



MIDVALE
In the Middle of Everything

MIDVALE CITY

**STORMWATER
MANAGEMENT PLAN**

December 2013

**MIDVALE CITY
STORM WATER MANAGEMENT PLAN
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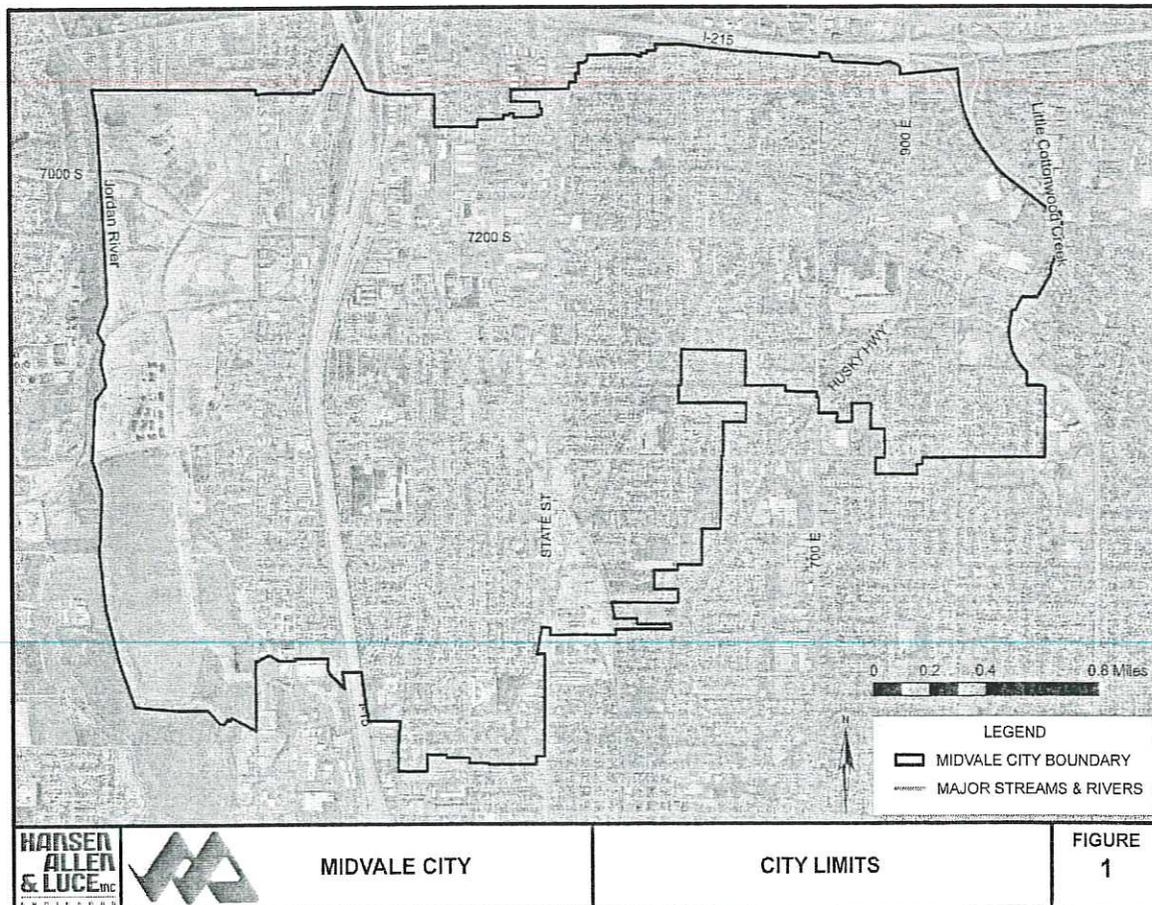
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MIDVALE CITY STORM WATER MANAGEMENT PLAN OVERVIEW

PURPOSE

This Storm Water Management Plan (SWMP) will be implemented to limit, to the maximum extent practicable, the discharge of pollutants from the Midvale City (the City) storm drain system. The development and implementation of this SWMP is to fulfill requirements under the **State of Utah UPDES Permit No. UTS000001** Authorization to Discharge Municipal Storm Water, Section II, in accordance with Section 402(p)(3)(B) of the Federal Clean Water Act, and the State Storm Water Regulations (*UAC R317-8-3.8*). The current permit became effective on September 5, 2013.

