMPs	Standardized BMPs for use during and after construction will facilitate implementation	Add BMPs to construction standards document	March 2004 – September 2004

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

4. MINIMUM CONTROL MEASURE #4: CONSTRUCTION SITE RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Require that land developers provide a SWPPP to adequately address storm water quality in their development plans and maintain coverage under the current UPDES Storm Water General Permits for Construction Activities for the duration of the project	Planning adequate measures to mitigate storm water pollution during the land development should reduce pollution	Add Construction Site Storm Water Pollution Prevention Plan to submittal requirements and verify UPDES permit coverage has been established	November 2005

PERFORMANCE

ACTIVITY CONDUCTED

DATE CONDUCTED

OTHER DOCUMENTATION

BMP REQUIREMENTS

4. MINIMUM CONTROL MEASURE #4: CONSTRUCTION SITE RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
E. Review Construction Site Storm Water Management Plan with contractors during preconstruction meeting	This encourages contractors to implement and maintain the required BMPs	Record and file minutes of preconstruction meetings	In place

PERFORMANCE

<u>ACTIVITY CONDUCTED</u>	<u>DATE CONDUCTED</u>
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OTHER DOCUMENTATION

BMP REQUIREMENTS

4. MINIMUM CONTROL MEASURE #4: CONSTRUCTION SITE RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
F. Inspect construction sites to verify that storm water pollution prevention measures are adequate	Inspection is often necessary to achieve successful storm water pollution prevention	1. Contract inspection with inspection firm 2. Conduct annual training meeting with inspectors	1. In place 2. February 2005; annually thereafter

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

4. MINIMUM CONTROL MEASURE #4: CONSTRUCTION SITE RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
G. Conduct inspection of developments to verify streets and storm drainage facilities are clean before final acceptance	This encourages developers to maintain good pollution prevention measures and requires them to clean up any problems that have occurred	Adopt ordinance allowing the City to hold bond money until streets and storm drainage facilities are clean	In place

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

5. MINIMUM CONTROL MEASURE #5: POST CONSTRUCTION RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Develop and maintain an ordinance regulating post construction site storm drainage	An ordinance gives legislative authority to require that storm water discharge be regulated and inspected by Permittee	Adopt ordinance regulating post construction site storm drainage	2020

PERFORMANCE

<u>ACTIVITY CONDUCTED</u>	<u>DATE CONDUCTED</u>
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OTHER DOCUMENTATION

BMP REQUIREMENTS

5. MINIMUM CONTROL MEASURE #5: POST CONSTRUCTION RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Develop a set of standard BMPs	Standardized BMPs for use during and after construction will facilitate their implementation	Add BMPs to construction standards document	March 2004-September 2004

PERFORMANCE

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OTHER DOCUMENTATION

BMP REQUIREMENTS

5. MINIMUM CONTROL MEASURE #5: POST CONSTRUCTION RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Require that land developers/site owners create commercial/PUD operation and maintenance plans adequately addressing storm water runoff concerns	Requiring that site owners adequately address storm water quality should reduce pollution	Add commercial/PUD operation and maintenance plans to development submittal requirements	March 2004 – September 2004

PERFORMANCE

ACTIVITY CONDUCTED

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OTHER DOCUMENTATION

BMP REQUIREMENTS

5. MINIMUM CONTROL MEASURE #5: POST CONSTRUCTION RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Inspect installation of post construction BMPs	Inspection is often necessary to achieve successful storm water pollution prevention	1. Contract inspection with inspection firm 2. Conduct annual training meeting with inspectors	1. In place 2. February 2005; annually thereafter

PERFORMANCE

<u>ACTIVITY CONDUCTED</u>	<u>DATE CONDUCTED</u>
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OTHER DOCUMENTATION

BMP REQUIREMENTS

5. MINIMUM CONTROL MEASURE #5: POST CONSTRUCTION RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
E. Conduct inspection of post construction sites once every five years	Inspection of post construction BMPs are necessary to ensure that adequate maintenance is being performed to achieve continued storm water pollution prevention	1. During durability period, contract inspections with inspection firm 2. After durability period, document inspections	1. In place 2. July 2016: Inspect once every 5 years

PERFORMANCE

<u>ACTIVITY CONDUCTED</u>	<u>DATE CONDUCTED</u>

OTHER DOCUMENTATION

BMP REQUIREMENTS

5. MINIMUM CONTROL MEASURE #5: POST CONSTRUCTION RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
F. Adopt narrower street cross section and encourage other LID techniques	A narrower street cross section should reduce runoff	Add narrower street cross section to construction standards	March 2004

PERFORMANCE

<u>ACTIVITY CONDUCTED</u>	<u>DATE CONDUCTED</u>
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OTHER DOCUMENTATION

BMP REQUIREMENTS

5. MINIMUM CONTROL MEASURE #5: POST CONSTRUCTION RUNOFF CONTROL

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
G. Develop a plan to retrofit sites that are adversely impacting water quality	New materials and/or methods may help reduce storm water pollution	retrofit plan implemented	Ongoing

PERFORMANCE

<u>ACTIVITY CONDUCTED</u>	<u>DATE CONDUCTED</u>
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OTHER DOCUMENTATION

BMP REQUIREMENTS

6. MINIMUM CONTROL MEASURE #6: POLLUTION PREVENTION/GOOD HOUSEKEEPING

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Sweep streets and parking lots	Cleaning materials from street and parking lot surfaces keeps it out of the storm drainage system	Sweep all streets and parking lots semi-annually	April 2003; semi-annually thereafter

PERFORMANCE

ACTIVITY CONDUCTED

DATE CONDUCTED

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OTHER DOCUMENTATION

BMP REQUIREMENTS

6. MINIMUM CONTROL MEASURE #6: POLLUTION PREVENTION/GOOD HOUSEKEEPING

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Inspect City owned facilities as required. (see 4.2.6.5.1)	Inspections of the facilities may help identify materials that should not be present	Review reports for number of deficiencies and evaluate	Weekly, Quarterly, Annually

PERFORMANCE

<u>ACTIVITY CONDUCTED</u>	<u>DATE CONDUCTED</u>
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OTHER DOCUMENTATION

BMP REQUIREMENTS

6. MINIMUM CONTROL MEASURE #6: POLLUTION PREVENTION/GOOD HOUSEKEEPING

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Review storm drainage related procedures (SOPs) with Public Works Staff	Such training should result in better storm water pollution prevention by public employees	Discuss procedures in annual training meeting	February 2005; annually thereafter

PERFORMANCE

ACTIVITY CONDUCTED

DATE CONDUCTED

OTHER DOCUMENTATION

BMP REQUIREMENTS

6. MINIMUM CONTROL MEASURE #6: POLLUTION PREVENTION/GOOD HOUSEKEEPING

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Appropriately dispose of municipal vehicle waste	Contracting with a company specializing in waste disposal should keep vehicle waste out of the storm drainage system	Maintain outsourced disposal for vehicle waste	Ongoing

PERFORMANCE

ACTIVITY CONDUCTED

DATE CONDUCTED

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OTHER DOCUMENTATION

BMP REQUIREMENTS

6. MINIMUM CONTROL MEASURE #6: POLLUTION PREVENTION/GOOD HOUSEKEEPING

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
E. Submit annual report to the Utah Department of Environmental Quality	Annual report is requirement of permit	Submit report	October 2004; annually thereafter

PERFORMANCE

ACTIVITY CONDUCTED

DATE CONDUCTED

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OTHER DOCUMENTATION

TRAINING SCHEDULE

Training Topic	Who	How Often	Paragraph
<ul style="list-style-type: none"> -Low impact development -Green infrastructure Practices -Post construction practices -BMP's chose in the swmp -Mirror Pre-Development Hydrology 	<ul style="list-style-type: none"> -MS4 Engineers -Development and plan review staff, -Land use planners -Others 	As applicable	4.2.1.6 4.2.5
<ul style="list-style-type: none"> IDDE Program -Identification -Investigation -Termination -Cleanup -Reporting -How to identify a spill -Improper disposal 	<ul style="list-style-type: none"> -All field staff -Office personnel -Contracted Staff 	Upon hire Annually	4.2.3.11 4.2.1.5
<ul style="list-style-type: none"> -Implementing a construction storm water program -Permitting -Plan review -Construction site inspections -Enforcement 	Staff with following responsibilities: <ul style="list-style-type: none"> -Implementing the construction storm water program -Permitting -Plan review -Construction site inspections -Enforcement -Third party inspectors 	Annually	4.2.4.5
Fundamentals of long-term storm water management through the use of structure and non-structural BMPs.	All staff & contracted staff involved <ul style="list-style-type: none"> -In post-construction storm water management -Planning and review -Inspections and enforcement 	Annually	4.2.5.6
Preventing or reducing pollutant runoff from all Permittee owned or operated facilities	-All staff & contracted staff	Not specified	4.2.6
Use, storage, and disposal of chemicals	-Those responsible for handling chemicals	Not specified	4.2.6.4.1
<ul style="list-style-type: none"> -Importance of protecting water quality -Requirements of SWMP permit -Operation and maintenance requirements -inspection procedures, -Ways to perform their job activities to prevent or minimize impacts to water quality -SOP's for the various Permittee-owned facilities -Procedures for reporting water quality concerns; including potential illicit discharges -Changes in procedures 	All employees who have primary construction, operation, or maintenance job functions that are likely to impact storm water quality	Annually	4.2.6.9
<ul style="list-style-type: none"> Illicit Discharge/Waste Disposal - Equipment inspection - Storage of industrial materials - Disposal of waste - Management of dumpsters - Minimizing Salt/De-icing - On-site infiltration - Maintenance of parking lots 	Employees of owned or operated facilities	Not specified	4.2.1.5

Privately Owned Storm Water Systems Inventory

Cedar Hills Retail building A & B
Cedar Hills MSL, LLC (Charleston)
Harts Gas and Food
JP Morgan Chase Bank
Lexington Heights Dental
McDonalds
Walmart Supercenter
Avanyu HOA
Bridgestone HOA
Temple Shadows HOA
Cedar Ridge Elementary
Deerfield Elementary
Renaissance HOA – 2 Retention Basins w/Sumps
Cottages at Canyon Heights – 2 Retention Basins w/ 14' Sumps (Cedar Hills Streets; HOA Storm Drain and owner of property with no easement)

Privately Owned Storm Sewer Systems Inspection

(New Form 2016)

Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan.

Inspection Frequency: Once every five years

Project location _____ Date of evaluation _____

Ownership information name, address, phone number _____

Area Evaluated	Evaluated Y/N	Mainten. Required Y/N	Comments
Condition of Storm Water Control Measures	-	-	
Vegetation and soils			
Inlet/outlet channels and structures Sediment and debris accumulation			
Catch basins			
Spillways			
Weirs			
Other control structures			
Storage-retention basins/chambers Sediment and debris accumulation			

This report shall be made and retained as part of the Long Term Storm Water Management (Small MS4 General UPDES Permit 4.2.5.)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Examiner _____ Title _____

Signature _____ Date _____

**Storm Water Management Program
Minimum Control Measures
Evaluation Process
City of Cedar Hills**

Decision Making Process Elements

1. Assess the general success of each Minimum Control Measure.
 - a. Are residents more aware of and implementing the Storm Water Management Program (SWMP)?
 - b. Are businesses, institutions and commercial facilities more aware of and implementing the SWMP?
 - c. Are developers and contractors more aware of and implementing the SWMP?
 - d. Are industrial facilities more aware of and implementing the SWMP? Are Industrial facilities maintaining their Sector P requirements?
2. Review target pollutants and pollutant sources for each MCM.
 - a. Are they still valid?
 - b. Should they be modified?
3. Review the measurable goals associated with each MCM.
 - a. Has the goal been achieved?
 - b. If goals have not been achieved, why not?
 - c. Revise goals as necessary to improve the MCM.
4. Identify and review best management practices (BMPs) associated each MCM.
 - a. Has the BMP been implemented?
 - b. Has the objective of the BMP been achieved?
 - c. Should the BMP be revised or discontinued?

Note: The above process should be used, annually, for each MCM and BMP associated with the Storm water Management Plan. Use the "Evaluation and Documentation" form.

Annual Reports

APPENDIX E

CITY ORDINANCES

- Adoption of the Storm Water Management Program
- Storm Sewer Utility
- Storm Drainage Ordinance

RESOLUTION NO. 11-9-2010A

A RESOLUTION ADOPTING A STORM WATER MANAGEMENT PROGRAM FOR THE CITY OF CEDAR HILLS, UTAH.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CEDAR HILLS, UTAH, as follows:

**Section 1
Program Adopted**

That certain document entitled Cedar Hills Storm Water Management Program ("Program") that was adopted on August 17, 2004, by Resolution 8-17-2004A is hereby amended and adopted by reference. Said Program shall be applicable in guiding the management of storm water within the City and is on file at the Office of the City Recorder.

**Section 2
Intent**

1. It is the intent of the City Council, through the adoption of the Program, to develop best management practices to address the six (6) minimum control measures established by the Environmental Protection Agency and administered by the Utah Department of Environmental Quality.
2. This document, as may from time to time be amended, shall constitute the Program for Storm Water Management with the City.

**Section 3
Conflicts**

Wherever the terms of this Program shall conflict with the terms of any other application regulation, the more stringent shall apply, unless relief therefrom shall be granted by the City Council.

**Section 4
Enforcement - Remedies for Violation - Penalty**

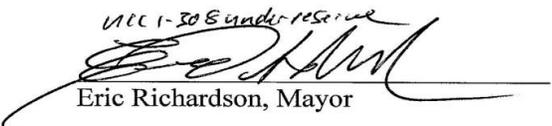
1. Injunction, Mandamus, Abatement
The City Council, Zoning Administrator, City Engineer, or any owner of real property within the City upon which a violation occurs or is about to occur may, in addition to other remedies provided by law including filing of misdemeanor charges, institute injunction, mandamus, abatement or any other appropriate action or proceeding to prevent, enjoin, abate or remove any unlawful discharge or act. As such, authority to detect, enforce, inspect, eliminate, and correct violations of non-storm water discharges including illegal dumping, spills, and illicit discharge shall reside with said City Council, Zoning Administrator, City Engineer, or designee.

**Section 5
Severability**

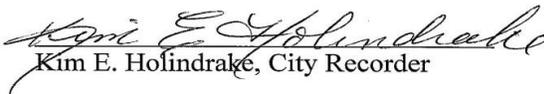
If any section, sentence, clause, or phrase of this resolution is held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause, or phrase of this resolution.

All resolutions or policies in conflict herewith are hereby repealed.

PASSED AND APPROVED THIS 9TH DAY OF NOVEMBER, 2010.

UCC 1-308 under reserve

Eric Richardson, Mayor

ATTEST:


Kim E. Holindrake, City Recorder



Chapter 3 STORM SEWER UTILITY

7-3-1: FINDINGS:

The city council makes the following findings regarding storm water runoff and the city storm sewer system:

- A. The city's existing storm sewer system consists of a network of manmade and natural facilities, structures and conduits, including ground water and aquifers, that collect and route storm water runoff.
- B. The city's existing storm sewer system does not adequately handle the storm water runoff generated in the city.
- C. The city's anticipated growth will place increased demands on the already inadequate storm sewer system.
- D. Uncontrolled or inadequately controlled storm water runoff causes erosion, property damage and unsafe conditions.
- E. Uncontrolled or inadequately controlled storm water runoff may hinder the city's ability to provide emergency services to its residents.
- F. Uncontrolled or inadequately controlled storm water runoff impedes the regular flow of traffic in the city.
- G. Uncontrolled or inadequately controlled storm water runoff may pose health hazards to the citizens of the community.
- H. All developed properties in the city contribute to the need for the storm sewer system by converting natural ground cover into impervious surfaces.
- I. All developed properties in the city make use of or benefit from the city's operation and maintenance of the storm sewer system.
- J. Absent effective maintenance, operation, regulation and control, existing storm water drainage conditions in the city constitute a potential hazard to the health, safety and general welfare of the city, its residents, and its businesses.
- K. A storm sewer utility is the most equitable and efficient method of managing storm water in the city and ensuring that each property in the city pays its fair share of the amount that the property contributes to, benefits from, and otherwise uses the storm sewer system. (Ord. 10-6-98A, 10-6-1998)

7-3-2: PURPOSE:

The purpose of this chapter is to protect the health, safety and general welfare of the city and its inhabitants by improving the city's storm sewer system, managing and controlling storm water runoff, protecting property, preventing polluted waters from entering the city water supply and other receiving waters, and establishing a viable and fair method of financing the construction, operation and maintenance of the storm sewer system. (Ord. 10-6-98A, 10-6-1998)

7-3-3: DEFINITIONS:

The following words and phrases shall be defined as follows:

DEVELOPED PARCEL: Any parcel that has been altered from its natural condition by grading, filling or the construction of improvements or other impervious surfaces.

EQUIVALENT SERVICE UNIT (ESU): The average amount of impervious surface, expressed in square feet, on developed single-family residential parcels in the City of Cedar Hills.

IMPERVIOUS SURFACE: Any hard surface, other than the natural surface, that prevents or retards the absorption of water into the soil, or that causes water to run off the surface in greater quantities or at a greater rate of flow than the natural surface. (Ord. 10-6-98A, 10-6-1998)

7-3-4: STORM SEWER UTILITY:

- A. Creation: The city council hereby creates and establishes a storm sewer utility as part of the city's overall sewer system. The storm sewer utility shall plan, design, construct, maintain, administer and operate the city storm sewer system.
- B. Enterprise Fund: The city council hereby establishes and adds a storm sewer utility enterprise to the water/sewer enterprise fund to handle all income, expenses and other financial transactions related to the storm sewer utility. All storm sewer utility service charges shall be deposited in the enterprise fund. The enterprise fund shall be operated according to state law and city policy.
- C. Facilities And Assets: The storm sewer utility shall operate independently of city operations funded by the general fund. The storm sewer utility shall have the same relationship to the city as the other city utilities, such as the water utility and the sanitary sewer (wastewater) utility. Upon creation of the utility, all of the city storm sewer facilities and assets (other than streets and other facilities and assets designated by the city), shall be transferred to the storm sewer utility in consideration for the storm sewer utility's agreement to take primary responsibility for planning, designing, constructing, maintaining, administering and operating the city storm sewer system. (Ord. 10-6-98A, 10-6-1998)
- D. Administration: The storm sewer utility shall be administered by and under the direction of the public works director. (Ord. 10-6-98A, 10-6-1998; amd. 2004 Code)

7-3-5: STORM SEWER UTILITY FEE:

- A. Imposed: Each developed parcel of real property in the city shall be charged a monthly storm sewer utility fee.
- B. Equivalent Service Unit (ESU): The storm sewer utility fee shall be based on the number of ESUs contained on the parcel. The city council finds that the ESU is the most accurate measurement for determining the amount that each parcel contributes to, benefits from, and otherwise uses the storm sewer utility. Based upon a random survey of approximately one hundred (100) building permits for single-family residential homes in the city, the city council finds and establishes that one ESU equals two thousand nine hundred (2,900) square feet of impervious surface area.
- C. Calculation: The city council finds that each single-family residential parcel contributes approximately the same amount of storm water runoff; therefore, each developed single-family residential parcel shall pay a base rate of one ESU. All nonsingle-family residential parcels shall pay a multiple of this base rate, expressed in ESUs, according to the measured impervious area on the parcel. The city council may adopt separate rates for planned residential developments (PRDs), condominiums and other uses that are not easily handled under the standard rate schedule.
- D. Charge Per ESU: The amount charged for each ESU shall be established by resolution of the city council according to the city fee schedule.
- E. Exemptions And Credits: The city council may establish exemptions and credits to the storm sewer utility fee by resolution.
- F. Policies: The public works director may adopt policies, consistent with this chapter and any resolutions passed by the city council, to assist in the application, administration and interpretation of this chapter and any resolutions related to the storm sewer utility.
- G. Appeals:
 1. Any person or entity that believes that this chapter, or any storm sewer utility rate resolution, was interpreted or applied erroneously, may appeal to the city manager. The appeal shall be in writing, shall state any facts supporting the appeal, and shall be submitted to the city manager within ten (10) days of the decision, action or bill being appealed.
 2. The city manager may elect to hold a hearing on the appeal.
 3. The city manager shall decide and issue a written memorandum decision on the appeal within fifteen (15) working days of when the appeal is filed, unless a hearing is held, in which case the decision shall be issued within ten (10) working days after the date of said hearing, or within fifteen (15) working days of when the appeal is filed, whichever is later. The memorandum of decision shall include the reasons or grounds for the decision.
 4. If the person or entity is not satisfied with the city manager's decision, a further appeal may be made to the city council. The appeal to the city council shall be made in writing, shall include a copy of the original appeal filed with the city and the city manager's memorandum of decision thereon, and shall be filed with the city recorder within ten (10) days after the date of said memorandum of decision. The city council shall hear the appeal at the next regularly scheduled council meeting, in accordance with the applicable noticing provisions of Utah Code Annotated section 52-4-1 et seq. The city council's decision on the appeal shall be final and binding on all parties. (Ord. 10-6-98A, 10-6-1998; amd. 2004 Code)

7-3-6: BILLING:

The city council finds that the city storm sewer system, sanitary sewer system, culinary water system and solid waste collection system are interrelated services that are part of a unified city plan to provide for the health, safety and general welfare of the city and its residents in an environmentally responsible manner. Therefore, the storm sewer utility fee shall be included on the city's regular monthly utility bill for any given property. If there is no regular utility bill

for the property, the storm sewer utility fee shall be charged to the owner of the property. The fee shall be deemed a civil debt owed to the city by the person or entity paying for the city utility services provided to the property. All properties shall be charged the fee. Failure to pay any portion of the utility bill may result in termination of water service, in addition to any other legal or equitable remedies that may be available to the city to enforce this chapter. (Ord. 10-6-98A, 10-6-1998)

ARTICLE A. STORM DRAINAGE

7-3A-1: DEFINITIONS:

For the purpose of this article, the following terms, phrases, words and their derivations shall have the meaning given herein:

CATCH BASIN: A basin combined with a storm drain inlet to trap solids.

DEBRIS: Any dirt, rock, sand, tree, litter or other rubbish, etc.

DETENTION BASIN: A temporary storage facility for excess storm runoff, designed with an inlet and outlet, for the purpose of: a) attenuating and detaining excess storm runoff; and b) regulating the flow of such excess storm runoff so as to reduce storm water related damage downstream; and c) enhancing the water quality of such excess storm runoff by providing filtration, sedimentation and oil removing apparatus.

DRAIN INLET: A point of entry into a sump, detention basin, retention basin or storm drain system.

RETENTION BASIN: A temporary storage facility for excess storm runoff, designed with an inlet only and with the intent of containing excess storm drainage and allowing excess drainage to either evaporate or percolate.

STORM DRAIN: A conduit for conducting storm water that has been collected by inlets or collected by other means.

STORM WATER: Precipitation such as rain, snow, hail or other natural occurrence.

STORM WATER RUNOFF: Any runoff other than storm water.

SUMP: A formalized structure underground, surrounded by drain rock, that acts as a detention basin to allow the slow release of water into the surrounding subsoil. Sumps usually receive storm water runoff from paved areas such as streets, parking lots, building roofs, etc. (Ord. 10-6-98A, 10-6-1998)

7-3A-2: OBSTRUCTIONS:

- A. It is unlawful for any person to obstruct or contribute to the obstruction of the flow of storm water runoff or nonstorm water runoff into any sump, detention basin, storm drain, curb and gutter, drain inlet, or other associated structural controls that convey storm water and/or nonstorm water runoff.
- B. It is unlawful for any person to cause any obstruction that inhibits the normal flow of storm water and/or nonstorm water runoff in any curb and gutter, unless the obstruction is associated with a street and/or storm drainage improvement project and is authorized by the city engineer or his appointee and granted with the issuance of a permit signed by the city engineer or his appointee.
- C. It is unlawful for any person to cover over any drain inlet for any reason or purpose. (Ord. 10-6-98A, 10-6-1998)

7-3A-3: DUMPING:

- A. It is unlawful for any person to dump, or allow to be dumped, into any sump, detention basin, storm drain, curb and gutter, drain inlet, or other storm drainage structure that conveys storm water and/or nonstorm water, any type of debris, petroleum product, chemical, paint, pesticide, herbicide, heavy metal, acid or base product, solid or liquid waste product, hazardous waste product, and/or human or animal waste.
- B. The restrictions set forth in subsection A of this section shall not apply to the normal runoff of nonstorm water related to domestic home uses (e.g., lawn watering, washing cars, etc.). (Ord. 10-6-98A, 10-6-1998)

7-3A-4: PENALTY:

- A. The violation of any of the provisions of this article shall be a class C misdemeanor and, upon conviction, subject to penalty as provided in section ~~1-4-1~~ of this code. Each day that a violation occurs shall constitute a separate offense. (Ord. 10-6-98A, 10-6-1998; amd. 2004 Code)

- B. If, as a result of the violation of any provision of this article, the city or any other party suffers damages and is required to make repairs and/or replace any materials, the cost of repair or replacement shall be borne by the party in violation, in addition to any criminal fines and/or penalties provided herein. (Ord. 10-6-98A, 10-6-1998)

APPENDIX F

STATE/CITY PERMITS

- EPA Phase II Rule
- Small MS4 General UPDES Permit

EPA STORM WATER PHASE II RULE

The following pages contain the regulatory text of the EPA Phase II Rule for each of the six minimum control measures and guidance from the EPA on satisfying the requirements of each. This information was taken directly from the EPA web site (<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm>).

1. Minimum Control Measure #1 **Public Education & Outreach on Storm Water Impacts**

Regulatory Text

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

EPA Guidance

You may use storm water educational materials provided by your state; tribe; EPA; environmental, public interest, or trade organizations; or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil and household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities, as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the public education program be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling and watershed and beach cleanups. In addition, EPA recommends that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains, and to garages on the impact of oil discharges. You are encouraged to tailor your outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

2. Minimum Control Measure #2 **Public Involvement/Participation**

Regulatory Text

You must, at a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program.

EPA Guidance

EPA recommends that the public be included in developing, implementing, and reviewing your storm water management program, and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

3. Minimum Control Measure #3 **Illicit Discharge Detection & Elimination**

Regulatory Text

You must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at Sec. 122.26(b)(2)) into your small MS4.

You must:

- Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;
- To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions;
- Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to your system; and
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

You need address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if you identify them as significant contributors of pollutants to your small MS4: water line flushing, landscape irrigation, diverted

stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from fire fighting 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 to waters of the United States).

EPA Guidance

EPA recommends that the plan to detect and address illicit discharges include the following four components: procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA recommends visually screening outfalls during dry weather and conducting field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling; a program to promote, publicize, and facilitate public reporting of illicit connections or discharges; and distribution of outreach materials.

