CITY OF OGDEN
STORM WATER MANAGEMENT PROGRAM

Permit term: May 12, 2021 – May 11, 2026
Permit No: UTR090020

Submitted to:
State of Utah
Department of Environmental Quality (DEQ)
Division of Water Quality (DWQ)

Prepared and submitted by:
Ogden Engineering Division
2549 Washington Blvd, Ogden, Utah 84401
Phone: 801-629-8000
Website: www.OgdenCity.com

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Signatory Requirements and Certification

Delegation of Authority

The Ogden City Chief Administrative Officer has delegated signatory authority to the City Engineer/Deputy Public Services Director.

Certification Statement

In accordance with Part 6.8 of the Permit, the following statement must be incorporated and signed in this document:

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.

Signature: 

Printed Name: Justin Anderson

Title: City Engineer/Deputy Public Services Director

Date:

Storm Water Management Program Introduction

Preface

Storm water runoff from rain and melting snow flows from rooftops, across bare soil, lawns, paved parking lots, sidewalks, streets, through storm drains, and other conveyance systems within municipal separate storm sewer systems (MS4s). As it flows, runoff can collect and transport pollutants such as sediment, salts, fertilizers, oil, grease, litter, pet waste, and pesticides. Runoff is then discharged, typically untreated, into local water bodies such as creeks, streams, rivers, and lakes. Polluted storm water can contaminate local waterways and can degrade the quality of the water and cause harm to plants, fish, and other wildlife.

To prevent harmful pollutants from being washed or dumped into local water bodies, certain municipalities are required to obtain coverage under a Utah MS4 Permit and develop Storm Water Management Programs (SWMPs). The SWMP describes the storm water control practices that will be implemented consistent with Permit requirements to minimize the discharge of pollutants from the storm sewer system. The City of Ogden, hereafter may be referred to as Ogden or City, is recognized as an operator of a Small MS4 and is authorized to discharge storm water to waters of the state of Utah under the Utah Pollutant Discharge Elimination (UPDES) Permit Number UTR090000, General Permit for Discharges from Small MS4s.

Purpose

The purpose of this SWMP is to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP), protect water quality, and satisfy the appropriate water quality requirements of the Utah Water Quality Act. This SWMP identifies key priorities related to storm water quality, procedures, and policies to protect water quality, and actions to be completed within this Permit term, which are designed to address the six Minimum Control Measures (MCMs) defined in part 4.2 of the Permit.

Document Organization

For organizational purposes, ease of review, and verification of compliance, the proceeding sections of this document are outlined and numbered mirroring the sections of the applicable Permit requirement. Sections of the Permit which are not applicable to Ogden, or sections that provide general information have been omitted from this document.

Permit Reference Sections

2.3 – Storm Water Management Program Plan Description

2.3.2.2 MS4 Location Description and Map

Ogden is an urban community which is home to approximately 89,000 residents and encompasses approximately 27 square miles. Ogden is located approximately 35 miles north of Salt Lake City and 10 miles east of the Great Salt Lake within Weber County, Utah. Further location and relevant storm water system details of the Ogden MS4 service area can be seen in the SWMP Map Series provided in Appendix A.

2.3.2.3 Overall Water Quality Concerns and Priorities

Ogden is almost entirely built out with a variety of land uses and ongoing new development and redevelopment construction projects. In a highly urbanized community, storm water quality concerns are primarily associated with human activity. Table B1 in Appendix B provides common pollutants connected to urbanized communities, the sources where pollutant could be generated, and the impact the pollutant can have on water quality. Table B3 provides a list of future SWMP elements or measurable goals with interim milestones that were considered in the development of this SWMP document.

2.3.2.4 Existing and Future SWMP Elements (Goals)

Ogden has variety of SWMP elements already in place to meet the requirements of the six MCMs. These existing SWMP elements are described in each corresponding MCM Section and summarized in Table B2 of Appendix B. To further protect and improve the water quality of both water within Ogden as well as receiving water bodies, Ogden has identified future SWMP elements (goals) to be implemented as part of this SWMP. These goals are summarized in Table B3 in Appendix B.

2.3.2.5 Previous Permit: SWMP Modifications Implemented

Table B4 in Appendix B shows all SWMP elements and goals that were completed or modified from the previous permit term. All City ordinances and ordinance modifications are publicly available online through Ogden Municipal Code library. Appendix E provides Municipal Codes referenced within this document.

2.3.2.6 Measurable Goals

Along with the SWMP elements described in Section 2.3.2.4, Ogden has developed measurable goals to ensure all requirements set forth in the MS4 Permit are met and to protect water quality both downstream and within Ogden limits. These goals are outlined in Table B3.

2.3.2.8 Certification and Signatory Requirements

In accordance with Part 6.8 of the Permit, Certification has been provided at the beginning of this document.

2.3.2.9 Minimum Control Measure Requirements

Specific details for compliance with the required items in each of the six MCMs are provided in the corresponding MCM sections outlined in Section 4.2 of this SWMP document.

3.1 – Discharges to Quality Impaired Waters

3.1.1.1 303(d) Listed Waters

According to the *2022 Integrated Report* created by Utah Department of Environmental Quality (DEQ), Ogden discharges to one boundary of flowing surface water, or Assessment Unit (AU), that has been identified by the Director as failing to support one or more of its designated uses and listed as impaired on the 303(d) list. This

AU has been termed Weber River-1. Further details regarding this assessment unit can be seen in Table B5. A Total Maximum Daily Load (TMDL) has not been approved for this AU and therefore Section 3.1.1.2 of the Permit does not apply.

3.1.2 Controlling Pollutants of Concern

The DEQ *2022 Integrated Report* did not identify specific pollutants responsible for the Weber River-1 impairment but did state the impaired parameter to be macroinvertebrates. Macroinvertebrates are organisms which do not have a backbone, are large enough see without a microscope, and are found in all types of flowing water. Many live all or most of their life attached to submerged rocks, vegetation, or burrowed in sediments. Some common macroinvertebrates include snails, worms, beetles, and dragonfly larvae. Monitoring the abundance and diversity of macroinvertebrates within a stream is an important indicator of water quality. Studying macroinvertebrates helps uncover the biological condition of a waterbody is because macroinvertebrates:

- Spend all or most of their lives in water with no ability to escape pollution and therefore show the long- and short-term effects of pollution events as well as cumulative pollution impacts.
- Are impacted by alterations in the physical, chemical, and biological conditions of a stream.
- Show different tolerances to pollution levels depending on the species allowing a basic indicator of stream quality based on macroinvertebrate diversity.

Some factors that can reduce macroinvertebrate population and species diversity include lessened food availability, removal of riparian vegetation, excess nutrients such as nitrogen and phosphorus, and altered water properties such as low dissolved oxygen and too low or high pH. Since these factors can be linked to a variety of human activities or pollutants, Ogden has implemented Best Management Practices (BMPs) to minimize all common urban pollutants described in Table B1. These BMPs can be seen at various locations throughout this document with a summarized table in Appendix B.

3.2 – Nitrogen and Phosphorus Reduction

3.2.1 Controlling Impacts of Nitrogen and Phosphorus

Nitrogen and phosphorus are nutrients which are naturally present in aquatic ecosystems. In proper concentrations, these nutrients support plant and algae growth which provides food and habitat for fish and other aquatic organisms. However, excess nitrogen and phosphorus in a waterbody can cause algae to grow more rapidly which can harm water quality and decrease or eliminate the oxygen content within the water resulting in suffocation of aquatic life. Some types of algae produce toxins which can be harmful to humans as well.

One way Ogden is working to address the reduction of water quality impacts associated with nitrogen and phosphorus in discharges from the MS4 is through participation in Weber County's Golden Spike Storm Water Coalition (GSSWC). GSSWC is a group of stakeholders within Weber County who share a common interest in storm water management and flood control issues. GSSWC meets regularly and actively works to evaluate, identify, and target sources, as well as provide outreach that addresses potential sources of nitrogen and phosphorus within the County's and City's watershed. The GSSWC's mission statement is provided below.

GSSWC Mission Statement

The GSSWC will coordinate efforts with all coalition members and stakeholders within the County who share a common interest in Storm Water Management and Flood Control issues. The Coalition will jointly act as representatives to the Utah Storm Water Advisory Committee (USWAC) in communicating (and assist in understanding) to the WCSWC members issues governing regulations, help in gaining a perspective of the General Permit and Annual Report requirements, disseminating information to enhance compliance with those regulated and to promote effective storm water management and training as well as representing any individual needs of interested parties to the USWAC. The GSSWC will continuously strive to enhance the quality of the Coalition through its efforts by establishing sub committees when needed to utilize the valuable resources within its members to further enhance the implementation of Minimum Control Measures and Best Management Practices. The GSSWC will coordinate efforts to develop flood control practices as they relate to reducing storm water pollution and to utilize available County, City, and other resources. The GSSWC will strive to maintain consistency and uniformity throughout the Coalition boundaries by establishing model ordinances and common practices where applicable that will help all stakeholders involved to have a better knowledge and understanding of storm water pollution and flood control that will enhance the success of the Storm Water Management Program.

3.2.1.2 Sources of Nitrogen and Phosphorus

As described in Table B1, sources of nitrogen and phosphorus pollution are widespread in an urbanized community and can be generated from many land types, usages, or activities (e.g., residential, industrial, agricultural, or commercial). Therefore, Ogden targets all audiences in the outreach efforts associated with nitrogen and phosphorus.

3.2.1.3 Education and Outreach

Ogden has made it a priority to provide education and outreach on the impacts of nitrogen and phosphorus pollution to everyone that lives and works within the City (i.e., residential, industrial, agricultural, commercial, etc.) as well as those that visit here. Table B4 displays that Ogden has a goal to create or locate an educational flyer that covers nitrogen and phosphorus. To meet the requirements of this section, this new flyer will 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

4.0 – Continuous Permit Compliance

Ogden continues to implement and update the SWMP through each Permit term. The sections below provide specific details of Ogden's SWMP which is designed to meet both the requirements and MCMs from the previous Permit term as well as any new requirements given in the current Permit term.

4.1 – Requirements

4.1.1 Inclusion of Minimum Control Measure

This SWMP is designed to reduce the discharge of pollutants to the Maximum Extent Practicable from the MS4, protect water quality, and satisfy the appropriate water quality requirements of the Utah Water Quality Act. This SWMP includes six MCMs described in Part 4.2 of this Permit.

4.1.1.1 Development and Implementation Schedules

As described in Section 4.0, the development and implementation of this SWMP document is continuous resulting in a SWMP which is regularly evaluated, checked for Permit compliance, and adjusted accordingly to allow for constant improvement.

4.1.2 Documentation Process

Ogden has an ongoing documentation process for gathering, maintaining, and using information to appropriately plan, set priorities, track the development and implementation of the SWMP, and evaluate Permit compliance and SWMP effectiveness. The specific documentation process utilized (record keeping, file organization, programs used, etc.) depends on the SWMP element.

4.1.2.1 Inspection, Enforcement and Education Activity Tracking

For each component of this SWMP and each type of inspection required by the Permit, Ogden tracks the number of inspections performed, official enforcement actions taken, and types of public education activities implemented. This information can be made available to the Director upon request to determine Permit compliance.

4.1.2.2 Fiscal Expenditure Analysis

Ogden conducts an annual analysis of the capital, operation, and maintenance expenditures needed, allocated, and spent, as well as, the necessary staff resources needed and allocated to meet the requirements of the Permit, including any development, implementation, and enforcement activities required. A summary of this fiscal analysis is submitted to the Director with each annual report.

4.1.3 Best Management Practices (BMPs)

This SWMP document identifies the specific BMPs which have been or will be implemented to meet the requirements of each MCM in Tables B2 and B3, respectively. These BMPs are also provided in each corresponding MCM sections.

4.1.3.1 Measurable Goals

To guide the focus and ensure continuous advancement of the SWMP, Ogden has developed measurable goals for future implementation into the City's SWMP. Each goal includes the months and years in which the action will be complete along with any interim milestones and the frequency of the action. All goals as part of this SWMP are summarized in Table B3 in Appendix B.

4.1.3.2 BMP Coordination - Responsible Person(s)

For each BMP and goal within this SWMP, a responsible department, division or position title is listed.

4.1.3.3 Roles and Responsibilities

Due to the extensive scope of the SWMP, many employees from various offices, departments, and teams hold responsibilities to ensure program succuss. Figures B6 and B7 are provided in Appendix B. Figure B6 shows

an overall organizational structure of the City of Ogden while Figure B7 provides an organizational structure specific to the SWMP. Document B7 provides descriptions of roles and responsibilities specific to the SWMP. Ogden manages all responsibilities of the MS4 permit internally and does not contract out or have any Memorandum of Understandings (MOUs) between any other agencies to perform MS4 related requirements.

4.2 – Minimum Control Measures (MCMs)

As a Renewal Permittee, Ogden has implemented the SWMP elements required by the previous Permit cycle MCMs and has updated this SWMP document to describe overall program elements which reflect any new requirements as part of this Permit term. The following sections outline the BMPs set in place to meet the six MCM requirements from the current Permit.

4.2.1 MCM1: Public Education and Outreach Program

Ogden has implemented a public education and outreach program to promote public behavior change to reduce water quality impacts associated with pollutants in storm water runoff and illicit discharges. Outreach and educational efforts include a documented multimedia approach and are targeted and presented to specific audiences for increased effectiveness. The specific audiences that Ogden targets in this program include:

(1) Residents and general public
(2) Institutions, industrial, and commercial facilities
(3) Developers and contractors (construction)
(4) MS4-owned or operated facilities

Table B8 in Appendix B outlines the key elements of Ogden's public outreach program as well as which audience each element is anticipated to reach.

4.2.1.1 Targeted Pollutants

Table B1 in Appendix B summarizes pollutants and sources common in an urban setting. Each of these pollutants have the potential to impact the beneficial uses of Ogden receiving waters. While Ogden's outreach program aims to educate all audiences regarding all pollutants, outreach efforts are prioritized to improve effectiveness of the program. Pollutants were evaluated and prioritized based on anticipated contribution level for each target audience and parameters specific to Ogden. Some parameters considered in the evaluation are: (1) The portion of total land the audience makes up, (2) The quantity of pollutant expected on site, (3) How often the audience is exposed to pollutant-specific training, and (4) How often activities are preformed that involve the pollutant. The results of this evaluation are exhibited in Table B1. Based on these audience/pollutant priorities, information is available which includes a description of potential impacts from storm water discharges, actions each audience can take to avoiding or minimize impacts on storm water quality, and legal consequences associated with deliberately or negligently discharging pollutants to the storm water system. Pollutant-specific educational flyers available for pickup on the 2nd floor of the Ogden Municipal Building and distributed to various audiences at events are shown after Table B8 in Appendix B.

4.2.1.2 Residential and General Public Outreach

Refer to the Tables B1, B2, and B3 in Appendix B respectively for pollutant priorities, current, and future program elements. Educational outreach efforts that reach Ogden residents and general public can be seen in Table B8.

4.2.1.3 Institution, Industrial and Commercial Specific Outreach

Refer to the Tables B1, B2, B3 and B8 in Appendix B for information on Ogden's outreach program associated with institution, industrial, and commercial audiences.

4.2.1.4 Project Development and Construction Specific Outreach

Refer to the Tables B1, B2, B3 and B8 in Appendix B and Table C2 in Appendix C for information on Ogden's outreach program associated with contractors and developers. Refer to Section 4.2.4 for further details on Ogden's program elements that relate to Construction Site Storm Water Runoff.

4.2.1.5 Municipal Facility Specific Outreach

Refer to the Tables B1, B2, B3 and B8 in Appendix B for information on outreach efforts associated with municipally owned and operated facilities in Ogden. Refer to Section 4.2.6 for further details on Ogden's program elements that relate to Pollution Prevention and Good Housekeeping for Municipal Operations.

4.2.1.6 Low Impact Development (LID)

In addition to pollutant specific educational outreach, Ogden provides education and training on Low Impact Development (LID) practices, green infrastructure practices, and the specific requirements for post-construction control and the associated BMPs chosen within the SWMP to audiences which have a key impact on land development. This information is dispersed through relevant developer and contractor outreach elements listed in Table B8 and is also included in this SWMP, *Ogden City's Engineering Standards for Public Improvements*, Ogden City Municipal Code, and *Ogden City's Storm Water Design Manual* as well as in development review checklists. Refer to Section 4.2.5 for further details on Ogden's program elements that relate to Long-Term Storm Water Management in New Development and Redevelopment.

4.2.1.7 Program Evaluation

Ogden evaluates the effectiveness of the outreach program in a variety of ways. The primary method of evaluating program effectiveness is through visual and non-analytical storm water quality inspections at various locations and discharge points throughout the City. Visual water quality observations are in accordance with SOP 4.2.3.5A exhibited in Appendix D and include evaluation of physical indicators such as odor, color, turbidity, and floatables that may be present in the water. When quality characterization results in a Level 0, program is determined to be successful. Analytical observations include field-measured water quality parameters such as pH, turbidity, and dissolved oxygen. If data collected remains in expected ranges for fresh water sources, program is determined to be successful. Effectiveness is also evaluated based on results of ongoing inspections pursuant to the program. Specific inspections completed as part of the SWMP are listed throughout this document and summarized in Table C1 of Appendix C. Lastly, the Ogden Engineering Division maintains close attention to local water quality data collected through DWQ in the creation of the biennial Integrated Report. This data is evaluated over time and compared to data collected by the City to determine if water quality is improving. If consistent water quality improvement is detected, the SWMP is considered effective.

4.2.1.8 BMP Rationale

Careful consideration was given in determining the elements of Ogden's Public Education and Outreach program. Table B8 shows the specific audiences that each BMP for the Public Education and Outreach program reaches. Ogden chose the BMPs based on maximum effectiveness of hitting more target audiences

with each BMP as possible. For BMP-specific rationale, please contact the Principal Engineer over SWMP coordination.

4.2.2 MCM2: Public Involvement and Participation

Ogden encourages public involvement and participation in the development and implementation of the City's SWMP. Any policy changes under consideration in association with the SWMP are posted and reviewed through City Council Meetings which are open to the public. Program revisions which result in policy changes are done in compliance with applicable State and Local public notice requirements to involve potentially affected stakeholder groups. Refer to Table B2 in Appendix B to review all program elements that relate to public involvement.

4.2.2.1 Public Input

Ogden Citizens and other potentially affected stakeholder groups can provide input on the City's SWMP at any time. Public input is accepted and considered on a continuous basis and can be submitted in accordance with Section 4.2.2.3.

4.2.2.2 Public Review

All SWMP revisions take into consideration any public input collected prior to the revision. The revised SWMP document is made available for public review and comments on an ongoing basis throughout the Permit term.

4.2.2.3 Document Availability

A current version of the SWMP, along with any supporting documents, is made publicly available on the Ogden website. Public comments and questions regarding the SWMP documents are accepted at any time and can be submitted to the program representative listed below.

Please submit any questions or comments regarding the City of Ogden's Storm Water Management Program to:

City of Ogden SWMP Coordinator
Heather Wadman, Principal Engineer
Phone: (801) 629-8199
Email: heatherwadman@ogdencity.com

Comments submitted will be reviewed and considered for the succeeding document revision. The SWMP is reviewed on an annual basis and revisions are completed as needed, but at a minimum of once per Permit term (5 years).

4.2.3 MCM3: Illicit Discharge Detection and Elimination (IDDE)

Ogden has developed and implemented an illicit discharge detection and elimination program to aid in systematic detection and removal of any non-storm water discharges within the Ogden MS4. This program has been developed according to the minimum performance measures described below.

4.2.3.1 MS4 Map

Ogden utilizes ESRI products (ArcPro, ArcMap, and ArcGIS Online) to keep storm water system data current and accurate. System elements stored and updated within the mapping programs include municipal storm

sewer outfalls, names and location of all State waters that receive discharges from those outfalls, storm drainpipes, and other storm water conveyance structures within the MS4. Refer to Appendix A for Ogden MS4-relevant maps. More detailed storm water system mapping than provided in Appendix A can be provided upon request.

4.2.3.2 Non-Storm Water Discharge Prohibition

Ogden prohibits non-storm water discharges to the storm sewer system through Municipal Code 9-7D which is publicly available on the City website and also provided in Appendix E. If or when any non-storm water discharge is detected within the Ogden MS4, immediate removal of such discharge is required in accordance with SOP 4.2.3.6 including any appropriate enforcement procedures and actions described in Municipal Code 9-7. Discharges pursuant to a separate UPDES Permit and non-storm water discharges listed in Municipal Code 9-7D-2 are exempt. Refer to Appendix E for relevant Municipal Codes.

4.2.3.2.1 Legal Authority

As outlined in Municipal Code 9-7D-6, Ogden maintains legal authority to monitor discharges to aid in detection, investigation, elimination, and enforce compliance with this prohibition. If an authorized enforcement officer finds a violation to this prohibition, the officer may order compliance by written Notice of Violation (NOV) which can require the responsible person to restore any affected property, pay remediation costs, implement treatment BMPs, and/or preform any other requirements listed in Municipal Code 9-7D-10 by a deadline set forth by the enforcement officer. If the violation is not corrected, escalating penalties such as monetary fines, criminal conviction, and other penalties listed in Municipal Code 9-7E-1 can be issued.

4.2.3.3 Detection and Addressal Plan

Ogden has developed a written plan to detect and address non-storm water discharges to the MS4. This plan is outlined in the following sections of the SWMP with supporting documentation referenced.

4.2.3.3.1 Priority Areas

Ogden has identified and listed numerous priority storm water conveyance points within the system in which water quality is inspected, monitored, and assessed for potential illicit discharges. These priority areas have been selected based on size and land use characteristics of the contributing MS4 runoff area. Following procedures outlined in the City's Storm Water Quality Monitoring Program, each priority area is evaluated for multiple water quality parameters and compared against upstream sites. When water quality parameters signify potential for illicit discharge, further sites are investigated following SOP 4.2.3.4 in Appendix D to locate the source. If a source is located, SOP 4.2.3.6 is followed to cease the illicit discharge and the site is listed for consideration of future inspections. The priority areas identified by Ogden are evaluated on an annual basis and updated as needed.