Salt Lake County (the County) received a UPDES Phase I Storm Water Discharge Permit in 1995. The permit includes 14 municipalities within Salt Lake County under the Phase II storm water regulations. Salt Lake County is an urban community within the Salt Lake Valley. The valley is a terminal valley that drains to the Great Salt Lake. The main conveyance system in the valley is the Jordan River that flows from Utah Lake to the Great Salt Lake. The Great Salt Lake is a terminal system. See Figure 1 for Midvale City boundaries.



WATER QUALITY CONCERNS

The lower Jordan River was first listed as impaired in the 2004 303(d) list. Upper Jordan River segments and additional pollutants of concern were added in the 2006 303(d) list. Segments of the Jordan River have been found to be impaired and are not meeting the State's water quality standards. Parameters not complying with State standards for the Jordan River classification include dissolved oxygen (DO), total dissolved solids (TDS), and temperature. The TDS and temperature impairments have been shown to be due to natural causes. The DO impairment exists at certain times in the lower reaches of the Jordan River (below 2100 South).

A Jordan River Total Maximum Daily Load (TMDL) Water Quality Study – Phase 1 has been completed (July 1, 2013). The Jordan River TMDL study found that the key parameter of concern is dissolved oxygen and the key pollutant of concern is total organic matter. Midvale City is included in the list of regulated point source pollutants under the Stormwater Phase II Permit. The proposed phased TMDL strategy includes Phase II (2018) Characterization of organic matter and water quality response and best management practices Implementation; Phase III (2018 – 2023): Best Available Technology (BAT) Design, implementation of stormwater capital improvements, and begin implementation strategy in revised TMDL; and Phase IV (2023 – 2028): Construction upgrades for point sources to meet WLAs, meet all DO water quality standards.

“Point sources (including stormwater) account for 53 percent of the OM load to the lower Jordan River, versus 47 percent for nonpoint sources. Sources upstream of 2100 South account for 55 percent of the OM load, versus 45 percent from downstream sources. These load estimates represent the best information currently available and could change during future phases of the TMDL study as additional data is collected and analyzed.” (p. S-3, Jordan River TMDL Phase 1, 2013).

“Based on this model [the TMDL study QUAL2Kw model] and its assumptions, point sources upstream and downstream of 2100 South will have to reduce their loads by 39 and 42 percent respectively. Nonpoint sources upstream and downstream of 2100 South will have to reduce their loads by 27 and 54 percent respectively.” (p. S-3, Jordan River TMDL Phase 1, 2013).

“A phased approach is recommended “where available data only allow for ‘estimates’ of necessary load reductions” (EPA 2006). This approach “is limited to TMDLs that for scheduling reasons need to be established despite significant data uncertainty and where the state expects that the loading capacity and allocation scheme will be revised in the near future as additional information is collected” (EPA 2006).” (p. S-4, Jordan River TMDL Phase 1, 2013).

Therefore a key goal of the Midvale City Stormwater Management Plan is to reduce the organic matter and VSS (volatile suspended solids) in storm water to the maximum practicable extent through the implementation of best management practices.

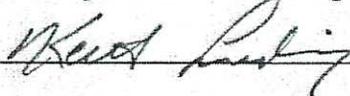
SWMP COORDINATION

Agency: Midvale City, Public Works Department
Contact: Mr. Keith Ludwig, City Engineer, Phone: (801) 256-2574

6.8.1. & 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."

Signed:



Dated:

12-11-13

STAFFING AND RESOURCE ALLOCATIONS

Responsibility for implementation of the storm water management program is divided between the City and the County. For the City, most of the work is performed by the Public Works Department with some of the work being performed by the Community and Economic Development Department. The City entered into an agreement entitled, "*Interlocal Cooperation Agreement between Salt Lake County and Midvale City for UPDES Co-Permit*", which delegates some responsibilities to the County.

Management and oversight of the City's responsibilities under the storm water management program is funded through the City's storm water utility. The revenue source for the work performed by the County is an ad valorem property tax that is assessed County-wide.

PROGRAM SUMMARY

This SWMP has been developed to meet the terms of the UPDES permit and consists of the six minimum control measures established by the EPA for Phase II storm water discharges. Implementation of these control measures is expected to result in significant reductions of pollutants discharged into receiving waters. These six control measures are addressed in separate chapters.