4. Minimum Control Measure #4 **Construction Site Storm Water Runoff Control**

Regulatory Text

You must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your 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 construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the NPDES permitting authority waives requirements for storm water discharges associated with small construction activity in accordance with Sec. 122.26(b)(15)(i), you are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.

Your program must include the development and implementation of, at a minimum:

- A. An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;
- B. Requirements for construction site operators to implement appropriate erosion and sediment control (ESC) best management practices;

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

EPA Guidance

Examples of sanctions to ensure compliance include nonmonetary penalties, fines, bonding requirements, and/or permit denials for non-compliance. EPA recommends that procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local (ESC) requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.

You are encouraged to provide appropriate educational and training measures for construction site operators. You may wish to require a storm water pollution prevention plan for construction sites within your jurisdiction that discharge into your system. See Sec. 122.44(s) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see Sec. 122.35(b) (The NPDES permitting authority may recognize that another government entity, including the permitting authority, may be responsible for implementing one or more of the minimum measures on your behalf).

5. Minimum Control Measure #5 **Post-Construction Storm Water Management in New Development & Redevelopment**

Regulatory Text

You must 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 your small MS4. Your program must ensure that controls are in place that would prevent or minimize water quality impacts.

You must:

- Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your 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, Tribal or local law;
- Ensure adequate long-term operation and maintenance of BMPs.

EPA Guidance

If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the BMPs chosen: be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. In choosing appropriate BMPs, EPA encourages you to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens.

When developing a program that is consistent with this measure's intent, EPA recommends that you adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, you should provide opportunities to the public to participate in the development of the program. Non-structural BMPs are preventative actions that involve management and source controls such as: policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. EPA recommends that you ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the

noncompliance with design, construction or operation and maintenance. Storm water technologies are constantly being improved, and EPA recommends that your requirements be responsive to these changes, developments or improvements in control technologies.

6. Minimum Control Measure #6 **Pollution Prevention/Good Housekeeping for Municipal Operations**

Regulatory Text

You must 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. Using training materials that are available from EPA, your State, Tribe, or other organizations, your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

EPA Guidance

EPA recommends that, at a minimum, you consider the following in developing your program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and nonstructural storm water controls to reduce floatables and other pollutants discharged from your separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by you, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

STATE OF UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

Authorization to Discharge Under the
Utah Pollutant Discharge Elimination System (UPDES)

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

This Permit is issued in compliance with the provisions of the Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated 2004, as amended (the "Act") and the Federal Water Pollution Control Act (33 U.S.C. §§ 1251 et. seq., as amended to date), and the rules and Regulations made pursuant to those statutes.

This Permit authorizes storm water discharges to Waters of the State of Utah resulting from a Small Municipal Separate Storm Sewer System (Small MS4) as provided in Part 1.0 of this Permit. This authorization is conditioned upon an operator of a Small MS4 meeting the eligibility requirements in Part 1.2 of this Permit prior to filing a Notice of Intent ("NOI") to discharge under this General Permit. An operator of a Small MS4 is not covered by this General Permit if the operator submits an NOI but has not met these conditions.

This authorization is subject to the authority of the Utah Water Quality Board or the *Division* of the Utah Water Quality Board to reopen this Permit (see Part 6.22 of Permit), or to require a discharger to obtain an individual Permit (see Part 6.15 of this Permit). The issuance of a discharge Permit authorization under this General Permit does not relieve Permittees of other duties and responsibilities under the Act or rules made under that Act. Significant terms used in this Permit are defined in Part 7.0 of this Permit.

This Permit shall become effective on March 1, 2016.

This Permit and the authorization to discharge shall expire at midnight, February 28, 2021, except as described in Part 6.3 of this Permit.

Signed this 26 day of February 2016.



Walker L. Baker, P.E.
Director

**UPDES GENERAL PERMIT FOR DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)**

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1.0 Coverage Under this Permit

1.1. Authority to Discharge

This General Permit authorizes the discharge, to Waters of the State of Utah, of storm water from a Small MS4 as that term is defined in R317-8-1.6(14) and Part 7.39. of this Permit. This authorization is subject to all of the terms and conditions of this Permit. This General Permit does not authorize discharges prohibited under Part 1.4. of this Permit.

1.2. Permit Area and Eligibility

1.2.1. This Permit covers all areas of the State of Utah except Indian Country (see Part 7.22. of this Permit for a definition of “Indian Country”).

1.2.1.1. No operator of a Small MS4 described in 40 CFR 122.32 may discharge from that system without authorization from the *Division*. (See Utah Administrative Code Section R317-8-3.9(1)(h)(1)(a), which sets forth the Permitting requirement, and R317-8-1.10(13), which incorporates 40 CFR 122.32 by reference.) Authorization to discharge under the terms and conditions of this Permit is granted if:

1.2.1.1.1 It applies to an operator of a Small MS4 within the State of Utah but not within Indian Country;

1.2.1.1.2 The operator is not a “large” or “medium” MS4 as defined in 40 CFR 122.26(b)(4) or (7);

1.2.1.1.3 The operator submits a Notice of Intent (NOI) in accordance with Part 2.0 of this Permit;

1.2.1.1.4 The MS4 is located fully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census;

1.2.1.1.5 The operator is ordered by the *Division* to obtain coverage under this Permit, as provided in the UPDES rules, R317-8.

1.2.2. The following are types of authorized discharges:

1.2.2.1. *Storm water discharges.* This Permit authorizes storm water discharges to waters of the State from the Small MS4s identified in 1.2.1., except as excluded in Part 1.4.

1.2.2.2. *Non-storm water discharges.* The following non-storm water discharges do not need to be addressed unless the Permittee or the *Division* identifies these discharges as significant sources of pollutants to Waters of the State or as causing or contributing to a violation of water quality standards:

- Water line flushing
- Landscape irrigation
- Diverted stream flows

- Rising ground waters
- Uncontaminated ground water infiltration
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering runoff
- Individual residential car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Residual street wash water
- Dechlorinated water reservoir discharges
- Discharges or flows from emergency firefighting activity

1.3. Local Agency Authority

This Permit does not pre-empt or supersede the authority of local agencies to prohibit, restrict, or control discharges to storm drain systems or other water courses within their jurisdiction.

1.4. Limitations on Coverage

This Permit does not authorize:

- 1.4.1. Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are in compliance with a separate UPDES Permit or are determined not to be a substantial contributor of pollutants to Waters of the State.
- 1.4.2. Storm water discharges associated with industrial activity as defined in *Utah Administrative Code (UAC) R317-8-3.9(6)(c)*.
- 1.4.3. Storm water discharges associated with construction activity as defined in *UAC R317-8-3.9(6)(d)(10)* and *R317-8-3.9(6)(d)(11)*.
- 1.4.4. Storm water discharges currently covered under another Permit.
- 1.4.5. Discharges that would cause or contribute to in-stream exceedances of water quality standards as contained in *UAC R317-2*.
- 1.4.6. Discharges of any pollutant into any Waters of the State for which a Total Maximum Daily Load (TMDL) has been approved by EPA unless the discharge is consistent with the TMDL. This consistency determination applies at the time a Notice of Intent is submitted. If conditions change after coverage is issued, the coverage may

remain active provided the conditions and requirements of Part 3.1. of this Permit are complied with.

2.0 Notice of Intent and Storm Water Management Program Requirements

- 2.1. The requirements of this Part apply only to Permittees **not** covered under the previous General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems, i.e. **New Applicants**. Permittees that were covered under the previous MS4 General Permit and have submitted a notice of intent (NOI) at least **180 days** prior to the expiration date of the previous Permit, are covered by this Permit and instead must follow the requirements of Part 2.3.
- 2.1.2. New applicants must meet the following application requirements. The Notice of Intent (NOI) must include submittal of the Storm Water Management Program (SWMP) document. Detailed information on SWMP requirements can be found in Part 4.0 of this Permit.
- 2.1.3. Within **180 days** of notification from the *Division*, the operator of the MS4 shall submit a NOI form as provided by the Division at <http://www.deq.utah.gov/Permits/water/updes/stormwatermun.htm>. (The *Division* retains the right to grant permission for a later submission date upon good cause shown). One original completed NOI shall be submitted, by mail or hand delivery to:

Attention: UPDES IES
Department of Environmental Quality
Division of Water Quality
195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

- 2.1.4. Late submittal of an NOI is prohibited (unless permission has been granted by the *Division*). If a late NOI is submitted, authorization is only for discharges that occur after Permit coverage is granted. The *Division* reserves the right to take appropriate enforcement actions for any unpermitted discharges.
- 2.1.5. Where application is made by a new applicant that has assumed operational control of an MS4 for which coverage under this Permit was previously held by a separate entity, the *Division* may determine that the new applicant shall comply with the Permit requirements in this Permit, as directed for Renewal Permittees. Notification shall be made by the *Division* of this requirement in writing to the New Applicant prior to issuance of Permit coverage.
- 2.1.6. Implementation of the Permittee's SWMP must include the six minimum control areas, including Measurable Goals, described in Part 4.2. Measurable Goals for each of the program areas must include, as appropriate, the year by which the Permittee will undertake required actions, including interim milestones and the frequency of the action if applicable.

- 2.1.7. Implementation of the Permittee's SWMP as described in the Permittee's application is required to begin within **30 days** after the completed application is submitted. The Permittee must fully develop and implement the SWMP as discussed in Part 4.0 of the Permit by the end of the Permit term unless a more restrictive timeframe is indicated.
- 2.1.8. If an Operator is designated by the Division as requiring Permit coverage later than one year after the effective date of this General Permit, the Division may approve alternative deadlines that would allow the Permittee to have its program areas implemented.

2.2. **Contents of the Notice of Intent**

The Notice of Intent requires, at a minimum, the following information:

- 2.2.1. Name, address, and telephone number of the principal executive officer, ranking elected official or other duly authorized employee in charge of municipal resources used for implementation of the SWMP;
- 2.2.2. Name(s)/ identification of Waters of the State as defined by UAC R317-1-1.32 that receive discharges from the Permittee's MS4;
- 2.2.3. Name of the person responsible for overseeing implementation and coordination of the SWMP;
- 2.2.4. Summary description of the overall water quality concerns, priorities, and measurable goals specific to the Permittee that were considered in the development of the SWMP;
- 2.2.5. The SWMP document shall consist of, at a minimum, a description of the program elements that will be implemented (or already exist) for each of the SWMP minimum control measures. The plan must be detailed enough for the Division to determine the Permittee's general strategy for complying with the required items in each of the six minimum control measures in the SWMP document (see Part 4.2 of this Permit);
- 2.2.6. Information on the chosen Best Management Practices (BMPs) and the measurable goals for each of the storm water minimum control measures in Part 4.2 of this Permit and, as appropriate, the timeframe by which the Permittee will achieve required actions, including interim milestones;
- 2.2.7. Permittees which are applying as Co-Permittees shall each submit an NOI and individual SWMP document which will clearly identify the areas of the MS4 for which each of the Co-Permittees are responsible. Permittees which are relying on another entity (ies) to satisfy one or more of their Permit obligations shall include with the NOI, a summary of the Permit obligations that will be carried out by the other entity (ies). During the term of the Permit, Permittees may terminate or amend shared responsibility arrangements by notifying the *Division*, provided this does not alter implementation deadlines.
- 2.2.8. Certification and signature requirements in accordance with Part 6.8.

2.3. Storm Water Management Program Plan Description for Renewal Permittees

- 2.3.1. The requirements of this part apply only to **Renewal Permittees** that were previously covered under the last MS4 General Permit. New applicants are not required to meet the requirements of this Part and instead must follow the requirements of Part 2.0.
- 2.3.2. Renewal Permittees must submit a **revised SWMP document** to the Division within **120 days** of the effective date of this Permit, which includes at a minimum, the following information:
 - 2.3.2.1. Permit number;
 - 2.3.2.2. MS4 location description and map;
 - 2.3.2.3. Information regarding the overall water quality concerns, priorities, measurable goals, and interim milestones specific to the Permittee that were considered in the development and/or revisions to the SWMP document;
 - 2.3.2.4. A description of the program elements that will be implemented (or are already being implemented) in each of the six minimum control measures (see Part 4.0);
 - 2.3.2.5. A description of any modifications to ordinances or long-term/ongoing processes implemented in accordance with the previous MS4 General Permit for each of the six minimum control measures;
 - 2.3.2.6. A description of how the Permittee intends to meet the requirements of the Permit as described in Part 4.0 by either referencing existing program areas that already meet the Permit requirements or a description and relevant measurable goals that include, as appropriate, the year by which the Permittee will achieve required actions, including interim milestones.
 - 2.3.2.7. Indicate the joint submittal (s) of Co-Permittees (if applicable) and the associated responsibility (ies) in meeting requirements of the SWMP.
 - 2.3.2.8. Certification and signature requirements in accordance with Part 6.8.
 - 2.3.2.9. The revised SWMP document must contain specific details for complying with the required items in each of the six minimum control measures contained within the SWMP document (See Part 4.2).

3.0 Special Conditions

3.1 Discharges to Water Quality Impaired Waters

- 3.1.1. Applicability: Permittees must:
- 3.1.1.1. Determine whether storm water discharge from any part of the MS4 contributes to a 303(d) listed (i.e., impaired) waterbody. A 303(d) list of impaired waterbodies is available at: <http://www.deq.utah.gov/ProgramsServices/programs/water/wqmanagement/assessment/PreviousIR.htm>. Water quality impaired waters means any segment of surface waters that has been identified by the Division as failing to support classified uses. If the Permittee has discharges meeting these criteria, the Permittee must comply with Part 3.1.2. below and if no such discharges exist, the remainder of this Part 3.1 does not apply.
- 3.1.1.2. If the Permittee has “303(d)” discharges described above, the Permittee must also determine whether a Total Maximum Daily Load (TMDL) has been developed by the Division and approved by EPA for the listed waterbody. If there is an approved TMDL, the Permittee must comply with all requirements associated with the TMDL, as well as the requirements of Part 3.1.2. below and if no TMDL has been approved, the Permittee must comply with Part 3.1.2. below and any TMDL requirements once it has been approved.
- 3.1.2. Water Quality Controls for Discharges to Impaired Waterbodies. If the Permittee discharges to an impaired waterbody, the Permittee must include in its SWMP document a description of how the Permittee will control the discharge of the pollutants of concern. This description must identify the measures and BMPs that will collectively control the discharge of the pollutants of concern. The measures should be presented in the order of priority with respect to controlling the pollutants of concern.
- 3.1.3. Where a discharge is already authorized under this Permit and is later determined to cause or have the reasonable potential to cause or contribute to the violation of an applicable water quality standard, the Division will notify the Permittee of such violation(s). The Permittee must take all necessary actions to ensure future discharges do not cause or contribute to the violation of a water quality standard and document these actions as required by the Division. If violations remain or re-occur, coverage under this Permit may be terminated by the Division and an alternative General Permit or individual Permit may be issued. Compliance with this requirement does not preclude any enforcement activity as provided by the Utah Water Quality Act for the underlying violation.

3.2. Nitrogen and Phosphorus Reduction

- 3.2.1. As part of the Permittee's Storm Water Management Program (SWMP), all Permittees must specifically address the reduction of water quality impacts associated with nitrogen and phosphorus in discharges from the MS4.
 - 3.2.1.1. The Permittee can meet the requirements of this section through contribution to a collaborative program (e.g., storm water coalitions) to evaluate, identify, target, and provide outreach that addresses sources State-wide or within a specific region or watershed.
 - 3.2.1.2. The Permittee must determine and target sources (e.g., residential, industrial, agricultural, or commercial) that are contributing to, or have the potential to contribute, nitrogen and phosphorus to the waters receiving the discharge authorized under this Permit.
 - 3.2.1.3. The Permittee must prioritize which targeted sources are likely to obtain a reduction in nitrogen and phosphorus discharges through education. The Permittee must distribute educational materials or equivalent outreach to the prioritized targeted sources. Educational materials or equivalent outreach must describe storm water quality impacts associated with nitrogen and phosphorus in storm water runoff and illicit discharges, the behaviors of concern, and actions that the target source can take to reduce nitrogen and phosphorus. The Permittee may incorporate the education and outreach to meet this requirement into the education and outreach strategies provided in accordance with Permit Part 4.2.1.

3.3. Co-Permittees

- 3.3.1. Two or more operators of interrelated or neighboring Small MS4s may apply as Co-Permittees.
- 3.3.2. In order to be Permitted as Co-Permittees, the MS4(s) must each submit an NOI complete with BMP measurable goals and implementation milestones. Each description of the MS4(s) Storm Water Management Program Plan(s) must clearly describe which Permittees are responsible for implementing each of the control measures.
 - 3.3.3. Each Co-Permittee is individually liable for:
 - 3.3.3.1. Permit compliance for discharges from portions of the MS4 where it is the operator and for areas within its legal jurisdiction;
 - 3.3.3.2. Ensuring that the six minimum control measures described in Part 4.2 are implemented for portions of the MS4 where it is the operator and in areas within its legal jurisdiction; and
 - 3.3.3.3. If any Permit conditions are established for specific portions of the MS4, Co-Permittees need only comply with the Permit conditions relating to those portions of the MS4 for which they are the operator.

- 3.3.4. Each Co-Permittee is jointly liable for compliance with annual reporting requirements listed in Part 5.5, except that a Co-Permittee is individually liable for any parts of the annual report that relate exclusively to portions of the MS4 where it is the operator.
- 3.3.5. Specific Co-Permittees are jointly liable for Permit compliance on portions of the MS4 as follows:
 - 3.3.5.1. Where operational or storm water management program implementation authority over portions of the MS4 has been transferred from one Co-Permittee to another in accordance with legally binding interagency agreements, both the owner and the operator may be jointly liable for Permit compliance on those portions of the MS4; and;
 - 3.3.5.2. Where one or more Co-Permittees jointly own or operate a portion of the MS4, each owner/operator is jointly liable for compliance with Permit conditions on the shared portion of the MS4.

4.0 Storm Water Management Program

Permittees covered under the previous General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems, i.e. **Renewal Permittees**, are expected to have fully implemented all of the following six minimum control measures as required in the previous Permit term. Permittees that were newly designated during the previous Permit term have 5 years from the date of their submitted NOI to develop, fully implement and enforce their Storm Water Management Program (SWMP). A Renewal Permittee must continue to implement its SWMP designed to reduce the discharge of pollutants from the MS4 as described in the application and submittals provided in accordance with the previous MS4 General Permit, while updating its SWMP document pursuant to this Permit. This Permit does not extend the compliance deadlines set forth in the previous MS4 General Permit unless specifically noted. All requirements contained in this renewal Permit are effective immediately unless an alternative timeframe is indicated.

4.1. Requirements

- 4.1.1. All Permittees must develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the MS4, protect water quality, and satisfy the appropriate water quality requirements of the *Utah Water Quality Act*. The SWMP must include the six minimum control measures described in Part 4.2 of this Permit.
 - 4.1.1.1. The SWMP shall be developed and implemented in accordance with the schedules contained in Part 4.0. of this Permit.
 - 4.1.2. Each Permittee shall have an ongoing documentation process for gathering, maintaining, and using information to conduct planning, set priorities, track the development and implementation of the SWMP, evaluate Permit compliance/non-compliance, and evaluate the effectiveness of the SWMP implementation.
 - 4.1.2.1. Each Permittee shall track the number of inspections performed, official enforcement actions taken, and types of public education activities implemented as required for each SWMP component. This information shall be provided to the Division upon request and used by the Division to determine compliance with this Permit.
 - 4.1.2.2. Each Permittee must secure the resources necessary to meet all requirements of this permit. Each Permittee must conduct an annual analysis of the capital and operation and maintenance expenditures needed, allocated, and spent as well as the necessary staff resources needed and allocated to meet the requirements of this permit, including any development, implementation, and enforcement activities required. Each permittee must submit a summary of its fiscal analysis with each annual report.
 - 4.1.3. The SWMP document shall include BMPs that the Permittee or another entity will implement for each of the storm water minimum control measures.
 - 4.1.3.1. The measurable goals for each of the BMPs shall include, as appropriate, the months and years in which the Permittee will undertake required actions, including interim milestones and the frequency of the actions.

- 4.1.3.2. The SWMP document shall indicate the person or persons responsible for implementing or coordinating the BMPs contained within the SWMP document.
- 4.1.3.3. The revised SWMP document shall clearly identify the roles and responsibilities of all offices, departments, divisions, or sub-sections and if necessary other responsible entities and it shall include any necessary agreements, contracts, or memorandum of understanding (MOUs) between said entities that affect the implementation and operation of the SWMP. Necessary agreements, contracts, and MOUs shall deal with coordination or clarification of the responsibilities associated with the detection and elimination of improper connections or illicit discharges to the MS4, BMP coordination or other coordinated programs or sensitive issues of unclear or overlapping responsibility. Such agreements, contracts, and MOUs shall be retained by the Permittee as required by the SWMP document.

4.2. Minimum Control Measures

The six minimum control measures that must be included in the storm water management program are:

4.2.1. *Public Education and Outreach on Storm Water Impacts*

The Permittee must implement a public education and outreach program to promote behavior change by the public to reduce water quality impacts associated with pollutants in storm water runoff and illicit discharges. Outreach and educational efforts shall include a multimedia approach and shall be targeted and presented to specific audiences for increased effectiveness. The educational program must include documented education and outreach efforts for the following four audiences: (1) residents, (2) institutions, industrial and commercial facilities, (3) developers and contractors (construction), and (4) MS4-owned or operated facilities. The minimum performance measures which should be based on the land uses and target audiences found within the community include:

- 4.2.1.1. Target specific pollutants and pollutant sources determined by the Permittee to be impacting, or have the potential to impact, the beneficial uses of receiving water. This includes providing information which describe the potential impacts from storm water discharges; methods for avoiding, minimizing, reducing and /or eliminating the adverse impacts of storm water discharges; and the actions individuals can take to improve water quality, including encouraging participation in local environmental stewardship activities, based on the land uses and target audiences found within the community;
- 4.2.1.2. Provide and document information given to the general public of the Permittee's prohibitions against and the water quality impacts associated with illicit discharges and improper disposal of waste. The Permittee must at a minimum consider the following topics. These topics are not inclusive and the Permittee must focus on those topics most relevant to the community: maintenance of septic systems; effects of outdoor activities such as lawn care (use of pesticides, herbicides, and fertilizers); benefits of on-site infiltration of storm water; effects of automotive work and car washing on water quality; proper disposal of swimming pool water; and proper management of pet waste.
- 4.2.1.3. Provide and document information given to institutions, industrial, and commercial facilities on an annual basis of the Permittee's prohibition against and the water quality impacts associated with illicit discharges and improper disposal of waste. The Permittee must at a minimum consider the following topics. These topics are not inclusive and the Permittee must focus on those topics most relevant to the community: proper lawn maintenance (use of pesticides, herbicides and fertilizer); benefits of appropriate on-site infiltration of storm water; building and equipment maintenance (proper management of waste water); use of salt or other deicing materials (cover/prevent runoff to storm system and contamination to ground water); proper storage of materials (emphasize pollution prevention); proper management of waste materials and dumpsters (cover and pollution prevention); and proper management of parking lot surfaces (sweeping). This education can also be a part of the Illicit Discharge Detection and Elimination measure detailed in Part 4.2.3.

- 4.2.1.4. Provide and document information given to engineers, construction contractors, developers, development review staff, and land use planners concerning the development of storm water pollution prevention plans (SWPPPs) and BMPs for reducing adverse impacts from storm water runoff from development sites. This education can also be a part of the Construction Site Storm Water Runoff minimum control measure detailed in Part 4.2.4.
- 4.2.1.5. Provide and document information and training given to employees of Permittee-owned or operated facilities concerning the Permittee's prohibition against and the water quality impacts associated with illicit discharges and improper disposal of waste. The Permittee must at a minimum consider the following topics: equipment inspection to ensure timely maintenance; proper storage of industrial materials (emphasize pollution prevention); proper management and disposal of wastes; proper management of dumpsters; minimization of use of salt and other de-icing materials (cover/prevent runoff to MS4 and ground water contamination); benefits of appropriate on-site infiltration (areas with low exposure to industrial materials such as roofs or employee parking); and proper maintenance of parking lot surfaces (sweeping).
- 4.2.1.6. Provide and document information and training given to MS4 engineers, development and plan review staff, land use planners, and other parties as applicable to learn about Low Impact Development (LID) practices, green infrastructure practices, and to communicate the specific requirements for post-construction control and the associated Best Management Practices (BMPs) chosen within the SWMP.
- 4.2.1.7. An effective program must show evidence of focused messages and audiences as well as demonstration that the defined goal of the program has been achieved. The Permittee must define the specific messages for each audience. The Permittee must identify methods that will be used to evaluate the effectiveness of the educational messages and the overall education program. Any methods used to evaluate the effectiveness of the program must be tied to the defined goals of the program and the overall objective of changes in behavior and knowledge.
- 4.2.1.8. The Permittee must include written documentation or rationale as to why particular BMPs were chosen for its public education and outreach program.

4.2.2. Public Involvement/Participation

The Permittee must implement a program that complies with applicable State and Local public notice requirements. The SWMP shall include ongoing opportunities for public involvement and participation such as advisory panels, public hearings, watershed committees, stewardship programs, environmental activities, other volunteer opportunities, or other similar activities. The Permittee should involve potentially affected stakeholder groups, which include but is not limited to, commercial and industrial businesses, trade associations, environmental groups, homeowners associations, and education organizations. The minimum performance measures are:

- 4.2.2.1. Permittees shall adopt a program or policy directive to create opportunities for the public to provide input during the decision making processes involving the development, implementation and update of the SWMP document including development and adoption of all required ordinances or regulatory mechanisms.
- 4.2.2.2. Renewal Permittees shall make the revised SWMP document available to the public for review and input within **120** days from the effective date of this Permit. New Applicants shall make the SWMP document available to the public for review and input within **180** days of receiving notification from the *Division* of the requirement for Permit coverage.
- 4.2.2.3. A current version of the SWMP document shall remain available for public review and input for the life of the Permit. If the Permittee maintains a website, the latest version of the SWMP document shall be posted on the website within **120** days from the effective date of this Permit and shall clearly denote a specific contact person and phone number or email address to allow the public to review and provide input for the life of the Permit.
- 4.2.2.4. The Permittee must at a minimum comply with State and Local public notice requirements when implementing a public involvement/participation program.