4.2.3.3.2 Field Inspections of Priority Areas

Inspections of high priority areas identified in Storm Water Quality Monitoring Program are completed annually using an inspection form. If applicable, water quality is evaluated at each location using SOP 4.2.5.3A. Documentation of completed inspections are kept on record in accordance with Section 5.4.4.

4.2.3.3.3 Dry Weather Screening

Ogden performs dry weather screening on all storm water outfalls to verify locations and detect illicit discharges. Each individual storm water outfall is screened under dry weather condition once per Permit term (5 yeas) utilizing Storm Water Outfall Inspection Form 4.2.3.3.3 shown in Appendix D. Documentation of completed inspections are kept on record in accordance with Section 5.4.4.

4.2.3.3.4 Separate Permit Coverage

If Ogden discovers or suspects that another discharger may need a separate UPDES Permit (e.g., Industrial Storm Water Permit, Dewatering Permit), Ogden will notify the Director within 30 days.

4.2.3.4 SOP - Tracing Illicit Discharges

Ogden has developed and implemented SOP 4.2.3.4 for tracing the source of an illicit discharge. Refer to Appendix D for this SOP.

4.2.3.5 SOP – Characterizing Illicit Discharges

Ogden has developed and implemented SOP 4.2.3.5A for characterizing the nature of an illicit discharge and SOP 4.2.3.5B for containing an illicit discharge. Refer to Appendix D for these SOPs.

4.2.3.5.1 Illicit Discharge Inspection Report

When the source of an illicit non-storm water discharge is identified and confirmed, Ogden documents information regarding the instance on a form titled Spill-Illicit Discharge Incident Tracking Form. This form can be viewed in Appendix D

4.2.3.6 SOP – Ceasing Illicit Discharges

Ogden has developed and implemented SOP 4.2.3.6 for ceasing illicit discharges. Refer to Appendix D for this SOP.

4.2.3.6.1 Immediate Cessation of Improper Disposal Practices

Upon confirmation of responsible parties, Ogden requires immediate cessation of any improper disposal practices identified within the MS4 through Municipal Code 9-7D. Refer to Appendix E for Municipal Codes referenced within this document.

4.2.3.6.3 IDDE Investigation Documentation

All IDDE investigations are documented and stored with other SWMP records for a minimum of 5 years in accordance with Section 5.4.4.

4.2.3.7 Illicit Discharge and Improper Waste Disposal Hazards

Per Table B1 in Appendix B, Ogden has established illicit discharges to be a high priority for each audience targeted in the public education and outreach program. In all available opportunities, information is dispersed to educate all audiences, including public employees, businesses, and the general public, of the hazards associated with illicit discharges and improper disposal of waste. Furthermore, Ogden has developed a *Waste Handling and Management Practices* document that provides guidance and SOPs related to handling, disposal, and recycling procedures for various types of waste in an urban setting. This document can be seen at the end of Appendix D and has also been included on the Garbage and Recycling section of the City's website.

4.2.3.8 Household Hazardous Waste (HHW) Collection Services

Ogden promotes residents within the City to utilize the Household Hazardous Waste (HHW) program available at the Weber County Transfer Station. Further details of this program are provided on both the Ogden *Waste Handling and Management Practices* document attached at the end of the document in Appendix D and on Weber County's website.

4.2.3.9 Hotline for Reporting Illicit Discharges

Ogden provides a public hotline for reporting of spills and other illicit discharges. The phone number for this hotline is provided below and is also listed on the City website in multiple locations. All calls received and follow-up actions taken on reports of illicit discharges are recorded on Form 4.2.3.9 which can be seen in Appendix D. Feedback received regarding the SWMP from public education efforts is recorded and tracked by the Principal Engineer over SWMP coordination.

Please help us protect our storm water by reporting illicit discharges and improper waste disposal methods to:

City of Ogden Illicit Discharge Hotline
Phone: (801) 629-8271
After Hours: (801) 629-8221
*For emergencies, call **911***

4.2.3.9.1 SOP - Responding to Spills and Illicit Discharge Reports

Ogden has developed SOP 4.2.3.9.1 and corresponding Flow Chart 4.2.3.9.1 to aid City staff in responding to reports of illicit discharges quickly and efficiently. Both documents can be seen in Appendix D.

4.2.3.10 Program Evaluation and Assessment

The IDDE Program is evaluated through ongoing measures to ensure efficiency. Methods used in the program assessment includes collaboration with Weber Morgan Health Department to maintaining a database for and track the number and type of spills or illicit discharges identified, and inspections conducted. Based on results of the evaluation, adjustments are made as needed for necessary improvements.

4.2.3.11 Employee Training on Illicit Discharge Detection and Elimination

City staff members that may encounter a report of or observe an illicit discharge as part of their regular job responsibilities are provided training on the IDDE Program and accompanying procedures within 60 days of hire and then annually thereafter. Topics addressed in this training include illicit discharge identification, investigation, termination, cleanup, and reporting. Follow up trainings are provided as needed with any program updates or changes.

4.2.4 MCM4: Construction Site Storm Water Runoff Control

Ogden has included BMPs as part of the SWMP that aim to reduce pollutants in any storm water runoff from construction sites within the MS4. Construction sites included within these BMPs comprise of any public, private, or municipal project which disturbs ≥ 1 acre as well as projects less than one acre that are part of a larger common plan of development or sale which collectively disturbs land greater than or equal to one acre. Hereafter, these construction sites will be referred to as *MS4 applicable construction sites* or *MS4 applicable*

projects. The minimum performance measures in place to meet this MCM are detailed in the following sections of this document. Further program elements that support this MCM are described in Table B2 of Appendix B.

4.2.4.1 Requirement of Erosion and Sediment Control Practices

Per Municipal Code 9-7, the use of erosion and sediment control practices are required at MS4 applicable construction sites. Sanctions for projects that do not comply with the requirements of this ordinance include, but are not limited to, verbal warning, written warnings, and issuance of a Stop Work Order in which the sited work shall immediately cease until the requirements of these regulations are met. Further and escalating penalties as described in Municipal Code 9-7E can be issued as needed to ensure compliance. Refer to Appendix E for Municipal Codes referenced within this document.

4.2.4.1.1 SWPPP Requirements

Municipal Code 9-7B-4 and 9-7B-5 outline the requirements in place for Ogden Storm Water Pollution Prevention Plans (SWPPP). The SWPPP ordinance requires that all MS4 applicable construction sites include sediment and erosion control BMPs as necessary to protect water quality, reduce the discharge of pollutants, and control waste.

4.2.4.1.2 UPDES Storm Water General Permit for Construction Activities

In addition to obtaining a SWPPP Permit from Ogden, all MS4 applicable construction sites are required to gain coverage under the State of Utah's current UPDES Storm Water General Permits for Construction Activities for the duration of the project. Coverage can be renewed or obtained online by completing a Notice of Intent (NOI) or renewal request through the State's website.

4.2.4.1.3 Construction BMP Inspection

Per Municipal Code 9-7B-7, Ogden authorized enforcement officers are Permitted access to MS4 applicable construction sites on private properties within the MS4 to inspect construction storm water BMPs.

4.2.4.2 Enforcement Strategy

Ogden has legal authority to enforce compliance of all regulations set in place by Municipal Code 9-7 on Storm Water Pollution Prevention. Applicable enforcements pursuant to these requirements are specified in Municipal Code 9-7B-8 (Stop Work Orders), 9-7D-10 (Enforcements), and 9-7D-12 (Enforcement Measures After Appeal).

4.2.4.2.1 SOP – Processes and Sanctions to Minimize Violations

Ogden construction inspectors have authority to enforce SWPPP regulations pursuant to the Ogden Municipal Code. While a portion of the Municipal Code has been included in Appendix D to fulfill the requirements of this section, please refer to the City website to access the most up-to-date version of all Ogden Municipal Codes. A goal has been established to create SOPs for minimizing violations and applicable escalating enforcement measures relating to construction site storm water pollution prevention. Once created, these SOPs will be added to the SWMP document in a future revision.

4.2.4.2.2 Documentation of Enforcement Actions

All documentation on MS4 applicable projects, including enforcement actions taken to ensure compliance with this MCM, are kept on record through Energov until the construction of the project under consideration is completed or for the duration specified in Section 5.4.4 of the Permit, whichever is longer.

4.2.4.3 Pre-Construction SWPPP Review

Ogden has developed and implemented a rigorous pre-construction SWPPP review process which is consistent with the requirements of the current UPDES Storm Water General Permits for Construction Activities. This review process includes the following components. Please refer to attachment 4.2.4.3 in Appendix D.

4.2.4.3.1 Pre-Construction SWPPP Meeting

A pre-construction SWPPP meeting is conducted for all MS4 applicable projects. This meeting includes a review of the site design, planned operations at the construction site, planned BMPs during the construction phase, and planned BMPs to be used to manage runoff created after development.

4.2.4.3.2 Public Input on Proposed Projects

In consistence with the public involvement MCM, Ogden accepts and encourages public input on any proposed, current, or previous project. Ogden hosts a monthly Planning Commission meeting where new projects are proposed and discussed. The Planning Commission monthly meeting is advertised on the City website and is open to the public to attend and provide input on any proposed projects. Public comments or input on both proposed projects or projects currently under construction can also be submitted at any time to any of the relevant City Departments or Divisions. Contact information for all Divisions and Departments is publicly available through the Staff Directory provided on the Ogden website.

4.2.4.3.2 Priority Construction Sites

Ogden reviews each proposed development for potential storm water quality impacts. For projects that may have a heightened impact on storm water, additional efforts determined on a case-by-case bases may be taken to ensure storm water pollution prevention. All MS4 applicable projects are considered priority within the City and are inspected accordingly per Section 4.2.4.4.3. However, if the SWPPP Inspector determines that a project is not priority, they may remove the project from the priority list based on factors listed in the MS4 Permit Section 4.2.4.3.2.

4.2.4.4 SOP – Construction Site Inspection and Enforcement

As the lead responsible for construction site SWPPP inspections and enforcement, Ogden SWPPP Inspector utilizes inspection forms, City Municipal Codes and training received as part of RSI Certification as guidance for site inspection and enforcements of construction storm water pollution control measures. Refer to Appendix D for all SOPs required as part of this Permit. Goals 8A and 9G and in Table B3 have been included to provide better guidance for the processes and sanctions to minimize violations through the SWPPP inspection and enforcement procedures.

4.2.4.4.1 Inspection Frequency

As stated in Section 4.2.4.3.2, all MS4 applicable projects are considered priority within The City and are inspected at least biweekly (every two weeks) following the relevant checklists attached in Appendix D. Inspections are conducted by a qualified person that has gained certification as a Utah Registered Storm Water Inspector (RSI). All SWMP inspections can be seen in Table C1of Appendix C.

4.2.4.4.2 Duration of Inspections

The duration of inspections for a particular project occurs from the time the Permit is issued until the final inspection occurs and the Notice of Termination (NOT) is approved. That is, all phases of construction are inspected for compliance, including prior to land disturbance, during active construction, and following active construction. Construction operators and owners are provided instructions on how to notify the City when the

active phase of construction is complete during the pre-construction meeting. These procedures are also outlined in attachment 4.2.4.4.2 shown in Appendix D. Once the City receives notification that active construction is complete, a final inspection is conducted to verify proper final stabilization. Once final stabilization is verified, the contractor is Permitted to remove all temporary storm water control measures.

4.2.4.4.3 Inspection Frequency – Priority Construction Sites

As stated in Section 4.2.4.3.2, all MS4 applicable projects are considered priority within the City and are inspected at least biweekly (every two weeks) following the relevant checklists attached in Appendix D. If the SWPPP Inspector determines that a project is not priority, they may remove the project from the priority list based on factors listed in the MS4 Permit Section 4.2.4.3.2.

4.2.4.4.4 Electronic Site Inspection

All inspections are completed in-person by RSI certified inspectors. Ogden does not utilize an electronic site inspection tool.

4.2.4.4.5 Ensuring Compliance

Based on site inspection findings, Ogden takes all necessary follow-up actions (i.e., re-inspection, enforcement) to ensure compliance. These follow-up and enforcement actions are tracked and documented in accordance with Section 4.2.4.2.2.

4.2.4.5 Employee Training on Construction Storm Water Program

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 trained within 60 days of hire date and annually thereafter, at a minimum. Follow-up training is provided as needed to address changes in procedures, methods, or staffing. Training records are kept in accordance with Section 5.4.4.

4.2.4.6 Construction Project Record Keeping

Ogden maintains records of all MS4 applicable construction projects until the construction of the project under consideration is completed or for the duration specified in Section 5.4.4 of the Permit, whichever is longer.

4.2.5 MCM5: Long-Term Storm Water Management in New Development and Redevelopment

Ogden implements and enforces *Ogden City's Engineering Standards for Public Improvements* that require any MS4 applicable project to be equipped with post-construction storm water quality runoff control for both private and public new development and redevelopment construction sites. While this program focuses strictly on water quality and does not replace or substitute storm water flood management requirements, water quality controls may be incorporated into the design of structures intended for flood control; or water quality control may be achieved with separate control measures. The long-term storm water management standards include the following minimum performance measures.

4.2.5.1 Post-Construction Controls

Requirements have been set to ensure that any storm water controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality. A site-specific assessment must be conducted to evaluate what pollutants are known to be discharged or have the potential to be discharged from the site and BMPs must be selected accordingly.

4.2.5.1.1 Non-Structural BMPs

Non-structural water quality management BMPs have been included within the City's Municipal Code 15-27 and other development requirements to limit development or increase design performance criteria in sensitive areas. Included in Appendix A is the Ogden City Zoning Map which indicates areas within the City determined to be sensitive. The standards, guidelines, and criteria established by the City for the Sensitive Area Overlay Zone include areas such as, but not limited to the following:

- The protection of public from natural hazards of storm water runoff and erosion by requiring drainage facilities and the minimal removal of natural vegetation.
- The preservation of natural features, wildlife habitat and open space.
- The retention of natural topographic features such as drainage channels, streams, ridge lines, rock outcroppings, vistas, trees, and other natural plant formations.
- The preservation and enhancement of visual and environmental quality by use of natural vegetation and the prohibition of excessive excavation and terracing.
- The encouragement of a variety of development designs and concepts that are compatible with the natural terrain of the sensitive areas and will preserve open space and natural landscape.

Per *Ogden City's Engineering Standards for Public Improvements*, the City may also require the use of specific structural storm water treatment practices on sites where land use or activities generate higher potential pollutant loadings. Refer to Appendix E for Municipal Codes referenced within this document.

4.2.5.1.2 Retention Requirement

MS4 applicable projects are required to retain the project volume retention goal outlined in this section of the SWMP. This objective must be accomplished using practices that are designed, constructed, and maintained to infiltrate, have evapotranspiration, and/or harvest and reuse rainwater. Retention requirements may differ for new development sites and redevelopment sites. See further details below:

> *New Development Projects:* MS4 applicable new development projects must manage rainfall onsite and prevent the off-site discharge of the precipitation from all rainfall events less than or equal to the 80th percentile rainfall event or a predevelopment hydrologic condition, whichever is less.
>
> *Redevelopment Projects:* MS4 applicable redevelopment projects must provide a site-specific and project-specific plan aimed at net gain to onsite retention or a reduction to impervious surface to provide similar water quality benefits. If a redevelopment project increases the impervious surface by greater than 10%, the project shall manage rainfall on-site and prevent the off-site discharge of the net increase in the volume associated with the precipitation from all rainfall events less than or equal to the 80th percentile rainfall event.

The 80th percentile rainfall event is the event whose precipitation total is greater than or equal to 80 percent of all storm events over a given period of record. To ensure consistent sizing of structural BMPs, Ogden has determined the 80th percentile storm depth of rainfall that shall be used to calculate to the retention volume to be 0.48 inches for all sites located west of Harrison Boulevard and 0.62 inches for all sites east of Harrison Boulevard. Refer to *Ogden City's Storm Water Design Manual* for additional information.

4.2.5.1.3 LID Approach

Per Municipal Code 15-4-5, *Ogden City's Engineering Standards for Public Improvements*, and *Ogden City's Storm Water Design Manual*, Ogden requires that all MS4 applicable projects undergo an evaluation of a LID. A LID approach promotes the implementation of BMPs that allow storm water to infiltrate, have evapotranspiration or harvest and use storm water on site to reduce runoff from the site and protect water quality. Guidance for implementing LID can be found in *A Guide to Low Impact Development within Utah*, available on DWQ's website. Additional information on LID practices Permitted within Ogden can be found in *Ogden City's Storm Water Design Manual*. Refer to Appendix E for Municipal Codes referenced within this document.

4.2.5.1.4 Feasibility

If meeting the retention standards described in Part 4.2.5.1.2 are infeasible, a rationale shall be provided for the use of alternative design criteria. The new or redevelopment project must document and quantify that infiltration, evapotranspiration, and rainwater harvesting have been used to the maximum extent feasible and that full employment of these controls are infeasible due to constraints. LID infeasibility may be due to one or more of the following conditions: high groundwater, drinking water source protection areas, soil conditions, slopes, accessibility, excessive costs, or any other justifiable constraint. Guidance for assessing and documenting site conditions can be found in DWQ's *A Guide to Low Impact Development within Utah* Appendix B *Storm Water Quality Report Template* located on the DWQ website.

4.2.5.2 Regulatory Requirements of Long-Term Storm Water Management

Long-term post-construction storm water controls are required for all MS4 Applicable Projects on both new development and redevelopment sites within Ogden City. Municipal Code 7-6-1 enforces *Ogden City's Engineering Standards for Public Improvements* which provides details on the City's requirements associated with storm water treatment, SWPPPs, LID, and long-term storm water management. Chapter 4-2B of *Ogden City's Engineering Standards for Public Improvements* requires that all sites discharging storm water into the municipal system shall include storm water treatment as well as engineered plans that show effectiveness of treatment and a maintenance plan. Furthermore, Chapters 4-K and 4-L of *Ogden City's Engineering Standards for Public Improvements* provides LID Standards and SWPPP requirements for the City, respectively.

4.2.5.2.1 Enforcement Procedures and Actions

Refer Municipal Code 9-7D in Appendix E for escalating enforcements and procedures that Ogden follows to minimize the occurrences of violations and obtain compliance with the City's storm water regulations.

4.2.5.2.2 Documentation and Inspection

Ogden City's Storm Water Design Manual specifies which LID BMPs are allowed in the City. These BMPs were selected based on DWQ's LID Guidance document titled *A Guide to Low Impact Development within Utah*. This guidance document also shows the pollutant removal performance expected from each BMP as well as the technical bases which supports the performance claims.

4.2.5.2.3 Post-Construction Inspection Access

As stated in Chapter 4-3 in *Ogden City's Engineering Standards for Public Improvements,* should the installation of a Storm Water facility require any easements to Ogden City, the Developer of such system shall convey the easements, as determined necessary by the City Engineer, by deed to Ogden City. Both legal and physical access is required to all Storm Drain manholes, inlets, and facilities. Physical access shall consist of all-weather surface sufficient to provide access for all routine maintenance and repair equipment.

4.2.5.2.4 Inspection During Installation

Ogden inspects permanent structural BMPs at least once during installation to verify that long-term BMPs were constructed as designed.

4.2.5.2.5 Long-Term Inspection and Maintenance

City owned and operated post-construction structural storm water quality controls are inspected with any necessary maintenance conducted every two years. Any observed failure of a facility to perform as designed is reported in the appropriate Inspection Report in Appendix D.

4.2.5.3 Plan Review

Ogden has developed plan review procedures to evaluate the following items that relate to this MCM.

4.2.5.3.1 Potential Water Quality Impacts

Each site is checked for potential water quality impacts through development review checklist items such as SWPPP BMPs, long-term water treatment strategies, and nearby sensitive water bodies. For further details regarding Ogden's site plan review procedures regarding storm water, refer to SOP 4.2.4.3 in Appendix D.

4.2.5.3.2 Inclusion and Compliance

Each MS4 applicable project submitted to Ogden for approval is reviewed for post-construction storm water control. This review process helps ensure that the plans include long-term storm water management measures that meet the requirements of this MCM.

4.2.5.4 Inventory

An inventory is kept of all post-construction structural storm water control measures installed and implemented at MS4 applicable projects for both public and private developments within Ogden limits.

4.2.5.4.1 Data Recorded

Specific data on storm water: types, designs, performance specifications, inspection, and maintenance requirements are being recorded by The City.

4.2.5.4.2 Inventory Updates

When Ogden City becomes aware of changes in property ownership or the specific control measures implemented on a private development, the inventory discussed in Section 4.2.5.4 is updated to reflect the changes.

4.2.5.5 Employee Training on Long-Term Storm Water Management Program

All staff involved in post-construction storm water management, including those that conduct plan review, annual maintenance inspections, and enforcement, receive topic-specific training within 60 days of hire and annually thereafter. Follow-up training is provided as needed to address changes in procedures, methods, or staffing. For a complete list of training topics reviewed, refer to Table C2 in Appendix C. All records of training provided to Ogden staff are maintained in accordance with Section 5.4.4.

4.2.6 MCM6: Pollution Prevention and Good Housekeeping for Municipal Operations

Ogden has developed a variety of BMPs to help prevent or reduce polluted runoff from municipal facilities and operations. BMP components and the corresponding department responsible for each component are described in the sections below.

4.2.6.1 Inventory of Ogden-Owned or Operated Facilities

An inventory of all facilities owned and operated by Ogden is provided in Table B9 of Appendix B. Further details on the location of each facility are provided in Map 8 in Appendix A. This inventory is reviewed and updated as necessary on an annual basis during the annual SWMP review. Goal 6 and the various accompanying milestone shown in Table B3 of Appendix B has been established to initiate a thorough review of the Ogden owned and operated facilities to determine if additional facilities need to be listed as "high priority" according to the MS4 requirements.

4.2.6.2 Facility-Specific Pollutant Assessment

Milestone 6A in Table B3 has been established to assess all City-owned or operated facilities, operations, and storm water controls for common pollutants that may originate from the facilities and how to prevent them from entering the storm water system. Once completed, this assessment process and findings will be included in a future revision of the SWMP document.