Each control measure consists of BMPs necessary for proper storm water management. The BMPs include specific tasks to meet the objective of that particular control measure. A total of 15 BMPs are included in this SWMP and will be completely implemented by the end of the permit term. This SWMP is intended to be a living document with BMPs added or deleted as BMPs arise or other BMPs are found to be ineffective. Schedules for implementing the BMPs are provided along with each minimum control measure.

Chapter One – Public Education and Outreach Program

The Public Education and Outreach Program in this SWMP promotes increasing public and professional awareness of water quality concerns and BMPs that may be implemented to protect storm water quality.

Midvale City is a Co-Permittee with Salt Lake County and Salt Lake County is responsible for the multimedia approach required in 4.2.1 of the General Permit.

1. Community/Residential and Business Program
2. Salt Lake County Storm Water Coalition

Chapter Two – Public Involvement/Participation Program

This measure is intended to provide opportunities for the public to play an active role in both the development and implementation of the storm water management program. An active community is important to the success of the program. The BMPs in this chapter not only serve to involve the public, but also serve to educate the public on storm water issues. The BMPs in this chapter include:

3. Public Involvement/ Participation

Chapter Three – Illicit Discharges and Improper Disposal Program

This measure is intended to minimize illicit discharges into the storm drain system. Illicit discharges are discharges other than storm water. Storm drain systems are not designed to accept, convey, or discharge non-storm water flows. Eliminating illicit discharges helps prevent pollutants from entering receiving waters. The BMPs in this chapter include:

4. Storm Drain System Map
 - Prepare GIS mapping of high priority areas
 - Develop SOPs for tracing, characterizing, and ceasing illicit discharges
5. Dry Weather Screening Program
 - Investigate suspect outfalls
 - Report findings

Chapter Four – Construction Site Storm Water Runoff Control Program

This measure is intended to minimize polluted storm water runoff from construction activities. Construction activities can contribute significant levels of sediment to storm water runoff if erosion and sediment controls are not implemented. The BMPs in this chapter include:

6. Construction Site Program Development
7. Construction Site Program Implementation

Chapter Five – Long-Term Storm Water Management in New Development and Redevelopment (Post-Construction Storm Water Management)

This measure is intended to minimize the impact to storm water quality caused by development and redevelopment. The increase in impervious areas caused by development can cause an increase in the type and quantity of pollutants in storm water runoff. Prior planning and design to minimize pollutants in runoff from these areas is an important component to storm water quality management. The BMPs in this chapter include:

8. Post-Construction Program Development
9. Post-Construction Program Implementation
10. Post-Construction Program Maintenance

Chapter Six – Pollution Prevention/Good Housekeeping Program

This measure is intended to ensure a reduction in the amount and type of storm water pollutants by establishing routine activities in the operation and maintenance of municipal operations that affect storm water runoff. Setting particular guidelines for source controls and materials management is an important component to storm water quality management. The BMPs in this chapter include:

11. Inventory of City Owned or Operated Facilities
12. Standard Operating Procedures and Training
13. Inspections and Assessments

CHAPTER ONE

PUBLIC EDUCATION AND OUTREACH PROGRAM

The Public Education and Outreach Program in this SWMP promotes increasing public and professional awareness of water quality concerns and BMPs that may be implemented to protect storm water quality.

Midvale City is a Co-Permittee with Salt Lake County and Salt Lake County is responsible for the multimedia approach required in 4.2.1 of the General Permit. The following goals are to meet the requirements of 4.2.1.2 and 4.2.1.3 of the General Permit.

COMMUNITY/RESIDENTIAL and BUSINESS PROGRAM

Objective: Reduce pollutants to receiving waters through increased public awareness of problems and solutions. Discourage discharge of pollutants to the storm water system and receiving waters through enforcement actions taken against violators. Reduce the impact to water quality through timely clean-up actions.

Permit Requirement: 4.2.1.2 and 4.2.1.3 – Public Education and Outreach
4.2.3.1 – Illicit Discharges and Improper Disposal

Prohibitions against water quality impacts associated with illicit discharges and improper disposal of waste.

- Prepare flyers for distribution at Harvest Days, City offices, and City website. Document the number of flyers prepared and distributed.

Leaf Bag Collection Program

- Continue the leaf bag distribution and collection program.