4.2.3. Illicit Discharge Detection and Elimination (IDDE)

All Permittees shall revise as necessary, implement and enforce an IDDE program to systematically find and eliminate sources of non-storm water discharges from the MS4 and to implement defined procedures to prevent illicit connections and discharges according to the minimum performance measures listed below. The IDDE program must be described in writing, incorporated as part of the Permittee's SWMP document, and contain the elements detailed in this part of the Permit. The minimum performance measures are:

- 4.2.3.1. Maintain a current storm sewer system map of the MS4, showing the location of all municipal storm sewer outfalls with the names and location of all State waters that receive discharges from those outfalls, storm drain pipe and other storm water conveyance structures within the MS4.
- 4.2.3.2. Effectively prohibit, through ordinance or other regulatory mechanism, non-storm water discharges to the MS4, including spills, illicit connections, illegal dumping and

sanitary sewer overflows (“SSOs”) into the storm sewer system, require removal of such discharges consistent with Part 4.2.3.6. of this Permit, and implement appropriate enforcement procedures and actions. The Permittee must have a variety of enforcement options in order to apply escalating enforcement procedures as necessary for the severity of violation and/or the recalcitrance of the violator. Exceptions are discharges pursuant to a separate UPDES Permit (other than the UPDES Permit for discharges from the MS4) and non-storm water discharges listed in Part 1.2.2.2.

- 4.2.3.2.1 The IDDE program must have adequate legal authority to detect, investigate, eliminate and enforce against non-storm water discharges, including illegal dumping, into the MS4. Adequate legal authority consists of an effective ordinance, by-law, or other regulatory mechanism. The documented IDDE program that is included in the Permittee’s SWMP must include a reference or citation of the authority the Permittee will use to implement all aspects of the IDDE program.
- 4.2.3.3. Implement a written plan to detect and address non-storm water discharges to the MS4, including spills, illicit connections, sanitary sewer overflows and illegal dumping. The plan shall include:
- 4.2.3.3.1 Written systematic procedures for locating and listing the following priority areas likely to have illicit discharges (if applicable to the jurisdiction):
- Areas with older infrastructure that are more likely to have illicit connections;
 - Industrial, commercial, or mixed use areas;
 - Areas with a history of past illicit discharges;
 - Areas with a history of illegal dumping;
 - Areas with onsite sewage disposal systems;
 - Areas with older sewer lines or with a history of sewer overflows or cross-connections;
 - Areas upstream of sensitive waterbodies; and,
 - Other areas the Permittee determines to be likely to have illicit discharges.

The Permittee must document the basis for its selection of each priority area and create a list of all priority areas identified in the system. This priority area list must be updated annually to reflect changing priorities.

- 4.2.3.3.2 Field inspections of areas which are considered a priority area as identified in Permit Part 4.2.3.3.1. Compliance with this provision shall be achieved by inspecting each priority area annually at a minimum. All field assessment activities shall utilize an inspection form to document findings.
- 4.2.3.3.3 Dry weather screening (See Definition 7.13) activities for the purpose of verifying outfall locations and detecting illicit discharges that discharge within the Permittee’s jurisdiction to a receiving water. All outfalls shall be inspected at least once during the 5-year Permit term. Dry weather screening activities shall utilize an inspection form to document findings.

- 4.2.3.3.4 If the Permittee discovers or suspects that a discharger may need a separate UPDES Permit (e.g., Industrial Storm Water Permit, Dewatering Permit), the Permittee shall notify the Division.
- 4.2.3.4. Implement standard operating procedures (SOPs) or similar type of documents for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, using field tests of selected chemical parameters as indicators of discharge sources, collecting and analyzing water samples for the purpose of determining sanctions or penalties, and/or other detailed inspection procedures.
- 4.2.3.5. Implement standard operating procedures (SOPs) or similar type of documents for characterizing the nature of, and the potential public or environmental threat posed by, any illicit discharges found by or reported to the Permittee by the hotline or other telephone number described in 4.2.3.9. These procedures shall include detailed instructions for evaluating how the discharge shall be immediately contained and steps to be taken for containment of the discharge. Compliance with this provision will be achieved by initiating an investigation immediately upon being alerted of a potential illicit discharge.
- 4.2.3.5.1 When the source of a non-storm water discharge is identified and confirmed, the Permittee must record the following information in an inspection report: the date the Permittee became aware of the non-storm water discharge, the date the Permittee initiated an investigation of the discharge, the date the discharge was observed, the location of the discharge, a description of the discharge, the method of discovery, date of removal, repair, or enforcement action; date, and method of removal verification. Analytical monitoring may be necessary to aid in the identification of potential sources of an illicit discharge and to characterize the nature of the illicit discharge. The decision process for utilizing analytical monitoring must be fully documented in the inspection report.
- 4.2.3.6. Implement standard operating procedures (SOPs) or similar type of documents for ceasing the illicit discharge, including notification of appropriate authorities; notification of the property owner; technical assistance for removing the source of the discharge or otherwise eliminating the discharge; follow-up inspections; and escalating enforcement and legal actions if the discharge is not eliminated. Illicit discharges to the MS4 are prohibited and any such discharges violate this Permit and remain in violation until they are eliminated. Upon detection, the Permittee shall require immediate cessation of improper disposal practices upon confirmation of responsible parties in accordance with its enforceable legal authorities established pursuant to Part 4.2.3.2.1. of this Permit.
- 4.2.3.6.1 All IDDE investigations must be thoroughly documented and may be requested at any time by the *Division*. If a Permittee is unable to meet the minimum performance measures outlined in Parts 4.2.3.5. or 4.2.3.6., the Permittee must immediately submit to the *Division* written documentation or rationale describing the circumstances why compliance with the minimum performance measures was not possible. All IDDE documentation shall be retained by the Permittee as required by the SWMP document.

- 4.2.3.7. Permittees shall inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.
- 4.2.3.8. Permittees shall promote or provide services for the collection of household hazardous waste.
- 4.2.3.9. Permittees shall publicly list and publicize a hotline or other local telephone number for public reporting of spills and other illicit discharges. A written record shall be kept of all calls received, all follow-up actions taken, and any feedback received from public education efforts.
- 4.2.3.9.1 The Permittee must develop a written spill/dumping response procedure, and a flow chart for internal use, that shows the procedures for responding to public referrals of illicit discharges, the various responsible agencies and their contacts, and who would be involved in illicit discharge incidence response, even if it is a different entity other than the Permittee. The procedure and list must be incorporated as part of the IDDE program and incorporated into the Permittee's SWMP document. The list must be maintained and updated as changes occur.
- 4.2.3.10. Permittees shall implement procedures for program evaluation and assessment which includes maintaining a database for mapping, tracking of the number and type of spills or illicit discharges identified; and inspections conducted.
- 4.2.3.11. Permittees shall at a minimum, ensure that all staff, contracted staff, or other responsible entities receives annual training in the IDDE program including identification, investigation, termination, cleanup, and reporting of illicit discharges including spills, improper disposal, and illicit connections. All Permittees shall ensure that all new hires are trained immediately upon hire and annually thereafter, at a minimum. Follow-up training shall be provided as needed to address changes in procedures, methods or staffing. The Permittee shall provide training to all field staff that as part of their normal job responsibilities might come into contact with or otherwise observe an illicit discharge or illicit connection to the MS4. The Permittee shall also train office personnel who might receive initial reports of illicit discharges. Training shall include how to identify a spill, an improper disposal, or an illicit connection to the MS4 and proper procedures for reporting the illicit discharge. Training records must be kept and shall include dates, activities or course descriptions, and names and positions of staff in attendance. The Permittee shall include a summary of such training in the annual report.
- 4.2.3.12. The Division reserves the right to request documentation or further study of a particular non-storm water discharge of concern, to require a reasonable basis for allowing the non-storm water discharge and excluding the discharge from the Permittee's program, and to require inclusion of the discharge in the Permittee's program, if water quality concerns cannot otherwise be reasonably satisfied.

4.2.4. *Construction Site Storm Water Runoff Control*

All Permittees shall revise as necessary, implement and enforce a program to reduce pollutants in any storm water runoff to the MS4 from construction sites with a land disturbance of 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 according to the minimum performance measures listed below. Public and private projects, including projects proposed by the Permittee's own departments and agencies, shall comply with these requirements. The minimum performance measures are:

- 4.2.4.1. Revise as necessary and enforce an ordinance or other regulatory mechanism that requires the use of erosion and sediment control practices at construction sites. The ordinance or other regulatory mechanism shall, at a minimum, be equivalent with the requirements set forth in the most current UPDES Storm Water General Permits for Construction activities which can be found at <http://www.deq.utah.gov/Permits/water/updes/stormwatercon.htm>. The ordinance or other regulatory mechanism shall include sanctions to ensure compliance. The ordinance or other regulatory mechanism shall apply, at a minimum, to construction projects disturbing greater than or equal to one acre and to construction projects of less than one acre that are part of a larger common plan of development or sale. Existing local requirements to apply storm water controls at sites less than 1 acre or not part of a Common Plan of Development may be retained.
- 4.2.4.1.1 The ordinance or other regulatory mechanism shall, at a minimum, require construction operators to prepare a Storm Water Pollution Prevention Plan (SWPPP) and apply sediment and erosion control BMPs as necessary to protect water quality, reduce the discharge of pollutants, and control waste such as, but not limited to, discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site that may cause adverse impacts to water quality. The SWPPP requirements must be, at a minimum, equivalent with the SWPPP requirement set forth in the most current UPDES Storm Water General Permits for Construction Activities, which can be found at: <http://www.deq.utah.gov/Permits/water/updes/stormwatercon.htm>.
- 4.2.4.1.2 Permittees shall ensure construction operators obtain and maintain coverage under the current UPDES Storm Water General Permits for Construction Activities for the duration of the project. Coverage can be obtained by completing a NOI as well as renewed online at https://secure.utah.gov/account/login.html?returnToUrl=https%3A//secure.utah.gov/stormwater/uii_authentication.
- 4.2.4.1.3 The ordinance shall include a provision for access by qualified personnel to inspect construction storm water BMPs on private properties that discharge to the MS4.
- 4.2.4.2. Develop a written enforcement strategy and implement the enforcement provisions of the ordinance or other regulatory mechanism which shall include:
 - 4.2.4.2.1 Standard operating procedures (SOPs) or similar type of documents that include specific processes and sanctions to minimize the occurrence of, and obtain compliance from violators which shall include appropriate, escalating enforcement procedures and actions.
 - 4.2.4.2.2 Documentation and tracking of all enforcement actions.
 - 4.2.4.3. Develop and implement SOPs or similar type of documents for pre-construction Storm Water Pollution Prevention Plan (SWPPP) review and keep records for, at a

minimum, all construction 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, to ensure plans are complete and in compliance with State and Local regulations. Permittees shall keep records of these projects for five years or until construction is completed, whichever is longer. Prior to construction, the Permittee shall:

- 4.2.4.3.1 Conduct a pre-construction SWPPP review which includes a review of the site design, the planned operations at the construction site, planned BMPs during the construction phase, and the planned BMPs to be used to manage runoff created after development.
- 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.
- 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 receiving waterbodies;
 - Proximity to receiving waterbodies; and,
 - Non-storm water discharges and past record of non-compliance by the operators of the construction site.
- 4.2.4.4. All Permittees shall develop and implement SOPs or similar type of documents for construction site inspection and enforcement of construction storm water pollution control measures. The procedures must clearly define who is responsible for site inspections as well as who has authority to implement enforcement procedures. The Permittee must have the authority to the extent authorized by law to impose sanctions to ensure compliance with the local program. These procedures and regulatory authorities must be written and documented in the SWMP. The construction site storm water runoff control inspection program must provide:
 - 4.2.4.4.1 Inspections of all new construction sites with a land disturbance of 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 at least monthly by qualified personnel using the Construction Storm Water Inspection Form (Checklist) found on the Division's website at <http://www.deq.utah.gov/Permits/water/updes/stormwatermun.htm>.
 - 4.2.4.4.2 The Permittee must inspect all phases of construction: prior to land disturbance, during active construction, and following active construction. The Permittee must document in its SWMP the 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. This procedure must be provided to the construction operator/owner before active construction begins.
 - 4.2.4.4.3 Inspections by the MS4 of priority construction sites defined in Part 7.36. must be conducted at least biweekly (every two weeks) using the Construction Storm Water

Inspection Form (Checklist) found on the Division's website at
<http://www.deq.utah.gov/Permits/water/updes/stormwatermun.htm>.

- 4.2.4.4.4 Based on site inspection findings, the permittee must take all necessary follow-up actions (i.e., reinspection, enforcement) to ensure compliance in accordance with the permittee's enforcement strategy. These follow-up and enforcement actions must be tracked and documented.
- 4.2.4.4.5 Permittees shall publicly provide and publicize a hotline or other local telephone number for public reporting of storm water related issues on construction sites, such as tracking onto streets. Records of violations, enforcement actions and corrective actions taken shall be tracked and documented.
- 4.2.4.5 The Permittee must ensure that all staff whose primary job duties are related to implementing the construction storm water program, including permitting, plan review, construction site inspections, and enforcement, are annually trained to conduct these activities. The training can be conducted by the MS4 or outside training can be attended. Such training must extend to third-party inspectors and plan reviewers as well. The Permittee shall ensure that all new hires are trained upon hire and before commencing storm water related duties and annually thereafter, at a minimum. Follow-up training shall be provided as needed to address changes in procedures, methods or staffing. The training records to be kept include dates, activities or course descriptions, and names and positions of staff in attendance.
- 4.2.4.6. All Permittees shall implement a procedure 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 or sale. Permittees shall keep records which include but are not limited to, site plan reviews, SWPPPs, inspections and enforcement actions including verbal warnings, stop work orders, warning letters, notices of violation, and other enforcement records. Permittees shall keep records of these projects for five years or until construction is completed, whichever is longer.
- 4.2.5. ***Long-Term Storm Water Management in New Development and Redevelopment (Post-Construction Storm Water Management)***
- All Permittees shall revise as necessary, implement and enforce a program to address post-construction storm water runoff to the MS4 from new development and redevelopment construction sites disturbing 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, according to the minimum performance measures listed below. The objective of this control measure is for the hydrology associated with new development to mirror the pre-development hydrology of the previously undeveloped site or to improve the hydrology of a redeveloped site and reduce the discharge of storm water. The water quality considerations of this minimum control measure do not replace or substitute for water quantity or flood management requirements implemented on the local level for new developments. The water quality controls may be incorporated into the design of structures intended for flow control; or water quality control may be achieved with separate control measures. The program must apply to private and public development sites, including roads.

The minimum performance measures are:

- 4.2.5.1. Develop and adopt an ordinance or other regulatory mechanism that requires long-term post-construction storm water controls at new development and redevelopment sites. The ordinance or other regulatory mechanism shall apply, at a minimum, to new development and redevelopment sites that discharge to the MS4 and 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. Existing local requirements to apply storm water controls at smaller sites shall be retained. The ordinance or other regulatory mechanism shall require BMP selection, design, installation, operation and maintenance standards necessary to protect water quality and reduce the discharge of pollutants to the MS4.
- 4.2.5.2. Implement an enforcement strategy and implement the enforcement provisions of the ordinance or other regulatory mechanism. Procedures for enforcement of BMPs include:
 - 4.2.5.2.1 Procedures that include specific processes and sanctions to minimize the occurrence of, and obtain compliance from, chronic and recalcitrant violators which shall include appropriate, escalating enforcement procedures and actions.
 - 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. Documentation shall include:
 - How long-term storm water BMPs were selected;
 - The pollutant removal expected from the selected BMPs; and
 - The technical basis which supports the performance claims for the selected BMPs.
 - 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.
 - 4.2.5.3.1 The Permittee's new development/redevelopment program shall include non-structural 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.

Since 2010, rainwater harvesting is legal in the State of Utah. Depending on the volume of rainwater collected and stored for beneficial use, the Permittee must meet the requirements of the Utah Division of Water Rights to harvest rainwater found on their website: <http://waterrights.utah.gov/forms/rainwater.asp>

- 4.2.5.3.3 The Permittee must develop a plan to retrofit existing developed sites that are adversely impacting water quality. The retrofit plan must be developed to emphasize controls that infiltrate, evapotranspire or harvest and use storm water discharges. The plan must include a ranking of control measures to determine those best suited for retrofitting as well as those that could later be considered for retrofitting. The Permittee must include the following when developing the criteria for the retrofit plan:
- Proximity to waterbody
 - Status of waterbody to improve impaired waterbodies and protect unimpaired waterbodies
 - Hydrologic condition of the receiving waterbody
 - Proximity to sensitive ecosystem or protected area
 - Any upcoming sites that could be further enhanced by retrofitting storm water controls
- 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. The procedures shall apply through the life of the project from conceptual design to project closeout. Prior to construction, Permittees shall:

- 4.2.5.4.1 Review post-construction plans for, at a minimum, all new development and redevelopment 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, to ensure that the plans include long-term storm water management measures that meet the requirements of this minimum control measure.
- 4.2.5.4.2 Permittees shall provide developers and contractors with preferred design specifications to more effectively treat storm water for different development types such as industrial parks, commercial strip malls, retail gasoline outlets, restaurants, parking lots, automotive service facilities, street and road construction, and projects located in, adjacent to, or discharging to environmentally sensitive areas.
- 4.2.5.4.3 Permittees shall keep a representative copy of information that is provided to design professionals; and if information is distributed to a large number of design professionals at once, the dates of the mailings and lists of recipients.
- 4.2.5.5. All Permittees shall adopt and implement SOPs or similar type of documents for site inspection and enforcement of post-construction storm water control measures. These procedures must ensure adequate ongoing long-term operation and maintenance of approved storm water control measures.
- 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. The ordinance or other regulatory mechanism may, in lieu of requiring that the Permittee's staff inspect and maintain storm water controls on private property, instead 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. The agreement must allow the Permittee to conduct oversight inspections of the storm water control measures and also account for transfer of responsibility in leases and/or deeds. The agreement must also allow the Permittee to perform necessary maintenance or corrective actions neglected by the property owner/operator, and bill or recoup costs from the property owner/operator as needed.
- 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.
- 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 storm water control measures at least once every five years, or more frequently as determined by the Permittee to verify and ensure that adequate maintenance is being performed. The Permittee must document its findings in an inspection report which includes the following:
- Inspection date;
 - Name and signature of inspector;

- Project location;
 - Current ownership information;
 - A description of the condition of the storm water control measure including the quality of: vegetation and soils; inlet and outlet channels and structures; catch basins; spillways; weirs, and other control structures; and sediment and debris accumulation in storage as well as in and around inlet and outlet structures; and,
 - Specific maintenance issues or violations found that need to be corrected by the property owner or operator along with deadlines and reinspection dates.
- 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. Training shall be provided or made available for staff in the fundamentals of long-term storm water management through the use of structural and non-structural control methods. The training records to be kept include dates, activities or course descriptions, and names and positions of staff in attendance. The Permittee shall ensure that all new hires are trained upon hire and before commencing storm water related duties and annually thereafter, at a minimum. Follow-up training shall be provided as needed to address changes in procedures, methods or staffing.
- 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.
- 4.2.5.7.1 Each entry to the inventory must include basic information on each project, such as project's name, owner's name and contact information, location, start/end date, etc. In addition, inventory entries must include the following for each project:
- Short description of each storm water control measure (type, number, design or performance specifications);
 - Short description of maintenance requirements (frequency of required maintenance and inspections); and
 - Inspection information (date, findings, follow up activities, prioritization of follow-up activities, compliance status).
- 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.

4.2.6. *Pollution Prevention and Good Housekeeping for Municipal Operations*

All Permittees shall implement a program for Permittee-owned or operated facilities, operations and structural storm water controls that includes standard operating procedures (SOPs), pollution prevention BMPs, storm water pollution prevention plans or similar type of documents, and a training component that have the ultimate goal of preventing or reducing the runoff of pollutants to the MS4 and Waters of the State. All components of the 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. The Permittee must develop an inventory of all such Permittee-owned or operated facilities. The Permittee must review this inventory annually and update as necessary. The minimum performance measures are:

4.2.6.1. Permittees shall develop and keep current a written inventory of Permittee-owned or operated facilities and storm water controls that may include but is not limited to:

- Composting facilities
- Equipment storage and maintenance facilities
- Fuel farms
- Hazardous waste disposal facilities
- Hazardous waste handling and transfer facilities
- Incinerators
- Landfills
- Landscape maintenance on municipal property
- Materials storage yards
- Pesticide storage facilities
- Public buildings, including libraries, police stations, fire stations, municipal buildings, and similar Permittee-owned or operated buildings
- Public parking lots
- Public golf courses
- Public swimming pools
- Public works yards
- Recycling facilities
- Salt storage facilities
- Solid waste handling and transfer facilities
- Street repair and maintenance sites
- Vehicle storage and maintenance yards
- Permittee-owned and/or maintained structural storm water controls

4.2.6.2. All Permittees shall assess the written inventory of Permittee-owned or operated facilities, operations and storm water controls identified in Part 4.2.6.1. for their potential to discharge to storm water the following typical urban pollutants: sediment, nutrients, metals, hydrocarbons (e.g., benzene, toluene, ethylbenzene and xylene), pesticides, chlorides, and trash. Other pollutants may be associated with, but not generated directly from, the municipally-owned or operated facilities, such as bacteria, chlorine, organic matter, etc. Therefore, the Permittee must determine additional pollutants associated with its facilities that could be found in storm water

discharges. A description of the assessment process and findings must be included in the SWMP document.

- 4.2.6.3. Based on the assessment required in Part 4.2.6.2., the Permittee must identify as “high-priority” those facilities or operations that have a high potential to generate storm water pollutants. Among the factors that must be considered in giving a facility a high priority ranking is the amount of urban pollutants stored at the site, the identification of improperly stored materials, activities that must be performed outside (e.g., changing automotive fluids), proximity to waterbodies, poor housekeeping practices, and discharge of pollutant(s) of concern to impaired water(s).
- 4.2.6.4. Within **180 days** from the effective date of this Permit, the Permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) or similar type document for each “high-priority” Permittee-owned or operated facility. The SWPPP shall identify potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges associated with activity from the facility. The SWPPP shall describe and ensure the implementation of standard operating practices (SOPs) that are to be used to reduce the pollutants in storm water discharges associated with activity at the facility and to ensure compliance with the terms and conditions of this Permit. This document shall be tailored and retained at all “high priority” facility locations. The SWPPP shall include a site map showing the following information:
- Property boundaries;
 - Buildings and impervious surfaces;
 - Directions of storm water flow (use arrows);
 - Locations of structural control measures;
 - Location and name of the nearest defined drainage(s) which could receive runoff from the facility, whether it contains water or not;
 - Locations of all storm water conveyances including ditches, pipes, basins, inlets, and swales;
 - Locations where the following activities are exposed to storm water:
 - Fixed fueling operations;
 - Vehicle and equipment maintenance and/or cleaning areas;
 - Brine making areas;
 - Loading/unloading areas;
 - Waste storage or disposal areas;
 - Liquid storage tanks;
 - Process and equipment operating areas;
 - Materials storage or disposal areas;
 - Locations where significant spills or leaks have occurred;
 - Locations of all visual storm water monitoring points;
 - Locations of storm water inlets and outfalls, with a unique identification code for each outfall and an approximate outline of the areas draining to each outfall;

- Locations of all non-storm water discharges;
 - Locations of sources of run-on to your site from adjacent property.
- 4.2.6.5. The following inspections shall be conducted at “high priority” Permittee-owned or operated facilities:
- 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. The Permittee must look for evidence of spills and immediately clean them up to prevent contact with precipitation or runoff. The weekly inspections must be tracked in a log for every facility and records kept with the SWMP document. The inspection log should also include any identified deficiencies and the corrective actions taken to fix the deficiencies.
- 4.2.6.5.2 Quarterly comprehensive inspections: At least once per quarter, a comprehensive inspection of “high priority” facilities, including all storm water controls, must be performed, with specific attention paid to waste storage areas, dumpsters, vehicle and equipment maintenance/fueling areas, material handling areas, and similar pollutant-generating areas. The quarterly inspection results must be documented and records kept with the SWMP document. This inspection must be done in accordance with the developed SOPs. An inspection report must also include any identified deficiencies and the corrective actions taken to remedy the deficiencies.
- 4.2.6.5.3 Quarterly visual observation of storm water discharges: At least once per quarter, the Permittee must visually observe the quality of the storm water discharges from the “high priority” facilities (unless climate conditions preclude doing so, in which case the Permittee must attempt to evaluate the discharges four times during the wet season). Any observed problems (e.g., color, foam, sheen, turbidity) that can be associated with pollutant sources or controls must be remedied to prevent discharge to the storm drain system. Visual observations must be documented and records kept with the SWMP document. This inspection must be done in accordance with the developed SOPs. The inspection report must also include any identified deficiencies and the corrective actions taken to remedy the deficiencies.
- 4.2.6.6. SOPs shall be developed and implemented for the following types of facilities and/or activities listed below:
- 4.2.6.6.1 Buildings and facilities: SOPs shall address, but is not limited to: Permittee-owned or operated offices, police and fire stations, pools, parking garages, and other Permittee-owned or operated buildings or utilities. The SOPs must address the use, storage and disposal of chemicals and ensure through employee training, that those responsible for handling these products understand and implement the SOPs. All Permittee-owned or operated facilities must develop and ensure that spill prevention plans are in place, if applicable, and coordinate with the local fire department as necessary. The SOPs must address dumpsters and other waste management which includes, but is not limited to, cleaning, washing, painting and other maintenance activities. The Permittee must include a description of schedules and SOPs for sweeping parking lots and keeping the area surrounding the facilities clean to minimize runoff of pollutants. All Permittees must maintain an inventory of all floor drains inside all Permittee-owned or operated buildings. The inventory must be kept

current. The Permittee must ensure that all floor drains discharge to appropriate locations.