4.2.6.3 High Priority Facilities

Ogden-owned and operated facilities recognized as "high priority" concerning the facility's potential to negatively impact storm water quality have been identified in Table B9 in Appendix B and Map 8 in Appendix A. Special water quality control measures to target the specific pollutants generated onsite at high priority facilities have been established and implemented. These measures include:

4.2.6.4 High Priority Facility SWPPPs

SWPPPs have been developed and implemented for each high priority facility. These SWPPPs are exhibited in Appendix B.

4.2.6.5 High Priority Facility Inspections

The following inspections are completed at each high priority facility:

4.2.6.5.1 Monthly Visual Inspections

Ogden high priority facilities and related storm water outfalls are visually inspected each month to verify the performance of the BMPs and all other systems designed and placed to eliminate pollutant discharges. These inspections are completed in accordance with SOP 4.2.6.5.1 in Appendix D. Monthly inspections are tracked in a log for every facility and records are kept with the SWMP document. Inspection logs include any identified deficiencies as well as corrective actions taken.

4.2.6.5.2 Semi-Annual Comprehensive Inspections

Following SOP 4.2.6.5.2, a semi-annual (twice per year) comprehensive inspection is conducted at each high priority facility. Refer to Inspection Form 4.2.6.5.2 in Appendix D for details on what's included in this inspection. Results from the semi-annual comprehensive inspection are documented with records kept in accordance with Section 5.4.4.

4.2.6.5.3 Annual Visual Observation of Storm Water Discharge

Following SOP 4.2.3.5A, a visual observation of storm water discharges from high priority facilities is completed annually. Any observed problems (e.g., color, foam, sheen, turbidity) that can be associated with pollutant sources or controls are remedied to prevent discharge to storm system as soon as practicable, but at a minimum, before the next storm event. Visual observations are documented, and records are kept in accordance with Section 5.4.4.

4.2.6.6 SOPs – Protecting Water Quality from Municipal Facilities and Activities

Ogden has developed many SOPs to protect water quality at each of the City-owned or operated facilities and during activities conducted by the City. Each storm water related SOP can be seen in Appendix D.

4.2.6.6.1 Practices Addressed

To ensure water quality is protected, Ogden SOPs address many municipal practices including, but not limited to:

- Use, storage, and disposal of potential storm water pollutants
- Vehicle and equipment storage, fueling, and maintenance
- Facility and ROW maintenance (street and parking lot sweeping, lawn and landscaping activities, snow and ice removal, etc.)
- Clean up after municipally sponsored events
- Storm water inspections

Refer to Appendix D for all storm water related SOPs.

4.2.6.6.2 Surface Sweeping and Storm Drain System Maintenance

SOP 4.2.6.6.D includes details on Ogden's standards for roadway and parking lot maintenance. For detailed information and scheduling for Ogden-owned road and parking lot sweeping and storm drain system maintenance, please reach out to the Public Services Operations Manager. Parking lot sweeping and storm drain system maintenance includes 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. Sweeping and storm sewer system maintenance is conducted with highest priority areas being maintained at the greatest frequency. Priorities are driven by factors such as sensitivity of receiving waters and the amount and abundance of pollutants that typically accumulates in an area.

4.2.6.6.3 Waste and Wastewater Disposal Methods

Disposal procedures for all waste and wastewater removed during cleaning and maintenance of the storm water conveyance system (street sweeping, catch basin cleaning, etc.) are outlined in SOP 4.2.6.6.B shown in Appendix D.

4.2.6.6.4 Vehicle Wash Waters, Snow Disposal and Melt

The discharge of Ogden vehicle, equipment, and other wash waters to the storm system is strictly prohibited. Refer to SOP 4.2.6.6.1.D for proper vehicle and equipment wash procedures. Additionally, SOP 4.2.6.6.1.N provides guidance for reducing the impact of runoff from snow disposal and melt during snow removal.

4.2.6.6.5 Spill Prevention Plan

Ogden has developed a spill response protocol in coordination with the local fire department. This plan is provided Appendix D.

4.2.6.6.6 Floor Drain Inventory

A map and inventory are kept on all municipally owned facilities within The City. The Ogden facilities map can be seen in Appendix A. As shown in Table B3, Goal 6C has been established to begin inventorying all floor drains located within City-owned or operated buildings. This inventory will include details of system

connections to confirm floor drain discharge does not negatively impact storm water. This inventory will be reviewed and updated as necessary to ensure accuracy.

4.2.6.7 Supervision of O&M Contractors

The City does not contract out Operation and Maintenance (O&M) activities related to the SWMP. All O&M measures are self-performed by the City in accordance with the appropriate SOP.

4.2.6.8 Assessing Water Quality Impacts

Newly proposed flood management structural controls are assessed for water quality impacts in the project review process. Refer to SOP 4.2.4.3 for the storm water development review process.

4.2.6.8.1 Flood Management Structural Controls

Goal 6 shown in Table B3 has been created to complete a thorough review all existing City-owned and operated flood management structural controls for water quality to determine whether changes or additions should be made to improve water quality. Once completed, a description of this process will be included in a future revision of the SWMP.

4.2.6.9 Retrofit Plan for Existing Developed Sites

Ogden has established a goal to use water quality sampling and analysis methods to assess existing sites owned and operated by Ogden in order to prioritize locations for potential retrofit projects to improve storm water quality.

4.2.6.10 Employee Training on Minimizing Storm Water Impacts of Municipal Operations

Ogden provides both general and job-specific training to all employees, contracted staff, and other responsible entities that have primary operation, or maintenance job functions that are likely to impact storm water quality within 60 days of hire and annually thereafter. Follow-up training is provided as needed to address changes in procedures, methods, or staffing. For a complete list of training topics reviewed, refer to Table C2 in Appendix C. All records of training provided to Ogden staff are maintained in accordance with Section 5.4.4.

4.4 – Reviewing and Updating Storm Water Management Programs

4.4.1 Annual Review

In conjunction with the preparation of the annual report detailed in Section 5.5, Ogden conducts an annual review of the SWMP document. Public input on the SWMP is accepted on a continuous basis as described in Section 4.2.2.1 and considered for implementation during the annual SWMP review. Updates to the SWMP document are performed as needed based on program changes or public input.

5.4 – Record Keeping

5.4.1 Supplementary Document Updating

As best as possible, all supplementary documents associated with the MS4 Permit are kept current and up to date to ensure the purpose and objectives of the required document are achieved.

5.4.2 Supplementary Document Modifications

All modifications to supplementary documents are submitted to the Director in accordance with Parts 4.4 and 6.8.

5.4.4 Document Retention

All supporting documents associated with the SWMP are retained for at least five years. Examples of documents retained on record include:

- Plans
- Program records
- Monitoring records
- Copies of reports required by the Permit
- All other data required by or used to demonstrate compliance with the Permit

5.4.5 Document Availability to Public

All SWMP supporting documents are available to the public upon request. The SWMP document is available through the website for public review on a continuous basis.

5.5 – Reporting

In accordance with the Permit requirements, an annual report is submitted to the Director each year by October 1st. The report provides summarized information of the SWMP for the reporting period of July 1st to June 30th.

6.8 – Signatory Requirements

All Permit applications are signed, dated, and certified by the Chief Administrative Officer of Ogden City. The Ogden City Chief Administrative Officer delegated the City Engineer/Deputy Public Services Director as the duly authorized representative and Signatory for the Ogden City MS4 Permit. Other reports and informational documents submitted to the Director or maintained as a requirement of the Permit are certified by the City Engineer/Deputy Public Services Director. The signature and certification of this document have been provided on page 3. The Principal Engineer over SWMP coordination acts as a primary contact for a variety of items pertaining to the SWMP.

7.0 – Acronyms and Definitions

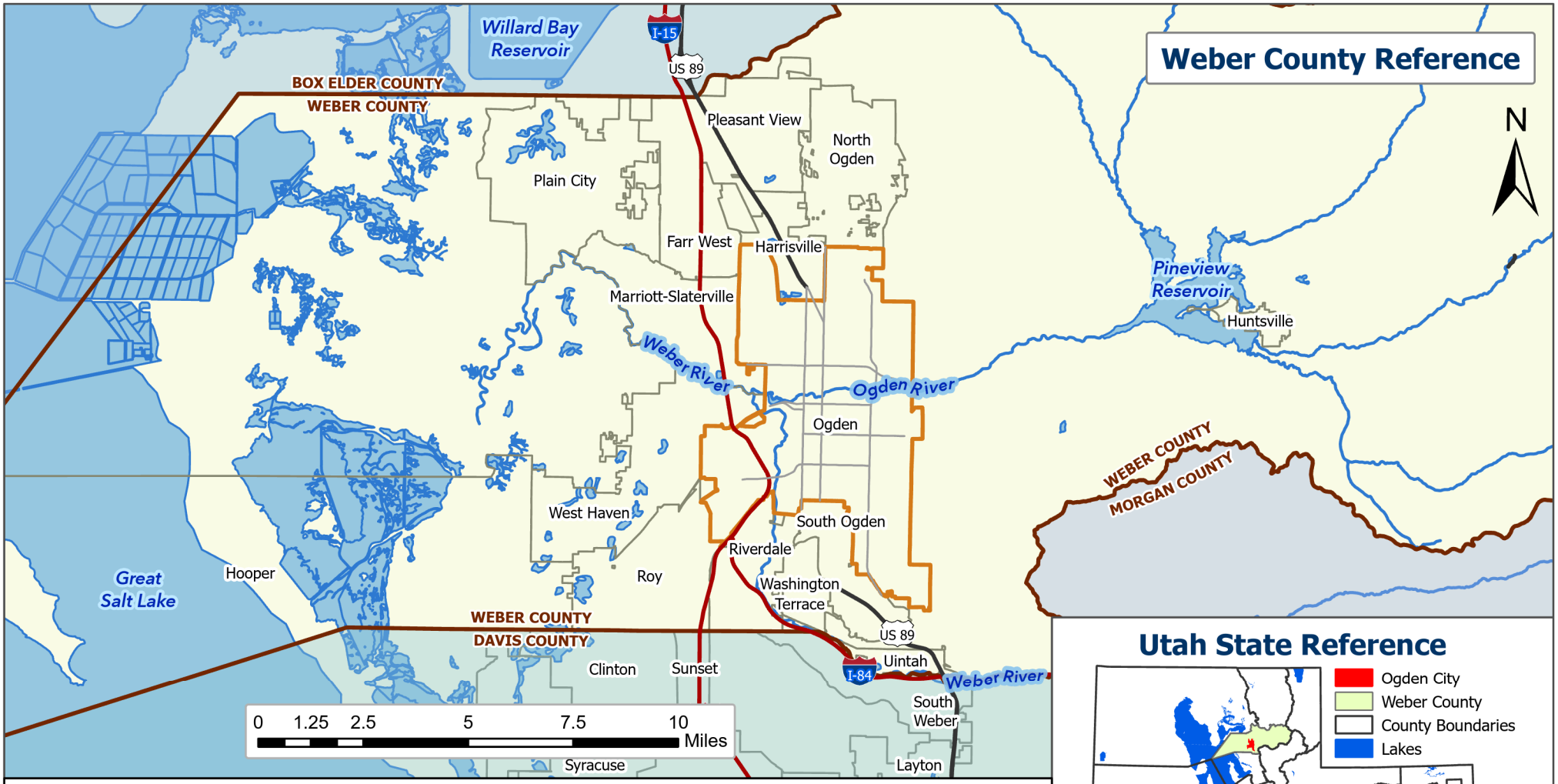
Term (Acronym)	Complete Definition
Analytical Monitoring	Monitoring of waterbodies (streams, ponds, lakes, etc.) or of storm water, according to UAC R317-2-10 and 40 CFR 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants," or to State or Federally established protocols for biomonitoring or stream bio-assessments.
Beneficial Uses	Uses of the waters of the state, which include but are not limited to: domestic, agricultural, industrial, recreational, and other legitimate beneficial uses.
Best Management Practice (BMP)	Structural, vegetative, or managerial controls used to treat, prevent, or reduce pollution in storm water runoff. 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.
Common Plan of Development or Sale	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, plan, 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.
Control Measure	Any BMP or other method used to prevent or reduce the discharge of pollutants to waters of the state.
Department Of Environmental Quality (DEQ)	State agency responsible for maintaining clean air, water, and land.
Director	The director of the Utah Division of Water Quality, otherwise known as the Executive Secretary of the Utah Water Quality Board.
Division Of Water Quality (DWQ)	A division of DEQ that handles storm water and other water quality regulations and concerns.
Dry Weather Screening	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.
Escalating Enforcement Procedures	A variety of enforcement actions in order to apply as necessary for the severity of the violation and/or the recalcitrance of the violator.
General Permit	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.
Golden Spike Storm Water Coalition (GSSWC)	An alliance of stakeholders within Weber County with a common interest in Storm Water Management and Flood Control issues.
Household Hazardous Waste (HHW)	Leftover household products that can catch fire, react, or explode under certain circumstances, or that are corrosive or toxic.
Illicit Connection	Any man-made conveyance connecting an illicit discharge directly to a MS4.
Illicit Discharge	Any direct or indirect non-storm water discharge to the storm drain system including spills, improper disposal, and illicit connections, except as exempted in Municipal Code 9-7B-2. Refer to Appendix E for Municipal Codes referenced within this document.
Illicit Discharge Detection and Elimination (IDDE)	A program for identifying and removing any illicit discharges from the MS4. One of the MS4 permit's MCMs.

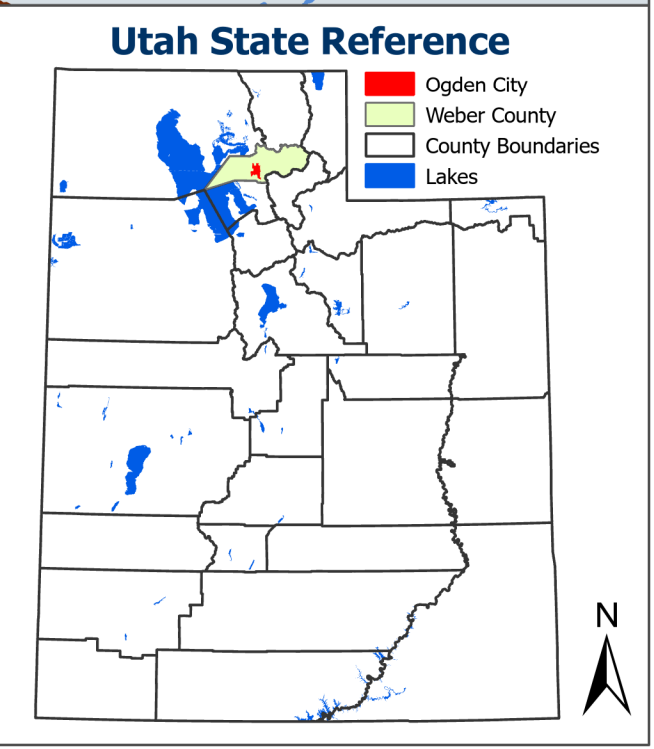
Impaired Waters (303(d) List)	Any segment of surface waters(e.g., stream/river segments, lakes) that has been identified by the Director as failing to support one or more of its designated uses. The Director periodically compiles a list of such waters known as the 303(d) List. States are required to submit their list for EPA approval in every two years. For each water on the list, the state identifies the pollutant causing the impairment, when known.
Large Municipal Separate Storm Sewer System	All MS4s 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.
Low Impact Development (LID)	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 bio-retention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements.
Maximum Extent Practicable (MEP)	The highest level of effectiveness that can reasonably be achieved given current technology and circumstances.
Medium Municipal Separate Storm Sewer System	All MS4 that are located in an incorporated place with a population of 100,000 or more but less than 250,000 as determined by the Decennial Census by the Bureau of the Census.
Memorandum Of Understanding (MOU)	A signed document used to formalize an agreement between two or more parties.
Minimum Control Measure (MCM)	Components that must be addressed in the permittee's SWMP.
MS4 Applicable Construction Sites MS4 Applicable Projects	Construction sites of any public, private, or municipal project 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 which collectively disturbs land greater than or equal to one acre.
Municipal Separate Storm Sewer Systems (MS4)	A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is owned or operated by a state, city, town, county, district, association, or their public body that is designed or used for collecting or conveying storm water.
National Pollutant Discharge Elimination System (NPDES)	Federal permit program that addresses water pollution by regulating point sources that discharge pollutants to waters of the United States.
Non-Analytical Monitoring	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.
Notice Of Intent (NOI)	The mechanism used to "register" for coverage under a General Permit.
Notice Of Termination (NOT)	Form used for terminating coverage under a permit. Filed by permitted construction sites once they have been stabilized.
Notice Of Violation (NOV)	A written notice, issued by an enforcement officer to a responsible party, that a violation of code has occurred.
Outfall	A point source as defined by UAC R317-8-1.5(34) at the point where a MS4 discharges to waters of the state and does not include open conveyances connecting two MS4 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.
Permit	Refers to the MS4 Permit.
Phase II Areas	Areas regulated under UPDES storm water regulations encompassed by Small MS4's

Priority Construction Site	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.
Program	The set of related measures and activities carried out in accordance with this SWMP.
Redevelopment	The replacement or improvement of impervious surfaces on a developed site.
Runoff	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.
Small Municipal Separate Storm Sewer System	Any MS4 not already covered by the Phase I program as a medium (>100,000 population) or large (>250,000 population).
Standard Operating Procedure (SOP)	A set of written instructions that document a routine or repetitive activity.
Storm Water General Permit for Construction Activities (CGP)	General permit to continue the streamlined permit coverage of typical construction activity for storm water discharges throughout the State of Utah, except for within Indian country, of which in those areas the EPA is the permitting authority.
Storm Water Management Program (SWMP)	The SWMP document is a written plan that is used to describe the various control measured and activities the permittee will undertake to reduce the discharge of pollutants from the MS4.
Storm Water Pollution Prevention Plan (SWPPP)	A site-specific plan that identifies all of the activities and conditions at the site that could cause water pollution and details the steps the facility will take to prevent the discharge of any unpermitted pollutants.
Title 40 of the Code of Federal Regulations (40 CFR)	The codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government
Total Maximum Daily Loads (TMDL)	A TMDL is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant.
United State Environmental Protection Agency (EPA)	The federal agency responsible for environmental matters.
Utah Pollutant Discharge Elimination System (UPDES)	Utah permit program used to control the discharge of p[pollutants to waters of the State. Includes storm water permits. This is Utah's version of NPDES.
Utah Storm Water Advisory Committee (USWAC)	A subcommittee of the American Public Works Association (APWA) Utah Chapter that is open to anyone to attend.
Waters of the State	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".
Ground Water	Water in a saturated zone or stratum beneath the surface of the land or below a surface water body.

APPENDIX A: Ogden MS4 Maps

Storm Water Program Relevant Maps





Ogden UTAH Still Untamed™

Municipal Separate Storm Sewer System Management Plan

Map 1A: Reference Map

Highway
Interstate
Streets
Ogden City Boundary
County Boundary
Lakes
Major Stream

Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov

Prepared by Brittany Betzer on 1/3/2022

N

Farr West

North Ogden

US 89

Harrisville

N WASHINGTON BLVD

N WALL AVE

N HARRISVILLE RD

N HARRISON BLVD

Marriott-Slaterville

Mill Creek

Unincorporated

W 12TH ST

12TH ST

CANYON RD

Weber River

Ogden River

Unincorporated

West Haven

W 21ST ST

W 20TH ST

20TH ST

WALL AVE

WASHINGTON BLVD

Unincorporated

Ogden

I-15

25TH ST

30TH ST

HARRISON BLVD

W 31ST ST

Weber River

Unincorporated

Burch Creek

Roy

Riverdale

South Ogden

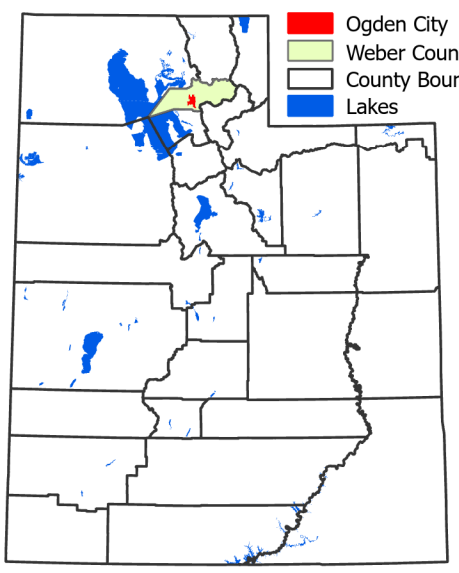
I-84

Washington Terrace

S 89

Miles

0 0.25 0.5 1 1.5 2



Ogden UTAH Still Untamed™

Municipal Separate Storm Sewer System Management Plan

Map 1B: Base Map

Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov
Detention: Detention. 2020. Ogden City: ogdencity.com
Canals: Weber Canals. Compiled by Ogden City GIS for reference use only. Ogden City: ogdencity.com

Prepared by Brittany Betzer on 1/3/2022

- Highway
- Interstate
- Major Roads
- Residential Roads
- Ogden City Boundary
- Lakes
- Detention Ponds: 120 ponds
- Canals: 35.5 mi.
- Minor Stream: 37.6 mi.
- Major Stream: 7.5 mi.