Goals and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year	Task/Goal	Assessment	Lead Entity/Funding
2014-2019	Provide information to General Public of prohibitions against and water quality impacts associated with illicit discharges and improper disposal	Number of flyers distributed.	City Public Works/ Stormwater Utility
2014-2019	Provide information to Businesses and Institutions of prohibitions against and water quality impacts associated with illicit discharges and improper	Number of flyers distributed.	City Public Works/ Stormwater Utility

CHAPTER ONE
PUBLIC EDUCATION AND OUTREACH PROGRAM

Year	Task/Goal	Assessment	Lead Entity/Funding
	disposal		
2014-2019*	Leaf Bag Collection Program/Facilitate the Leaf Bag Collection Program	Assess the current program and determine what changes need to be implemented	City Public Works /Utility

* Fiscal year July to July

SALT LAKE COUNTY STORM WATER COALITION

Objective: Increase public and professional awareness of storm water quality concerns with consistent and combined marketing methods.

Permit Requirement: 4.2.1 – Public Education and Outreach

Description of Tasks: Continue coordinating and participating in the Coalition for the purpose of providing further education and training for professionals and municipal employees about storm water quality.

Salt Lake County Storm Water Coalition: The Coalition is a group of various local agencies whose purpose is reducing the load of pollutants entering the storm drains and receiving waters, and enforcing the appropriate regulations. The Coalition meets monthly to coordinate storm water program development, coordinate new educational materials and programs, and inform all of its members of new regulations or storm water workshops

CHAPTER TWO

PUBLIC INVOLVEMENT/PARTICIPATION PROGRAM

The Public Involvement/Participation Program section of this SWMP addresses the importance of public involvement in the protection of storm water. Community participation provides for broader public support, shorter implementation schedules, a broader base of expertise, and the development of important relationships with other community and government programs.

PUBLIC INVOLVEMENT / PARTICIPATION

Objective: Provide opportunities for public involvement in the development and implementation of the storm water management program. Provide additional opportunities for public awareness of the problems and solutions regarding storm water.

Permit Requirement: 4.2.2. – Public Involvement/Participation

Description of Tasks:

Public Notice: Public notice requirements shall be conducted in accordance with the State Administrative Procedures Act. Public notices shall be published and public comments received. Appropriate responses will be documented.

Public Hearing: Conduct a public hearing of the revised SWMP.

Make the SWMP document available to the public for review and comment through the City website.

Goals and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year	Task/Goal	Assessment	Lead Entity/Funding
2014-2019*	Public Notice/ Incorporate public notice requirements	Document the public notices advertised and the number and content of responses to the notices	City Public Works/ Stormwater Utility
2014-2019*	Place the SWMP document on the City website	Record date SWMP document placed on website.	City Public Works/ Stormwater Utility

* Fiscal year July to July

CHAPTER THREE

ILLICIT DISCHARGES AND IMPROPER DISPOSAL PROGRAM

The Illicit Discharges and Improper Disposal Program section of this SWMP addresses non-storm water flows that are discharged to receiving waters through storm water conveyance systems. The program implements BMPs to assist in the identification of illicit discharges and elimination of these discharges from the system. This program will also focus on prevention of new illicit discharges to the storm water system by means of education, regulations, and a spill prevention and response program.

This program will also be integrated with the Public Education and Outreach program to promote awareness of the importance of protecting the storm water system from illicit discharges and their impact to receiving waters. The following BMPs describe implementation tasks and assessment tasks to be completed by the City and the County for the Illicit Discharges and Improper Disposal Program.

STORM DRAIN SYSTEM MAP

Objective: Identify intake and discharge areas of the storm water system.

Permit Requirement: 4.2.3.1 – Illicit Discharges and Improper Disposal

Description of Tasks: Update existing storm drain system map as necessary

Storm Drain System Map: Maintain current map in order to determine the source and extent of dry weather flows, and the particular receiving waters these flows may affect. The map will be updated as necessary, follow-up action on dry weather flows will be documented.