- 4.2.6.6.2 Material storage areas, heavy equipment storage areas and maintenance areas. Permittees shall develop and implement SOPs to protect water quality at each of these facilities owned or operated by the Permittee.
- 4.2.6.6.3 Parks and open space. SOPs shall address, but are not limited to: the proper application, storage, and disposal of fertilizer, pesticides, and herbicides including minimizing the use of these products and using only in accordance with manufacturer's instructions; sediment and erosion control; evaluation of lawn maintenance and landscaping activities to ensure practices are protective of water quality such as, proper disposal of lawn clippings and vegetation, and use of alternative landscaping materials such as drought tolerant plants. The SOPs must address the management of trash containers at parks and other open spaces which include scheduled cleanings and establishing a sufficient number of containers, and for placing signage in areas concerning the proper disposal of pet wastes. The SOPs must also address the proper cleaning of maintenance equipment, building exterior, trash containers and the disposal of the associated waste and wastewater. Permittees shall implement park and open space maintenance pollution prevention/good housekeeping practices at all park areas, and other open spaces owned or operated by the Permittee.
- 4.2.6.6.4 Vehicle and Equipment. SOPs shall address, but are not limited to: vehicle maintenance and repair activities that occur on Permittee-owned or operated vehicles. BMPs should include using drip pans and absorbents under or around leaky vehicles and equipment or storing indoors where feasible. Fueling areas for Permittee-owned or operated vehicles and equipment shall be evaluated. If possible, place fueling areas under cover in order to minimize exposure. The O & M program shall include SOPs to ensure that vehicle wash waters are not discharged to the MS4 or Waters of the State. This Permit strictly prohibits such discharges.
- 4.2.6.6.5 Roads, highways, and parking lots. SOPs shall address, but are not limited to: SOPs and schedule for sweeping streets and Permittee-owned or operated parking lots and any other BMPs designed to reduce road and parking lot debris and other pollutants from entering the MS4; road and parking lot maintenance, including pothole repair, pavement marking, sealing and repaving; cold weather operations, including plowing, sanding, and application of deicing compounds and maintenance of snow disposal areas; right-of-way maintenance, including mowing, herbicide and pesticide application; and municipally-sponsored events such as large outdoor festivals, parades or street fairs. The Permittee must ensure that areas used for snow disposal will not result in discharges to receiving waters.
- 4.2.6.6.6 Storm water collection and conveyance system. SOPs shall address, but are not limited to: SOPs and schedules for the regular inspection, cleaning, and repair of catch basins, storm water conveyance pipes, ditches and irrigation canals, culverts, structural storm water controls, and structural runoff treatment and/or flow control facilities. Permittees shall implement catch basin cleaning, storm water system maintenance, scheduled structural BMP inspections and maintenance, and pollution prevention/good housekeeping practices. Permittees shall prioritize storm sewer system maintenance, with the highest priority areas being maintained at the greatest

frequency. Priorities should be driven by water quality concerns, the condition of the receiving water, the amount and type of material that typically accumulates in an area, or other location-specific factors. All Permittee-owned or operated storm water structural BMPs including but not limited to, swales, retention/detention basins or other structures must be inspected annually to ensure that they are properly maintained to reduce the discharge of pollutants into receiving waters. Permittees shall ensure and document proper disposal methods of all waste and wastewater removed from the storm water conveyance system. These disposal methods apply to, but are not limited to, street sweeping and catch basin cleaning. Materials removed from the MS4 shall be dewatered in a contained, impervious area and discharged to the local sanitary sewer (with approval of local authorities) where feasible. The solid material shall be stored and disposed of properly to avoid discharge to Waters of the State during a storm event. Any other treatment and disposal measures shall be reviewed and approved by the Division. Some materials removed from storm drains and open channels may require special handling and disposal, and may not be authorized to be disposed of in a landfill.

- 4.2.6.6.7. Other facilities and operations Permittees shall identify any facilities and operations not listed above that would reasonably be expected to discharge contaminated runoff, and develop, implement, and document the appropriate BMPs and SWPPP to protect water quality from discharges from these sites.
- 4.2.6.7. If a Permittee contracts with a third-party to conduct municipal maintenance or allows private developments to conduct their own maintenance, the contractor shall be held to the same standards as the Permittee. This expectation must be defined in contracts between the Permittee and its contractors or the contractors of private developments. The Permittee shall be responsible for ensuring, through contractually-required documentation or periodic site visits that contractors are using appropriate storm water controls and following the standard operating procedures, storm water control measures, and good housekeeping practices of the Permittee.
- 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. This process must include consideration of controls that can be used to minimize the impacts to site water quality and hydrology while still meeting project objectives. A description of this process must be included in the SWMP document
- 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. A description of this process and determinations should be included in the SWMP document.
- 4.2.6.9. Public construction projects shall comply with the requirements applied to private projects. All construction 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 or sale, owned or operated by the Permittee are required to be covered under the General UPDES Permits for Storm Water Discharges Associated with Construction Activities.
- 4.2.6.10. The Permittee shall ensure that all employees, contracted staff, and other responsible entities that have primary construction, operation, or maintenance job functions that

are likely to impact storm water quality receive annual training. The Permittee shall identify target individuals to participate in the training sessions and ensure that all such employees receive training upon being hired and annually thereafter, at a minimum. Training shall address the importance of protecting water quality, the requirements of this Permit, operation and maintenance requirements, inspection procedures, ways to perform their job activities to prevent or minimize impacts to water quality, SOPs and SWPPPs for the various Permittee-owned or operated facilities and procedures for reporting water quality concerns, including potential illicit discharges. Training records must be kept and shall include dates, activities or course descriptions, and names and positions of staff in attendance. Follow-up training shall be provided as needed to address changes in procedures, methods or staffing.

4.3. Sharing Responsibility

- 4.3.1. Implementation of one or more of the six minimum measures may be shared with another entity, or the entity may fully take over the measure. A Permittee may rely on another entity only if:
 - 4.3.2. The other entity, in fact, implements the control measure;
 - 4.3.3. The particular control measure, or component of that measure, is at least as stringent as the corresponding Permit requirement; and
 - 4.3.4. The other entity agrees to implement the control measure through a written agreement. This obligation must be maintained as part of the description given in the Permittee's SWMP document. If the other entity agrees to report on the minimum control measure, the Permittee must supply the other entity with the reporting requirements contained in Part 5.5. of this Permit. If the other entity fails to implement the control measure, then the Permittee remains liable for any discharges due to that failure to implement.
- 4.3.5. The Permittee conducts training of the responsible entity on the Permit requirements and applicable standard operating procedures.

4.4. Reviewing and Updating Storm Water Management Programs

- 4.4.1. *Storm Water Management Program Review:* All Permittees must conduct, at a minimum, an annual review of the SWMP document in conjunction with preparation of the annual report required in Part 5.5.
- 4.4.2. *Storm Water Management Program Update:* A Permittee may change the SWMP document during the life of the Permit in accordance with the following procedures:
 - 4.4.2.1. Changes adding (but not subtracting or replacing) components, controls, or requirements to the SWMP document may be made at any time upon written notification to the Division.

- 4.4.2.2. Changes replacing an ineffective or unfeasible BMP specifically identified in the SWMP document with an alternate BMP may be adopted at any time, provided the analysis is clearly outlined and subsequently approved by the Division. An analysis shall include:
 - 4.4.2.2.1 An explanation of why the BMP is ineffective or infeasible,
 - 4.4.2.2.2 Expectations or report on the effectiveness of the replacement BMP, and
 - 4.4.2.2.3 An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced, or has achieved those goals.
- 4.4.3. Change requests or notifications must be made in writing and signed in accordance with Part 6.8.
- 4.4.4. Change requests or notifications will receive confirmation and approval or denial in writing from the Division.
- 4.4.5. Storm Water Management Program Updates required by the Division: The Division may require changes to the SWMP as needed to:
 - 4.4.5.1. Address impacts on receiving water quality caused, or contributed to, by discharges from the MS4;
 - 4.4.5.2. Include more stringent requirements necessary to comply with new Federal regulatory requirements; or
 - 4.4.5.3. Include such other conditions deemed necessary by the Division to comply with the goals and requirements of the Clean Water Act.

5.0 Narrative Standard, Monitoring, Recordkeeping and Reporting

5.1 Narrative Standard

It shall be unlawful, and a violation of this Permit, for the Permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste, or conditions which produce undesirable aquatic life or which produces objectionable tastes in edible aquatic organisms; or concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures

5.2 Analytical Monitoring

Permittees are not required to conduct analytical monitoring (see definition in Part 7.3) during the effective term of this Permit, with the following exceptions:

- 5.2.1. Water quality sampling may be required for compliance with TMDLs, pursuant to Part 3.1. of this Permit.
- 5.2.2. Sampling or testing may be required for characterizing illicit discharges pursuant to Parts 4.2.3.4., 4.2.3.5., and 4.2.3.5.1 of this Permit.
- 5.2.3. In the event that the MS4 elects to conduct analytical monitoring as part of its Storm Water Management Program, the Permittee is required to comply with Part 6.18. of this Permit.

5.3 Non-analytical Monitoring

- 5.3.1. Non-analytical monitoring (see definition in Part 7.32.) such as visual dry weather screening is required to comply with Part 4.2.3.3.2 of this Permit.

5.4 Record keeping

- 5.4.1. Permittees must keep all supplementary documents associated with this Permit (e.g., Storm Water Management Program (SWMP) document, SWMP Implementation Schedule) current and up to date to achieve the purpose and objectives of the required document.
- 5.4.2. All modifications to supplementary documents must be submitted to the *Division* in accordance with Parts 4.4 and 6.8.
- 5.4.3. The *Division* may at any time make a written determination that parts or all of the supplementary documents are not in compliance with this Permit, wherein the Permittee must make modifications to these parts within a time frame specified by the *Division*.
- 5.4.4. The Permittee shall retain all required plans, records of all programs, records of all monitoring information, copies of all reports required by this Permit, and records of

all other data required by or used to demonstrate compliance with this Permit, for at least five years. This period may be explicitly modified by alternative provisions of this Permit or extended by request of the *Division* at any time.

- 5.4.5. The Permittee must make records, including the Notice of Intent (NOI) and the SWMP document, available to the public if requested.

5.5. Reporting

- 5.5.1. The Permittee must submit an annual report to the Division by October 1 for the reporting period of July 1 to June 30 of each year of the Permit term.
- 5.5.2. The report must be submitted using the report form provided on the *Division's* website at <http://www.deq.utah.gov/Permits/water/updes/stormwatermun.htm>.
- 5.5.3. The Permittee shall sign and certify the annual report in accordance with Part 6.8.
- 5.5.4. Signed copies of the Annual Report and all other reports required herein, shall be submitted to:

Department of Environmental Quality
Division of Water Quality
PO Box 144870
195 North 1950 West
Salt Lake City, UT 84114-4870

6.0 Standard Permit Conditions

6.1. Duty to Comply

The Permittee must comply with all conditions of this Permit. Any Permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a Permit renewal application. The Permittee shall give advance notice to the Division of any planned changes in the Permitted facility or activity, which may result in noncompliance with Permit requirements.

6.2. Penalties for Violations of Permit Conditions

The *Act* provides that any person who violates a Permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates Permit conditions or the Act is subject to a fine not exceeding \$25,000 per day of violation. Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding \$50,000 per day.

6.3. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee shall apply for and obtain a new Permit. The application shall be submitted at least **180 days** before the expiration date of this Permit. Continuation of expiring Permits shall be governed by regulations promulgated at *UAC R317-8-5* and any subsequent amendments.

6.4. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the Permitted activity in order to maintain compliance with the conditions of this Permit.

6.5. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

6.6. Duty to Provide Information

The Permittee shall furnish to the Division, within a time specified by the Division, any information which the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Division, upon request, copies of records required to be kept by this Permit.

6.7. Other Information

When the Permittee becomes aware that it failed to submit any relevant facts in a Permit application, or submitted incorrect information in a Permit application or any report to the Division, it shall promptly submit such facts or information.

6.8. Signatory Requirements

All notices of intent, storm water management programs, storm water pollution prevention plans, reports, certifications or information either submitted to the *Division* or that this Permit requires to be maintained by the Permittee, shall be signed, dated and certified as follows:

- 6.8.1. All Permit applications shall be signed by either a principal executive officer or ranking elected official.
- 6.8.2. All reports required by the Permit and other information requested by the Division shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 6.8.2.1. The authorization is made in writing by a person described above and submitted to the Division, and,
 - 6.8.2.2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
 - 6.8.2.3. Changes to authorization. If an authorization under *Part 6.8.2.* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *Part 6.8.2.* must be submitted to the Division prior to or together with any reports, information, or applications to be signed by an authorized representative.
- 6.8.3. *Certification.* Any person signing documents under this Part shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

6.9 Availability of Reports

Except for data determined to be confidential under the Government Records Access and Management Act (*see* particularly Utah Code Ann. § 63-2-309) and Utah Code Ann. § 19-1-3-6, all reports prepared in accordance with the terms of this Permit shall be available for public inspection at the office of the Division. As required by the *Act*, Permit applications, Permits and effluent data shall not be considered confidential.

6.10. Penalties for Falsification of Reports

The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both. Utah Code Ann. § 19-5-115(4)

6.11. Penalties for Tampering

The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this Permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

6.12. Oil and Hazardous Substance Liability

Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under the "*Act*".

6.13. Property Rights

The issuance of this Permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or Local laws or regulations.

6.14. Severability

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit shall not be affected thereby.

6.15. Requiring a Different Permit

The *Division* may require the Permittee authorized by this Permit to obtain an individual *UPDES* Permit. Any interested person may petition the *Division* to take action under this paragraph. The *Division* may require the Permittee authorized to discharge under this Permit to apply for an individual *UPDES* Permit only if the Permittee has been notified in writing that a Permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form (as necessary), a statement setting a deadline for the Permittee to file the application, and a statement that on the effective date of the municipal *UPDES* Permit, coverage

under this Permit shall automatically terminate. Permit applications shall be submitted to the address of the *Division of Water Quality* shown in *Part 5.5* of this Permit. The *Division* may grant additional time to submit the application upon request of the applicant. If the municipality fails to submit in a timely manner a municipal *UPDES* Permit application as required by the *Division*, then the applicability of this Permit to the Permittee is automatically terminated at the end of the day specified for application submittal.

6.16. State/Federal Laws

Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by *UCA 19-5-117* and *Section 510* of the *Clean Water Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.

6.17. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit and with the requirements of the SWMP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by the Permittee only when necessary to achieve compliance with the conditions of the Permit.

6.18. Monitoring and Records

- 6.18.1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- 6.18.2. The Permittee shall retain records of all monitoring information including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of the reports required by this Permit, and records of all data used to complete the application for this Permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the *Division* at any time.
- 6.18.3. Records of monitoring information shall include:
 - 6.18.3.1 The date, exact place, and time of sampling or measurements;
 - 6.18.3.2 The name(s) of the individual(s) who performed the sampling or measurements;
 - 6.18.3.3 The date(s) and time(s) analyses were performed;
 - 6.18.3.4 The name(s) of the individual(s) who performed the analyses;
 - 6.18.3.5 The analytical techniques or methods used; and
 - 6.18.3.6 The results of such analyses.

6.19. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10*, unless other test procedures have been specified in this Permit.

6.20. Inspection and Entry

The Permittee shall allow the *Division* or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- 6.20.1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this Permit;
- 6.20.2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this Permit; and
- 6.20.3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).
- 6.20.4. Sample or monitor at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by law, any substances or parameters at any location.

6.21. Permit Actions

This Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Permit modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Permit condition.

6.22. Storm Water-Reopener Provision

At any time during the duration (life) of this Permit, this Permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "Waters-of-State".

7.0 **Definitions**

Definitions related to this Permit and small municipal separate storm sewers (MS4s).

- 7.1. "40 CFR" refers to Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal government.
- 7.2. "Act" means the *Utah Water Quality Act*.
- 7.3. "Analytical monitoring" refers to monitoring of waterbodies (streams, ponds, lakes, etc.) or of storm water, according to UAC R317-2-10 and 40 CFR 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants," or to State or Federally established protocols for biomonitoring or stream bioassessments.
- 7.4. "Beneficial Uses" means uses of the Waters of the State, which include but are not limited to: domestic, agricultural, industrial, recreational, and other legitimate beneficial uses.
- 7.5. "Best Management Practices" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- 7.6. "CWA" means *The Clean Water Act of 1987*, formerly referred to as the Federal Water Pollution Control Act.
- 7.7. "Co-Permittee" means any operator of a regulated Small MS4 that is applying jointly with another applicant for coverage under this Permit. A Co-Permittee owns or operates a regulated Small MS4 located within or adjacent to another regulated MS4. A Co-Permittee is only responsible for complying with the conditions of this Permit relating to discharges from the MS4 the Co-Permittee owns or operates. See also 40 CFR 122.26(b)(1).
- 7.8. "Control Measure" refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to Waters of the State.
- 7.9. "Common plan of development or sale" means one plan for development or sale, separate parts of which are related by any announcement, piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, plat, blueprint, contract, Permit application, zoning request, computer design, etc.), physical demarcation (including contracts) that identify the scope of the project. A plan may still be a common plan of development or sale even if it is taking place in separate stages or phases, is planned in combination with other construction activities, or is implemented by different owners or operators.
- 7.10. "Director" means the director of the Utah Division of Water Quality, otherwise known as the *Division of the Utah Water Quality Board*.
- 7.11. "Division" means the Utah Division of Water Quality.
- 7.12. "Discharge" for the purpose of this Permit, unless indicated otherwise, refers to discharges from the Municipal Separate Storm Sewer System (MS4).

- 7.13. "Dry weather screening" is monitoring done in the absence of storm events to discharges representing, as much as possible, the entire storm drainage system for the purpose of obtaining information about illicit connections and improper dumping.
- 7.14. "Escalating enforcement procedures" refers to a variety of enforcement actions in order to apply as necessary for the severity of the violation and/or the recalcitrance of the violator.
- 7.15. "Entity" means a governmental body or a public or private organization.
- 7.16. "EPA" means the United States Environmental Protection Agency.
- 7.17. "General Permit" means a Permit which covers multiple dischargers of a point source category within a designated geographical area, in lieu of individual Permits being issued to each discharger.
- 7.18. "Ground water" means water in a saturated zone or stratum beneath the surface of the land or below a surface water body.
- 7.19. "High quality waters" means any water, where, for a particular pollutant or pollutant parameter, the water quality exceeds that quality necessary to support the existing or designated uses, or which supports an exceptional use.
- 7.20. "Illicit connection" means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.
- 7.21. "Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a UPDES Permit (other than the UPDES Permit for discharges from the municipal separate storm sewer) and discharges resulting from emergency firefighting activities.
- 7.22. "Impaired waters" means any segment of surface waters that has been identified by the Division as failing to support classified uses. The Division periodically compiles a list of such waters known as the 303(d) List.
- 7.23. "Indian Country" is defined as in 40 CFR §122.2 to mean:
- 7.23.1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;
 - 7.23.2. All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and
 - 7.23.3. All Indian allotments, the Indian titles to which have not been extinguished, including right-of-ways running through the same.

- 7.24. "Large MS4" *Large municipal separate storm sewer system* means all municipal separate storm sewers that are located in an incorporated place with a population of 250,000 or more as determined by the current Decennial Census by the Bureau of the Census.
- 7.25. "Low Impact Development" (LID) is an approach to land development (or re-development) that works with nature to more closely mimic pre-development hydrologic functions. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat storm water as a resource rather than a waste product. There are many practices that have been used to adhere to these principles such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements.
- 7.26. "MS4" is an acronym for "municipal separate storm sewer system".
- 7.27. "Maximum Extent Practicable" (MEP) is the technology-based discharge standard for Municipal Separate Storm Sewer Systems established by paragraph 402(p)(3)(B)(iii) of the Federal Clean Water Act (CWA), which reads as follows: "Permits for discharges from municipal storm sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques, and system, design, and engineering methods, and other such provisions as the Administrator or the State determines appropriate for the control of such pollutants."
- 7.28. "Medium MS4" *Medium municipal separate storm sewer system* means all municipal separate storm sewers that are located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census
- 7.29. "Monitoring" refers to tracking or measuring activities, progress, results, etc.;
- 7.30. "Municipal separate storm sewer system" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) pursuant to paragraphs R317-8-1.6(4), (7), & (14), or designated under UAC R317-8-3.9(1)(a)5:
- 7.30.1. that is owned or operated by a state, city, town, county, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of wastes, storm water, or other wastes, including special districts under State Law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to Waters of the State;
 - 7.30.2. that is designed or used for collecting or conveying storm water;
 - 7.30.3. which is not a combined sewer; and
 - 7.30.4. which is not part of a Publicly Owned Treatment Works (POTW) as defined in 40 CFR 122.2.
- 7.31. "NOI" is an acronym for "Notice of Intent" to be covered by this Permit and is the mechanism used to "register" for coverage under a General Permit.

- 7.32. "Non-analytical monitoring" refers to monitoring for pollutants by means other than UAC R317-2-10 and 40 CFR 136, such as visually or by qualitative tools that provide comparative or rough estimates.
- 7.33. "Operator" is the person or entity responsible for the operation and maintenance of the MS4.
- 7.34. "Outfall" means a point source as defined by UAC R317-8-1.5(34) at the point where a municipal separate storm sewer discharges to Waters of the State and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other Waters of the State and are used to convey waters of the State.
- 7.35. "Phase II areas" means areas regulated under UPDES storm water regulations encompassed by Small MS4's (see definition 7.39.).
- 7.36. "Priority construction site" means a construction site that has potential to threaten water quality when considering the following factors: soil erosion potential; site slope; project size and type; sensitivity of receiving waterbodies; proximity to receiving waterbodies; non-storm water discharges and past record of non-compliance by the operators of the construction site.
- 7.37. "Redevelopment" is the replacement or improvement of impervious surfaces on a developed site.
- 7.38. "Runoff" is water that travels across the land surface, or laterally through the ground near the land surface, and discharges to water bodies either directly or through a collection and conveyance system. Runoff includes storm water and water from other sources that travels across the land surface.
- 7.39. "SWMP" is an acronym for storm water management program. The SWMP document is the written plan that is used to describe the various control measures and activities the Permittee will undertake to implement the storm water management plan.
- 7.40. "SWPPP" is an acronym for storm water pollution prevention plan.
- 7.41. "Small municipal separate storm sewer system" is any MS4 not already covered by the Phase I program as a medium or large MS4. The Phase II Rule automatically covers on a nationwide basis all Small MS4s located in "urbanized areas" (UAs) as defined by the Bureau of the Census (unless waived by the UPDES Permitting authority), and on a case-by-case basis those Small MS4s located outside of UAs that the UPDES Permitting authority designates.
- 7.41.1. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.
- 7.42. "SOP" is an acronym for standard operating procedure which is a set of written instructions that document a routine or repetitive activity. For the purpose of this Permit, SOPs should emphasize pollution control measures to protect water quality.
- 7.43. "Storm water" means storm water runoff, snowmelt runoff, and surface runoff and drainage.

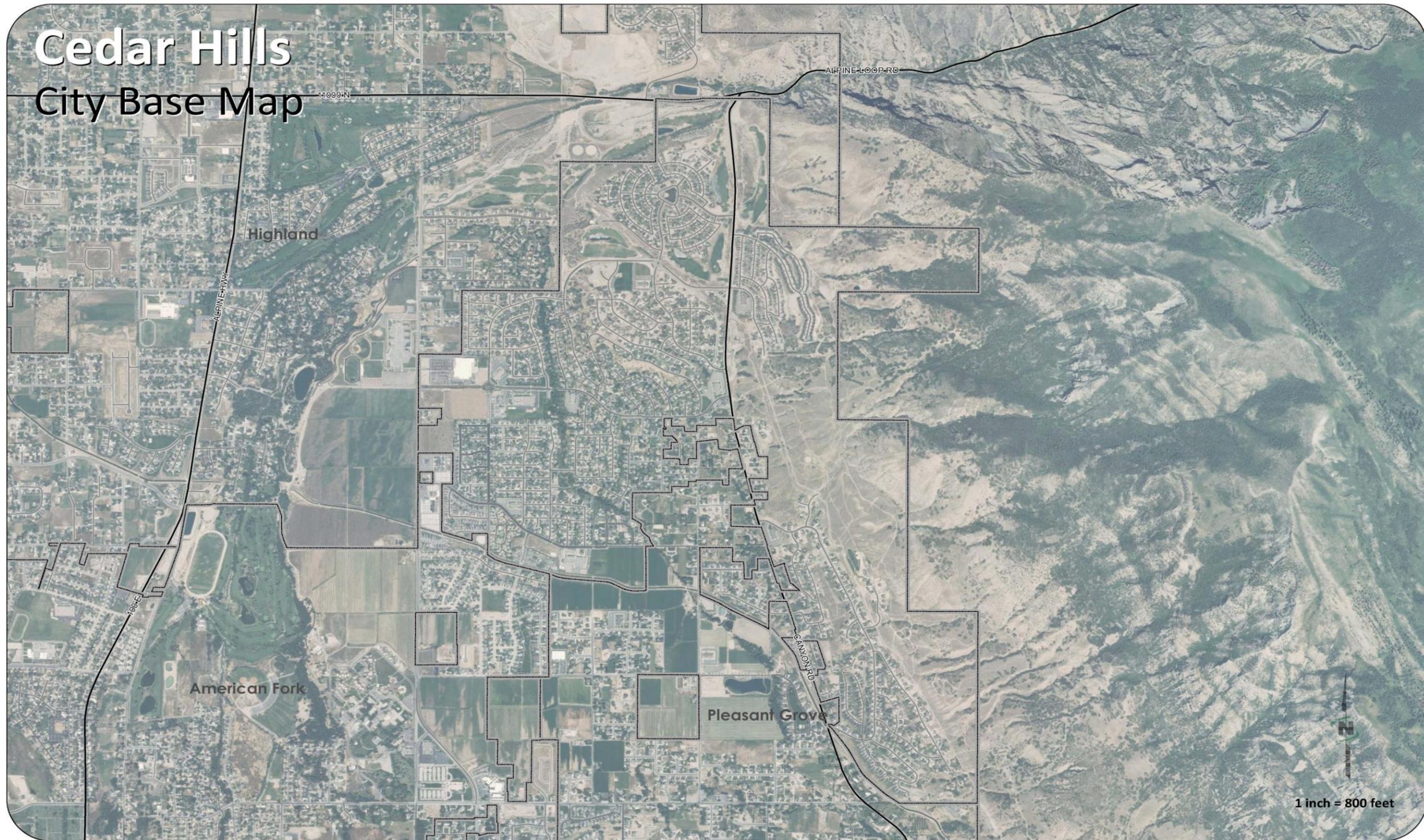
- 7.43. “Storm water management program” means a set of measurable goals, actions, and activities designed to reduce the discharge of pollutants from the Small MS4 to the maximum extent practicable and to protect water quality.
- 7.44. “TMDL” is an acronym for “Total Maximum Daily Load” and in this Permit refers to a study that: 1) quantifies the amount of a pollutant in a stream; 2) identifies the sources of the pollutant; and 3) recommends regulatory or other actions that may need to be taken in order for the impaired waterbody to meet water quality standards.
- 7.45. “Urbanized area” is a land area comprising one or more places and the adjacent densely settled surrounding area that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile.
- 7.46. “Waters of the State” means all streams, lakes, ponds, marshes, water-courses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private which are contained within, flow through, or border upon this state or any portion thereof, except bodies of water confined to and retained within the limits of private property, and which do not develop into or constitute a nuisance, or a public health hazard, or a menace to fish and wildlife which shall not be considered to be “Waters of the State” under this definition (“UAC” R317-1-1).