Elevation (feet)
High: 8035
Low: 4245
N
Miles
0 0.25 0.5 1 1.5 2
Ogden City
Weber County
County Boundaries
Lakes
Ogden UTAH Still Untamed™
Municipal Separate Storm Sewer System Management Plan
Map 2: Digital Elevation Map
Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov
Elevation: Utah 2018 LiDAR. Aero-Graphics Inc: aero-graphics.com
Detention: Detention. 2020. Ogden City: ogdencity.com
Canals: Weber Canals. Compiled by Ogden City GIS for reference use only. Ogden City: ogdencity.com
Prepared by Brittany Betzer on 1/3/2022
Highway
Interstate
Major Roads
Residential Roads
Ogden City Boundary
Lakes
Detention Ponds
Canals
Minor Stream
Major Stream

N

Farr West

Unincorporated

North Ogden

US 89

Harrisville

N WASHINGTON BLVD

N WALL AVE

N HARRISVILLE RD

Marriott-Slaterville

Mill Creek

12TH ST

Unincorporated

Weber River

Ogden River

Unincorporated

West Haven

W 21ST ST

W 20TH ST

20TH ST

WALL AVE

WASHINGTON BLVD

Unincorporated

Ogden

I-15

HARRISON BLVD

30TH ST

W 31ST ST

Weber River

Unincorporated

Burch Creek

South Ogden

Roy

Riverdale

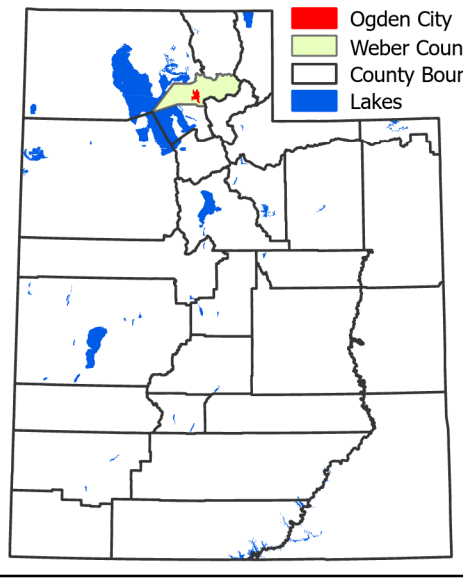
I-84

Washington Terrace

S 89

Miles

0 0.25 0.5 1 1.5 2



Ogden UTAH Still Untamed™

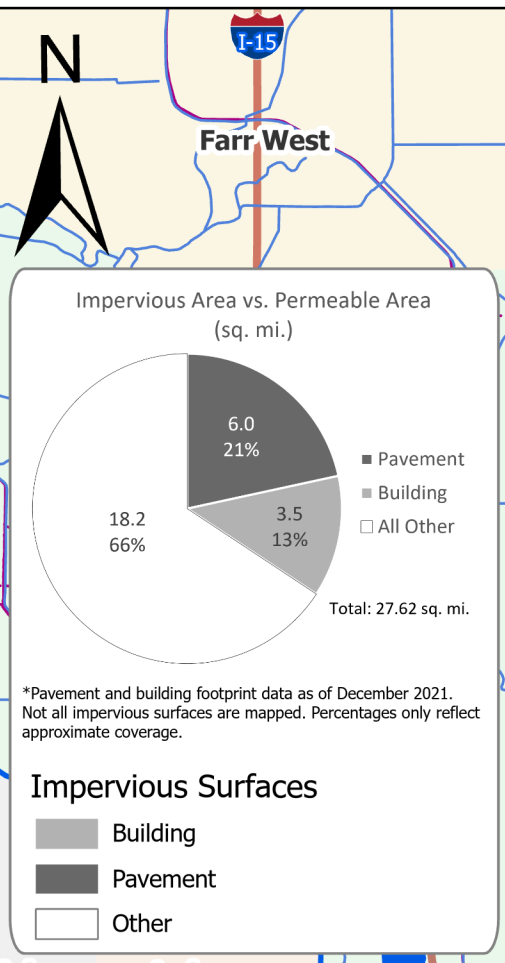
Municipal Separate Storm Sewer System Management Plan

Map 3: Aerial Imagery

Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov
Imagery: Nearmap. 2021. Nearmap US, Inc: view.nearmap.com
Detention: Detention. 2020. Ogden City: ogdencity.com
Canals: Weber Canals. Compiled by Ogden City GIS for reference use only. Ogden City: ogdencity.com

Prepared by Brittany Betzer on 1/3/2022

- Highway
- Interstate
- Major Roads
- Ogden City Boundary
- Lakes
- Detention Ponds
- Canals
- Minor Stream
- Major Stream



*Pavement and building footprint data as of December 2021. Not all impervious surfaces are mapped. Percentages only reflect approximate coverage.

Impervious Surfaces

- Building
- Pavement
- Other

N

I-15

Farr West

US 89

North Ogden

Harrisville

N WASHINGTON BLVD

N HARRISVILLE RD

N WALL AVE

N HARRISON BLVD

Mill Creek

W 12TH ST

12TH ST

CANYON RD

Ogden River

Unincorporated

Weber River

West Haven

W 21ST ST

W 20TH ST

20TH ST

WALL AVE

WASHINGTON BLVD

25TH ST

HARRISON BLVD

30TH ST

W 31ST ST

Unincorporated

Burch Creek

South Ogden

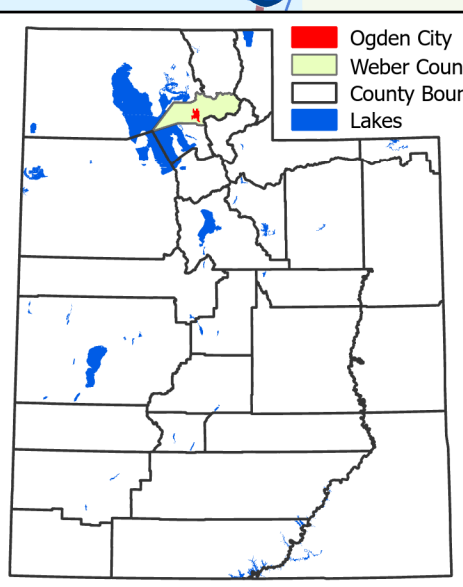
Roy

Riverdale

Washington Terrace

I-84

0 0.25 0.5 1 1.5 2 Miles



Ogden UTAH Still Untamed™

Municipal Separate Storm Sewer System Management Plan

Map 4: Impervious Surfaces

Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov
Detention: Detention. 2020. Ogden City: ogdencity.com
Canals: Weber Canals. Compiled by Ogden City GIS for reference use only. Ogden City: ogdencity.com

Prepared by Brittany Betzer on 1/3/2022

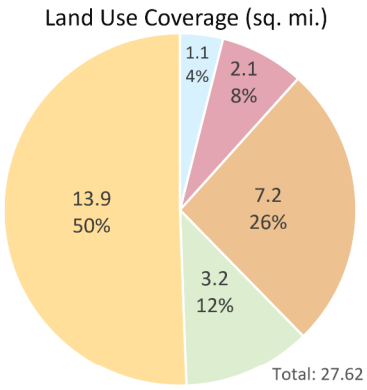
- Highway
- Interstate
- Major Roads
- Residential Roads
- Ogden City Boundary
- Lakes
- Detention Ponds
- Canals
- Minor Stream
- Major Stream

N

Land Use

Land Use	% Impervious
Business/Professional	62%
Commercial	63%
Industrial/Manufacturing	37%
Parks/Open Space	7%
Residential	32%

Land Use Coverage (sq. mi.)



Total: 27.62 sq. mi.

*Impervious data as of December 2021.
See Impervious Surfaces map for more details

Farr West
North Ogden
Harrisville
West Haven
Unincorporated
Unincorporated
Unincorporated
Roy
Riverdale
South Ogden
Washington Terrace
Unincorporated

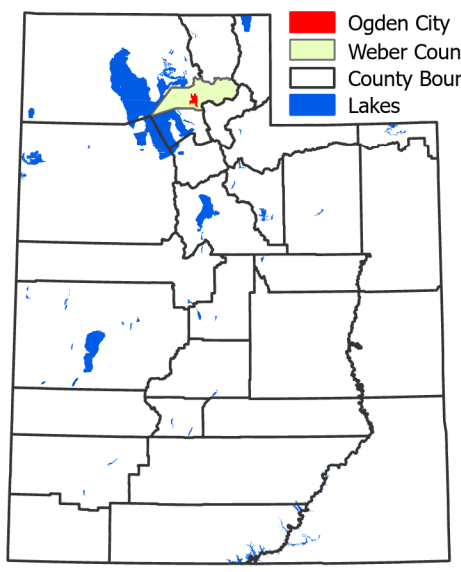
I-15
US 89
I-84

N WALL AVE
N HARRISVILLE RD
N WASHINGTON BLVD
N HARRISON BLVD
WALL AVE
WASHINGTON BLVD
HARRISON BLVD

W 12TH ST
12TH ST
CANYON RD
W 21ST ST
W 20TH ST
20TH ST
25TH ST
30TH ST
W 31ST ST

Mill Creek
Weber River
Ogden River
Weber River
Burch Creek

0 0.25 0.5 1 1.5 2 Miles



Ogden UTAH Still Untamed™

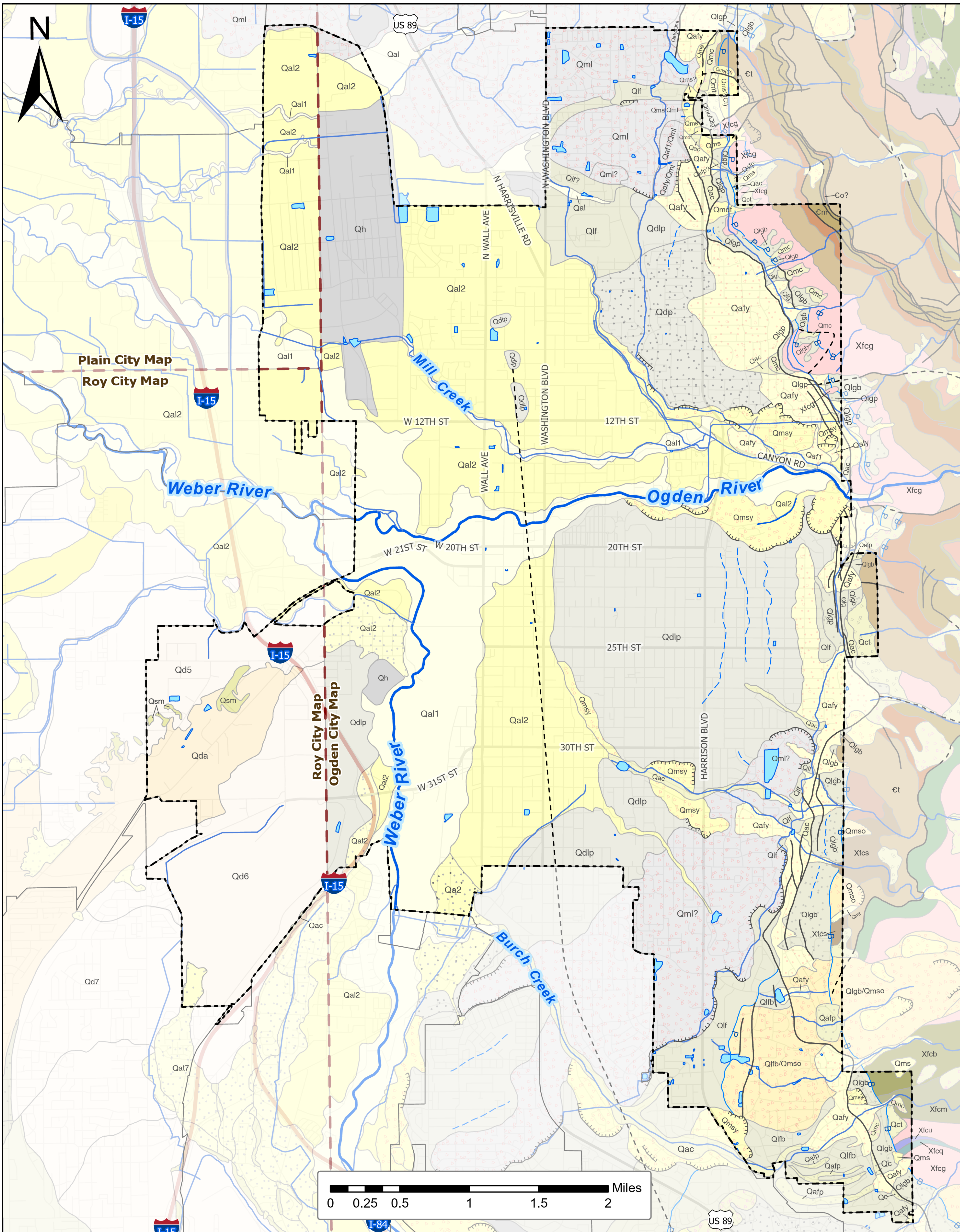
Municipal Separate Storm Sewer System Management Plan

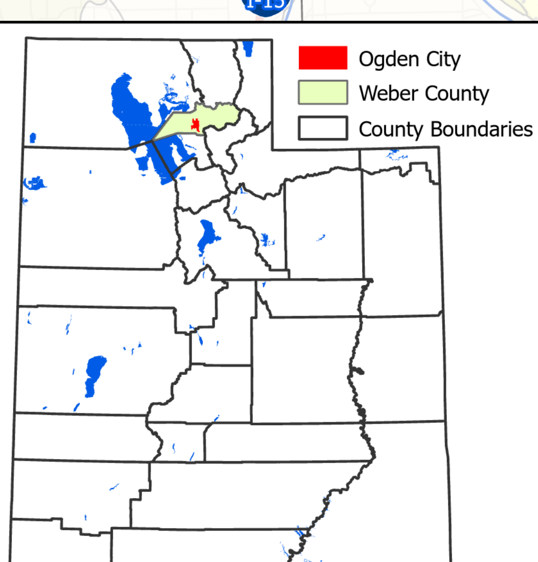
Map 5: Land Use

Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov
Detention: Detention. 2020. Ogden City: ogdencity.com
Alluvial: Alluvial Fans. 2019. UGRC: gis.utah.gov
Land Use: Zoning. Ogden City Corp: ogdencity.com (modified by BB)
Canals: Weber Canals. Compiled by Ogden City GIS for reference use only. Ogden City: ogdencity.com

Prepared by Brittany Betzer on 1/3/2022

- Highway
- Interstate
- Major Roads
- Residential Roads
- Ogden City Boundary
- Alluvial Fans
- Lakes
- Detention Ponds
- Canals
- Minor Stream
- Major Stream





Ogden UTAH Still Untamed™

Municipal Separate Storm Sewer System Management Plan

Map 6: Geology

Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov
Detention: Detention. 2020. Ogden City: ogdencity.com
Watersheds: Watersheds. 2019. UGRC: gis.utah.gov
Canals: Weber Canals. Compiled by Ogden City GIS for reference use only. Ogden City: ogdencity.com

Prepared by Brittany Betzer on 1/3/2022

Highway
Interstate
Major Roads
Residential Roads
Ogden City Boundary
Lakes
Detention Ponds
Canals
Minor Stream
Major Stream

Legend continued on Geology Map Legend

Municipal Separate Storm Sewer System
Management Plan

Map 10: Geology Legend

Prepared by Brittany Betzer

Geologic Lines

- B — Bonneville Shoreline
- P — Provo Shoreline
- Other Shoreline
- Fault - concealed/approximate
- Fault - well located
- Escarpment (landslide/terrace)
- Map Boundary

Geologic map data compiled from three separate map sources. The Ogden city 7.5 minute Quadrangle covers ~85% of Ogden City. Plain City and Roy City 7.5 minute quadrangle maps were digitized to account for missing geologic data on the west side of Ogden City as well as in the Business Depot of Ogden. The boundary of each geologic map is outlined in a brown dashed line as shown in the legend here.

Some discrepancies exist between the geologic definitions of map units across Ogden, Roy, and Plain City maps. As such, all geologic units within the city map boundary are defined below. Some geologic unit definitions as well as unit location and boundaries vary by map author, so units may not line up exactly along the map boundaries. Many of the following unit definitions have been paraphrased to meet the purposes of this map. For full map definitions, please refer to the original source maps cited in each section.

Ogden City Map

*See individual unit descriptions for units with more than one symbol - Example: Qaf1/Qml

Quaternary

Alluvium

- **Qa2** — Alluvium (Holocene and Pleistocene) - Variably sorted sand, silt, clay, and gravel; unconsolidated to variably consolidated
- **Qac** — Alluvium and Colluvium (Holocene and Pleistocene) - Unsorted to variably sorted gravel, sand, silt, and clay in variable proportions
- **Qadp** — Provo-shoreline alluvial and deltaic deposits (upper Pleistocene) - Alluvial topset beds contain a silty to sandy matrix with pebble and cobble gravel; deltaic deposits include gravel in a matrix of sand and silt
- **Qaf** — Alluvial-fan deposits (Holocene and Pleistocene) - Mostly poorly bedded and poorly sorted unconsolidated to variably consolidated sand, silt, and gravel
- **Qaf1** — Younger alluvial-fan deposits (Holocene and Pleistocene) - Mostly poorly bedded and poorly sorted, mostly unconsolidated sand, silt, and gravel; impinge on present-day floodplains and divert active streams
- **Qafp** — Lake Bonneville-age alluvial fan deposits (upper Pleistocene) - Mostly poorly bedded and poorly sorted sand, silt, and gravel; unconsolidated to weakly consolidated; locally dissected; appears to be related to Provo and regressional shorelines of Lake Bonneville
- **Qafy** — Younger alluvial-fan deposits (Holocene and Pleistocene) - same composition as alluvial fan deposits, but younger fans are unconsolidated and should be considered active.
- **Qal** — Stream alluvium and flood-plain deposits (Holocene and uppermost Pleistocene) - Moderately sorted, unconsolidated sand, silt, clay, and gravel; locally includes muddy, organic overbank and oxbow lake deposits
- **Qal1** — Stream alluvium and flood-plain deposits (Holocene and uppermost Pleistocene) - Moderately sorted, unconsolidated sand, silt, clay, and gravel; locally includes muddy, organic overbank and oxbow lake deposits
- **Qal2** — Stream alluvium and flood-plain deposits (Holocene and uppermost Pleistocene) - Moderately sorted, unconsolidated sand, silt, clay, and gravel; locally includes muddy, organic overbank and oxbow lake deposits
- **Qat2** — Stream-terrace alluvium (Holocene and Pleistocene) - Moderately sorted sand, silt, clay, and gravel above flood plains; above lower Weber River, moderately to well-sorted, pebble and cobble gravel and gravelly sand with silt and clay, and subangular to rounded

Colluvium

- **Qc** — Colluvium (Holocene and Pleistocene) - Unsorted clay- to boulder-sized material
- **Qct** — Colluvium and talus, undivided (Holocene and Pleistocene) - Unsorted clay- to boulder-sized angular debris (scree); typically vegetated

Deltaic

- **Qdlb** — Transgressive and Bonneville-shoreline deltaic and lacustrine deposits (upper Pleistocene) - Mostly sand, silty sand, and gravelly sand; locally contains more cobbles and overall more gravel
- **Qdlp** — Provo-shoreline and regressive deltaic and lacustrine deposits (upper Pleistocene) - Mostly sand, silty sand, and gravelly sand deposited near shore in Lake Bonneville
- **Qdp** — Provo-shoreline and deltaic deposits - Typically pebble and cobble gravel in a matrix of sand and minor silt; interbedded with thin sand beds

Human Disturbance

- **Qh** — Human disturbances (Historical) - Disturbances that obscure original deposits or rocks by cover or removal

Lacustrine

- **Qlf** — Fine-grained lacustrine deposits (Holocene and upper Pleistocene) - Mostly silt, clay and fine-grained sand below Provo shoreline
- **Qlfb** — Fine-grained lacustrine deposits (Holocene and upper Pleistocene) - Mostly silt, clay and fine-grained sand above Provo shoreline and below Bonneville shoreline
- **Qlg** — Lake Bonneville gravel and sand (upper Pleistocene) - Mostly interbedded pebble and cobble gravel and sand; varies from clast supported to only rare gravel clasts in a matrix of sand and silt
- **Qlgb** — Lake Bonneville gravel and sand (upper Pleistocene)- Between Provo and Bonneville shoreline - Mostly interbedded, pebble and cobble gravel and sand; from clast supported to only rare gravel clasts in a matrix of sand and silt
- **Qlgp** — Lake Bonneville gravel and sand (upper Pleistocene) - Below Provo shoreline - Interbedded, pebble and cobble gravel and sand; varies from clast supported to rare gravel in a matrix of sand and silt; next to carbonate-cemented pebble to boulder gravel in sandy matrix
- **Qls** — Lake Bonneville Sand (upper Pleistocene) - Mostly sand with some silt and gravel; mapped downslope from slope break below Provo shoreline

Mass Wasting

- **Qmc** — Landslide and colluvial deposits, undivided (Holocene and Pleistocene) - Poorly sorted to unsorted clay- to boulder-sized material; includes landslide and colluvium; locally includes talus and debris flow deposits
- **Qmdf** — Debris/mud-flow deposits (Holocene and upper Pleistocene) - Very poorly sorted, clay- to boulder-sized material characterized by rubbly surface and debris-flow levees with channels, lobes, and mounding
- **Qml** — Lateral Spread (Holocene and upper Pleistocene) - Clay, silt, and fine-grained sand with minor gravel; contains minor younger alluvial and marsh deposits and possibly lacustrine deposits
- **Qms** — Landslide deposits (Holocene and upper Pleistocene) - Poorly sorted clay- to boulder-sized material; generally characterized by hummocky topography, main and internal scarps, and chaotic bedding
- **Qmso** — Landslide (older) - Poorly sorted clay- to boulder-sized material; generally characterized by hummocky topography, main and internal scarps, and chaotic bedding in displaced blocks
- **Qmsy** — Landslide (younger) - Poorly sorted clay- to boulder-sized material; generally characterized by hummocky topography, main and internal scarps, and chaotic bedding in displaced blocks
- **Qmt** — Talus (Holocene and Pleistocene) - Unsorted clay- to boulder-sized angular debris (scree); typically unvegetated; locally includes pro-talus ramparts, rock-glacier deposits, and colluvium

Marsh/Spring

- **Qsm** — Spring deposits (Holocene and upper Pleistocene) - Wet, fine-grained, organic-rich sediment

Cretaceous

- **KXc** — Chloritic gneiss, cataclasite, mylonite, and phyllonite (Cretaceous and Proterozoic) - Green, variably fractured and altered rock with local micaceous cleavage; contains variable amounts of fine-grained, recrystallized chlorite, muscovite, and epidote