Goals and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year*	Task/Goal	Assessment & Measurable Goal	Lead Entity/Funding
2014-2019	Storm Drain System Map/ Maintain existing map by adding outfalls & pipes as discovered	Update as necessary Documentation of revisions	City Public Works/ Utility

* Fiscal year July to July

ORDINANCE

Ordinance 13.16.100 prohibits discharge of all but stormwater, surface drainage, subsurface drainage, groundwater, roof runoff, cooling water or nonpolluted water to the storm drain system. Refers to the City's Stormwater quality standards (Ord. 6/15/2004O-23 § 1 (part), 2004). Midvale City cooperates with SLVHD for enforcement.

DRY WEATHER SCREENING PROGRAM

During the past permit term; the County had responsibility for the Dry Weather Screening Program. With the current permit, the City will take over responsibility for dry weather screening.

Objective: Identify and eliminate illicit discharges into the storm drain system. Dry weather screening will be conducted on a minimum of 20% of all identified outfalls each year during the 5-year permit term.

Permit Requirement: 4.2.3.1. – Illicit Discharges and Improper Disposal

Description of Tasks: Continue the Dry Weather Screening Program designed to detect and address illicit discharges.

Mapping of Potential Illicit Discharge Sources: Prepare mapping of Industrial Storm Water Permit holders, sewer mapping and other sources of information to assist in identification of the potential illicit discharge source.

Dry Weather Screening Program: The Dry Weather Screening Program consists of inspecting each of the major and minor outfalls that discharge to County facilities once during the permit term. The Dry Weather Screening Program provides a framework for field screening the outfalls to identify suspected outfalls as a basis for initiating more detailed drainage area investigations. In addition, the storm drain system map is continually updated to reflect field conditions as appropriate. All activities conducted under the Dry Weather Screening Program will be documented.

Investigations and Enforcement: Any dry weather flows that are identified are traced to their source. The City will investigate illicit connections or illegal discharges within the City's boundary. Investigations or enforcement actions will be documented.

Goals and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year	Task/Goal	Assessment & Measurable Goal	Lead Entity/Funding
2014	Prepare GIS mapping of high priority areas to assist in identification of illicit discharges.	Completed map of high risk areas.	City Public Works/Utility
2014	Develop SOPs for tracing the source of an illicit discharge. Develop SOPs for characterizing the nature and threat posed by any illicit discharge. Develop standard operating procedures for ceasing the	Implement SOPs for illicit discharge source tracing, threat characterization, and ceasing. Implementation documentation.	City Public Works/Utility

CHAPTER THREE
ILLICIT DISCHARGES AND IMPROPER DISPOSAL PROGRAM

Year	Task/Goal	Assessment & Measurable Goal	Lead Entity/Funding
	illicit discharge.		
2014-2019	Dry Weather Screening Program/ Continue Dry Weather Screening Program sampling all outfalls Midvale City to County facilities once during the permit term	Document findings of screening program, number of outfalls visited and number of outfalls with suspected conditions. Visit minimum of 20% of the outfalls each year.	City Public Works/ Utility
2013-2019	Investigation/ Investigate any suspect outfalls that exhibit evidence of illicit discharge	Document any investigation efforts and findings	City Public Works/ Utility
2013-2019	Enforcement/ Report findings to SLVHD to take actions toward eliminating illicit discharges	Document enforcement actions taken	SLVHD/ County General Fund

* Fiscal year July to July

CHAPTER FOUR

CONSTRUCTION SITE STORM WATER RUNOFF CONTROL PROGRAM

The Construction Site Storm Water Runoff Control Program section of this SWMP addresses water quality concerns for construction sites greater than or equal to one acre. Polluted storm water runoff from construction sites often flows to storm drains and into receiving waters. This runoff can contribute more sediment to receiving waters than would be deposited naturally. The resulting sediment deposition can cause physical, chemical, and biological harm to receiving waters. The BMPs described in this section include a construction site program designed to reduce pollutants in storm water runoff from construction activities. This program includes procedures for construction site plan review, site inspections, public reporting, and notification of specific requirements to all construction site owners or operators.

This program will also be integrated with other facets of the storm water management program to provide information and up-to-date BMPs to the public. The following BMPs describe implementation tasks and assessment tasks to be completed by the City for the Construction Site Storm Water Runoff Control Program.

CONSTRUCTION SITE PROGRAM DEVELOPMENT

Objective: Reduce erosion, sediment transportation, and other pollution caused by construction activities.