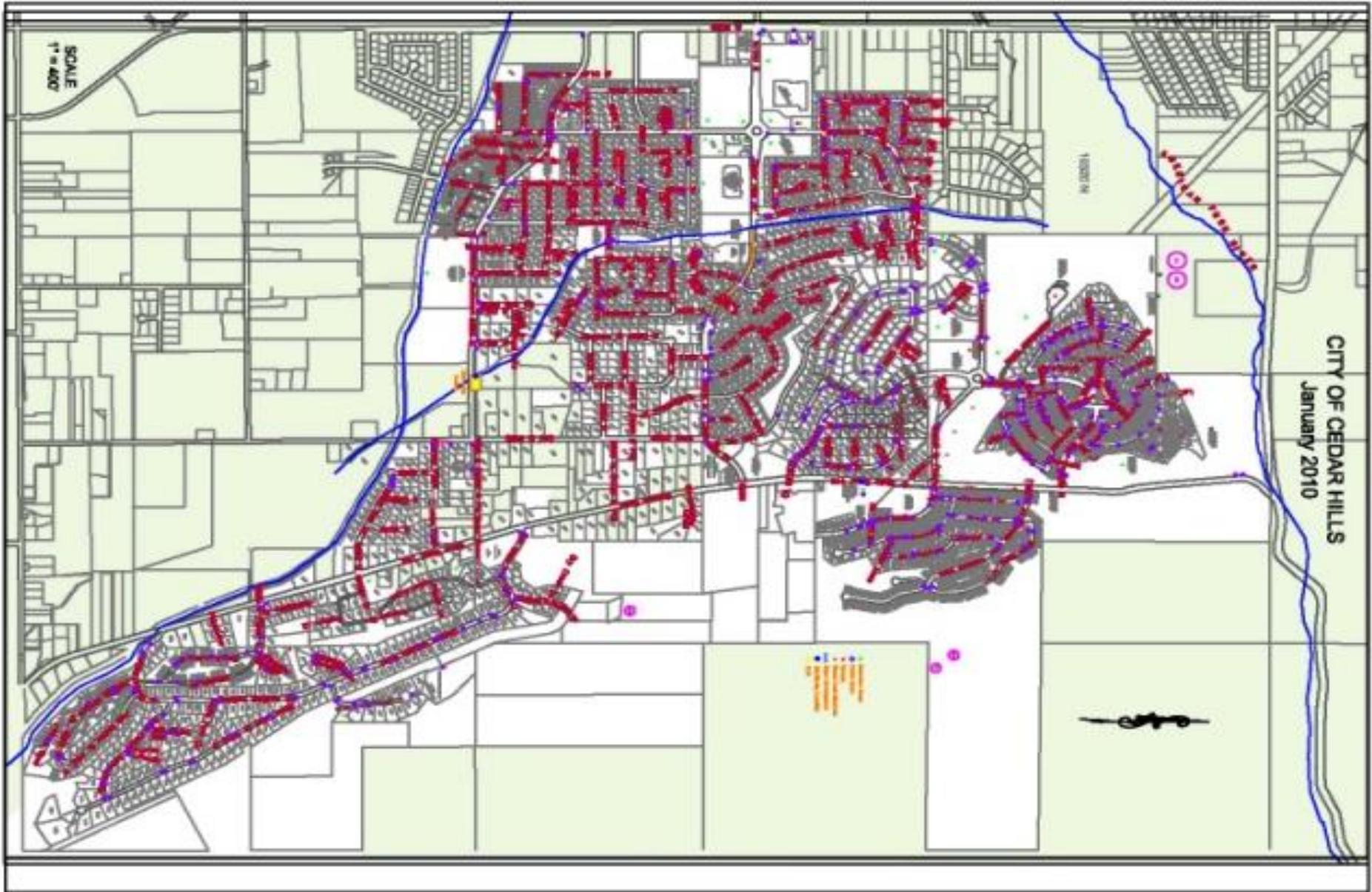
APPENDIX G

MAPS/MAP BOOK

- Base Map
- Facility Storm Drain, Floor Drains, Post Construction BMP Map
- System, Outfall, Spills and Injection well Map
- Inventory of Construction Sites

Cedar Hills City Base Map





APPENDIX H

UTAH COUNTY STORM WATER COALITION

CONTRIBUTIONS

The following pages of Appendix H contain a letter from Utah County and the Public Education and Outreach Program of the Utah County Storm Water Coalition's Storm Water Management Plan. The letter establishes the commitment of the Utah County Storm Water Coalition to perform the activities in their Public Education and Outreach Program in behalf of member agencies. These activities will help Cedar Hills City satisfy some of the requirements of the Storm Water Phase II Rule.

**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: 
GARY J. ANDERSON, Chairman

ATTEST: Bryan Thompson
Utah County Clerk/Auditor

By: 
Deputy

APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:
Jeff Bulgham, Utah County Attorney

By: 
Deputy Utah County Attorney

PROVO CITY STORM WATER SERVICE DISTRICT


TITLE Mayor of Provo

ATTEST: 
RECORDER FOR DISTRICT

APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:


ATTORNEY FOR DISTRICT



CITY OF OREM

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

Mayor

[Signature]

ATTEST: [Signature]
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

Christine M. Pelegrin
ATTORNEY FOR CITY

CITY OF AMERICAN FORK

Mayor *[Signature]*

ATTEST: *[Signature]*
DEPUTY RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY



CITY OF SPRINGVILLE

Mayor *[Signature]*

ATTEST: *[Signature]*
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY

CITY OF SPANISH FORK

Mayor Steve G. G. G.

ATTEST: Ray R. Clark
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

Jason Smith
Asst. ATTORNEY FOR CITY

CITY OF LEHI

Mayor Scott McLeod

ATTEST: Shirley B. B. B.
RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

Raymond Wood
ATTORNEY FOR CITY



CITY OF PAYSON
Mayor

ATTEST: *Jeanette C. Underaker*
RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY



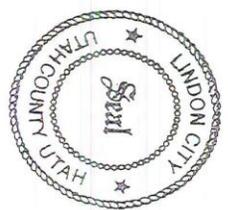
CITY OF LONDON

Mayor *[Signature]*

ATTEST: *[Signature]*
RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND
COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY



CITY OF HIGHLAND

Mayor
Mark DeSteno

ATTEST: *ADD. M. Bate*
RECORDER FOR CITY



APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY

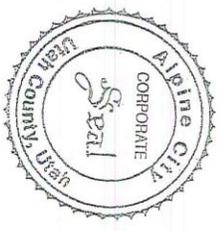
CITY OF ALPINE

Mayor
[Signature]

ATTEST: *[Signature]*
RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY



CITY OF MAPLETON

Mayor

Michelle

ATTEST: *Christina*

RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS.

2796
ATTORNEY FOR CITY



CITY OF SALEM

Robert
Mayor

ATTEST: *John*

RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS.

James
ATTORNEY FOR CITY



CITY OF CEDAR HILLS

Mayor

Barry

ATTEST: Wendy A. Mulvey
RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

W. J. [Signature]
ATTORNEY FOR CITY



CITY OF EAGLE MOUNTAIN

Mayor

[Signature]

ATTEST: [Signature]
RECORDER FOR CITY

APPROVED AS TO PROPER FORM AND COMPLIANCE WITH APPLICABLE LAWS:

[Signature]
ATTORNEY FOR CITY



Based on 2014-2015 Total Schools to be Visited

STORM WATER COALITION

MEMBER AGENCY ANNUAL FEE SCHEDULE

CITY	POPULATION COUNT		SCHOOL COUNT		BILL AMOUNT	
	%	\$	%	\$	\$	\$
PROVO	22.54%	\$ 2,866	15	\$ 6,109	\$ 8,975	0.16
OREM	17.70%	\$ 2,251	18	\$ 7,331	\$ 9,582	0.17
PLEASANT GROVE	6.72%	\$ 854	7	\$ 2,851	\$ 3,705	0.07
AMERICAN FORK	5.26%	\$ 669	6	\$ 2,444	\$ 3,113	0.06
SPRINGVILLE	5.91%	\$ 751	6	\$ 2,444	\$ 3,194	0.06
SPANISH FORK	6.95%	\$ 884	10	\$ 4,073	\$ 4,957	0.09
LEHI	9.50%	\$ 1,208	9	\$ 3,666	\$ 4,873	0.09
PAYSON	3.67%	\$ 466	5	\$ 2,036	\$ 2,503	0.04
COUNTY	2.01%	\$ 255			\$ 255	0.01
LINDON	2.02%	\$ 257			\$ 1,478	0.03
HIGHLAND	3.11%	\$ 396	3	\$ 1,222	\$ 2,025	0.04
ALPINE	1.91%	\$ 243	4	\$ 1,629	\$ 1,465	0.03
MAPLETON	1.80%	\$ 203	3	\$ 1,222	\$ 1,018	0.02
SALEM	1.29%	\$ 164	2	\$ 815	\$ 1,793	0.03
CEDAR HILLS	1.96%	\$ 250	4	\$ 1,629	\$ 1,064	0.02
EAGLE MOUNTAIN	4.29%	\$ 546	2	\$ 815	\$ 2,582	0.05
SARATOGA SPRINGS	3.56%	\$ 453	5	\$ 2,036	\$ 3,304	0.06
TOTAL	100.00%	\$ 12,714	106	100.00%	\$ 55,886	

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

Cedar Hills Golf Course SWMP

Objective: On site management of potential pollutants as they relate to storm water contamination.

Table of Contents:

Section 1: Storm water protection plan

Section 2: Golf course map & plans

Section 3: Standard Operating Procedures

Section 4: Description and frequency of tasks

Section 5: Spill prevention plan and clean up procedures

Section 6: Forms used for reporting and logging incidents

Golf Course Storm Water Management Plan (2016)

Objective: On site management of potential pollutants as they relate to storm water contamination.

Items of Concern:

1. Parking Lots
2. Maintenance Facility Parking Lots
3. Fertilizer and Pesticide Management
4. Disposal of Food and Beverage Oils
5. Disposal of Engine Oils
6. Management of Grass clippings, Sand, and other Large Particulates.
7. Gasoline and Diesel
8. Waste Disposal
9. Training and Records

1) Parking Lots: Storm Water is collected in boxes throughout the Parking Areas. These are cleaned on a regular basis and or included a fabric cover to collect clippings and Parking lot residue.

2) Maintenance Facility Parking Lots: The Storm Water collected in these lots is in the same collection system as the Parking Lots. However, these lots are swept due to the amount of material in the lots associated with grounds maintenance. Fabric covers maybe employed in these areas.

3) Fertilizer and Pesticide Management: All Fertilizer and Pesticides used on the Golf Course are stored in the Maintenance Facilities designated fertilizer and chemical storage room/area. Spill containment pallets are used for the following items: Granular and Liquid Fertilizers, Herbicides (selective and non-selective), Granular and Liquid Fungicides, all Paints (excluding Aerosols). Liquid spills are cleaned with sawdust and/or spill absorbents. Granular spills are collected and used on the golf course for turf grass nutritional purposes.

4) Disposal of Food and Beverage Oils: Used oils are contained in a 55 Gallon Drum and collected by Renegade Recycling Company on an as-needed basis.

5) Disposal on Engine Oil: Used oil is collected in the Maintenance Facility in 55 gallon drums on spill containments pallets which are recycled by Tri City Oil Recycling Company on an as-needed basis. Spills are cleaned with sawdust and oil absorbent materials.

6) Management of Grass Clipping, Sand and other Large Particulates: The wash area for all Maintenance Equipment is a designed containment area, channeling all wash water and other materials into a holding tank or onto turf.

7) Gasoline and Diesel: A concrete curb wall surrounds the fueling area; containment is 100%. For spills outside of the fueling area a drum of absorbent is kept and maintained at the fueling center at all times.

8) Waste Disposal: Solid waste disposal is contracted with Waste Management. Used oil disposal is recycled with Tri City Oil Recycling Company. Clippings from mowers are primarily not collected on the golf course. Collected clippings are recycled for mulch around trees and other woody plants.

9) Employee Training and Records: Monthly safety/operational meetings are held with the maintenance staff. These meetings concern aspects of safety, water management, customer relations, materials handling, and other BMP's concerning the golf course maintenance operations. Attendance and subjects are recorded in the golf course SWPPP. Weekly observations/inspections of areas are conducted and recorded. These forms are part of the SWPPP on-site.

Contact List

Cedar Hills Golf Course
10640 N. Clubhouse Dr,
Cedar Hills, Utah 84062

Recreation Director
Greg Gordon 801-785-9668 x601

Director of Golf
Wade Doyle 801-785-9668 x603

Golf Course Superintendent
Brian Cloud 801-319-9347

Cedar Hills Golf Course

10640 N. Clubhouse Dr.

Cedar Hills, Ut 84062

Cedar Hills Golf Course is a 18 hole golf course. It sits on approximately 150 acres but has 65 acres of maintained turf and landscape beds.

- Cedar Hills has 12,000 sq. ft recreation center. This includes a proshop, café, full size kitchen, large banquet area, offices, men's and ladies restrooms as well as a conference room, work out room, all purpose room and golf cart storage area.
- Cedar Hills Maintenance Building is located north of #8 tee box and west of American Fork City water tanks. It is a 2 building system. The first building is a 2000 sq. foot building that has an office, break room, restroom, parts storage room and chemical storage room. The second building is a 4800 sq. foot tent type building used to store all equipment
- Pumphouse #1 sits in between the driving range and hole 18, this pumphouse is for irrigating the golf course
- Pumphouse #2 is connected to the restrooms located by hole 13 tee box. This pumphouse houses a booster pump that pumps water up the hill to holes 13 and 14.
- 2 small restroom buildings on golf course containing 2 restrooms each, one restroom also has a storage room and a snack area

**List of Floor Drains
Maintenance Building
(all floor drains go to sewer system)**

1. Restroom
2. Main Shop ? (Architectural design near completion)
3. Main Shop ? (Architectural design near completion)

Restrooms located on golf course

1. Restroom located next to #5 tee box has floor drains in each restroom and snack area.
2. Restroom located next to #13 tee box has floor drains in each restroom.

Rec Center

1. Men's restroom
2. Women's restroom
3. Cart storage door
4. ?

Rec Center Storm Drains

1. South corner of parking lot, west side of cart path
2. South corner of parking lot, east side of cart path
3. At bottom of ramp into cart storage
4. Northwest corner of parking lot



1- Maintenance Building

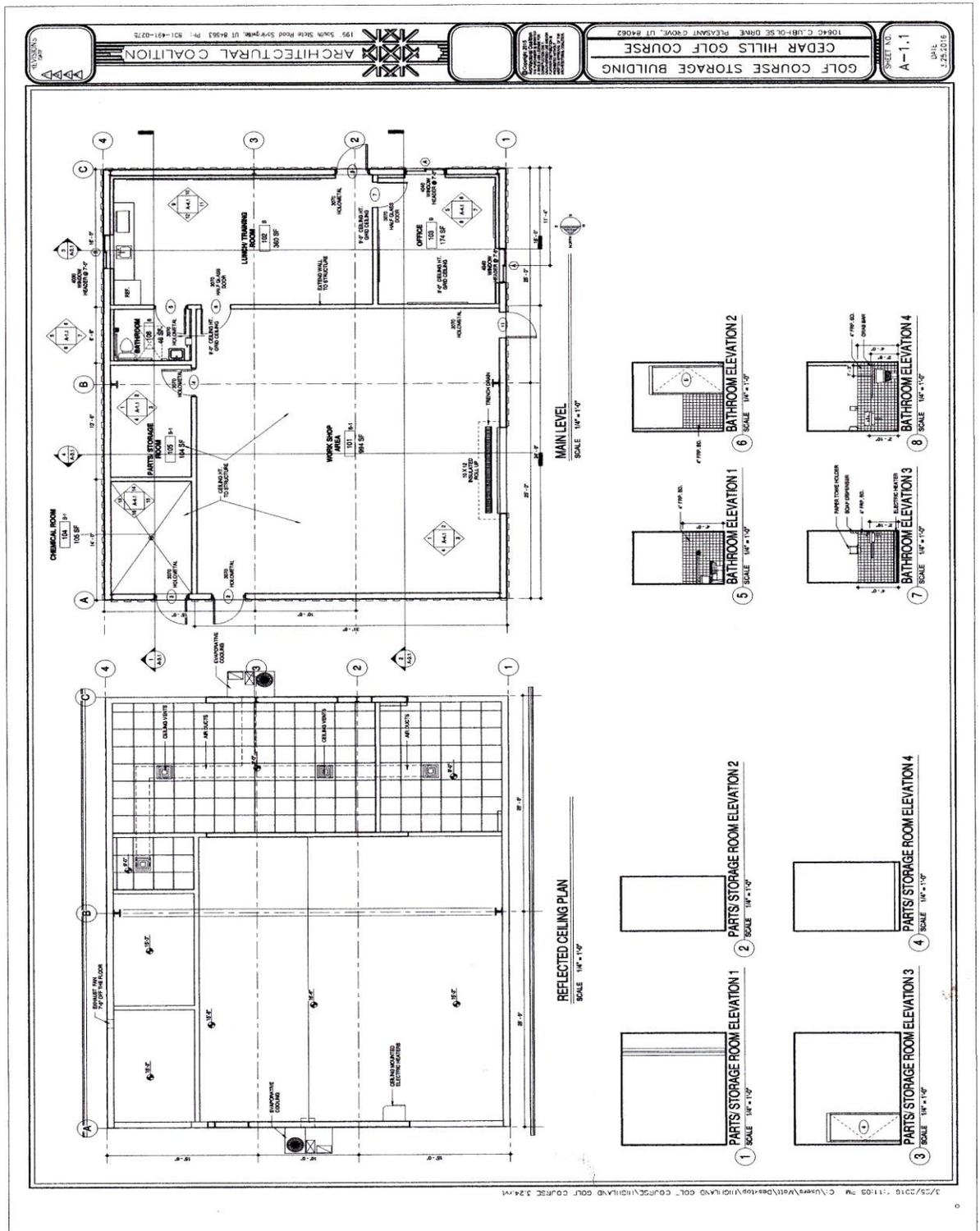
2- Recreation Center

3- Pump House #1

4- Pump House #2/Restroom #2

5- Restroom #1

CEDAR HILLS MAINTENANCE BUILDING PLANS



Cedar Hills Golf Course Best Management Practices Standard Operating Procedures

Objective: Onsite management of mowing, trimming, edging, debris removal and fertilizer and pesticide applications to provide a safe working environment and pollution free golf course.

Storm Water Training & Inspections

- Pollution preventions training for all parks personnel will be performed annually during the month of May. This training will also be part of orientation of new employees as well as rehired seasonal employees.
- Employees are supervised to ensure compliance.
- Sites are inspected weekly by qualified personnel.

Lawn Maintenance Activities

- Read manual if available. Become familiar with machine safety.
- Watch safety/training videos.
- Inspect mower before operating. Ensure all guards and shields are in place. Check for loose bolts/nuts and tighten if necessary. Do not make repairs or adjustment to mower while engine is running, unless owner's manual states otherwise.
- Eye and ear protection is provided and is required that it be worn while operating any type of power equipment.
- Check the mower for presence of an enclosed canopy for head protection or ensure proper head protection be used.
- Check fluid levels before starting daily work and after lunch.
- Check area to be mowed and remove all trash, papers, bottles, rocks and other debris.
- When mowing: always make two to three passes around the outside, discharging clippings to the inside of the property being mowed.
- Always maintain a safe operating distance from people, at least 40 feet. If people are using the area you are mowing, mow around them, maintaining a safe distance, or ask them to move. **Always discharge clippings away from people.**

- After mowing, blow all grass clippings from walks and ensure curbs and gutters are cleaned of all grass clippings and dirt.
- Avoid hitting and damaging objects with mower by maintaining a safe distance between objects and mower. Be especially careful not to hit trees.
- When transporting, always ensure mower is fastened securely to trailer with chains and/or straps. Apply parking brake properly.
- Exercise extra care while mowing on slopes. Wear seat belts and ensure all safety systems are in place. Avoid sudden starts and stops on slopes. Do not park on slopes.
- Always refuel safely, follow refueling SOPs.
- Check for presence of a complete functioning spill kit

Debris blowing procedure

- Before using:
 - Check blower to ensure all guards and safety devices are properly installed and are not broken
 - Ensure all bolt, screws and fasteners are tight
 - Check fuel level and add as needed following refueling procedures
 - Report any broken, missing or loose parts so they can be fixed before use
- During Use:
 - Safety glasses and ear plugs are required
 - Blow debris from sidewalks, cart paths, jogging paths, parking lots, and curb and gutters
 - Blow grass clippings and other green waste back onto turf
 - Pick up garbage
 - Ensure curb and gutters are clean to prevent any debris from entering the storm drain system
 - Exercise extreme caution when blowing around vehicles
 - Do not blow debris at people
 - Make sure blower is shut off before performing maintenance or repairs
 - Follow refueling procedures when refueling
- If you have any questions, please ask appropriate supervisor

Equipment maintenance activities

- Visually check equipment to ensure all safety equipment is functional.
- Check for leaks i.e. hydraulic, cooling, engine fluids or fuel daily.
- Read all applicable service manuals and develop service plans to ensure all service parts are replaced as to date and hours on the equipment.
- Make sure all hoses and related equipment are replaced when required by the service manual to reduce spills.
- Dispose of all fluids in a manner not to pollute storm water drainage or sewer system.
- Check that each applicable machine has a complete spill response kit.
- In the event of a spill the machine is to be put on a trailer and brought in to the repair shop rather spilling a containment on the ground all the way in. Unless the leak can be repaired in the field.

Vehicle and Equipment Cleaning

- Vehicles and equipment are to be washed on approved wash areas.
- Washed vehicles or equipment is never to be washed where water could enter the storm drain system or open water.

Chemical/Material Storage

- All fertilizer and pesticide containers are in designated area and in containment bins.
- Fertilizers and pesticides are to be used correctly as to the direction on product label.
- Liquid Formulations have containment bins to contain any size leaks.
- Granular formulations are to be swept and removed off paths and roadways.
- Never apply a product to adjacent waterways unless product label indicates that it is safe to do so.
- Fertilizer and pesticide applicators will be licensed or supervised directly by a licensed applicator.
- In the event of a spill the effected will be cleaned-treated as the label of the particular formulation requires.

Refueling Procedure

In areas with a fuel pump:

- Park next to appropriate pump
- Turn off engine
- While equipment is being refueled, stay where you can see nozzle.
- If a spill occurs, spread appropriate spill containment (located by pumps) to soak up the spill, and then dispose of properly.
- If spill occurs fill out spill report and turn in to supervisor

If refueling in on a golf course using a gas can:

- If possible get to a hard surface such as a parking lot, sidewalk or cart path.
- Turn off engine.
- Use caution while refueling to ensure fuel does not spill.
- If spill occurs, spread appropriate spill containment (pad or calcined clay, located on the equipment or transport vehicle), and clean up as required.
- If spill occurs fill out spill report and turn in to supervisor.

Cleaning of garbage containers

- Garbage containers are to be washed out on an appropriate wash pad.
- Wash water is to be treated before entering sewer system.
- Wash water is never allowed to drain into storm drains

Proper Sediment/Erosion control

- Silt fences are to be employed to prevent soil from running into adjacent waterways during projects and when bare soil is present.

GOLF COURSE ACTIVITIES

Description of Task

Equipment maintenance	Daily
Irrigation Maintenance	Daily

Mowing

Greens, Mowing	Daily
Greens, Verticut	Monthly
Greens, Topdress	Monthly

Tees, Mowing	Daily
Tees, Topdress	Annually

Fairways, Mowing	Daily
Fairways, Topdress	Annually

Roughs, Mowing	Daily
----------------	-------

Golf Course Setup

Cut Cups	Daily
Move Tee Markers	Daily
Trash, Ball Washers, Restrooms	Daily
Bunkers, Rake	Daily
Bunkers, Trim	Quarterly/as-needed
Bunkers, Install Sand	As needed

Fertilization

Greens	Quarterly/as-needed
Tees	Quarterly
Fairways	Quarterly
Rough	Quarterly
Native Grass Areas	Never

Spraying

Greens	As-needed
Tees	As-needed
Fairways	As-needed
Roughs	As-needed
Trees	As-needed

Spill Prevention plan and clean up procedures

Spill Prevention - Materials and Waste Handling and Storage

- If possible, liquid or hazardous materials should be handled, used, stored, re-package and transferred indoors or under cover.
- Deliveries of bulk liquids should be supervised. Down gradient storm drain inlets should be covered during deliveries.
- Cover and contain containers, materials and wastes.
- Keep all containers closed unless adding or removing materials.

Spill Kit Maintenance

- Spill kits are located in the maintenance building and cart storage area.
- Inspections of spill kit and re-supplying is done monthly

Gasoline or Diesel Spills

- Immediately stop
- Turn off engine
- Remove kit contents immediately put on latex gloves
- Assess nature of spill. gasoline, diesel, oil, or anti-freeze
- Act quickly but safely, use absorbent pads and rolls to surround and contain spill.
- Contact Supervisor for appropriate pan, bucket, etc. to stop spill from reaching the containment pads.
- Dispose and decontaminate the area using containment bag in the kit and in compliance with local state and federal regulations. If necessary decontaminate the spill site, personnel and equipment.
- Fill out the spill reporting form file with your supervisor

Hydraulic spill

- Immediately stop
- Turn off engine
- Remove kit contents immediately put on latex gloves
- Assess nature of spill.
- Act quickly but safely, use absorbent pads and rolls to surround and contain spill.
- Contact Supervisor for appropriate pan, bucket, etc. to stop spill from reaching the containment pads.
- If spill reaches soil dig up affected area. Dispose of soil appropriately.