Ordovician-Cambrian

- **Csc** — St. Charles Formation (Lower Ordovician - Upper Cambrian) - Light- to medium-gray, cliff and ledge-forming dolomite with lower part calcareous sandstone and sandy dolomite that forms slopes, locally containing Worm Creek Quartzite
- **Csn** — St. Charles and Nounan Formations (Lower Ordovician - Upper Cambrian) - See individual units for descriptions (Csc, Cn)

Cambrian

- **Cbo** — Bloomington Formation (Middle Cambrian) - Brown-weathering, slope-forming gray to olive-gray, silty argillite interlayered with gray- to yellowish- limestone
- **Cbom** — Bloomington Formation and Maxfield Limestone, undivided (Cambrian) - Silty argillite interlayered with limestone; as well as dolomite, limestone, argillaceous limestone and calcareous siltstone and argillite
- **Cm** — Maxfield Limestone (Mid Cambrian) - From top down: dolomite, limestone, argillaceous to silty limestone and calcareous siltstone and argillite, and basal limestone with argillaceous interval
- **Cn** — Nounan Formation (Upper Cambrian) - Medium-gray, typically thick-bedded, cliff-forming dolomite and some limestone
- **Co** — Ophir formation (Mid Cambrian) - Upper and lower brown-weathering, gray to olive-gray, variably calcareous and micaceous to silty argillite to slate with intercalated gray, limestone beds
- **Ct** — Tintic Quartzite (Middle and Lower Cambrian) - Tan-weathering quartzite, with quartz-pebble conglomerate and lesser thin argillite; arkosic sandstone and conglomerate at base

Precambrian

- **YXf** — Facer Formation (Proterozoic) - In order of abundance: quartzite, pelitic phyllite and schist, and quartz-muscovite schist (meta-tuff?), leucocratic gneiss, meta-carbonate, and meta-conglomerate
- **Zpd** — Diamictite member (Neoproterozoic) - Gray to dark gray meta-diamictite containing quartzite and quartzo-feldspathic gneiss clasts in sandy to micaceous argillite matrix; local meta-limestone, meta-pillow lava, meta-diorite
- **Zpu** — Perry Canyon Upper member (Neoproterozoic) - Olive drab to gray, thin-bedded slate to argillite to phyllite to micaceous meta-siltstone to meta-graywacke to meta-sandstone in variable proportions
- **Xfcb** — Farmington Canyon Complex (Paleoproterozoic) - Medium-gray to dark-brown, biotite-rich schist with widespread garnet and sillimanite; contains thin layers of amphibolite, quartz-rich and granitic gneiss
- **Xfcg** — Farmington Canyon Complex (Paleoproterozoic) - Light- to pink-gray, fine- to medium-crystalline, hornblende-bearing quartzo-feldspathic (granitic gneiss) with minor orthopyroxene
- **Xfch** — Farmington Canyon Complex (Paleoproterozoic) - Dark-gray to black, hornblende-plagioclase gneiss, with minor garnet, quartz, and biotite
- **Xfcm** — Farmington Canyon Complex (Paleoproterozoic) - Medium- to light-pink-gray, strongly foliated and layered (migmatitic) quartzo-feldspathic rock with garnet and biotite; contains some granitic gneiss rock, and some thin layers of sillimanite-bearing, biotite-rich schist.
- **Xfcq** — Farmington Canyon Complex (Paleoproterozoic) - Milky- to green-white quartz-rich gneiss with plagioclase and chrome-green mica; locally contains thin layers of biotite-rich schist and amphibolite
- **Xfcs** — Farmington Canyon Complex (Paleoproterozoic) - Gray-brown, mica-rich schist to gneiss containing variable amounts of muscovite, biotite, quartz, and feldspar, with minor garnet in some layers; contains some thin layers of hornblende-plagioclase gneiss
- **Xfcu** — Farmington Canyon Complex (Paleoproterozoic) - Black to green-black, pyroxene-bearing meta-gabbro to amphibolite, with varying amounts of plagioclase feldspar, and pyroxene-amphibole-olivine, hornblendite, and amphibolite

Nelson, A.R., and Personius, S.F., 1993, Surficial geologic map of the Weber segment, Wasatch fault zone, Weber and Davis Counties, Utah: U.S. Geological Survey Miscellaneous Investigations Series Map I-2199, 22 p., scale 1:50,000. [parts of North Ogden and Ogden 7.5' quadrangles]

Yonkee, W.A., and Lowe, Mike, 2004, Geologic map of the Ogden 7.5' quadrangle, Davis and Weber Counties, Utah: Utah Geological Survey Map 200, 42 p., scale 1:24,000.

Roy City Map

Quaternary

Alluvium

- **Qac** — Undifferentiated alluvium and colluvium (Holocene and upper Pleistocene) - Poorly sorted fines through cobble-sized clasts; wash-reworked mass wasting deposits intertonguing alluvium and colluvium.
- **Qaf** — Alluvial-fan deposits (Holocene and upper Pleistocene) - predominantly sandy fine-grained sediment
- **Qal1** — Channel and flood-plain alluvium (Holocene) - well to poorly sorted fines to gravel
- **Qal2** — Channel and flood-plain alluvium (early to middle Holocene) - fine sandy mud to gravel
- **Qal3** — Channel and flood-plain alluvium (late Pleistocene) - Muddy to pebbly sand; channel and flood-plain alluvium
- **Qat1-9** — Fluvial terrace deposits (middle to upper Pleistocene) - Mud to gravel deposited in nine discrete fluvial terraces (1 = youngest)

Deltaic

- **Qd4** — Deltaic deposits (upper Pleistocene) - Sandy fines, sand, and pebbly sand; deltaic deposits from very late in Lake Bonneville's post Provo regression
- **Qd5** — Sand-dominated deltaic deposits (middle to upper Pleistocene) - Sandy mud through gravelly sand; deltaic deposits from Late in Lake Bonneville's post-Provo regression
- **Qd6-11** — Deltaic deposits (middle to upper Pleistocene) - Sand-dominated deltaic deposits primarily fine and medium sand, crossed by channel deposits of gravel or sand and gravel; deltaic deposits in six discrete delta components (6 = youngest)
- **Qd13** — Deltaic deposits (middle Pleistocene) - Sand-dominated deltaic sediments from the transgressive phase of Lake Bonneville
- **Qda** — Undifferentiated deltaic and alluvial deposits (Holocene and upper Pleistocene) - Sand-dominated fine-grained deltaic and alluvial deposits washed downslope by small-scale fluvial processes

Lacustrine

- **Qla** — Undifferentiated deltaic and alluvial deposits (Holocene and upper Pleistocene) - Sandy fines through gravelly sand; fluvially reworked lake sediments and intermingled lake and alluvial-fan deposits
- **Qlf** — Fine-grained lacustrine deposits (middle to upper Pleistocene) - Mixed fine-grained sediment, generally with sand component, deposited by Lake Bonneville and Great Salt Lake
- **Qls** — Lacustrine sand (upper Pleistocene) - Sand-dominated sediments deposited during the regressive phase of Lake Bonneville

Mass Wasting

- **Qms** — Slump deposits (Holocene and upper Pleistocene) -Predominantly gravelly silt and gravelly fine sand slump deposits

Marsh/Spring

- **Qsm** — Marsh deposits (Holocene and upper Pleistocene) - wet, fine-grained, organic-rich sediments in association with springs, ponds, and seeps

Sack, Dorothy, 2005, Geologic Map of the Roy 7.5' Quadrangle, Weber and Davis Counties, Utah: Utah Geological Survey Miscellaneous Publication MP-05-3, scale 1:24,000.

Plain City Map

Quaternary

Alluvium

- **Qal1** — Younger stream alluvium - Well to poorly sorted silt, sand and gravel deposited along modern channels and flood plains; clasts subrounded to rounded; mapped where fluvial processes are currently or episodically active
- **Qal2** — Older stream alluvium - well to poorly sorted silt, sand and gravel deposited along inactive flood plains; mapped where fluvial processes are generally no longer active

Deltaic

- **Qd2** — Delta deposits - Silt, fine sand, and clay deposited in a platform-like topographic form; scattered pebble gravel covers the surface of the platform in some areas; deposited during transgression of the post-Gilbert Great Salt Lake shoreline

Human Disturbance

- **Qfd** — Fill and disturbed land - Land disturbed and excavated during aggregate operations; fill in interstate highways, highway interchanges and major canal embankments

Mass Wasting

- **Qml** — Landslide deposits - Mixture of silt, fine sand, and minor gravel redeposited in flow slides and lateral spreads; on the surface, deposits display landslide-related lineaments and scarps, and hummocky topography; disrupted bedding and sand-filled cracks are present in the deposits in the subsurface

Marsh/Spring

- **Qsm** — Spring/Marsh deposits - Wet, fine-grained, organic-rich sediment associated with springs and seeps

Harty, Kimm M., Lowe, Mike, and Kirby, Stefan M., 2012, Geologic Map of the Plain City Quadrangle, Weber and Box Elder Counties, Utah: Utah Geological Survey Map 253DM, scale 1:24,000

N

Storm Pipes
Diameter (inches)

66

0 (Incomplete Data)

Estimated pipe mileage: 154.1 mi.

Storm Culverts
Diameter (inches)

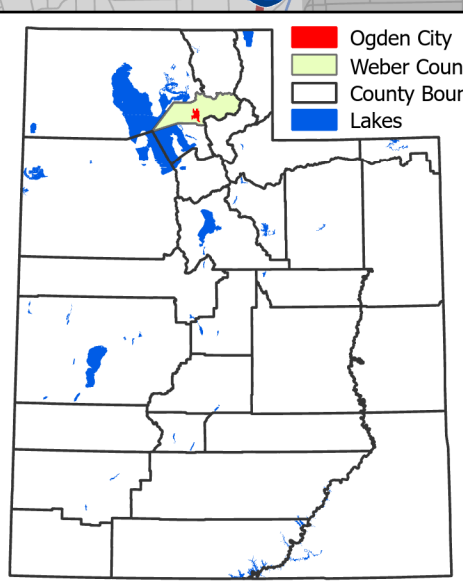
60

24

• Storm Inlets

Farr West
Unincorporated
North Ogden
Harrisville
Unincorporated
Unincorporated
Unincorporated
Unincorporated
South Ogden
Roy
Riverdale
Washington Terrace

Miles
0 0.25 0.5 1 1.5 2



Ogden UTAH Still Untamed™

Municipal Separate Storm Sewer System Management Plan

Map 7: Storm Pipes

Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov
Detention: Detention. 2020. Ogden City: ogdencity.com
Watersheds: Watersheds. 2019. UGRC: gis.utah.gov
Canals: Weber Canals. Compiled by Ogden City GIS for reference use only. Ogden City: ogdencity.com

Prepared by Brittany Betzer on 1/3/2022

Highway
Interstate
Major Roads
Ogden City Boundary
Lakes
Detention Ponds
Canals
Minor Stream
Major Stream

City Facilities

- **Emergency Services**
  Fire Stations, Police Stations, Public Safety
- **Community Services**
  Cemetery, Animal Services, Government Services
- **Indoor Recreation**
  Marshall White Center, Union Station, Soleman Center
- **Parking**
- **Golf Course**
  El Monte & Mt. Ogden Golf Courses
- **Outdoor Recreation**
  Public Parks and Trailheads
- **Stadium**
  Ogden Pioneer & Lindquist Stadiums
- **Utility**
  Water Tanks, Reservoirs, Pump Houses
- **High Priority Facility**
  Outlined in red

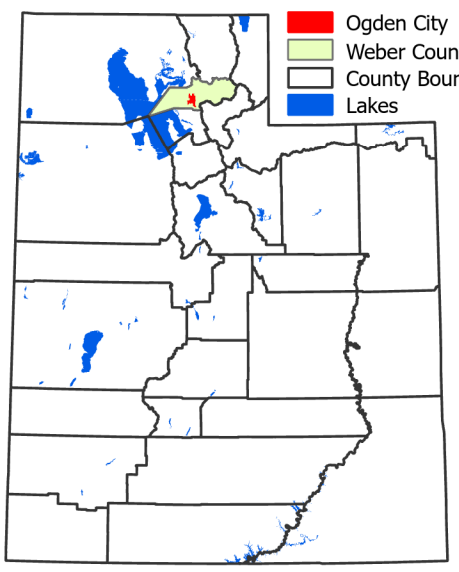
Total Facilities: 81

North Ogden
Farr West
Harrisville
Unincorporated
West Haven
Unincorporated
Unincorporated
Unincorporated
Roy
Riverdale
Washington Terrace
South Ogden
Unincorporated

I-15
US 89
N WASHINGTON BLVD
N HARRISVILLE RD
N WALL AVE
N HARRISON BLVD
W 12TH ST
12TH ST
CANYON RD
W 21ST ST
W 20TH ST
20TH ST
WALL AVE
WASHINGTON BLVD
25TH ST
HARRISON BLVD
30TH ST
W 31ST ST
I-84

N

0 0.25 0.5 1 1.5 2 Miles



Ogden UTAH Still Untamed™

Municipal Separate Storm Sewer System Management Plan

Map 8: City Owned & Operated Facilities

Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov
Detention: Detention. 2020. Ogden City: ogdencity.com
Canals: Weber Canals. Compiled by Ogden City GIS for reference use only. Ogden City: ogdencity.com

Prepared by Brittany Betzer on 1/3/2022

- Highway
- Interstate
- Major Roads
- Residential Roads
- Ogden City Boundary
- Lakes
- Detention Ponds
- Canals
- Minor Stream
- Major Stream

N

Watersheds

- Cottonwood Creek
- Farmington Bay Frontal
- Fourmile Creek
- Outlet Ogden River

Watershed Labels:

WATERSHED:
SUBWATERSHED

US 89

FOURMILE CREEK:
FOURMILE CREEK

N WASHINGTON BLVD

N WALL AVE

N HARRISVILLE RD

N HARRISON BLVD

FOURMILE CREEK:
MILL CREEK

Mill Creek

12TH ST

Weber River

FOURMILE CREEK:
WEST WEBER

Ogden River

OUTLET OGDEN RIVER:
WHEELER CREEK

W 21ST ST

W 20TH ST

20TH ST

WALL AVE

WASHINGTON BLVD

HARRISON BLVD

I-15

FOURMILE CREEK:
OUTLET WEBER RIVER

W 31ST ST

30TH ST

Weber River

COTTONWOOD CREEK:
CORBETT CREEK

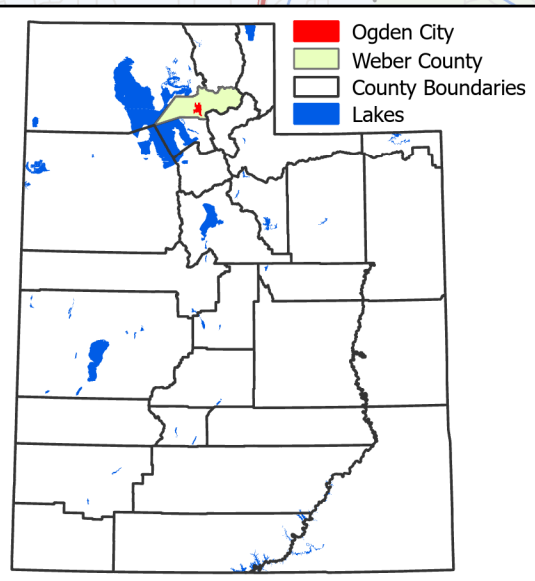
Burch Creek

I-84

FARMINGTON BAY FRONTAL:
HOWARD SLOUGH

US 89

Miles
0 0.25 0.5 1 1.5 2



Ogden UTAH Still Untamed™

Municipal Separate Storm Sewer System Management Plan

Map 9: Watersheds

Mapping sources:
Roads: Roads. 2021. UGRC: gis.utah.gov
Municipal: MetroTownshipsNEW. 2020. UGRC: gis.utah.gov
Streams: StreamsNHDHighRes. 2016. UGRC: gis.utah.gov
Lakes: LakesNHDHighRes. 2016. UGRC: gis.utah.gov
Counties: Counties. 2020. UGRC: gis.utah.gov
Detention: Detention. 2020. Ogden City: ogdencity.com
Watersheds: Watersheds. 2019. UGRC: gis.utah.gov
Canals: Weber Canals. Compiled by Ogden City GIS for reference use only. Ogden City: ogdencity.com

Prepared by Brittany Betzer on 1/3/2022

- Highway
- Interstate
- Major Roads
- Residential Roads
- Ogden City Boundary
- Lakes
- Detention Ponds
- Canals
- Minor Stream
- Major Stream

Ogden City Zoning Map

- O-1, Open Space
- R-1-10, Single-Family Residential
- R-1-8, Single-Family Residential
- R-1-6, Single-Family Residential
- R-1-5, Single-Family Residential
- R-2, Two-Family Residential
- R-2EC, Two-Family Residential East Central
- R-3, Multiple-Family Residential
- R-3/CO, Multiple-Family Residential Conditional Overlay
- R-3EC, Multiple-Family Residential East Central
- R-4, Multiple-Family Residential
- R-4/CO, Multiple-Family Residential Conditional Overlay
- R-5, Multiple-Family Residential
- RMH-1, Residential Manufactured Home Park
- PI, Professional/Institutional
- PI/CO, Professional/Institutional Conditional Overlay
- NC-1, Limited Scale Neighborhood Commercial
- NC-2, Expanded Scale Neighborhood Commercial
- C-1/CP-1, Neighborhood Commercial
- C-2/CP-2, Community Commercial
- C-2/CO, Community Commercial Conditional Overlay
- C-3/CP-3, Regional Commercial
- C-3/CO, Regional Commercial Conditional Overlay
- CBD, Central Business District
- CBD/CO CBD Conditional Overlay
- CBDI, CBD Intensive District
- MU, Mixed-Use
- CRC-1, Commercial Recreation
- BEH, Business Exchange Historical
- BEI, Business Exchange Industrial
- M-1, Limited Manufacturing
- M-2, Manufacturing and Industrial
- MRD, Manufacturing, Research and Development
- DDR, Defense Depot Reuse
- OCIP, Ogden Commercial and Industrial Park
- A-C, Airport Commercial
- A-I, Airport Industrial
- Accessory Dwelling Unit
- 12th Street Corridor
- Sensitive Area
- Airport Overlay
- Ogden City Boundary

0 1,000 2,000 4,000 6,000 8,000 Feet

N

Ogden UTAH™

Prepared by
Ogden City Planning
Updated July 2019

APPENDIX B: Program Summary

Ogden SWMP Priorities, Elements, Goals, and Organization

Table B1: Common Urban Storm Water Pollutants of Concern and Ogden-Specific Priority Levels for Target Audiences

ID	Type	Source(s)	Impact(s) to Water Quality	Outreach Audience & Priority (Group Number)			
				Residential	Institutions, Industrial, Commercial	Developers and Contractors	MS4-owned or Operated Facilities
				(1)	(2)	(3)	(4)
A	Illicit Discharge	Deliberate and/or negligent release of any non-storm water substance into a storm system	Varies based on pollutant.	High	High	High	High
B	Nitrogen and Phosphorus	Lawn, garden or agricultural fertilizers, pet and animal manure, certain soaps and detergents, yard waste, industrial waste, atmospheric deposition, leaky wastewater systems, automobile exhaust, and soil erosion	Overabundance of nutrients contributes to growth of algae, bacteria, and other microorganisms. Algae bloom decomposition can reduce dissolved oxygen and suffocate aquatic life. Blue-green algae can produce harmful toxins.	High	Med	High	High
C	Bacteria and Viruses	Livestock and pet manure, leaky sanitary sewer lines, sanitary sewer cross-connections, septic systems	Can cause disease and produce toxic contamination of aquatic life.	Med	Med	High	High
D	Sediment	Construction activities, vehicle/boat washing, agricultural sites, runoff from streets, lawns, driveways and roads, atmospheric deposition, drainage channel erosion	Increases water turbidity and total suspended solids (TSS). Murky water can decline fish and plant population and diversity. Can transport attached oils, nutrients or other chemical contamination which could result in additional pollution or activate algae blooms.	Med	Med	High	High
E	Toxic Chemicals	Pesticides and herbicides use on lawns, gardens and other landscaped areas, dioxins, industrial chemical spills, deicers, solvents, household chemicals (paint solvents, adhesives, etc.), illicit discharges	Improperly disposed chemicals pollute waterways and can kill aquatic life. Biomagnification of harmful toxins and chemicals can impact human and other animals that eat the aquatic life.	Med	High	Med	High
F	Oil, Grease, and Hydrocarbons	Petroleum products, benzene, toluene, ethyl benzene, xylene. Can be found in vehicle/equipment fluid leaks, engine emissions, pesticides, equipment cleaning, fuel spills, parking lot/roadway runoff, driveways, vehicle maintenance areas, gas stations, illicit dumping to storm drains	Oil and grease include a wide array of hydrocarbon compounds, some of which are toxic to aquatic organisms at low concentrations. Some of these pollutants are toxic to humans and wildlife at very low levels.	Med	High	Med	High
G	Litter, Trash (Floatables)	Improper solid waste disposal and storage	Can add chemicals to water through decaying product toxicity. Can impact aquatic life through entrapment or ingestion. Aesthetic eye sore in waterways.	Med	Med	Med	High
H	Heavy Metals	Vehicle brake/equipment wear, engine emissions, industrial areas, paint and wood preservatives, fuels/fuel additives, corroding metal, combustion processes, parking lot runoff, batteries, atmospheric deposition, soil erosion, pesticides, cleaning agents	Metals such as copper, zinc, iron, and tin are essential nutrients in a waterway at low concentrations. At higher concentrations, metals are toxic to aquatic organisms, can bioaccumulate, and have the potential to contaminate drinking water supplies.	Low	High	Med	High
I	Heat	Increased sun exposure from vegetation removal, industrial or wastewater treatment plant discharges, impervious surface runoff, stream flow alterations (channel widening/depth reduction), reduced groundwater flow, climate change	Harms/kills aquatic organisms that depend on cold water. Can decrease dissolved oxygen concentration. May increase toxicity of some pollutants and increase the risk of algae blooms.	Low	Med	Med	High