Permit Requirement: 4.2.4. – Construction Site Storm Water Runoff Control

Description of Tasks: Develop a program with requirements for construction operators to use erosion and sediment controls and maintain appropriate structural and non-structural BMPs to reduce pollutants discharged during construction activities. Construction activities are defined as activities that change the volume or peak flow discharge rate of rainfall runoff from the land surface. This may include grading, cutting, scraping, excavating, placing fill materials, paving, construction, substantial removal of vegetation, or any activity which exposes soils or rock or involves the diversion or piping of any natural or man-made watercourse.

The program requires the submittal of a Storm Water Pollution Prevention Plan (SWPPP) for each development prior to commencing grading operations. The SWPPP will include an erosion control plan. The erosion control plan is intended to prevent erosion during the construction phase by implementing various erosion control measures as appropriate. The control of construction waste debris at the site that may cause adverse impacts to water quality will be a part of the SWPPP. This program will include procedures for plan review, site inspections, public reporting, and contractor education.

Ordinance: The City will adopt an ordinance that regulates storm water runoff from construction activities. The ordinance will include requirements for SWPPPs, site plan reviews, inspections, and enforcement.

Storm Water Pollution Prevention Plan: A SWPPP must be submitted for review and approval prior to commencing grading operations. A SWPPP is intended to prevent erosion during the construction phase by implementing various erosion control measures as appropriate. Such measures may include temporary silt or sediment fences, sediment traps and detention ponds, temporary and permanent vegetation, etc.

Site Plan Reviews: Procedures will be developed for the Community and Economic Development Department to review site plans for BMPs during construction. Site plan review will include assessing construction phasing, limiting the disturbed area, materials management, and temporary erosion and sediment controls. Consideration for proper operation and maintenance of control measures will be incorporated into the plan review process.

Inspections: Procedures to incorporate BMP inspections into grading and building inspections will be developed. Site inspections and enforcement of erosion control measures at construction sites will help to deter infractions. Procedures will include steps to identify priority sites for inspection and enforcement based on the nature and extent of the construction activity, topography, characteristics of soil, and receiving water quality. Regular inspections by qualified personnel will help to ensure erosion and sediment controls are operating properly and to identify problem areas. Procedures for follow-up activities will be developed.

Enforcement: Enforcement procedures will be developed.

Public Reporting Program: The public can play a crucial role in identifying instances of noncompliance. Public reporting can provide important assistance in preventing storm water pollution during construction activities. Procedures for public reporting will be developed and will be coordinated with the SLVHD.

Owner/Operator Notification: Procedures for notification of UPDES permit requirements will be developed. Making construction owners/operators aware of UPDES permit requirements for construction activities will be beneficial in minimizing storm water pollutant runoff from such sites.

Goals and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year*	Task/Goal	Assessment & Measurable Goal	Lead Entity/Funding
2014	Program development/ Adopt an ordinance according to permit requirements	Document the adoption of the ordinance	City Public Works/ Utility
2014	Program Development/ Develop guidelines for SWPPP preparation	Document the guidelines for SWPPP preparation	City Public Works/ Utility

**CHAPTER FOUR
CONSTRUCTION SITE RUNOFF CONTROL PROGRAM**

Year*	Task/Goal	Assessment & Measurable Goal	Lead Entity/Funding
2014	Site Plan Review/ Develop site plan review procedures	Document site plan review procedures	City Public Works/ Utility
2014	Site Inspections/ Identify priority sites for inspections	List priority sites	City Public Works/ Utility
2014	Enforcement/ Develop enforcement procedures	Document enforcement procedures	City Public Works/ Utility
2014	Public Reporting/ Develop public reporting procedures	Document public reporting procedures	City Public Works/ Utility
2014	Owner/Operator Notification/ Develop procedures for notification of UPDES permit requirements	Document procedures for notification of UPDES permit requirements	City Public Works/ Utility

* Fiscal year July to July

CONSTRUCTION SITE PROGRAM IMPLEMENTATION

Objective: Implement procedures developed in the Program Development BMP. These procedures will help to decrease pollutants conveyed to the storm drain system from construction sites.

Permit Requirement: 4.2.4. – Construction Site Storm Water Runoff Control

Description of Tasks: Implement procedures for plan review, inspections, enforcement, public reporting, and UPDES owner/operator notification. Implementation of these procedures will serve to minimize water quality impacts caused by construction activities. The site plan review includes requirements for operators to control other wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste that may adversely impact water quality.