Chemical spill

Granular application

- Clean up spills by sweeping, or blowing product into a pile and collecting
- Use on another property when possible
- Notify your supervisor
- Fill out a spill reporting after the clean up process

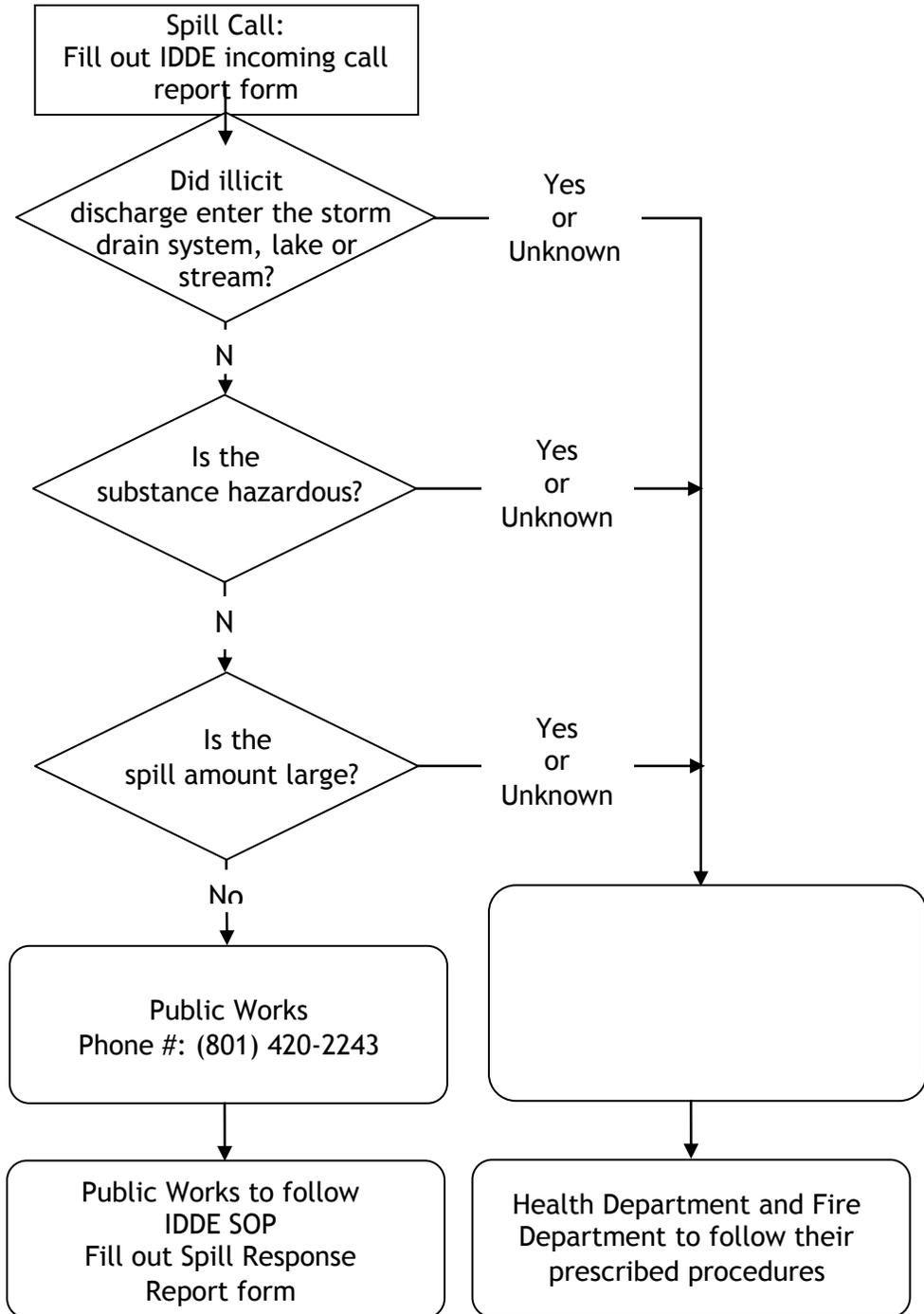
Liquid Spill

- Follow proper cleaning procedures using mats, absorbent material, and waddles to prevent spreading
- Dispose of properly
- Notify your supervisor
- Fill out a spill reporting form after the clean up process

Gas Storage tank leak

- Put waddles around storm drains
- Cover storm drain
- Use absorbent pads and or calcified clay or other absorbent
- Dispose of absorbent properly

INCIDENT RESPONSE FLOW CHART CITY of CEDAR HILLS



IDDE INCOMING CALL REPORT FORM

(For Phone Operator)

Date of Illicit Discharge _____ Time _____ Duration _____

Address of Discharge _____

Name of person discharging (If applicable) _____

Name & phone number of person making the call _____

Chemical name or identity of any substance involved in the release _____

_____ Is

substance hazardous? _____

Estimate of Quantity Spilled? _____

Did the illicit discharge enter a waterbody? (Lake or Stream)

Did the illicit discharge enter the storm drain system? (Manhole or storm drain pipe) Yes

No Any known or anticipated acute or chronic health risks for exposed individuals associated with the emergency spill:

See Illicit Discharge determination form

Contractors should use the following references to help plan and design projects in the City of Cedar Hills

CITY OF CEDAR HILLS STORM WATER MANAGEMENT PLAN TECHNICAL MANUAL (Part 3 of this manual)

CITY OF CEDAR HILLS DESIGN STANDARDS AND PUBLIC IMPROVEMENTS SPECIFICATIONS

LOW IMPACT DEVELOPMENT (LID)

The City of Cedar Hills recognizes that there are various design methods available for all aspects of development. The City requires the consideration of Low Impact Development methods in designing projects. The following are suggested references; however, not all designs contained in these references are acceptable. Approval for the use of LID methods must be made by the City Engineer.

References:

www.lid-stormwater.net

<https://www.epa.gov/green-infrastructure>

<https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/urban-runoff-low-impact-development>

Name of Development _____

Developer _____ Phone: _____

Responsible Contact _____ Phone: _____

Submittal Date _____ Reviewed Date _____ Reviewed by _____

References are given from both the Small MS4 General UPDES Permit (section 4.2) and the Construction General Permit (section 3.5).

I- SWPPP Document (4.2.4.3.1)

Site Description

- Nature of activity or project – 3.5.1.a

- Intended sequence of major soil disturbing activities – 3.5.1.b

- Total area of site, area to be disturbed – 3.5.1.c _____
- Runoff coefficient – 3.5.1.d
 - o Pre-construction _____
 - o Post-construction _____
- General location map – 3.5.1.e
 - o Existing drainage patterns and slopes
 - o Final drainage patterns and slopes
 - o Construction boundaries
 - o Existing vegetation description
 - o Areas of soil disturbance
 - o Areas of no soil disturbance
 - o BMP locations
 - o Off-site areas used for construction support (may be non-applicable)
 - o Final stabilization treatment
 - o Discharge locations
- Description and location of discharges associated with off-site facilities (portable asphalt or concrete plants, stockpile areas, etc...) – 3.5.1.f

- _____
- _____
- Name and location of receiving waters – 3.5.1.g _____
- Area and boundary of any associated wetlands (may be non-applicable) – 3.5.1.g
- Copy of the current General Permit for Construction Activities

Erosion and Sediment Controls - 3.5.2.a.1

- Control measures for each major soil disturbing activity
 - o Activity _____
 - o Control Measure to be used _____
 - o Timing _____
 - o Installation details
 - o Anticipated maintenance requirements

Stabilization Practices – 3.5.2.a.2

- Site specific stabilization
 - o Interim stabilization practices – including timing
 - o Permanent stabilization practices – including timing

Structural Controls - 3.5.2.a.3

- Flow control
 - o Description of flow diversion BMPs

Name of Development _____

-
- Description of flow storage BMPs
-
- If site is 10 acres or more –
Sediment Basin required
 - Basin sized for 3,600 cf/acre or
10-yr 24 hour storm

Post-Construction BMPs – 3.5.2.b

- Description of how pollutants are controlled after construction. (ie. permanent detention or retention basins, flow attenuation swales, infiltration, combination of BMPs, etc.)
-
- Technical basis for selecting post-construction BMPs
-
- Velocity dissipation devices at discharge points (as necessary)

Other Controls – 3.5.2.c

- Waste Disposal – location and practices to control
- Off-Site Tracking – off-site tracking and dust control
- Septic, Waste and Sanitary Sewer Disposal – location and practices to control
- Vehicle/Equip. maintenance areas and controls.
- Exposure to construction materials – inventory, storage practices, locations, spill response, and practices to control
- Off-site support area controls (if applicable)

Maintenance – 3.5.3

- Maintenance requirements and schedules
- Maintenance Agreements

Non-Storm Water Discharges – 3.5.5

- Identify non-storm water discharges that may be associated with project (water used to clean or flush improvements, etc...)
-
- Describe measures to be taken to implement pollution prevention for non-storm water discharges
-

Inspections – 3.5.4

- Inspection requirements (at least once every 7 days, or once every 14 days and within 24 hours after a storm of 0.5 inches or greater)
- Qualifications of the inspector
- Linear project inspection requirements (0.25 miles above and below each access point)
- Inspection report forms
 - Inspection date
 - Name, title and qualifications of inspector
 - Weather information since last inspection
 - Current weather information
 - Locations of pollutant discharges
 - Locations of BMPs needing maintenance
 - Locations of BMPs that aren't working
 - Locations where additional BMPs are needed

Name of Development _____

- Any corrective actions that may be required, including changes that need to be made to the SWPPP – with implementation dates
- Requirements to keep records as part of SWPPP for at least 5 years

II- Water Quality Review (4.2.4.3.2)

- Urban Pollutants of Concern
 - Sediments
 - Nutrients (Phosphorus, Nitrogen...)
 - Metals
 - Hydrocarbons/oils
 - Pesticides
 - Chlorides
 - Trash and Debris
 - Bacteria
 - Organics matter
 - Others _____
- Consider options to include water quality aspects to this project.
- Identify any highly impacted areas.
- Identify and limit directly connected impervious areas (DCIA) on this project.
- Identify measures to minimize runoff.

III- Low Impact Development Design (4.2.4.3.3)

- Identify any low-impact development concepts and ideas that might work for this project. Consider the following LID Techniques:
 - Bio-Retention Areas
 - Green Roof
 - Permeable Pavements
 - Rain Water Collection
 - Riparian Buffers
 - Green Street System
 - Non Structural

IV- Sensitive Areas (4.2.4.3.4)(3.5.2.d)

List any of the following within the proximity:

- Impaired water bodies
- High Quality Waters
- TMDL
- Wetlands
- Wildlife issues (Threatened & Endangered Species)
- Historic
- Priority Construction sites (7.36)
- Other _____

Any variance of Permit _____

Comments: _____

This document and attachments must be maintained by the MS4 for a period of five years or until construction is completed, whichever is longer. (4.2.4.3)

SWPPP Inspection Checklist Prior to land disturbance

Pre-inspection Items

- Contact Site Superintendent or Project Manager
- Proper equipment
 - Hard hat
 - Vest
 - Safety shoes
 - Safety glasses
 - Camera
 - GPS unit?
 - Inspector credentials

On-Site before inspecting

- Review SWPPP
- Review any specific concerns

Inspection

- Use State Form – keep notes
- Check outfalls
- Review that the SWPPP identifies adequate locations for the following:
 - Perimeter control
 - Entrances/exits
 - Erosion control BMPs
 - Sediment control BMPs
 - Mud tracking control BMPs
 - Stockpile/storage areas
 - Staging areas
 - Concrete washout area
- Take photos and log
- Review findings with superintendent/project manager

Post Inspection

- Review form, complete and clarify as needed
- File inspection form and photos

SWPPP Inspection Checklist During active construction

Pre-inspection Items

- Contact Site Superintendent or Project Manager
- Review previous inspections – are there reoccurring problems?
- Proper equipment
 - Hard hat
 - Vest
 - Safety shoes
 - Safety glasses
 - Camera
 - GPS unit?
 - Inspector credentials

On-Site before inspecting

- Review SWPPP – updates and changes
- Review any specific concerns
- Check contractors inspection forms/issues

Inspection

- Use State Form – keep notes
- Check outfalls
- Check perimeter control
- Check entrances/exits
- Check erosion control BMPs
- Check sediment control BMPs
- Check for mud tracking
- Check stockpile/storage areas
- Check staging areas
- Take photos (only uncorrected violations)
- Keep photo log
- Review findings with superintendent/project manager

Post Inspection

- Review form, complete and clarify as needed
- File inspection form and photos
- ~~Send copy of form to State – can be done monthly~~



UPDES STORM WATER INSPECTION EVALUATION FORM FOR SWPPP COMPLIANCE



BACKGROUND INFORMATION					
Site Name:		UPDES Permit #:			
Site Address:					
Local Jurisdiction or County:					
Permit Effective Date:		Permit Expiration Date:			
Total Project Area:		Total Disturbed Area:			
Project Type: (circle) <i>Subdivision</i> <i>Commercial</i> <i>Industrial</i> <i>Linear (Road/Pipe/Power)</i> <i>Land Disturbance</i>					
OPERATOR CONTACT INFORMATION					
	NAMES	PHONE NUMBERS	E-MAIL		
Operator:					
Onsite Facility Contact:					
Important Contacts:					
Important Contacts:					
SWPPP PRE-SITE REVIEW INFORMATION			YES	NO	
1. Has a pre-construction review of the SWPPP been conducted by the appropriate municipal agency?					
2. Are contact names and telephone numbers listed in the SWPPP?					
3. Does the SWPPP include a site map showing storm drains, slopes/surface drainage patterns, SW discharge points, construction boundaries, limits of disturbance, surface waters (name of receiving water), structural controls, and does it define/explain non-structural controls?					
4. Does the SWPPP have an estimate of the area to be disturbed, a sequence of construction activities, the SW runoff coefficient for after completion, a description of the soil types, controls for discharges from (asphalt/concrete) batch plants if any, show wetland areas, and have a description of the nature of the construction activity?					
5. Does the SWPPP and site map show erosion and sediment controls placement & details (e.g. erosion blankets, mulch, slope drains, check dams, sediment basins, grass-lined channels, fiber rolls, sediment traps, silt fence, inlet protection, curb cut-back, dust control, etc)?					
6. Does the SWPPP and site map show and describe good housekeeping controls (e.g. track out pad, street sweeping, material storage, construction waste containment and removal, sanitary waste, concrete washout pits, etc)					
7. Are post-construction elements included in the SWPPP? (i.e. grass swales, detention basins, vegetated filter strips, infiltration, depression storage, landscaping/xeriscaping, discontinuous concrete or hard surface SW conveyance, etc.)					
8. Does the SWPPP address endangered species and historic preservation?					
9. Is the SWPPP signed by a responsible corporate officer with the certification statement (see permit part 5.16.c.)?					
10. Are the NOI and a copy of the State permit in the SWPPP?					
NOTICE OF TERMINATION (NOT) INSPECTION					
Site Name:		Date of Evaluation:			
Site Address:					
Inspected By:		Title/Organization:			
	YES	NO	COMMENTS:		
1. Has the site been properly stabilized according to permit requirements?					
2. Have all temporary BMPs been removed?					
3. Have post-construction (permanent storm water system) elements been constructed and inspected in accordance with approved project drawings?					
4. Is the site acceptably clean?					
<i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>					
Inspector:		(Print Name)	(Title)	(Signature)	(Date)
Operator:		(Print Name)	(Title)	(Signature)	(Date)
modified 8/12/10					

(Attach additional sheets of narrative, pictures and checklists, as necessary)

NOTICE OF TERMINATION PROCESS

Steps for Terminating the Discharge of Water Associated with Construction Activities

When a Construction Site is nearing completion and the permittee is desirous of terminating their permit with the State of Utah for discharging water associated with construction activities the following steps should be taken:

1. The Contractor's SWPPP coordinator for the project should notify the city storm water inspector that they are ready for final inspection.
2. The city storm water inspector visits the site to determine if the site has reached final stabilization as determined by the UPDES Storm Water General Permit for Construction Activities, UTR300000. The city storm water inspector also checks to see if all temporary BMP have been removed.
3. If there is work still to be completed they are included in the Additional Comments and Corrective Actions for SWPPP Compliance portion of the State's UPDES Storm Water Inspection Evaluation Form for SWPPP Compliance (State's inspection form) and provides a copy for the SWPPP coordinator.
4. When the city storm water inspector is satisfied that all requirements have been met, the city storm water inspector uses the State's inspection form and completes the Notice of Termination (NOT) Inspection section of that form and sends a copy to the State for their records.
5. *(This step is not currently needed, but may become effective in January 2011).* The city storm water inspector or designated individual then needs to log into the State's database and change the status of the permit for the given permit.
6. Once the State has received confirmation that the site meets all the requirements the NOT is granted.

CONSTRUCTION AND POST CONSTRUCTION BEST MANAGEMENT PRACTICES

A. BMP INDEX

Cedar Hills City encourages the use of the following best management practices on Construction Site Storm Water Management Plans. As established in Section F.8.B of PART 3, STORM WATER TECHNICAL MANUAL, **BMPs with an asterisk are required to be a part of all Construction Site Storm Water Management Plans**

* BMP Inspection & Maintenance	BMPIM
* Concrete Waste Management	CWM
* Dust Controls	DC
* Grading Practices	GP
* Portable Toilets	PT

The City also encourages the use of BMP's on Post Construction Site Storm Water Management Plans. However, there is no list of BMP's that is required on all Post Construction Storm Water Management Plans.

Suggested Potential BMP's (See www.cedarhills.org for suggested BMP Fact Sheets)

Benching	BE
Biofilters	BF
Brush or Rock Filter	BRF
Building Repair, Remodeling & Construction	BRRC
Catch Basin Cleaning	CBC
Conservative Easement	CE
Contaminated or Erodible Surface Areas	CESA
Compaction	CP
Construction Road Stabilization	CR
Construction Sequencing	CS
Diversion Dike	DD
Earth Berm Barrier	EB
Erosion Control Blankets	ECB
Geotextiles and Mats	GM
Grassed Swales	GS
Hydromulching	HM
In-Line Storage	ILS
Infiltration	IN

Inlet Protection – Concrete Block	IPC
Inlet Protection – Excavated	IFE
Inlet Protection – Gravel	IPG
Inlet Protection – Silt Fence or Straw Bale	IPS
Minimize Directly Connected Impervious Areas	MDCIA
Material Storage	MS
Mulching	MU
Outlet Protection	OP
Oil/Water Separators and Water Quality Inlets	OVS
Pest Control	PC
Preservation of Existing Vegetation	PEV
Parking Lot Design	PLD
Parking Lot Sweeping/Vacuuming	PLSV
Rock Check Dams	RCD
Retention/Infiltration Device Maintenance	RIDM
Riprap	RR
Sand Bag Barrier	SBB
Street Cleaning	SC
Stabilized Construction Entrance and Wash Area	SCEWA
Sediment Control on Small Construction Sites	SCSCS
Slope Drain	SD
Storm Drain Flushing	SDF
Silt Fence	SF
Seeding and Planting	SP
Surface Roughening	SR
Sediment Trap	ST
Straw Bale Barrier	STB
Temporary Drains and Swales	TDS
Temporary and Permanent Seeding	TPS
Temporary Stream Crossing	TSC
Vehicle and Equipment Cleaning	VEC
Vehicle and Equipment Fueling	VEF
Vehicle and Equipment Maintenance & Repair	VEMR

B. BMP FACT SHEETS

The following sheets contain required BMP Fact Sheets for use in Cedar Hills.

BMP: BMP Inspection and Maintenance

BMPIM



APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices

DESCRIPTION:

Inspect and maintain all structural BMP's (both existing and new) on a routine basis to remove pollutants from entering storm drain inlets. This includes the establishment of a schedule for inspections and maintenance.

APPROACH:

Regular maintenance of all structural BMP's is necessary to ensure their proper functionality.

- Annual inspections.
- Prioritize maintenance to clean, maintain, and repair or replace structures in areas beginning with the highest pollutant loading.
- Clean structural BMP's in high pollutant areas just before the wet season to remove sediments and debris accumulated during the summer and fall.
- Keep accurate logs of what structures were maintained and when they were maintained.
- Record the amount of waste collected.

LIMITATIONS:

- Availability of trained staff



TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Staffing
- Training
- Administrative

- High
- Medium
- Low

BMP: Concrete Waste Management

CWM



OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

DESCRIPTION:

Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

APPLICATIONS:

This technique is applicable to all types of sites.

INSTALLATION/APPLICATION CRITERIA:

- ▶ Store dry and wet materials under cover and away from drainage areas.
- ▶ Avoid mixing excess amounts of fresh concrete or cement on-site.
- ▶ Perform washout of concrete trucks off-site or in designated areas only.
- ▶ Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- ▶ On-site washout: Collect and retain all the concrete washout water and solids in leak proof containers or pit, so that this caustic material does not reach the soil surface.
- ▶ Train employees and subcontractors in proper concrete waste management.

LIMITATIONS:

- ▶ Off-site washout of concrete wastes may not always be possible.

MAINTENANCE:

- ▶ Inspect subcontractors to ensure that concrete wastes are being properly managed.

Dispose hardened concrete on a regular basis



Adapted from Salt Lake County BMP Fact Sheet.

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

- High Impact
- Medium Impact
- Low or Unknown Impact

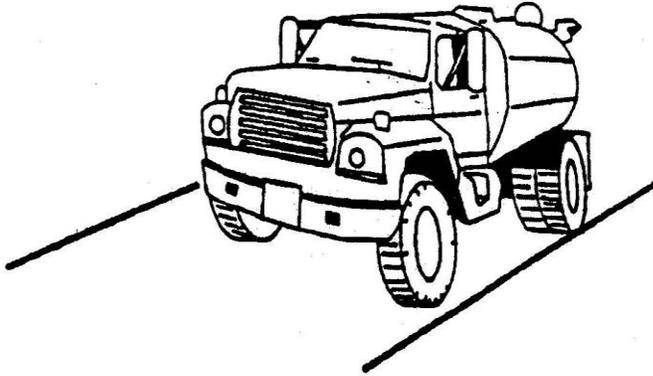
IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

BMP: Dust Controls

DC



DESCRIPTION:

Dust control measures are used to stabilize soil from wind erosion, and reduce dust by construction activities.

APPLICATION:

Dust control is useful in any process area, loading and unloading area, material handling areas, and transfer areas where dust is generated. Street sweeping is limited to areas that are paved.

INSTALLATION/APPLICATION CRITERIA:

- ▶ Two kinds of street sweepers are common: brush and vacuum. Vacuum sweepers are more efficient and work best when the area is dry.
- ▶ Mechanical equipment should be operated according to the manufacturers' recommendations and should be inspected regularly.
- ▶ Water may be sprayed on the ground surface to moisten dry soils, making it less susceptible to wind erosion.

LIMITATIONS:

- ▶ Street sweeping is labor and equipment intensive and may not be effective for all pollutants.
- ▶ Water sprayed from water trucks must be done at a rate such that the water is absorbed in the soil; if excessive amounts of water are used, it may run off, carrying soil with it.

MAINTENANCE:

If excess water results from water spraying, dust-contaminated waters should not be allowed to run off site. Areas may need to be resprayed to keep dust from spreading.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



Adapted from Salt Lake County BMP Fact Sheet

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

BMP: Grading Practices

GP



Soils exposed from land grading activities are very vulnerable to erosion

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion

DESCRIPTION:

Control soil erosion by minimizing the exposure of bare soil to erosive forces. This is done by

- 1) limiting the amount of land disturbed at one time in preparation for construction
- 2) limiting the amount of time between the disturbance of soil and protection or stabilization of disturbed soils, and
- 3) using grading practices to protect exposed soils susceptible to storm water runoff.

Related practices include construction sequencing, preservation of existing vegetation, erosion control practices and sediment control practices.

APPROACH:

- > Limit the area of disturbance to those areas requiring grading. This preserves existing vegetation and reduces the vulnerability of soil to erosion.
- > Based on erosion potential and sediment control measures on the site, establish what areas are to be graded at one time.
- > An undisturbed buffer zone containing vegetation at the lowest elevation of a construction site can reduce the transport of sediment off site.
- > Initiate soil protection measures during the course of work to minimize the length of time soil is exposed to erosive forces.
- > Conduct work in stages so that construction or soil stabilization occurs promptly after disturbance of soil.
- > Establish a schedule governing the stabilization of disturbed slopes, both in terms of passage of time since commencement and completion of disturbance and in terms of planting season.
- > Leaving the surface of the disturbed soil graded in a roughened condition (not smooth) can reduce the quantity and velocity of storm water runoff.
- > Prevent storm water runoff from running onto steep slopes from above.
- > Avoid long, steep cut or fill slopes that allow runoff water of sufficient quantity or velocity to cut into and erode the slope.

LIMITATIONS:

- > The specific approach to grading on a particular site depends on the conditions of the site and surrounding land; engineering judgment is required to design the approach best suited for each site.

MAINTENANCE:

- > Practices may need to vary from the approved plan if erosion problems appear when storm water runoff occurs.



CEDAR HILLS

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

- High Impact
- Medium Impact
- Low or Unknown Impact

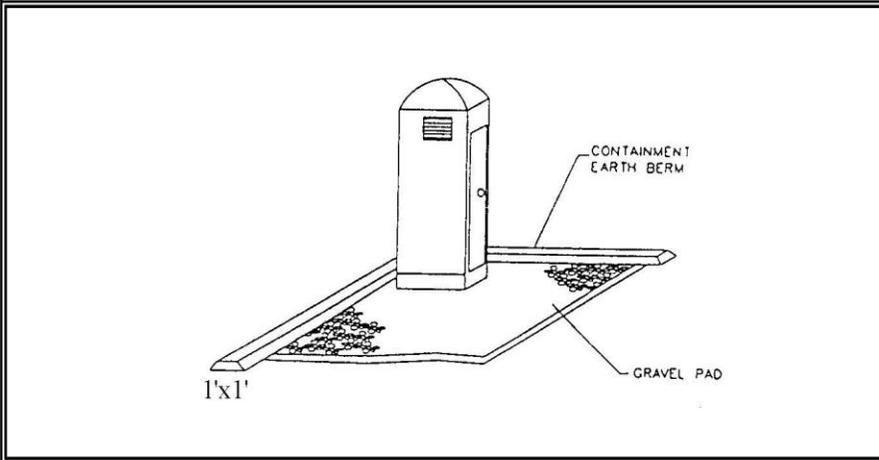
IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

BMP: Portable Toilets

PT



DESCRIPTION:

Temporary on-site sanitary facilities for construction personnel.

APPLICATION:

All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

INSTALLATION/APPLICATION CRITERIA:

- ▶ Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel.
- ▶ Position portable toilets so that they are secure and will not be tipped or knocked over and that they will be positioned at least 10 feet from any storm water conveyance, inlet, curb or gutter; or that they have secondary containment if tipped.

LIMITATIONS:

No limitations.

MAINTENANCE:

- ▶ Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection.
- ▶ Regular waste collection should be arranged with licensed service.
- ▶ All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



CEDAR HILLS

Adapted from Salt Lake County BMP Fact Sheet

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

- High Impact
- Medium Impact
- Low or Unknown Impact

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

High Medium Low

Special Environmental Considerations

Discharges to Water Quality Impaired Waters

The permittee “must determine whether storm water discharge from any part of the MS4 contributes to a 303(d) listed (i.e. impaired) waterbody.” (Small MS4 General UPDES Permit 3.1.1.1) The 303(d) list of impaired waterbodies is found at:

<http://www.waterquality.utah.gov/TMDL/index.htm>

Threatened or Endangered Species

Where applicable, compliance efforts to this law shall be reflected in the SWMP document. (Small MS4 General UPDES Permit 3.2) The following web sites are helpful in determining the status of any species of interest.