Table B2: Existing SWMP Elements

ID	Description of Element or Best Management Practice (BMP)	MCM(s)						Frequency of Occurrence	Responsible for Implementation[1]
		1	2	3	4	5	6		
1	Participate in and help host the annual GSSWC Contractor Training event	x	x	x	x	x	x	Annually	SWMP PE
2	Active participation in GSSWC through financial support, consistent meeting and event attendance, and relevant sub-committee involvement	x	x	x	x	x	x	Typically Monthly	EngD + SSUC
3	Make educational information available to public (i.e., updated SWMP documents online, flyers, educational content on website, publicize key water quality projects)	x	x	x	x	x	x	Ongoing	SWMP PE + AT
4	Maintain a map and inventory of storm drain system elements and discharge points	x	x	x	x	x	x	Ongoing	EGT
5	Perform annual program review to evaluate performance and perform necessary updates of SWMP and other local regulations per MS4 requirements	x	x	x	x	x	x	Annually	SWMP PE
6	Use the organizational chart and defined responsibilities for all departments responsible for storm water design, maintenance, or inspection	x	x	x	x	x	x	Ongoing	All Ogden City Staff
7	Monitor water quality at key locations to assess program effectiveness and prioritize efforts	x	x	x	x	x	x	Ongoing	SWMP PE + SWPPI
8	Update ordinances as needed to support compliance with the MS4 Permit and ensure authority to enforce storm water regulations	x	x	x	x	x	x	Every 5-3 Years	CE + CC
9	Hand out SWPPP information with every development permit	x	x	x	x	x	x	Ongoing	EngD P
10	Include SWMP Coordinator's contact information on the City website with instructions for submitting comments or questions on the program	x	x	x	x	x	x	Ongoing	SWMP PE + AT
11	Conduct monthly Planning Commission Meetings open to the public to review proposed projects within the City	x	x	x	x	x	x	Ongoing	PD
12	Participate in Weber County Water Fair	x	x	x		x	x	Annually	EngD + SSUC
13	Maintain contact information and hotline on website for public to provide feedback on storm water program and report illicit discharges	x	x	x			x	Ongoing	SWMP PE + AT
14	Conduct a pre-construction meeting for all projects requiring a City (> 5,000 s.f.) and State (> 1 acre) SWPPP permit to review storm water BMPs	x	x		x	x	x	Ongoing	SWPPI
15	Conduct a yearly "Make a Difference Day"	x	x				x	Annually	All Ogden City Staff
16	Conduct meetings and events open to the public with opportunities for public input and involvement (i.e., City Council & Planning Commission meetings, etc.)	x	x	x	x	x	x	Ongoing	Varies
17	Conduct a city employee training program which includes training for all employees who have job functions that may impact storm water quality	x		x	x	x	x	Annually	HR, RDM
18	Utilize SOPs developed to protect water quality for activities such as development review, inspections, enforcement, municipal operations, etc.	x		x	x	x	x	Ongoing	All Ogden City Staff
19	Utilize the predeveloped protocols and SOPs for detecting, tracing, characterizing, and ceasing illicit discharges	x	x	x			x	As Needed	EngD + SSUC
20	Document illicit discharges, enforcements, and remediations	x		x			x	As Needed	SWMP PE
21	Maintain inventory of all City-owned or operated facilities, identify high priority facilities and continue performing necessary inspections	x		x			x	Ongoing	SWMP PE + SWPPI + FMs
22	Require maintenance plans for post-construction storm water BMPs	x			x	x	x	Ongoing	EngD
23	Ensure all full time Engineering Inspectors are certified as Registered Stormwater Inspectors (RSI)	x		x	x	x	x	Ongoing	LCI
24	Perform and document inspections and enforcements required per storm water standards and regulations			x	x	x	x	Ongoing	EngD + SSUC
25	Use escalating enforcements to ensure compliance with storm water quality regulations			x	x	x	x	As Needed	EngD + SSUC
26	Maintain documentation of all active construction sites or any construction site that was active during the current permit term				x	x	x	Ongoing	EngD P + IT
27	Policies and processes have been established to assess water quality impacts on all new flood control projects	x	x	x	x	x	x	Ongoing	DRT

Notes:

[1] Abbreviations Defined: SWMP PE = Principal Engineer over SWMP Program, EngD = Engineering Division, SSUC = Storm Sewer Utility Crew, AT = Administrative Technician, EGT = Engineering GIS Technician, SWPPI = Storm Water Pollution Prevention Inspector, CE = City Engineer, CC = City Council, P = Permitting, PD = Planning Division, HR = Human Resources Division, RDM = Relevant Division Managers, FMs = Facility Managers, LCI = Lead Construction Inspector, IT = Information Technology Division, DRT = Development Review Team

Table B3: Future SWMP Elements (Goals) to be Implemented

ID[1]	Description of Element or Best Management Practice (BMP)	MCM(s)						Implementation Month-Year	Responsible for Implementation[2]	MS4 Reference
		1	2	3	4	5	6			
1	Review and improve the educational outreach and training program	x	x	x	x	x	x	December-25	Varies (see milestones below)	4.2.1
1A	Review each permit training requirement on Table C2, confirm compliance, and update training program as needed	x		x	x	x	x	December-22	SWMP PE + RDM + HR	See Table C2
1B	Review and improve educational content on website – ensure all "general public" topics from Table C2 are on website	x		x		x	x	December-22	SWMP PE	4.2.1
1C	Develop list of flyers needed in education program based on Table C2 and B1						x	December-22	SWMP PE	See Table C2 and B1
1D	Create or locate an educational flyer on N and P that meets the requirements of 3.2.1.3 and include on website	x				x	x	August-23	SWMP PE	3.2.1.3
1E	Work with GSSWC to develop a stronger public outreach and education program (social media, flyers, website, etc.)	x	x	x	x	x	x	December-25	SWMP PE	4.2.1
2	Finalize the Ogden City Storm Water Quality Monitoring Program and associated water quality monitoring standards			x		x	x	August-23	SWMP PE	4.2.3.3.1, 4.2.3.3.2
3	Develop a system for mapping illicit discharges			x		x	x	December-22	SWMP PE + EGT	4.2.3.10
4	Develop a map that shows areas within Ogden where LID is infeasible based on conditions listed in 4.2.5.1.4					x	x	December-23	SWMP PE + EGT	4.2.5.1.4
5	Publicize the Ogden City's Storm Water Design Manual on the City website	x	x	x	x	x	x	May-22	SWMP PE + AT	4.2.5.2.2
6	Review each Ogden-owned facility and existing flood management structural controls for potential storm water quality retrofit needs			x		x	x	April-26	Varies (see milestones below)	4.2.6.9, 4.2.6.8.1
6A	Establish a key contact at each facility to aid in compiling a list of potential storm water pollutants stored or generated on each site			x		x	x	December-22	SWMP PE + LCI + SWPPI	4.2.6.2
6B	Inventory City Facility building floor drains and confirm they are not connected to the storm system			x		x	x	August-23	SWMP PE + EngD + FMs	4.2.6.6.6
6C	Compile site specific SOPs to prevent pollutants from entering the storm system at each Ogden facility			x		x	x	October-23	SWMP PE + FMs	4.2.6.2
6D	Determine if any facilities need to be added to the high priority list based on pollutants stored at the site					x	x	December-23	SWMP PE	4.2.6.3
6E	Create new as needed and improve existing high priority facility SWPPPs					x	x	December-25	EngD SWS	4.2.6.4
6F	Identify any retrofit needs to improve storm water quality discharged from each site listed from 6D					x	x	April-26	EngD SWS	4.2.6.9
6G	Develop a plan and prioritization to implement retrofit needs					x	x	April-26	EngD SWS	4.2.6.9
7	Create a map and schedule for Permittee owned road and parking lot sweeping and storm drain system maintenance						x	December-23	SWMP PE + OM	4.2.6.6.2
8	Review and improve SOPs (add new SOPs as needed)							December-23	Varies (see milestones below)	Varies
8A	Develop SOPs for the processes and sanctions to minimize violations relating to construction site storm water pollution			x	x	x	x	August-22	SWPPI + LCI	4.2.4.2.1
8B	Develop SOPs for enforcement of post-construction storm water control measures					x	x	December-23	SWMP PE, SWPPI	4.2.5.2.2
8C	Define a list of all BMPs considered to be post-construction storm water control measures					x	x	December-22	SWMP PE	4.2.5.4
8D	Develop SOPs for site inspection of post-construction storm water control measures					x	x	December-23	SWMP PE + OM + SWPPI	4.2.5.2.2
8E	Municipally sponsored events such as large outdoor festivals, parades, or street fairs and the clean-up following these events	x	x			x	x	December-23	SWMP PE + SES	4.2.6.6.1 P
9	Review and improve inspection forms and documentation process for all field assessment activities							August-24	Varies (see milestones below)	Varies
9A	Outfalls inspections			x		x	x	August-22	EngD + SWMP PE + SWPPI	4.2.3.3.3
9B	Detention pond inspections					x	x	August-22	EngD + SWMP PE + SWPPI	4.2.5.2.5
9C	Re-evaluate responsibilities listed in Table C1, confirm staffing resources and reassign as applicable							August-22	EngD + SWS + SWPPI + OM	Table C1
9D	IDDE Priority areas inspections – add section for water quality sampling			x		x	x	August-24	EngD + SWMP PE + SWPPI	4.2.3.3.2
9E	Illicit discharges			x			x	August-24	EngD + SWMP PE + SWPPI	4.2.3.6.3
9F	Create two inspection reports for both private and public long-term storm water control measures	x	x			x	x	August-24	EngD + SWMP PE + SWPPI	4.2.5.2.5
9G	High priority municipal owned facilities visual, comprehensive, and storm water discharge visual inspections			x		x	x	August-24	EngD + SWMP PE + SWPPI	4.2.6.5
9H	Review and update SWPPP construction inspections form through Energov as needed				x		x	August-24	SWMP PE + SWPPI + IT	4.2.4.4.1, 4.2.4.4.3
10	Evaluate documentation process including file organization and sharing for efficiency and Permit compliance, adjust as needed	x	x	x	x	x	x	December-22	Varies (see milestones below)	5.4.4
10A	Review and improve the process of LID development review, inventory, and mapping					x	x	June-22	SWMP PE	4.2.5.4 – 4.2.5.4.2
10B	Develop "Table C4" to summarize all filing/record keeping requirements from the MS4 Permit	x	x	x	x	x	x	August-22	SWMP PE	5.4.4
10C	Create a file organization structure flow chart or diagram	x	x	x	x	x	x	September-22	SWMP PE	5.4.4

Notes:

[1] Rows with ID numbers followed by letters and highlighted with a lighter blue color signify corresponding milestones for the associated goal's ID number.

[2] Abbreviations Defined: SWMP PE = Principal Engineer over SWMP Program, RDM = Relevant Division Managers, HR = Human Resources Division, EGT = Engineering GIS Technician, AT = Administrative Technician, LCI = Lead Construction Inspector, FMs = Facility Managers, EngD = Engineering Division, SWS = Storm Water Staff, OM = Operations Manager, SWPPI = Storm Water Pollution Prevention Inspector, IT = Information Technology Division, SES = Special Event Staff

Table B4: SWMP Elements Implemented or Modified in Previous Permit Term

ID	Description of Element or Best Management Practice (BMP)	MCM(s) Addressed					
		1	2	3	4	5	6
1	Purchased a portable unit for water quality and illicit discharge monitoring	x	x	x	x	x	x
2	Hired dedicated SWMP Coordinator and SWPPP Inspector to assist in facilitating SWMP	x	x	x	x	x	x
3	Developed a *Waste Handling and Management Practices* document which gives information on types of waste, including HHW, and recommended disposal or recycling practices	x	x	x	x		x
4	Developed a policy to consider LID practices on all MS4 Applicable Projects and included provisions for LID in regulations	x	x		x	x	x
5	Certified all Construction Inspectors as Registered Storm Water Inspectors (RSI)	x		x	x	x	x
6	Developed the SWMP Map Series which gives information on a variety of land features that impact storm water	x		x		x	x
7	Developed *Ogden City's Storm Water Design Manual* which provides guidance and clarification on storm water regulations and guidance for developers, engineers, and contractors	x			x	x	x
8	Reviewed and updated *Ogden City's Engineering Standards for Public Improvements* for MS4 Permit compliance	x			x	x	x
9	Completed Kayak Park project which enhanced natural features of the Weber River and public involvement in water quality through participating in activities oriented around the river		x	x		x	x
10	Reviewed and improved municipal SOPs			x	x	x	x
11	Reviewed Ogden Municipal Codes for MS4 Permit compliance verification			x	x	x	x
12	Reviewed and improved the standards for responding to reports of illicit discharges (Spills - Illicit Discharge Response Protocols)			x			x
13	Included City-specific project closeout and NOT process in pre-construction meeting agenda				x	x	x
14	Developed checklist for preconstruction reviews of SWPPP and long-term storm water management control measures				x	x	x
15	Adopted long-tern storm water management and LID requirements				x	x	x
16	Updated *Ogden City's Storm Water Design Manual* to be compliant with the Long-Term Storm Water Management MCM including 80th percentile storm retention, LID, etc.	x			x	x	x

Notes:

This table gives an overview of some notable modifications to the SWMP in the previous permit term. This table is not intended to be a complete list, nor does it represent all SWMP modification completed in the previous permit term.

Table B5: State-Identified Impaired Flowing Surface Waters within Ogden on 303(d) List

Assessment Unit Name	Assessment Unit Description	Unit Category (Descriptio	Impaired Parameter (Beneficial Uses)	TMDL Dev. Priority	Flowing Surface Water and Canal Miles
Weber River-1	Weber River and tributaries from Great Salt Lake to Slaterville Diversion	5[1] (Not Supporting	Macroinvertebrates (3C[2];3D[3])	Low	163

Table Notes:

[1]Category 5: Impaired for one or more beneficial uses by a pollutant. Requires the development of a TMDL.

[2] Beneficial Use Subclassification 3C*: Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain

[3] Beneficial Use Subclassification 3D*: Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.

*Footnote: There are human health (HH) criteria associated with these beneficial uses in UAC R317-2. For uses with a HH criteria, (see Table 2.14.6 in UAC R317-2), the following use notation will be used in 303(d) data and assessment reports: HH1C, HH3A, HH3B, HH3C, and HH3D.

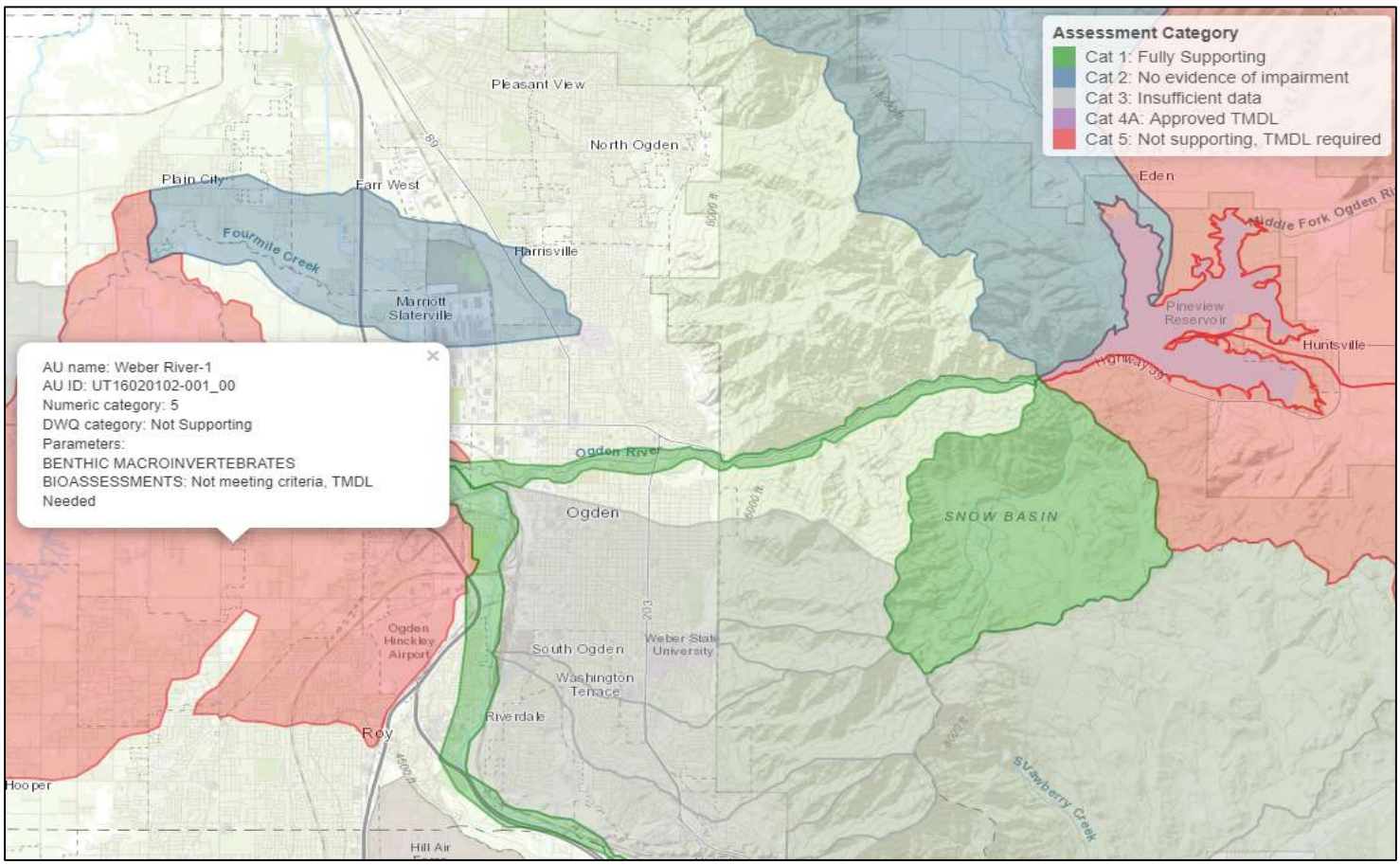


Figure B5: State-Identified Impaired Flowing Surface Waters within Ogden on 303(d) List