Plan Review: Implement plan reviews as developed. The intent of plan reviews is to ensure appropriate erosion and sediment controls are incorporated during construction activities.

Site Inspections: Implement site inspections to ensure proper installation and maintenance of storm water controls.

Enforcement: Implement enforcement actions to minimize impacts to storm water quality.

Public Reporting Program: Implement public reporting procedures and coordinate with the SLVHD.

**CHAPTER FOUR
CONSTRUCTION SITE RUNOFF CONTROL PROGRAM**

Owner/Operator Notification: Implement notification procedures for owners/operators of all UPDES permit requirements for construction activities.

Goals and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year*	Task/Goal	Assessment & Measurable Goal	Lead Entity/Funding
2014-2019	Plan Review/ Implement plan review and approval process	Document suggestions made on plans. Document types of BMPs implemented	City Public Works/ Utility
2014-2019	Site Inspections/ Implement site inspection procedures	Document inspections and findings using State form.	City Public Works/ Utility
2014-2019	Enforcement/ Implement enforcement procedures as necessary	Document enforcement actions taken	City Public Works/ Utility
2014-2019	Public Reporting/ Implement public reporting procedures	Document public reports and any follow-up action taken	City Public Works/ Utility
2014-2019	Owner/Operator Notification/ Implement notification procedures	Document notifications issued	City Public Works/ Utility

* Fiscal year July to July

CHAPTER FIVE

LONG-TERM STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT (POST-CONSTRUCTION STORM WATER MANAGEMENT)

The Post-Construction Storm Water Management in New Development and Redevelopment addresses the importance of storm water runoff management in new development and redevelopment projects. This includes land disturbances of greater than or equal to one acre and projects less than one acre that are part of a larger common plan of development or sale. Substantial impacts of post-construction runoff are caused by an increase in the type and quantity of pollutants in storm water runoff. The BMPs described in this section of this SWMP include the development of structural and non-structural storm water runoff strategies and the development of post-construction programs that consider water quality impacts of new development and redevelopment projects in the comprehensive land use master planning process.

"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." (UPDES UTS000001 4.2.5.)

This program will also be integrated with the Construction Site Storm Water Runoff Control Program of the SWMP to provide information and up-to-date BMPs to the end user. The following BMPs describe implementation tasks and assessment tasks to be completed by the City for the Post-Construction Storm Water Management in New Development and Redevelopment Program.

POST-CONSTRUCTION PROGRAM DEVELOPMENT

Objective: Reduce the discharge of pollutants from areas of new development and redevelopment after construction is completed.

Permit Requirement: 4.2.5. – Post-Construction Storm Water Management in New Development and Redevelopment

Description of Tasks: Develop a Post-Construction program with requirements for post-construction runoff controls. Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly affect receiving waters. There are two types of impacts from post-construction runoff. One is from an increase in the type and quality of pollutants in storm water runoff. The other is from the increase in the quantity of storm water itself. Prior planning and design to minimize pollutants in post-construction storm water discharges is an effective approach to storm water quality management. (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 City storm drain system. 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.

General Plan, Land Development Code: Addressing the water quality impacts of new development and redevelopment in the land use planning process by implementing structural and non-structural BMPs will help to prevent many storm water quality problems. This is a cost-effective mechanism for improving storm water quality. The following BMPs will be evaluated for water quality, flood control, and aesthetic value:

Non-Structural BMPs

Buffer Strips
Riparian Zone Preservation
Minimization of Disturbed Area
Minimization of Imperviousness
Maximization of Open Space

Structural BMPs

Retention/Infiltration Ponds
Detention Ponds
Vegetated Swales
Oil/Grit Separators
In-Line Detention

The program shall include a process to evaluate and encourage a Low Impact Development (LID) approach which encourages the implementation of structural BMPs, where practicable, that infiltrate, evapotranspire or harvest and use storm water from the site to protect water quality.

The Bingham OU2 and OU1 areas are regulated by EPA separately and are required to not implement any features that promote infiltration.

Structural BMP Maintenance: Procedures will be developed to ensure adequate long-term operation and maintenance of structural storm water controls for water quality purposes. Proper operation and maintenance of the control measures will help to minimize pollutants in storm water runoff. Funding alternatives for operation and maintenance plans will be evaluated.