<http://wildlife.utah.gov/habitat/pdf/endgspec.pdf>.

<http://www.fws.gov/endangered/>

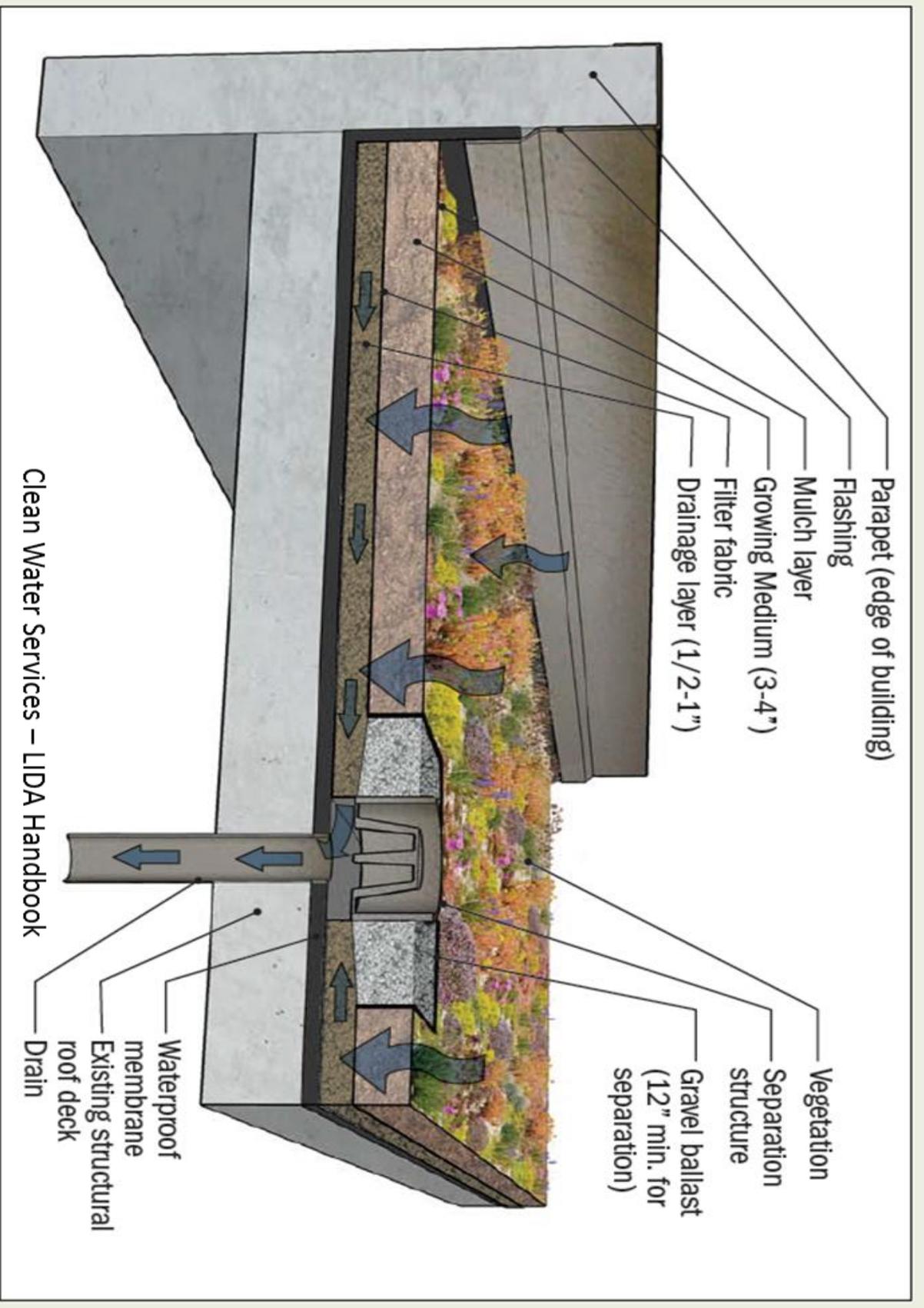
Historic Properties

Where applicable, compliance efforts to this law shall be reflected in the SWMP document. (Small MS4 General UPDES Permit 3.2) Web sites include the following, along with possible county and city listings:

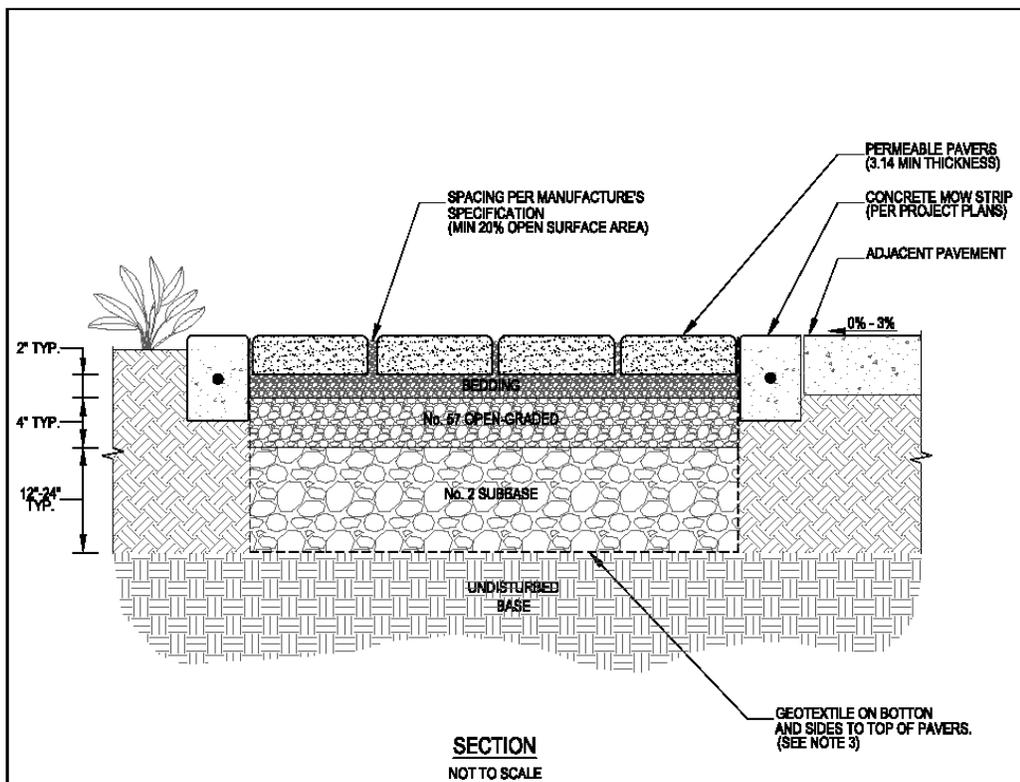
http://history.utah.gov/historic_buildings/index.html

Common LID BMPs

- Green Roofs
- Permeable Pavements
- Retention Basins
 - Above Ground
 - Wet ponds
 - Dry ponds
 - Below Ground
- Harvesting
- Bioretention
- Grassed Swales
- Constructed Wetlands
- Riparian Buffers
- Planter Boxes
- Level Spreader/Check Dam
- Curb Cuts
- Rain Gardens
- Disconnected Downspouts
- Drywell or Injection well
- Commercial filter
- Separator



Clean Water Services – LIDA Handbook



NOTES:

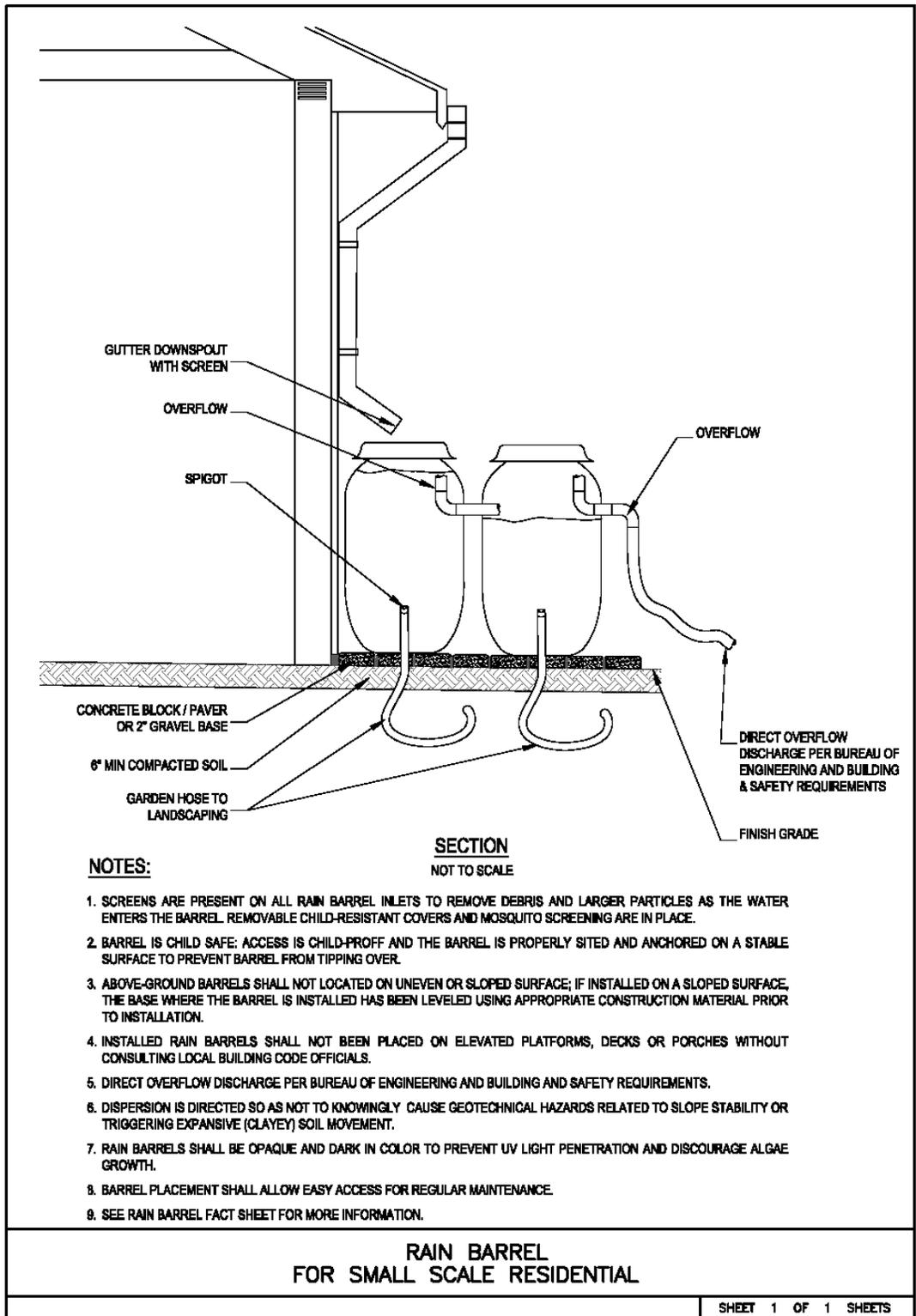
1. SITE SOILS SHALL HAVE ADEQUATE DRAINAGE (AT LEAST 0.5 INCHES PER HOUR).
2. INFILTRATION SHALL NOT CAUSE GEOTECHNICAL HAZARDS RELATED TO EXPANSIVE SOIL MOVEMENT, TUNNEL EROSION, OR SLOPE STABILITY.
3. IF INFILTRATION HAZARDS ARE A CONCERN, AN UNDERDRAIN SHALL BE INSTALLED TO DRAIN WATER INTO STORM DRAIN INLET OR ONSITE BMP. GEOTEXTILE SHALL BE REPLACED WITH IMPERMEABLE LINER AND UNDERDRAIN PREFERRED PIPE.
4. ANY OVERFLOW SHALL BE DISCHARGED PER BUREAU OF ENGINEERING AND BUILDING & SAFETY REQUIREMENTS.
5. SLOPE IS NOT GREATER THAN 3 PERCENT.
6. FLOW DIRECTED TO PERMEABLE PAVEMENT SHALL BE DISPERSED SO AS NOT TO BE CONCENTRATED AT A SMALL AREA OF PAVEMENT.
7. PRE-FABRICATED PRODUCTS HAVE BEEN INSTALLED PER ALL APPROPRIATE MANUFACTURER'S SPECIFICATIONS. IF REQUIRED, SUB-GRADE SOIL SHALL BE COMPACTED IN ACCORDANCE WITH PRODUCT INSTALLATION SPECIFICATION.
8. SEE PERMEABLE PAVERS FACT SHEET FOR MORE INFORMATION.