Figure B6
City of Ogden
Organization and Leadership

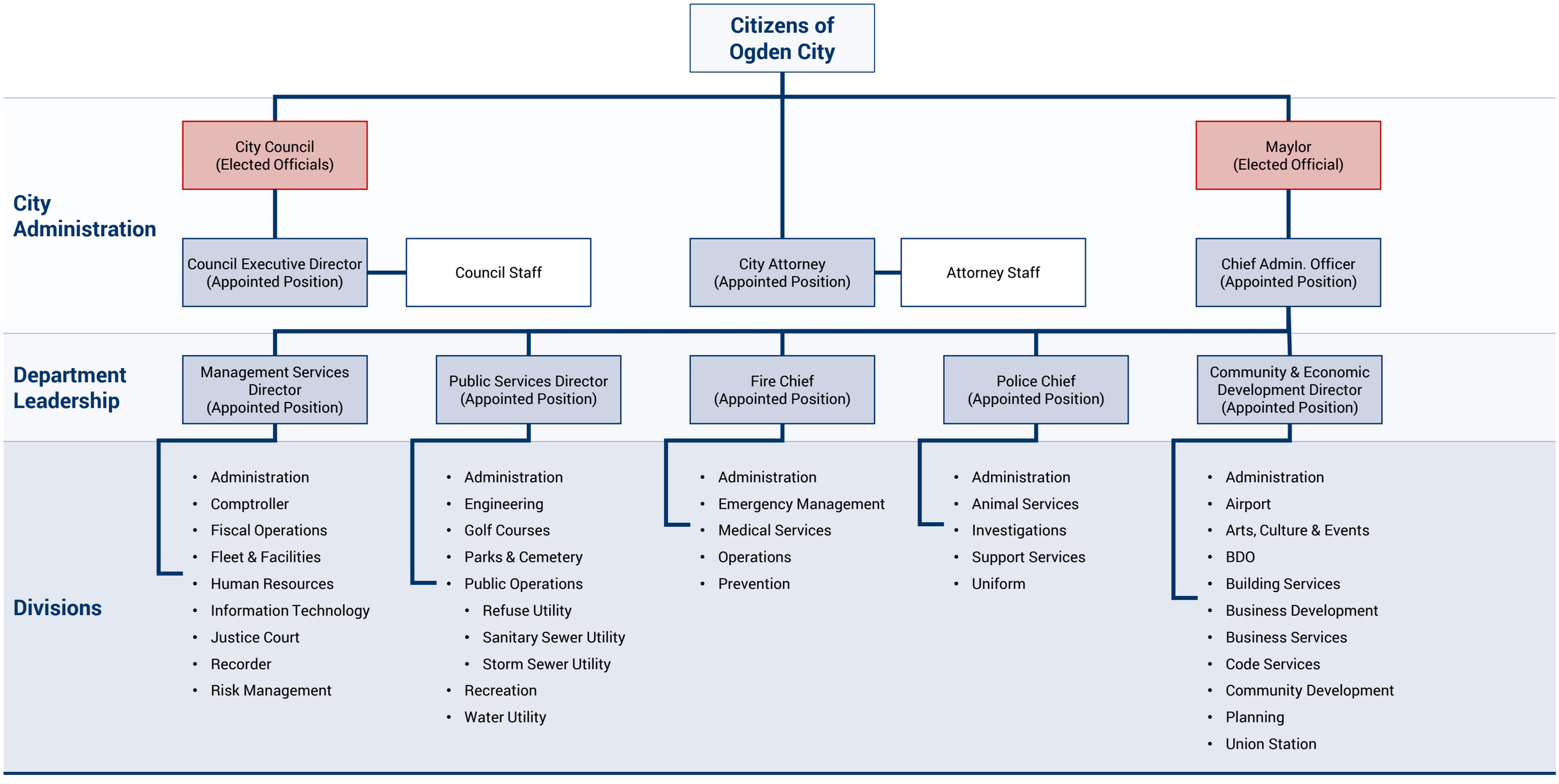
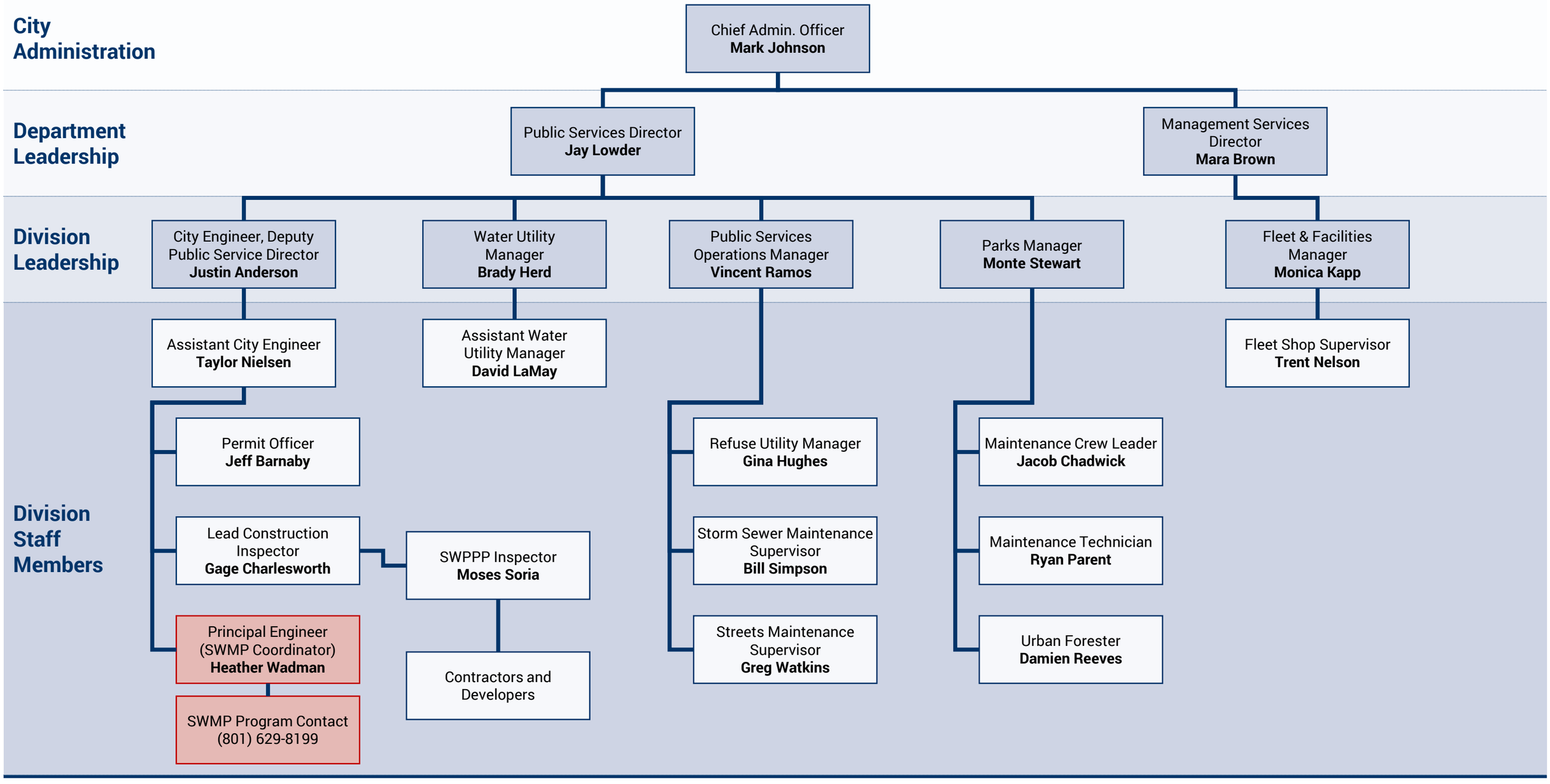


Figure B7
Storm Water Management Program
Organization and Leadership



DOC B7 – SWMP Roles and Responsibilities

Due to the extensive scope of the SWMP, many Departments, Divisions and staff members hold responsibilities related to the continued success of the program. An overview of the roles and responsibilities for the SWMP is provided below.

Public Works Director

- Liaison with administration and City Council
- General coordination of the Storm Water Pollution Prevention (SWPP) program

City Engineering Division Manager

- Updating SWPPP
- Engineering support
- Annual report
- Help with all reporting
- Storm Drain mapping
- General coordination of the Storm Water Pollution Prevention (SWPP) program

Public Services Operations

- Responsible for shared facilities and general work areas including:
    - Large equipment wash area
    - Fueling station
    - Salt and materials storage stockpile areas
    - Storm drain system maintenance
    - General BMP maintenance
    - Small vehicle wash area
- Tracking and documentation of activities and actions
- Database updates
- Storm Drain mapping
- Streets dept. maintenance work area
- Streets dept. equipment operation
- Equipment maintenance for streets dept.
- Training streets dept. personnel
- Chemical storage in work area

Parks Department

- Parks dept. maintenance work area
- Pesticide, Herbicide, and Fertilizer (PHF) program
- Training parks personnel
- Chemical and fertilizer storage in work area
- Parks department equipment operation
- Equipment maintenance for parks dept. equipment
- Mowing program

DOC B7 – SWMP Roles and Responsibilities (continued)

Ways and Parks Division Manager
- Snow plowing program
- Street sweeping program
- Salt and materials storage stockpile areas
- Metal fabrication area

Water Department Manager
- Water dept. maintenance work area
- Training water dept. personnel
- Chemical storage in work area
- Water dept. equipment operation
- Equipment maintenance for water dept. equipment

Fleet and Facilities Manager
- Fleet dept. maintenance work area
- Training fleet dept. personnel
- Chemicals, fluids, and oils in work area, waste oils/fluids
- Metal fabrication area

Storm Water Maintenance Supervisor
- Oversee SWPP program specifics and work with Public Operations Manager
- Coordination with Development Engineer

Principal Engineer over SWMP Coordination
- Oversee SWMP program specifics and work with City Engineering Manager
- Coordination with Storm Water Maintenance Supervisor

Streets Supervisor
- Oversee SWPP program specifics and work with Storm Water Maintenance Supervisor

Solid Waste Supervisor
- Oversee SWPP program specifics and work with Storm Water Maintenance Supervisor

Parks Supervisor
- Oversee SWPP program specifics and work with Storm Water Maintenance Supervisor

SWPPP Inspector
- Oversee SWPP program specifics and work with Development Engineer

Table B8: Current Public Outreach Program Elements (BMPs) and Audience Reached

ID	Best Management Practice	Audience			
		1	2	3	4
1	Participate in and help host the annual GSSWC Contractor Training event			x	x
2	Active participation in GSSWC through financial support, consistent meeting and event attendance, and relevant sub-committee involvement	x	x	x	x
3	Make educational information available to public (i.e., updated SWMP documents online, flyers, educational content on website, publicize key water quality projects)	x	x	x	x
4	Maintain a map and inventory of storm drain system elements and discharge points	x	x	x	x
5	Perform annual program review to evaluate performance and perform necessary updates of SWMP and other local regulations per MS4 requirements	x	x	x	x
6	Use the organizational chart and defined responsibilities for all departments responsible for storm water design, maintenance, or inspection				x
7	Monitor water quality at key locations to assess program effectiveness and prioritize efforts				x
8	Ordinances have been established and utilized to support compliance with the MS4 Permit and ensure authority to enforce storm water regulations	x	x	x	x
9	Hand out SWPPP information with every development permit			x	x
10	SWMP Coordinator's contact information is available on the City website along with instructions for submitting comments or questions on the program	x	x	x	x
11	Conduct montly Planning Commission Meetings open to the public to review proposed projects wihtin the City	x	x	x	x
12	Participate in Weber County Water Fair	x	x		x
13	Maintain contact information and hotline on website for public to provide feedback on storm water program and report illicit discharges	x	x	x	x
14	Conduct a pre-construction meeting for all projects requiring a City (> 5,000 s.f.) and State (> 1 acre) SWPPP permit to review storm water BMPs			x	x
15	Conduct a yearly "Make a Difference Day"	x	x	x	x
16	Conduct a city employee training program which includes training for all employees who have job functions that may impact storm water quality				x
17	Utilize SOPs developed to protect water quality for activities such as development review, inspections, enforcement, municipal operations, etc.				x
18	Utilize the predeveloped protocols and SOPs for detecting, tracing, characterizing, and ceasing illicit discharges				x
19	Document illicit discharges, enforcements, and remediations				x
20	Maintain inventory of all City-owned or operated facilities and identify high priority facilities and continue performing necessary inspections				x
21	Require maintenance plans for post-construction storm water BMPs			x	x
22	All Engineering Inspectors are certified as Registered Stormwater Inspectors (RSI) and construction sites are inspected in accordance with the MS4 Permit			x	x

Audiences: (1) residents, (2) institutions, industrial, and commercial facilities, (3) developers and contractors (construction), and (4) MS4-owned or operated facilities.

STORM WATER POLLUTION:
IT'S UP TO US!

In Weber County, storm water flows through storm drains directly to local creeks and rivers with NO TREATMENT. Water quality can be affected by a number of natural elements as well as chemical elements introduced by humans.

WHAT KIND OF CONTAMINANTS MIGHT REACH OUR RIVERS AND STREAMS?

Contaminants resulting from unwise landscaping practices such as over applying or over watering might include dirt, leaves, grass clippings, fertilizers, herbicides, and pesticides. Chemicals from household products from washing your car, painting, or household cleaners may be introduced into surface waters. Toxins such as oil or antifreeze that may leak from your car may also be introduced into surface waters. Did you know that one pint of oil can produce a one acre slick on a water surface and can contaminate 250,000 gallons of water?

WHAT CAN YOU DO?

- **Never use the gutter or storm drain system for disposal of household hazardous waste.** If you wouldn't drink it, don't dump it.
- **Store toxic products and chemicals indoors** or in a shed or storage cabinet.
- **Take unwanted hazardous materials and containers to the household hazardous waste disposal facility.**
- **Do not wash tools and equipment in driveways, gutters or drainage ways.** Wash over grassed or soil areas where wash water won't reach the street.
- **Inspect and maintain vehicles** to reduce leakage of fluids.
- **Reduce automotive emissions** through regular maintenance and by limiting vehicle usage.
- **Clean up spills** with kitty litter or absorbent material and let dry. Dispose of cleanup as solid waste.
- **Report illegal dumping** of oil, fuel, paint & other hazardous materials into the storm system to: Ogden City Public Ways & Parks: 801-629-8271. (After hours call 911)
- **Vehicles should be washed at a commercial car wash.** Vehicles can be washed on the lawn with biodegradable soap to reduce wash water flows to the storm drain system.
- **Recycle Oil -** Pour waste oil into an unbreakable container (plastic milk jug), seal and label. Call 399-8381 or 1-800-458-0145. Recycling used oil could reduce national petroleum imports by 25.5 million barrels per year! Do not mix other materials with oil.

UTAH Ogden public utilities

For additional information on Storm Water Protection refer to the following brochures:

Erosion Control
Fresh Concrete and Mortar Application
Household and Vehicle Maintenance
Impervious Surfaces
Landscaping, Gardening, and Yard Maintenance
Paint and Household Hazardous Waste
Pet Waste Water Quality
Utah and its Water, Why Conserve
Water Conservation Inside the Home
Water Conservation Outside the Home
Xeriscaping

For more information about the Weber County Storm water quality management program and additional pamphlets, contact:

Weber County Storm Water Management
Dr. George S. Burbidge
444-24th St. Ogden, UT 84401
Office (801)399-8677
Fax (801)625-3699
www.co.weber.ut.us/stormwater.

Brochure created by Salt Lake County Engineering Division modified by Weber County Storm Water Management Division

Spill Response

Dial 911
-or-
State Of Utah
Environmental Response
(801) 536-4123

Utah Division of Water Quality
(801) 538-6146

Local Pollution Control
Agencies:
Environmental Health Division of the
Weber/Morgan Health Department
(801) 591-7168

Put Used Oil in Its Place!

1-800-458-0145

Used Oil Recyclers
(for DIYers in Weber County)

Weber County Transfer Station
Auto Zone Stores
Checker Auto Parts Stores
NAPA Auto Parts Stores
Pep Boys Stores
Little Tire & Lube
Jiffy Lube

The preceding list is not all encompassing nor does it constitute an endorsement by Weber County of any particular company

PAINT AND HOUSEHOLD HAZARDOUS WASTE

RECOMMENDED METHODS FOR STORM WATER PROTECTION

Storm Water Pollution Prevention:
It's Up To Us!

In Weber County, storm water flows through storm drains directly to local creeks and rivers with **NO TREATMENT**.

Water quality can be affected by a number of natural elements as well as chemical elements introduced by humans.

What kind of contaminants might reach our rivers and streams?

Contaminants resulting from unwise landscaping practices such as over applying or over watering might include: dirt, leaves, grass clippings, fertilizers, herbicides, and pesticides.
Chemicals from household products from washing your car, painting, or household cleaners.
Toxins such as oil or antifreeze that may leak from your car.

Local recreation areas are affected by storm water contamination and can result in harmful situations for humans and wildlife.

These areas include the Weber River, Ogden River (including North, Middle & South Fork), Pineview Reservoir among others.

What Can You Do? General Practices

- Never use the gutter or storm drain system for disposal of household waste. Liquid residue from paints, thinners, solvents, glues, and cleaning fluids are **hazardous wastes.**
- When thoroughly dry-used kitty litter, empty water base paint cans, spent brushes, rags, and drop cloths may be disposed of in the trash.
- Rinse containers and dispose them in the trash.
- Properly use and store all toxic products including cleaners, solvents, and paints.
- Use kitty litter or other absorbent material to clean up spills from paved surfaces.
- DO NOT WASH INTO THE STREET! Depending on the substance, dispose of absorbents in trash or at the household hazardous waste facility.

FREE!
Household Hazardous Waste Facility -
Weber County Solid Waste Facility

867 West Wilson Lane
8:00 am to 1:00 pm.
3rd Saturday April-September

Call 399-8803 for more information

Paint Solvents and Adhesives

- Select water based or latex paints whenever possible.
- Sweep up dust and paint chips from sanding or stripping. Dispose of in trash- UNLESS the activity involved marine paints or paints containing leads. These should be disposed of as hazardous waste.
- When high-pressure water stripping or cleaning building exteriors, block storm drains. Wash water onto dirt area and spade in soil if no chemicals were used. Contact the City or County Health Department for more specific guidelines, especially if chemicals are used.

- For water based paint, paint out brushes to the extent possible and rinse in sink.
- For oil based paint, paint out the brushes to the extent possible, filter and reuse thinners and solvents. Disposed of excess liquids and residue as hazardous waste.

A Couple Good Ideas: Give unused products to a neighbor or community group and try to buy only what you need.

For additional information on Storm Water Protection refer to the following brochures:

Erosion Control
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Put Used Oil in Its Place!

1-800-458-0145

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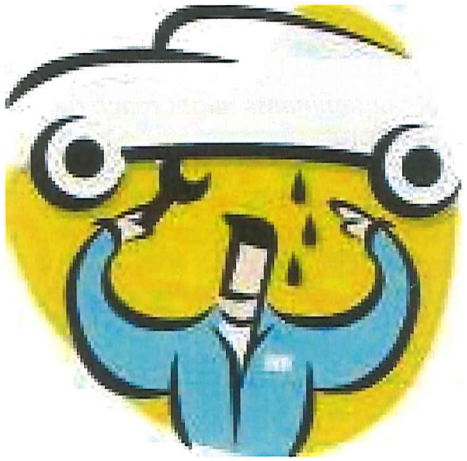
HOUSEHOLD AND VEHICLE MAINTENANCE



RECOMMENDED METHODS FOR STORM WATER PROTECTION

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In Weber County, storm water flows through storm drains directly to local creeks and rivers with **NO TREATMENT.**

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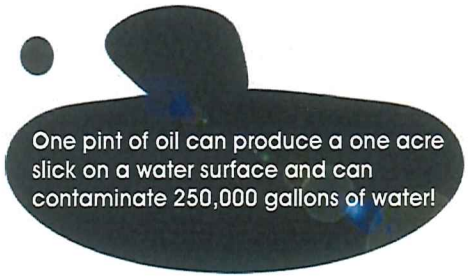
What kind of contaminants might reach our rivers and streams?

- ***Contaminants*** *resulting from unwise landscaping practices such as over applying or over watering might include: dirt, leaves, grass clippings, fertilizers, herbicides, and pesticides.*

- ***Chemicals*** *from household products from washing your car, painting, or household cleaners.*

- ***Toxins*** *such as oil or antifreeze that may leak from your car.*



What Can You Do?

General Practices

Never use the gutter or storm drain system for disposal of household hazardous waste. If you wouldn't drink it, don't dump it.

- *Store toxic products and chemicals indoors or in a shed or storage cabinet.*

- *Take unwanted hazardous materials and containers to the household hazardous waste disposal facility.*

There is a Household Hazardous Waste Facility now located at the Weber County Solid Waste Facility at 867 West Wilson Lane. It is open from 8:00 am to 1:00 pm. on the 3rd Saturday April-September. Weber County homeowners can bring their household hazardous waste to the facility and it will be taken off their hands for ***free!*** *Call 399-8803 for more information.*

- ***DO NOT WASH INTO THE STREET!***

Do not wash tools and equipment in driveways, gutters or drainage ways. Wash over grassed or soil areas where wash water won't reach the street.

Automotive

- *Take used motor oil and antifreeze to a recycling center or household hazardous waste facility.*

- *Inspect and maintain vehicles to reduce leakage of fluids.*

- *Reduce automotive emissions through regular maintenance and by limiting vehicle usage.*

- *Clean up spills with kitty litter or absorbent material and let dry. Dispose of cleanup as solid waste.*

- *Vehicles should be washed at a commercial car wash. Vehicles can be washed on the lawn with biodegradable soap to reduce wash water flows to the storm drain system.*

Recycling Oil

- *Pour waste oil into an unbreakable container (plastic milk jug), seal and label. Call 399-8381 or 1-800-458-0145 or check the list on the reverse side for facilities that accept used oil.*

- *Do not mix other materials with oil.*

Recycling used oil could reduce national petroleum imports by 25.5 million barrels per year!

For additional information on Storm Water Protection refer to the following brochures:

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Jiffy Lube

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LANDSCAPING, GARDENING AND YARD MAINTENANCE

RECOMMENDED METHODS FOR STORM WATER PROTECTION

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- ***Chemicals*** *from household products from washing your car, painting, or household cleaners.*
- ***Toxins*** *such as oil or antifreeze that may leak from your car.*

Local recreation areas are affected by storm water contamination and can result in harmful situations for humans and wildlife. These areas include the Weber River, Ogden River (including North, Middle & South Fork), Pineview Reservoir among others.

Who Should Use this Pamphlet?

- ***Residents***
- ***Landscapers***
- ***Gardeners***
- ***Swimming pool/spa service and repair workers***
- ***General contractors***

What Can You Do?
General Practices

Take tree & grass trimmings to Weber County Compost Facility (801-726-8212). You can also pick up ground cover to stabilize erosion, and compost is available for a natural fertilizer.

Use biodegradable pesticides/herbicides and cleaners.

Never use the gutter or storm drain system for disposal of household or garden waste.

Remove all pet waste from yard and curb and dispose of in trash. -to prevent spread of bacteria.

Store pesticides, fertilizers and other chemicals indoors, in a shed, or storage cabinet.

Wash household tools over grassed area away from curbs and gutters.

Clean leaves, sediment, and trash out of gutter and dispose of in garden or trash.

Landscaping/Garden Maintenance

Control erosion on your property by planting groundcover and stabilizing erosion-prone areas.

Use up pesticides. Rinse containers and use rinse water as product. Dispose of rinsed containers in the trash

Collect lawn and garden clippings, pruning waste, and tree trimmings. Chip if necessary and compost.

Sweep and collect dirt from driveways or walks and dispose of in garden.

Apply lawn and garden chemicals sparingly and according to instructions. Rinse containers and dispose of in trash.

Pool/Spa Maintenance

Never discharge pool or spa water into a street or storm drain.

When emptying a pool or spa, let chlorine dissipate for a few days, then recycle/reuse it by draining it gradually onto a landscaped area.

Do not use copper-based algaecides unless absolutely necessary. Copper is an especially strong herbicide and doesn't degrade to less toxic forms quickly. Control algae with chlorine or other alternatives.

Perform regular inspections to detect leaks.

Try to keep the water in the pool.

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PET WASTE and WATER QUALITY

RECOMMENDED METHODS FOR STORM WATER PROTECTION

In Weber County, storm water flows through storm drains directly to local creeks and rivers with **NO TREATMENT.**

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What kind of contaminants might reach our rivers and streams?

•**Contaminants** resulting from unwise landscaping practices such as over applying or over watering might include: dirt, leaves, grass clippings, fertilizers, herbicides, and pesticides.

•**Chemicals** from household products from washing your car, painting, or household cleaners.

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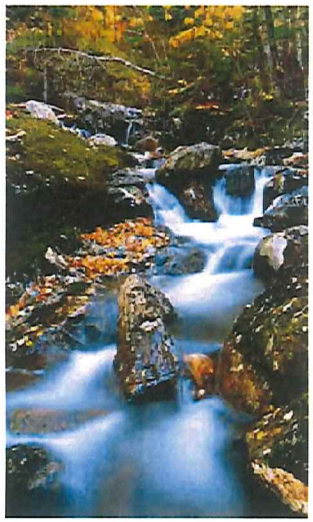


Are You Polluting Lakes and Streams?

Pet Owners... When you clean up after your pet, do you dump the waste in the street or storm drainage system? Do you leave it to decay on the sidewalk or on the parkway? If so, you may be causing pollution or health problems.

Pollutants from improperly disposed pet waste may be washed into the storm drainage system by rain or melting snow. Storm runoff in Weber County receives NO treatment.