Retrofit existing developed sites that are adversely impacting water quality. (4.2.5.3.3)

1. Identify areas which have a high potential for impacting water quality. Criteria for area selection will include: proximity to waterbody, proximity to sensitive ecosystem or protected area, hydrologic condition of the receiving water body, and upcoming sites that could be further enhanced by retrofitting storm water controls.
2. Select appropriate BMPs for implementation in the selected areas. The retrofit plan shall be developed to emphasize controls that infiltrate, evapotranspire or harvest and use storm water discharges. The plan shall include a ranking of control measures to determine those best suited for retrofitting as well as those that could later be considered for retrofitting.
3. Develop schedule for implementation.

Develop and define specific hydrologic methods for calculating runoff volumes and flow rates. (4.2.5.3.4)

1. Review available methods for computing storm runoff peak flows and volumes. Select methods for use in assuring consistent sizing of structural BMPs in the City and to facilitate plan review.
2. Implement by adding requirements to development and re-development planning processes.

Adopt and implement procedures for site plan review.

1. Review Storm Water Pollution Prevention Plans (SWPPPs) 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.
2. Develop preferred design specifications 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.

Develop procedures for site inspection and enforcement of post-construction storm water control measures. (4.2.5.5) Include provisions for both construction-phase and post-construction access for City inspection of storm water control measures on private properties that discharge to the City's storm drainage system to ensure that adequate maintenance is being performed.

Goals and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year*	Task/Goal	Assessment & Measurable Goal	Lead Entity/Funding
2014	Develop and adopt an ordinance that requires long-term post-construction storm water controls for new development and re-development sites.	Document ordinance preparation and adoption.	City Public Works/ Utility
2015	General Plan and Land Development Code/ Assess the Plan and Code for applicable BMPs in the planning process	Document findings	Community & Economic Development/ General Fund
2014	Structural BMP Maintenance/ Develop procedures to establish long-term operation and maintenance responsibilities	Assess procedures. Documentation of procedures to establish maintenance responsibilities.	City Public Works/ Utility
2015	Retrofit/ Identify existing developed sites that are adversely impacting water quality	Document identified sites	City Public Works/ Utility
2016 – 2019	Retrofit/ develop retrofit plan for each identified site.	Document BMP ranking and selected retrofit plans.	City Public Works/ Utility
2016 – 2019	Retrofit/ develop schedule for implementation.	Document implementation schedule.	City Public Works/ Utility
2014 – 2016	Hydrologic Methods/ review, select, and implement into	Document hydrologic methods selection process	City Public Works/ Utility

**CHAPTER FIVE
POST-CONSTRUCTION STORM WATER MANAGEMENT**

Year*	Task/Goal	Assessment & Measurable Goal	Lead Entity/Funding
	development-redevelopment requirements.	and requirements.	
2014 - 2016	Site Plan Review Procedures/ develop procedures for review.	Document procedures.	City Public Works/ Utility

*Fiscal year July to July

POST-CONSTRUCTION PROGRAM IMPLEMENTATION

Objective: Reduce the discharge of pollutants from areas of new development and redevelopment after construction is completed.

Permit Requirement: 4.2.5. – Post-Construction Storm Water Management in New Development and Redevelopment

Description of Tasks: Implement the Post-Construction Program identified in the Program Development BMP. Review Storm Water Pollution Prevention Plans (SWPPPs) 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.

Goals and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year*	Task/Goal	Assessment and Measurable Goal	Lead Entity/Funding
2014-2019	General Plan and Land Development Code/ Update the Plan and Code for applicable BMPs in the planning process	Document BMPs implemented	City Community Development/ Utility
2014-2019	Structural BMP Maintenance/ Implement procedures to establish long-term operation and maintenance responsibilities	Document procedures	City Public Works/ Utility
2014-2019	Structural BMP Maintenance/ Review SWPPPs	Review SWPPPs for 100% of all projects which disturb greater than 1 acre.	City Public Works/ Utility
2014-2019	Site Plan Review Procedures/ implement review procedures.	Document implementation.	City Public Works/ Utility
2011 - 2019	Site Plan Review	Document site plan reviews.	City Public Works/ Utility
2014-2019	Staff training.	Document training held. Dates, course descriptions, and names of staff	City Public Works/ Utility