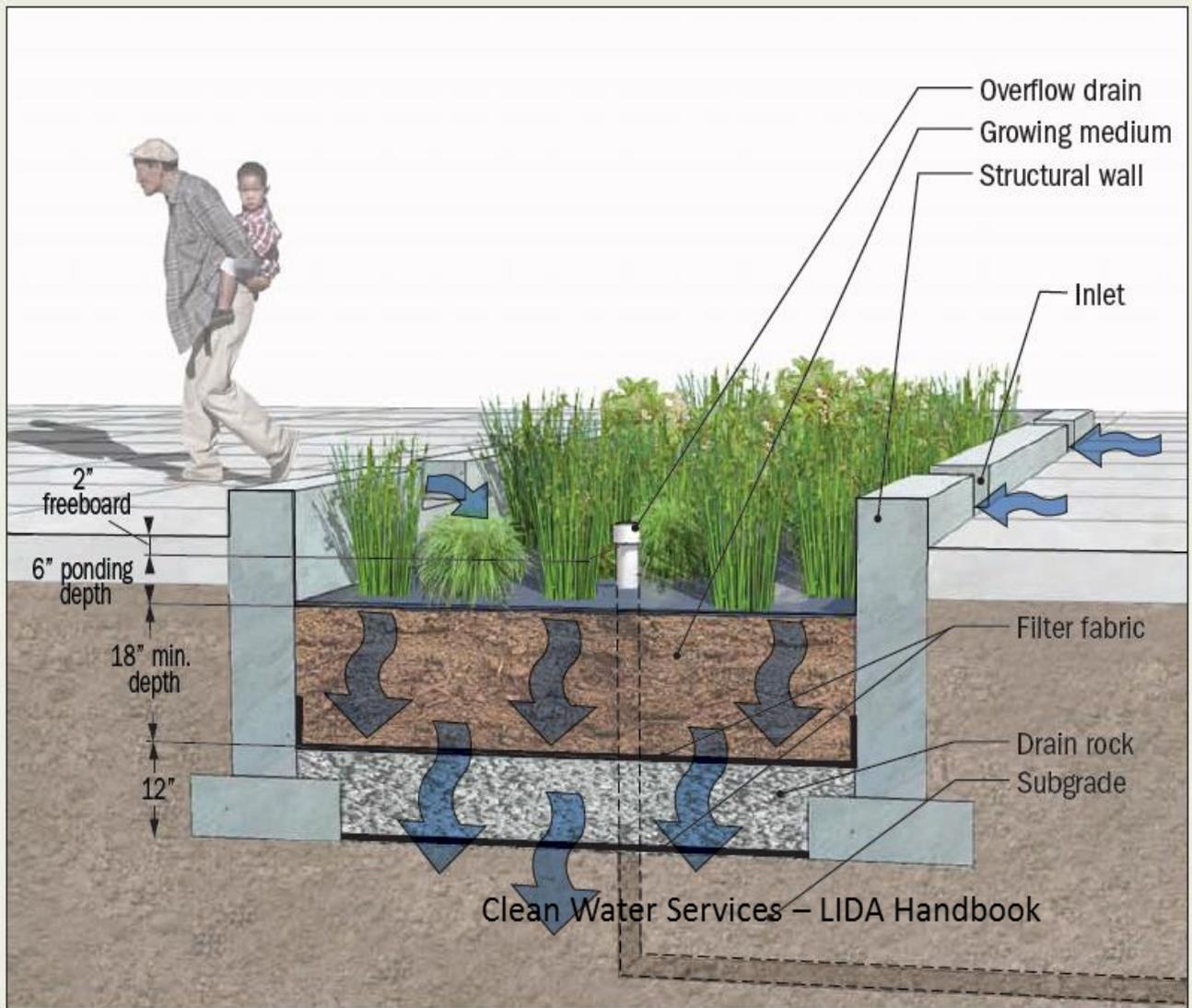
**PERMEABLE PAVING – STONE
FOR SMALL SCALE RESIDENTIAL**

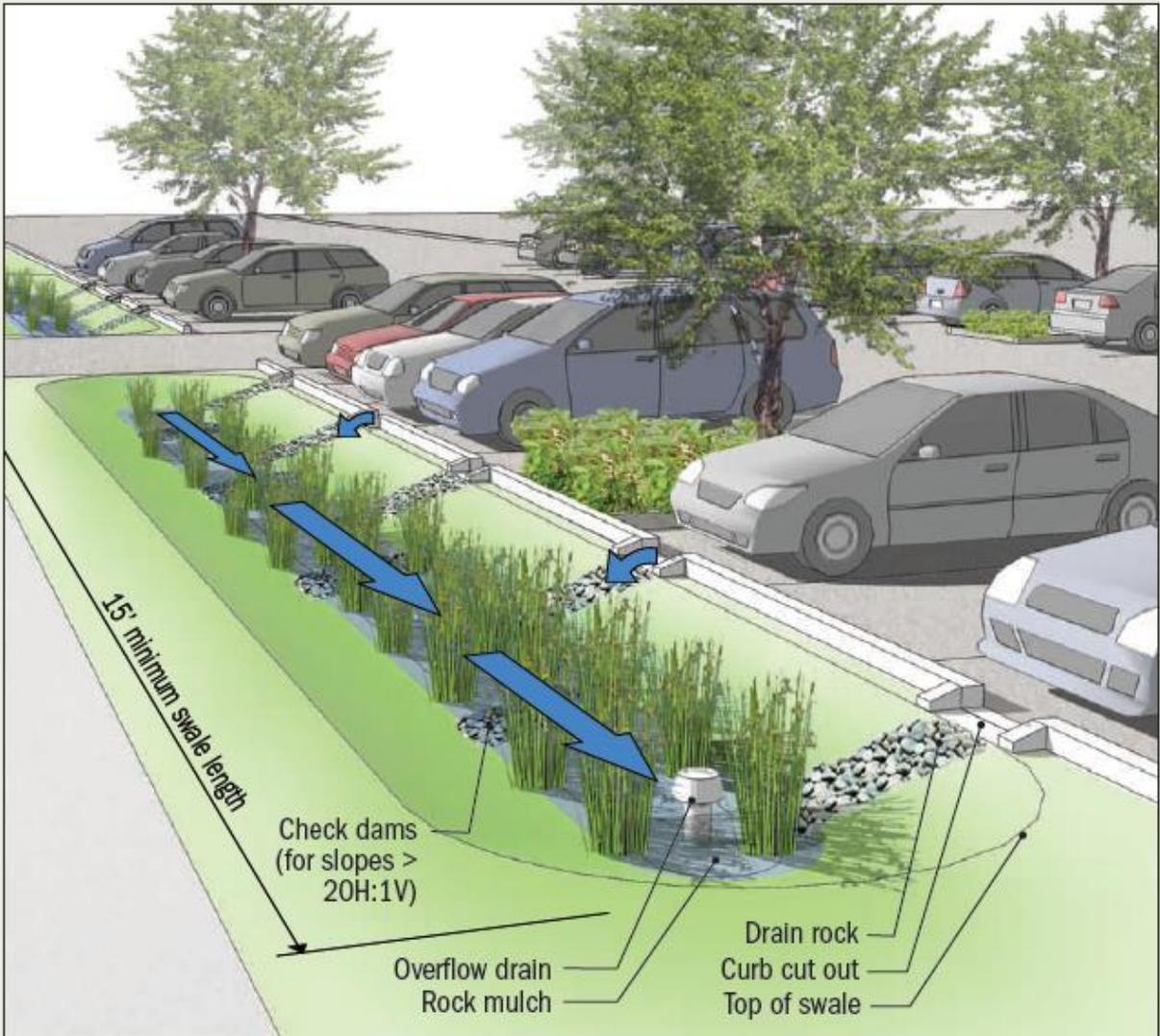


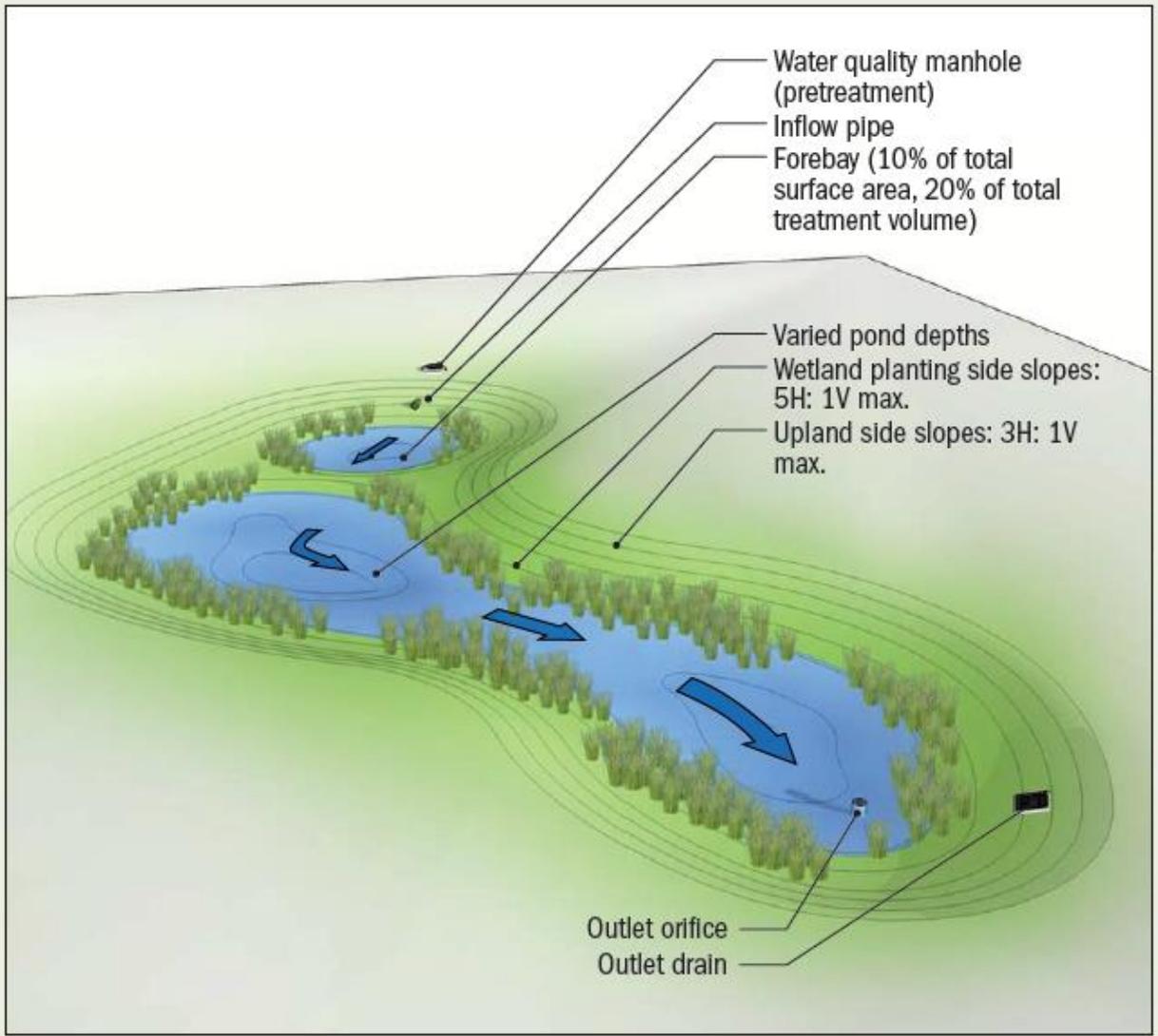


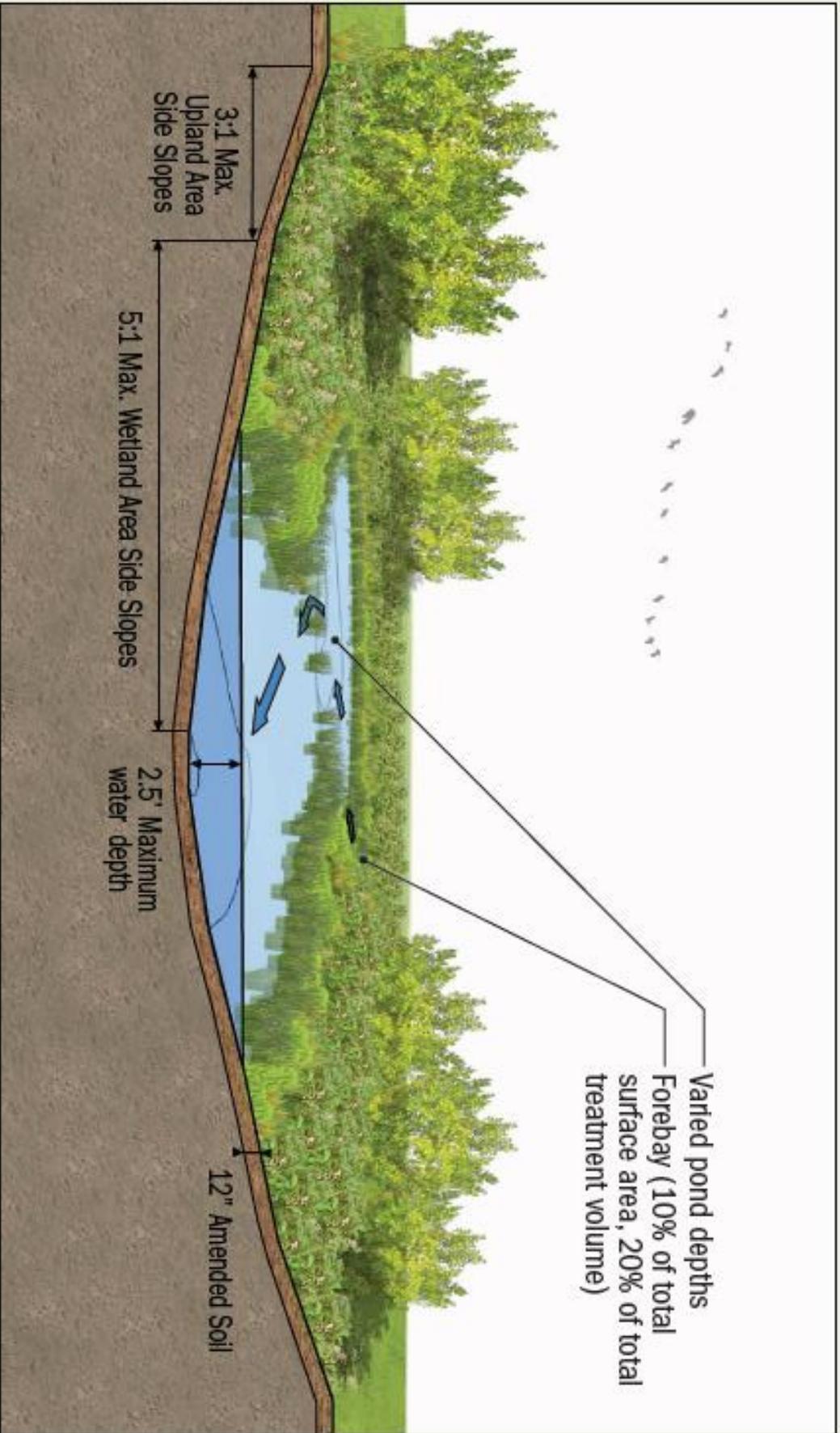


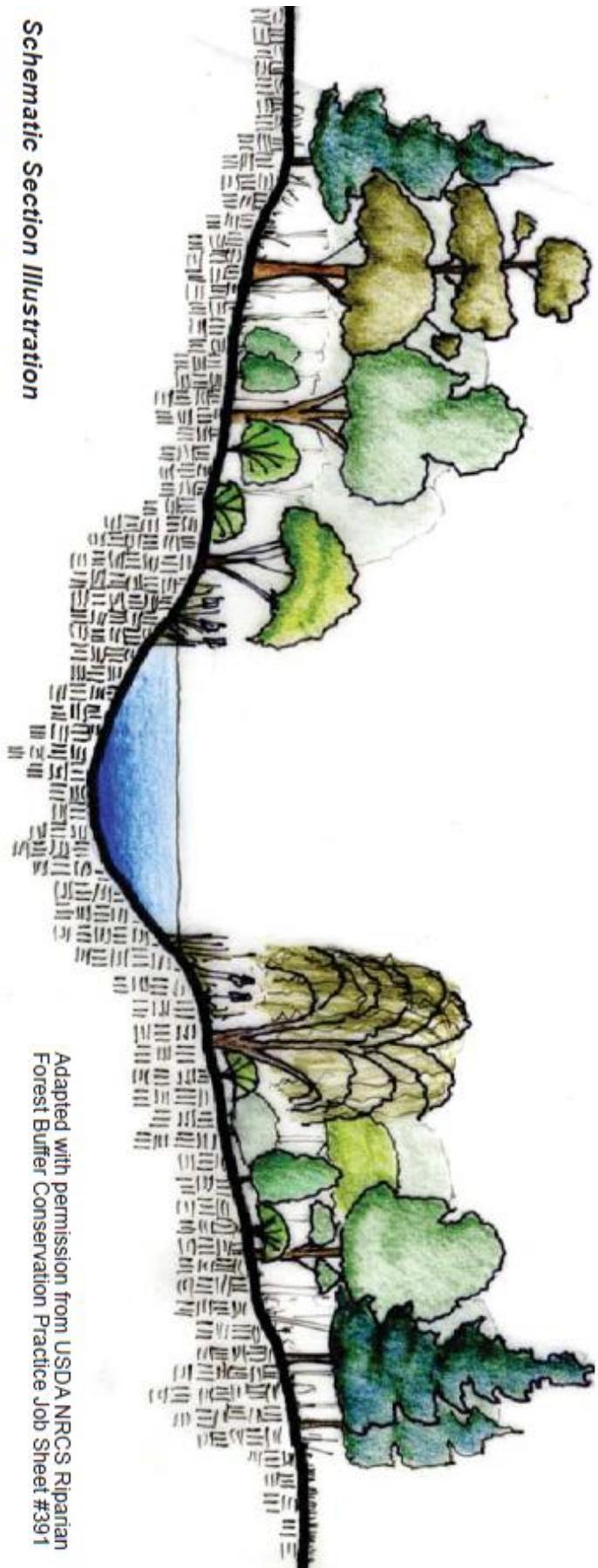






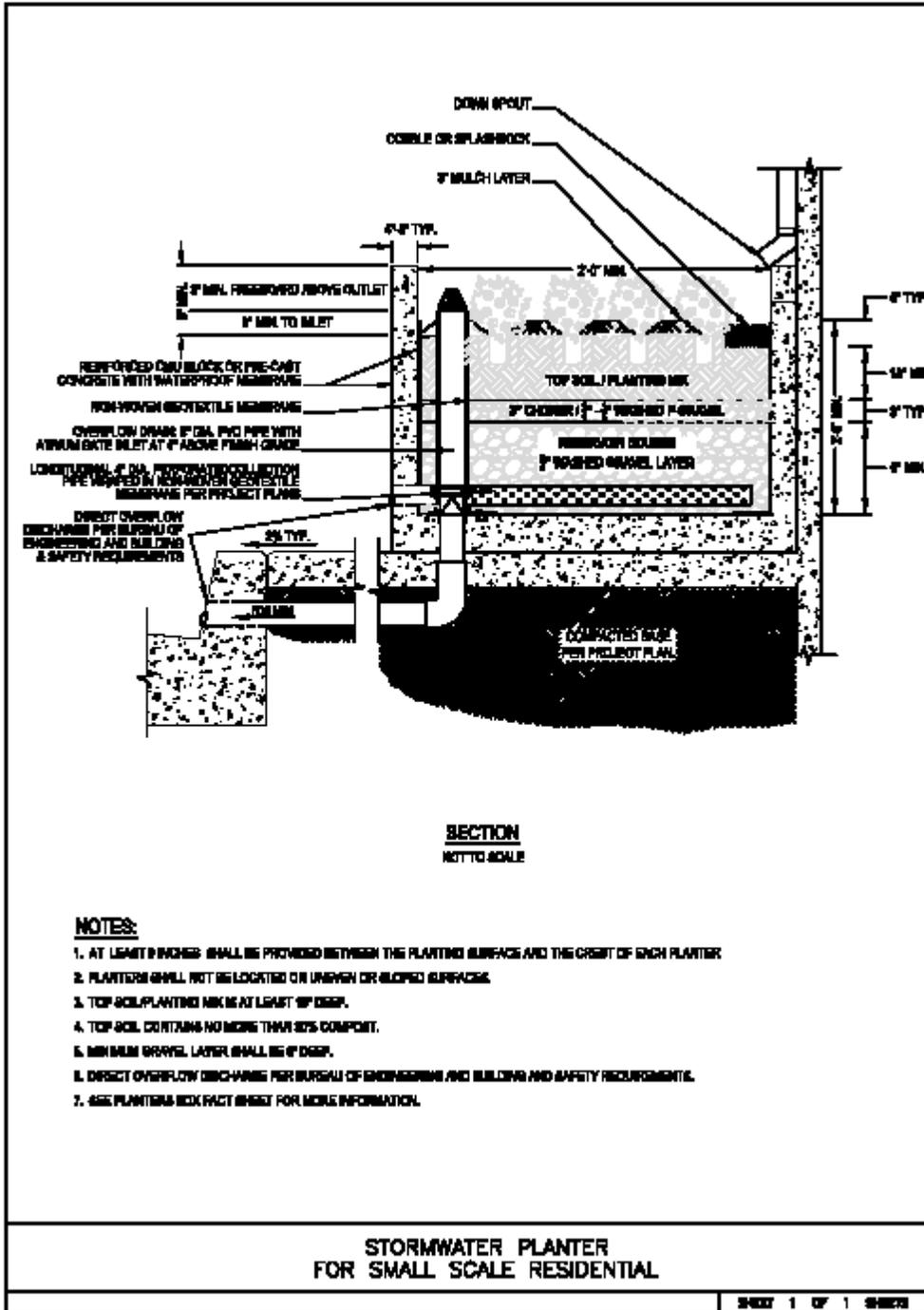


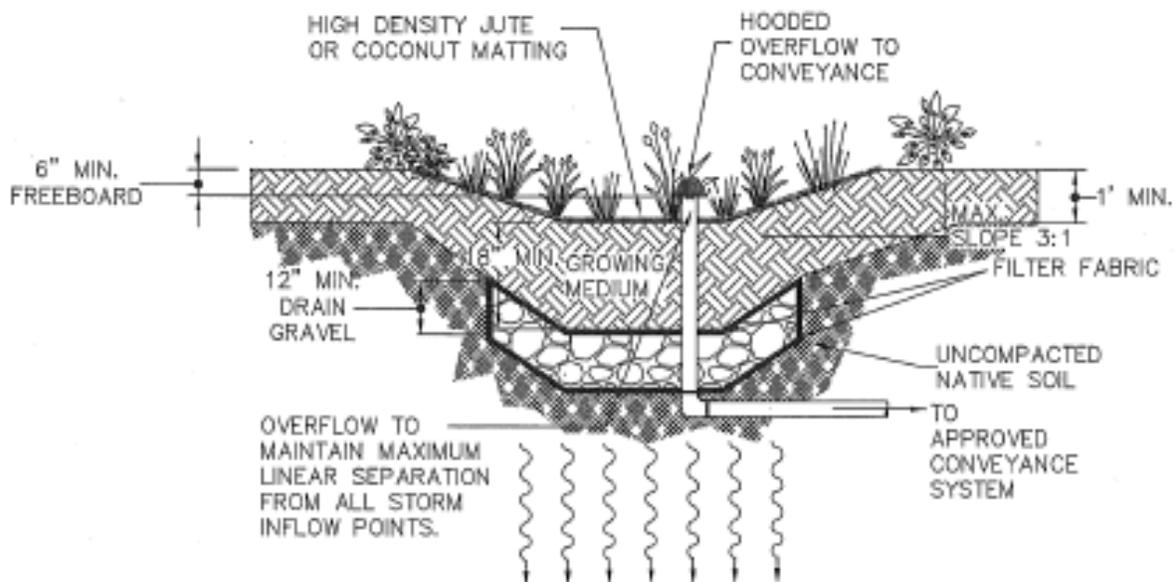




Schematic Section Illustration

Adapted with permission from USDA NRCS Riparian Forest Buffer Conservation Practice Job Sheet #391





NOTES:

1. PUBLIC WATER QUALITY AND/OR QUANTITY SYSTEM
2. PROVIDE OVERFLOW CONVEYANCE SYSTEM, OVERFLOW CONVEYANCE HEIGHT TO ALLOW 6" MAXIMUM PONDING, PIPING TO A MINIMUM OF THE PLUMBING CODE OR CONVEY THE 25 YEAR STORM.
3. IF USING THE NATIVE SOIL INFILTRATION FOR SIZING, THE RATE SHALL BE DETERMINED BY ASTM STANDARD TESTING METHODS.
4. FLOW DISSIPATORS SHOULD BE USED IF ENTRY SLOPE TO THE BASIN IS GREATER THAN 3:1. FLOW DISSIPATORS SHALL BE CONSTRUCTED OUT OF ROCK OR GRAVEL PER DESIGN FLOW VELOCITY AT ENTRY OF THE FACILITY.
5. SEPARATION BETWEEN DRAIN GRAVEL AND GROWING MEDIUM SHALL BE APPROVED FILTER FABRIC.
6. TREATMENT AREA SHALL HAVE HIGH DENSITY JUTE OR COCONUT MATTING OVER 18" MINIMUM OF GROWING MEDIUM OR BASE STABILIZATION METHOD AS APPROVED BY THE DISTRICT.
7. VEGETATION TO BE USED IN WET AREAS OF THE BASIN IS PER APPENDIX "A" OF R&O 07-20 FOR THE WET MOISTURE CONDITIONS.
8. VEGETATION TO BE USED IN OTHER AREAS OF BASIN CONFORMS TO _____ OF THIS HANDBOOK AS APPROVED BY DISTRICT.

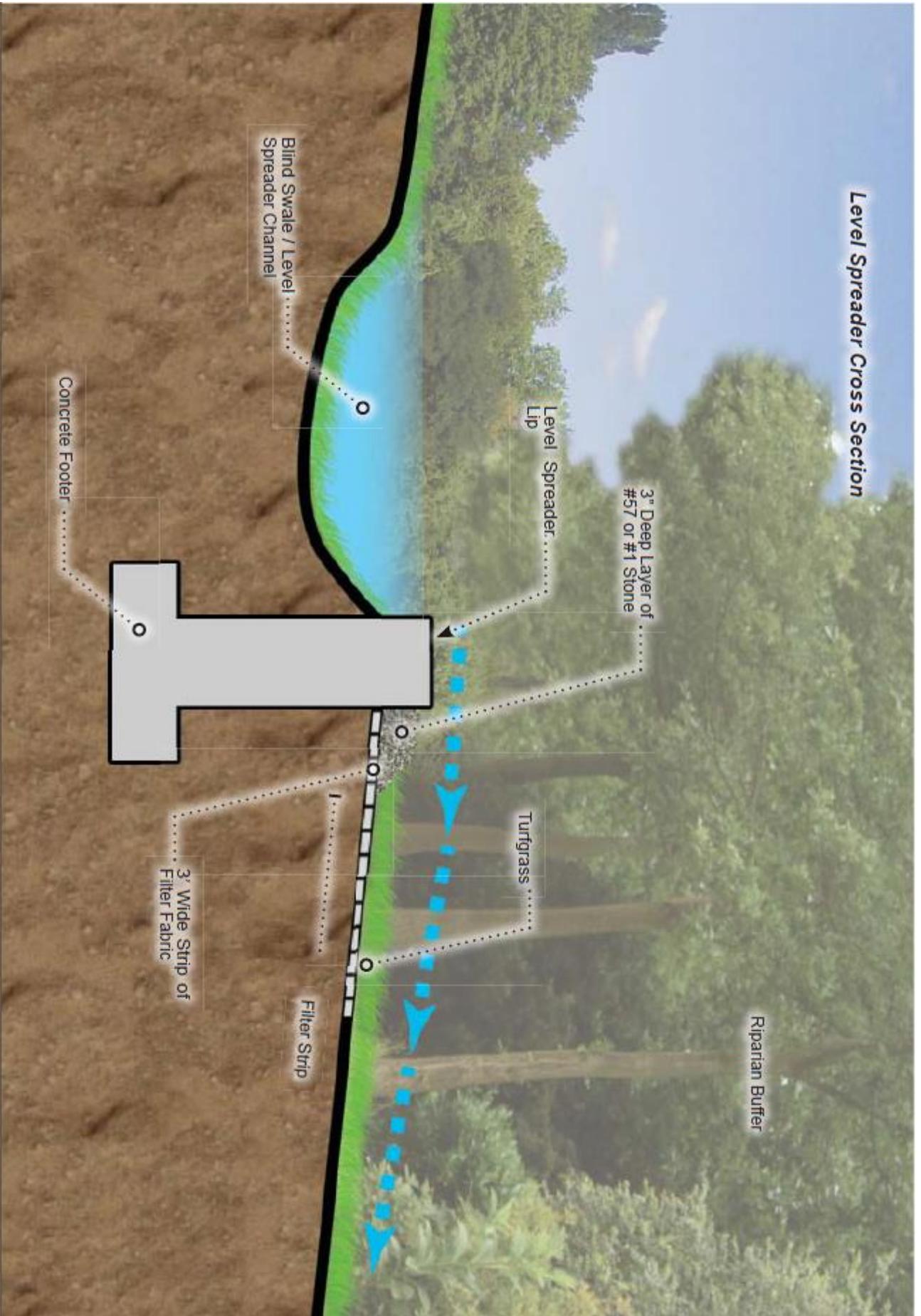
**LIDA
HANDBOOK**

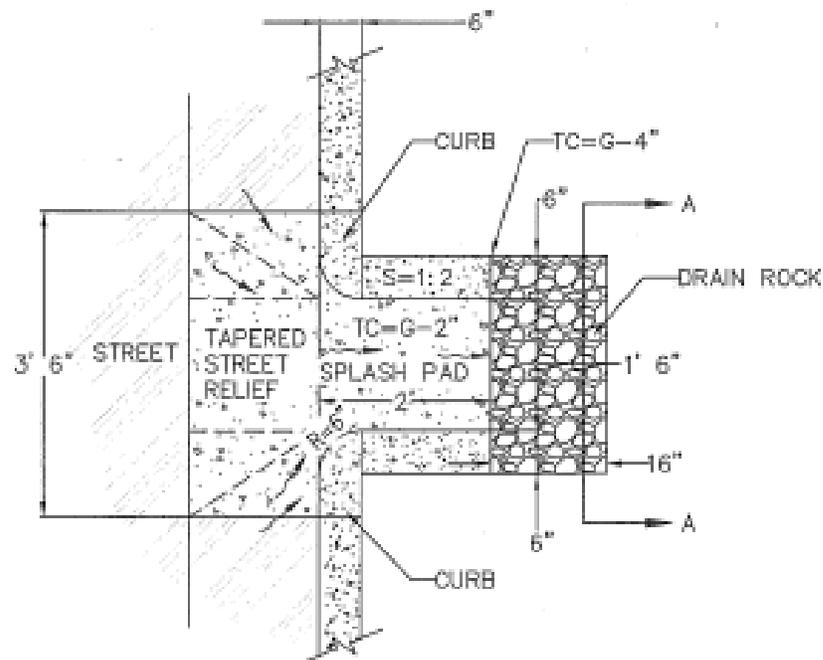
**NON-STRUCTURAL
INFILTRATION
PLANTER**

CleanWater Services
Our commitment is clear.
225.014 Hickory Hwy
Hickory, NC 27612
812.481.600
www.cleantwaterservices.com

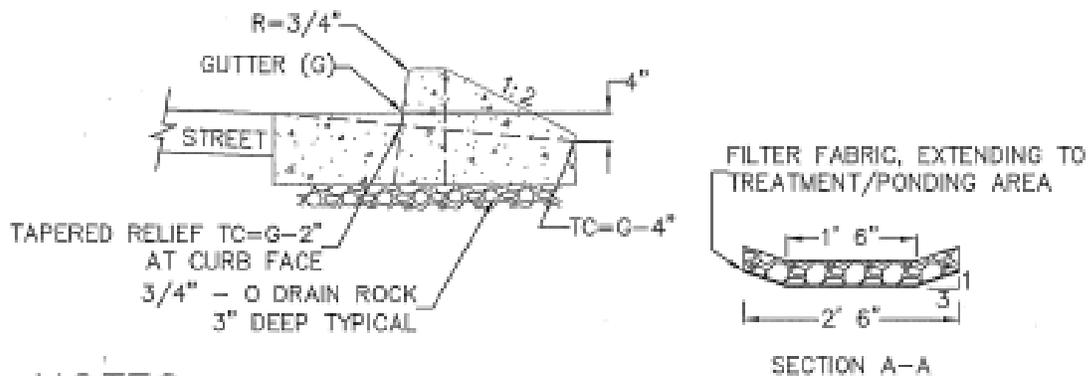
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NUMBER 797
102**

Level Spreader Cross Section





CURB CUT-OUT



NOTES:

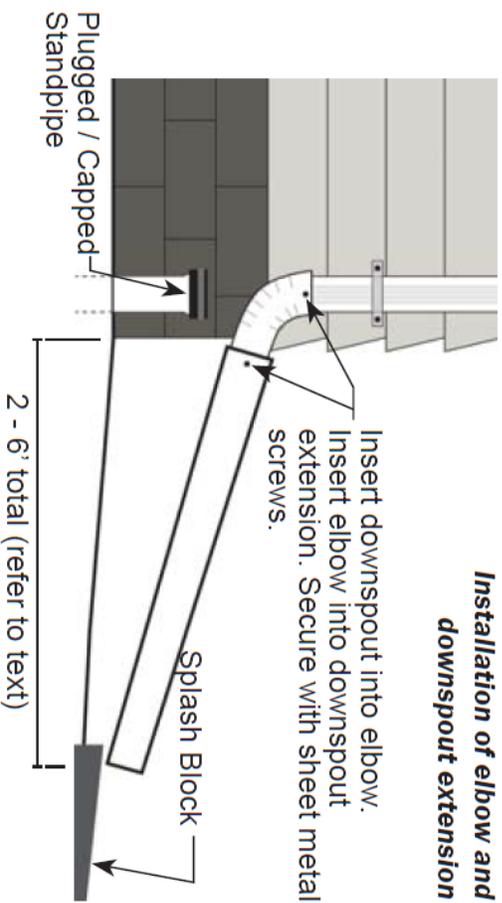
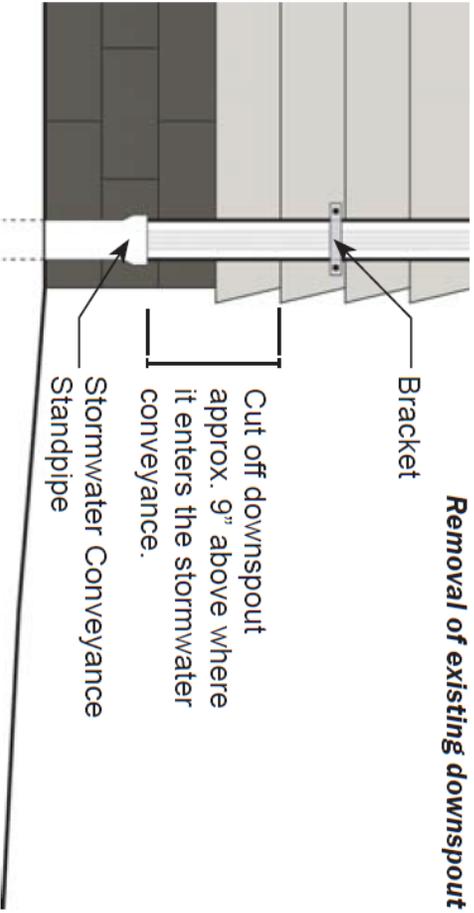
1. INFLOW STRUCTURE PER LOCAL JURISDICTION. CURB CUT OUTS NOT ALLOWED ON WASHINGTON COUNTY ROADS - USE MODIFIED CG-30 SEE DETAIL, FOR INLET STRUCTURE, OR CDOOT DETAIL DET 1750 FOR APPROPRIATELY SIZED CURB CUT.
2. INFLOW STRUCTURE - CURB CUTOUT SHALL HAVE MINIMUM 2" DROP AT THE FLOW LINE LEADING TO THE SPLASH PAD, SEE DETAIL.
3. FLOW RETARDING DRAIN ROCK MINIMUM SIZE 2" - 3/4" MINUS OR SIZED BY DESIGN INFLOW TO BE PLACED 2.5" TO 3" DEEP BEHIND SPLASH PAD.
4. CURB PROFILE PER LOCAL JURISDICTION.

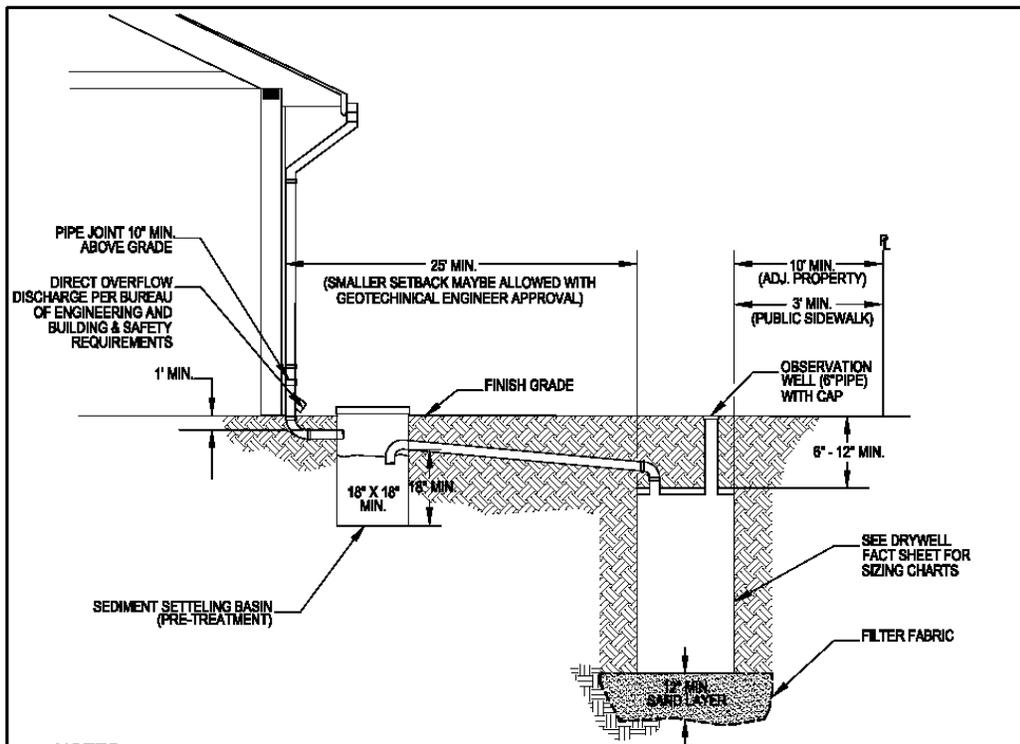
**LIDA
HANDBOOK**

**CURB CUT OUT
NON WASHINGTON
COUNTY ROADS**



**DRAWING
NUMBER 401**

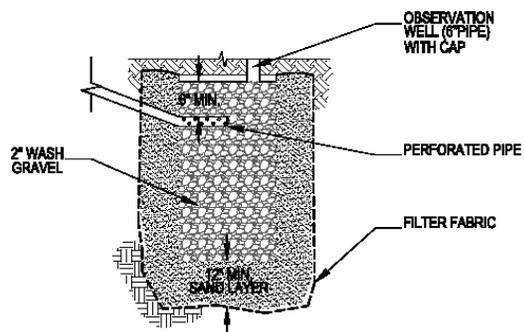




NOTES:

1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR, DURING, AND AFTER CONSTRUCTION.
2. SITTING CRITERIA: DRYWELL SHALL NOT BE LOCATED ON A SLOPE WITH GRADIENT GREATER THEN 20% (5:1, M:V)
3. TOP OF WELL MUST BE BELOW LOWEST FINISH FLOOR.
4. IF DRYWELL IS LOCATED WITHIN MINIMUM SETBACK REQUIREMENTS, THE DRYWELL SHALL BE DESIGNED BY A LICENSED ENGINEER.
5. DIRECT OVERFLOW DISCHARGE PER BUREAU OF ENGINEERING AND BUILDING & SAFETY REQUIREMENTS.
6. SEE DRYWELL FACT SHEET FOR ADDITIONAL GUIDELINES.

SECTION
NOT TO SCALE



ALTERNATIVE DRYWELL SECTION
NOT TO SCALE

**DRYWELL
FOR SMALL SCALE RESIDENTIAL**