☞ When pet waste is washed into lakes or streams, the waste decays, using up oxygen and releases ammonia. Low oxygen levels and ammonia combined with warm temperatures kill fish.

☞ Pet wastes also contain nutrients that encourage weed and algae growth. Overly fertile water becomes cloudy and green–unattractive for swimming, boating, and fishing.

☞ Perhaps most importantly, pet waste can carry diseases which could make water unsafe for contact.

What Can You Do?

Cleaning up after you pet can be as simple as taking a plastic bag or pooper scooper along on your next walk. What should you do with the waste you pick up? No solution is perfect, but we recommend two:

1. Flush It down the toilet.
The water in your toilet goes to a sewage treatment plant that removes most pollutants before the water reaches a river or stream.

To prevent plumbing problems, don't flush debris, cat litter. Cat feces may be flushed but used litter should be put in a securely closed bag in the trash.

2. Put waste in a securely closed bag and deposit it in the trash.

Because pet waste may carry diseases, you should not bury it in a vegetable garden. Do not put waste in a compost pile. The pile will not get hot enough to kill diseases organisms in the waste.

Where Does My Stormwater Fee Money Go?

In 1999, the EPA implemented new stormwater regulations for cities with a population under 100,000 to help clean up the rivers and groundwater. ***The new regulations have created more requirements but have not included any additional federal funding.***

Ogden City, along with most of the other small cities in our area, has had to create a stormwater fee based on the impermeable surface of each property. Primarily, this includes the roof area of the house and any pavement or concrete areas that would not allow stormwater to soak into the ground like it did prior to development.

Since all properties are not equal, it was decided to have all residential properties pay a flat fee. Commercial and Industrial areas are charged according to how much impermeable surface they have.

The following are just a few of the things that your stormwater fee pays for:

- → Increased stormwater pipe sizes, where necessary
- → Additional detention ponds located around the City to minimize downstream flooding
- → New ordinance and enforcement for on-site containment of construction site debris and material.
- → Increased education to the public to emphasize the need for these actions
- → Regular maintenance of the stormwater system which includes cleaning, repairing, replacement, TV inspection, emergency management and illicit connection enforcement.
- → Stormwater modeling and designing for new development
- → Responding to stormwater flooding even when there is no storm sewer in the area.

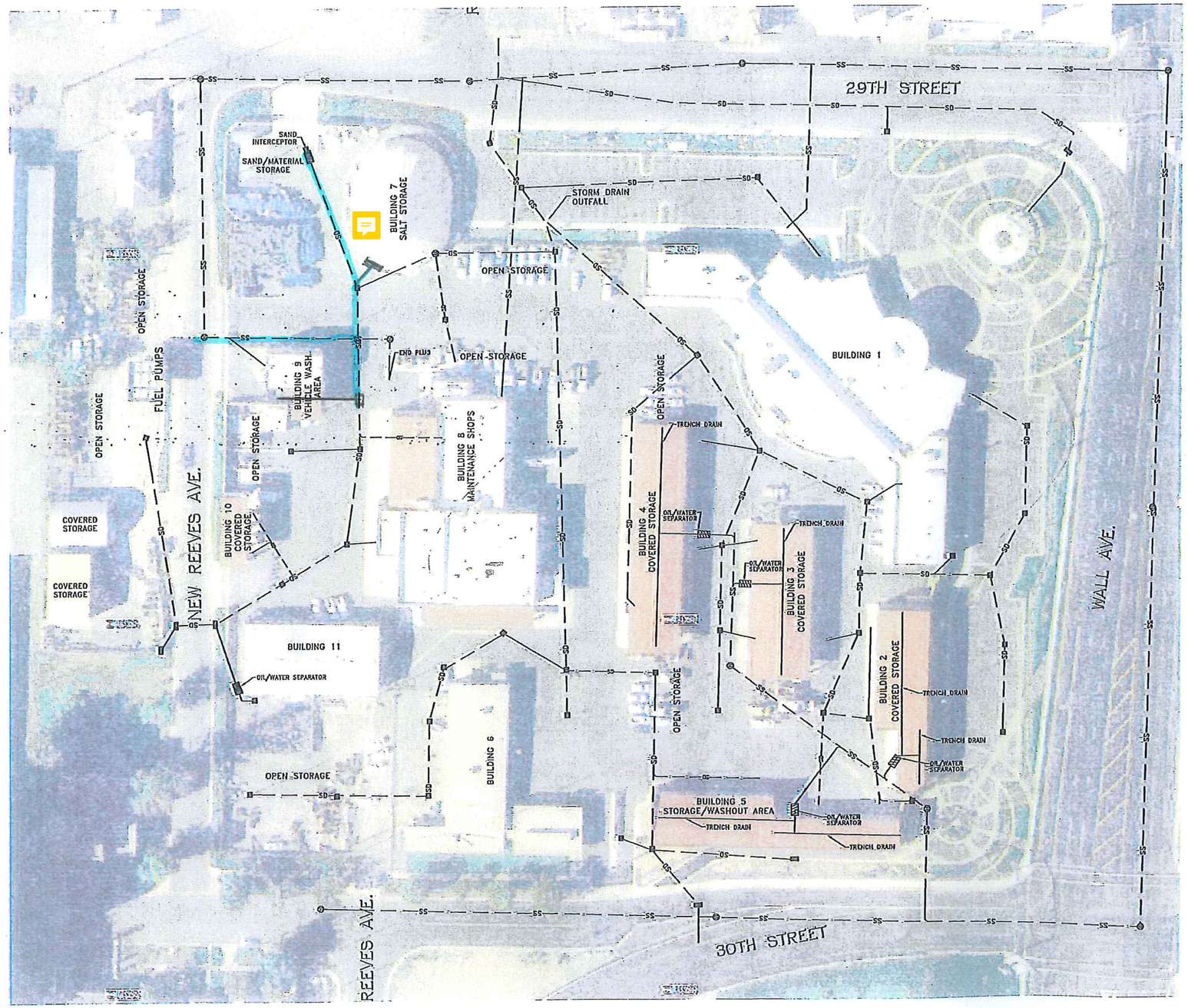
It is anticipated that the next phase of the EPA regulations will include requirements to treat the stormwater in some areas prior to entering the rivers and streams. ***This phase will also come with un-funded Federal requirements***

Table B9: Facilities Owned and Operated by Ogden City

ID	Name	Type	Address
HPF1	Parks and Green Waste Facility	Community Services	1877 Monroe Blvd
HPF2	Public Works/Fleet Bldg	Community Services	133 W 29th St
F1	Mt Eyrie Park	Outdoor Recreation	520 Canfield Dr (1225)
F2	Sullivans Hollow	Outdoor Recreation	3093 Gramercy Ave
F3	Mount Lewis Park	Outdoor Recreation	920 N 925 E
F4	Francis Park	Outdoor Recreation	625 E 675 N
F5	Bonneville Park	Outdoor Recreation	360 Monroe Blvd
F6	29th St Trailhead	Outdoor Recreation	2902 Buchanan
F7	Romrell Park	Outdoor Recreation	275 4th Street
F8	4th Street Park	Outdoor Recreation	502 Wall Ave
F9	9th Street Park	Outdoor Recreation	878 Liberty Ave
F10	Rolling Hills Park	Outdoor Recreation	1550 E 12th
F11	Big D Sports Park	Outdoor Recreation	1376 Park Blvd
F12	El Monte Golf Course	Golf Course	1300 Valley Dr
F13	MTC Park	Outdoor Recreation	1750 Monroe
F14	Lorin Farr Park	Outdoor Recreation	769 Canyon Park
F15	Ogden Pioneer Stadium	Stadium	668 17th
F16	West Stadium Park	Outdoor Recreation	668 17th
F17	Pioneer Days Info	Community Services	1810 Washington Blvd
F18	Green Waste Site	Community Services	1845 Monroe Blvd
F19	Ogden City Cemetery	Community Services	1875 Monroe Blvd
F20	West Ogden Park	Outdoor Recreation	751 W 24th
F21	Miles Goodyear Park	Outdoor Recreation	2452 A Ave (500 W)
F22	Kayak Park	Outdoor Recreation	485 W Exchange Rd
F23	Union Station	Indoor Recreation	25th & Wall Ave
F24	Lindquist Stadium	Stadium	23rd & LIncoo
F25	Municipal Gardens	Outdoor Recreation	2540 Grant Ave
F26	Marshall White	Indoor Recreation	2795 Grant Ave
F27	Lester Park/ Golden Hours	Outdoor Recreation	663 24th
F28	Liberty Park	Outdoor Recreation	2181 Monroe Blvd
F29	Eccles Park	Outdoor Recreation	2550 Eccles Ave
F30	Courtyard Park	Outdoor Recreation	225 Lorin Cir (1176 E)
F31	Lions Park	Outdoor Recreation	1243 22nd St
F32	Dee Memorial Park	Outdoor Recreation	2424 Harrison Blvd
F33	Jaycee Park	Outdoor Recreation	2465 Fillmore Ave
F34	Thomas Park	Outdoor Recreation	2065 Buchanan Ave
F35	Indian Trailhead	Outdoor Recreation	2198 Buchanan Ave
F36	Mt. Ogden Golf Course	Golf Course	1787 Constitution Way
F37	Mt. Ogden Park	Outdoor Recreation	3084 Taylor Ave
F38	Marquardt Park	Outdoor Recreation	3240 Taylor Ave
F39	Triangle @ Skyline & CHD	Unknown	Skyline & Country Hills

Table B9: Facilities Owned and Operated by Ogden City (continued)

ID	Name	Type	Address
F40	College Heights Park	Outdoor Recreation	4090 College Dr
F41	Beus Park	Outdoor Recreation	4260 Country Hills Dr
F42	Forest Green Park	Outdoor Recreation	4302 Taylor Ave
F43	Browning Park	Outdoor Recreation	4965 S 1500 E
F44	Glassman's Pond	Outdoor Recreation	1126 E 4600 S
F45	Grandview Park	Outdoor Recreation	3815 Jackson Ave
F46	Monroe Park	Outdoor Recreation	850 E 30th St
F47	Orchard Park	Outdoor Recreation	3250 Jefferson Ave
F48	Jefferson Park	Outdoor Recreation	3302 Grant Ave
F49	High Adventure Park	Outdoor Recreation	18th & Grant Ave
F50	Dino Park	Outdoor Recreation	1544 Park Blvd
F51	Wildlife Rehab of Northern Utah	Community Services	1490 Park Blvd
F52	Community Service Office	Community Services	1875 Monroe Blvd
F53	Police Sub Station	Emergency Services	2475 & Monroe Blvd
F54	Parking Terrace	Parking	2060 Lincoln Ave
F55	Public Safety Building	Emergency Services	2110 Lincoln Ave
F56	Soleman Center	Indoor Recreation	23rd & Kiesel Ave
F57	Junction Parking Terrace	Parking	23rd & Grant Ave
F58	Municipal Building	Community Services	2549 Washington Blvd
F59	Fire Tower	Emergency Services	800 W 12th St Approx
F60	Fire Station #1	Emergency Services	2110 Lincoln Ave
F61	Fire Station #2	Emergency Services	21st & Harrison
F62	Fire Station #3	Emergency Services	350 S Washington Blvd
F63	Fire Station #4	Emergency Services	730 W 24th St
F64	Fire Station #5	Emergency Services	3450 S Harrison Blvd
F65	Fire Station #6	Emergency Services	3450 S Harrison Blvd
F66	Airport Fire Station	Emergency Services	Hinkley Airport
F67	Airport Rd Tank (Abandoned)	Utility	About 3900 S Airport Rd
F68	Airport Rd Pump House	Utility	About 4050 S Airport Rd
F69	9th Street Water Tank & PH	Utility	1680 9th St
F70	23rd St Reservoir	Utility	1800 23rd St
F71	Taylor Canyon Pump House	Utility	Top of 27th St
F72	Taylor Canyon Tanks	Utility	Top of 27th St
F73	36th Street Tanks (New)	Utility	1750 35th St
F74	36th St Tanks (old)	Utility	1750 35th St
F75	4600 S Tanks	Utility	4750 Ridgedale Dr
F76	4600 S Pump House	Utility	4800 S 1400 E
F77	Filter Plant	Utility	980 Ogden Canyon
F78	9th St Pump House	Utility	1275 Mountain Rd
F79	Pineview Well Site	Utility	600 N 5900 E



0 100 200

Scale in Feet
1"=100'

-POLLUTION PREVENTION TEAM-

RICHARD BROOKINS – FACILITY MANAGER
JUSTIN ANDERSON – CITY ENGINEER

-DRAINAGE AND SITE MAP-

DRAINAGE AREA – APPROXIMATELY 7.43 ACRES
DRAINAGE OUTFALL – SEE OVERVIEW – OUTFALL IS LOCATED ON NORTH END OF SITE (EAST OF BUILDING #7)
STRUCTURAL AND NON-STRUCTURAL CONTROLS – CATCH BASIN CLEANING; OIL/WATER SEPARATOR; SAND INTERCEPTOR; CURBING; DRIP PANS; MATERIAL STORAGE; SPILL CLEANUP; VEHICLE AND EQUIPMENT CLEANING, FUELING, MAINTENANCE AND REPAIR; EMPLOYEE TRAINING; HOUSE KEEPING PRACTICE.
SIGNIFICANT MATERIALS EXPOSED TO PRECIPITATION – EXPOSED MATERIALS AT THE SITE CONSIST OF VEHICLE AND EQUIPMENT STORED IN THE OPEN STORAGE AREA, AND SAND STORAGE. DRIP PANS ARE USED AND CATCH BASIN, SAND INTERCEPTOR AND OIL/WATER SEPARATOR CLEANING IS PERFORMED TO MINIMIZE CONTAMINATION.

REVISIONS

NO.	DATE	DESCRIPTION

SCALE: 1" = 100'
DATE: JUNE 2009
DESIGN: KN
DRAWN: RC
CHECKED:
DWG: SEE PLOT STAMP ON LEFT

OGDEN CITY
STORM WATER POLLUTION PREVENTION PLAN
WALL AVE MAINTENANCE FACILITY
OGDEN CITY, WEBER COUNTY, UTAH

Gardner Engineering
5875 S. Adams Ave Pkwy
Ogden, Utah 84405
(801) 476-0202

SCALE
HORIZ 0 50 100

SWPPP NOTES:

ALL INLETS PROTECTED WITH WADDLES AND FILTER SCREEN DURING CONSTRUCTION OR SPILLS

PP-1

SHEET 1

REVISION 0

REV	DATE	DESCRIPTION
0	MM/DD/YY	DESCRIPTION

DESIGNED PJS
DRAWN PJS
CHECKED JB
DATE 6/10/2020

DRAWING SCALE
This bar measures exactly one inch on the original drawing
H: 1" = 20' (22x34) 1" = 40' (11x17)
V: 1" = 5' (22x34) 1" = 10' (11x17)

SWPPP

PARKS AND GREEN WASTE FACILITY

1877 MONROE BLVD

PLOT DATE: 6/10/2020 5:02 PM

DRAWING NAME: Stormwater_highpriorityfacility_SWPP.dwg

Ogden UTAH Still Untamed™
2549 Washington Blvd, Suite 760 Ogden, UT 84401
Phone: 801-629-8930 engineering.ogdencity.com

APPENDIX C: Requirements and Compliance

MS4 Permit Requirements and Ogden-Specific Compliance References

Table C1: Permit Inspection Requirements

MS4 Section	MCM	Verbatim Text from MS4	Asset Inspected	Frequency of Inspection	Responsible Staff
4.2.3.3.2	IDDE	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.	IDDE identified priority areas	Annually	Engineering Storm Water Inspector
4.2.3.3.3	IDDE	Dry weather screening (See Definition) activities for the purpose of verifying outfall locations and detecting illicit discharges within the Permittee's jurisdiction that discharge 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.	All outfalls	Once every five years	Engineering Storm Water Inspector
4.2.3.5.1	IDDE	When the source of an illicit 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.	Illicit non-storm water discharges	As reported or identified	Engineering Storm Water Inspector
4.2.4.4.1	CSRC	At a minimum, monthly 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 which collectively disturbs land greater than or equal to one acre are required. These inspections must be conducted by qualified personnel using the Construction Storm Water Inspection Form (Checklist) found on the Division's website at https://deq.utah.gov/waterquality/municipal-separate-storm-sewer-system-ms4s-permits-updes-permits.	All construction sites disturbing ≥ 1 acre	Monthly from permit issue date until NOT.	Engineering Storm Water Inspector
4.2.4.4.3	CSRC	Inspections by the MS4 of priority construction sites, as defined in Part 7.0., must be conducted at least biweekly (every two weeks) using the Construction Storm Water Inspection Form (Checklist) found on the Division's website at https://deq.utah.gov/water-quality/municipal-separate-storm-sewer-system-ms4spermits-updes-permits.	Priority construction sites	Bi-Weekly from permit issue date until NOT.	Engineering Storm Water Inspector
4.2.5.2.4	LTSWM	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.	Permanent structural BMPs	Once during installation	A qualified person
4.2.5.2.5	LTSWM	Inspections and any necessary maintenance must be conducted at least every other year or as necessary to maintain functionality of the control by either the Permittee, or, if applicable, 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. Following an inspection, if there is an observed failure of a facility to perform as designed, the Permittee must document its findings in an inspection report.	City-owned Permanent Structural BMPs	Every other year	Engineering Storm Water Inspector
			Privately owned permanent structural BMPs	Every other year	Engineering Storm Water Inspector
			Privately owned permanent structural BMPs	Once Every five years	Engineering Storm Water Inspector
4.2.6.5.1	PPMO	Monthly visual inspections: The Permittee must perform monthly visual inspections of "high priority" facilities and related storm water outfalls in accordance with the developed SOPs to verify the performance of the BMPs and all other systems designed and placed to eliminate pollutant discharges. The monthly inspections must be tracked in a log for every facility and records must be kept with the SWMP document. The inspection log should also include any identified deficiencies and the corrective actions taken to fix the deficiencies.	Municipal facilities identified as "high priority" and related outfalls	Monthly visual	Facility Manager
4.2.6.5.2	PPMO	Semi-Annual comprehensive inspections: At least twice per year, 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 semi-annual 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.	Municipal facilities identified as "high priority" and related outfalls	Comprehensive twice per year	Engineering Storm Water Inspector
4.2.6.5.3	PPMO	Annual visual observation of storm water discharges: At least once per year, the Permittee must visually observe the quality of the storm water discharges from the "high priority" facilities. Any observed problems (e.g., color, foam, sheen, turbidity) that can be associated with pollutant sources or controls must be remedied as soon as practicable, but at a minimum, before the next storm event. Remediation is required 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.	Water discharged from high priority municipal facilities related outfalls	Annually	Engineering Storm Water Inspector

Table C2: Permit Training Requirements

MS4 Section	Training Topic(s) Summary	Who	How Often
3.2.1.3	• Storm water quality impacts associated with N and P in storm water runoff and illicit discharges • Behaviors of concern, and • Actions that can be taken to reduce N & P	Target audience(s) in Public Outreach Program	Ongoing
4.2.1.2	• Prohibitions against illicit discharge and improper disposal of waste as it relates to maintaining septic systems, • Effects of outdoor activities (use of pesticides, herbicides, and fertilizers), • Benefits of onsite infiltration of storm water, • Effects of automotive work and car washing, • Proper disposal of swimming pool water, • Proper management of pet waste and • Any other pollutant source or activity that impacts water quality	General Pulic	Ongoing
4.2.1.4	• Storm Water Pollution Prevention Plans (SWPPPs) and • BMP use to reduce adverse impacts from storm water runoff	• Engineers, • Construction contractors, • Developers, • Development review staff, and • Land use planners	Ongoing
4.2.1.5	• Prohibition against illicit discharges and improper disposal of waste • The impacts to water quality associated with 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 deicing materials (cover/prevent runoff to MS4 and ground water contamination); • Benefits of appropriate onsite infiltration (areas with low exposure to industrial materials such as roofs or employee parking); and • Proper maintenance of parking lot surfaces (sweeping)	Ogden Employees	All new hires within 60 days of hire and annually thereafter. Follow-up training as needed.
4.2.1.6	• Low Impact Development (LID) practices, • Green infrastructure practices, • Specific requirements for post-construction control • Associated Best Management Practices (BMPs) chosen within the SWMP	• MS4 engineers, • Development and plan review staff, • Land use planners, and	Ongoing
4.2.3.11	• Identification, investigation, termination, cleanup, and reporting of illicit discharges including spills, improper disposal, and illicit connections • How to identify a spill, an improper disposal, or an illicit connection, and • Proper procedures for reporting the illicit discharge	• All staff, contracted staff, or other responsible entities, that as part of their normal job responsibilities might come into contact with or otherwise observe an illicit discharge or illicit connection	All new hires within 60 days of hire and annually thereafter. Follow-up training as needed.
4.2.4.5	• Job-specific training on Construction Storm Water Program requirements	• All staff whose primary job duties are related to implementing the construction storm water program, • Permitting staff, • Plan review staff, • Construction site inspections, and enforcement staff, • Any third party inspectors or	All new hires within 60 days of hire and annually thereafter. Follow-up training as needed.
4.2.5.5	• Fundamentals of long-term storm water management through the use of structural and non-structural control methods	• All staff involved in post-construction storm water management, • Staff that conduct plan review, • Staff that conduct maintenance inspections, and	All new hires within 60 days of hire and annually thereafter. Follow-up training as needed.
4.2.6	• Ultimate goal of preventing or reducing the runoff of pollutants to the MS4 and waters of the state	All Ogden Employees	All new hires within 60 days of hire and annually thereafter. Follow-up training as needed.
4.2.6.10	• The importance of protecting water quality, • The requirements of this Permit, • O&M requirements, • Inspection procedures, • Ways to prevent or minimize impacts to water quality by how they perform their job activities • SOPs and SWPPPs for the various Permittee-owned or operated facilities, • Procedures for reporting water quality concerns, including potential illicit discharges	• All employees, contracted staff, and other responsible entities that have primary operation, or maintenance job functions that are likely to impact storm water quality	All new hires within 60 days of hire and annually thereafter. Follow-up training as needed.

Note: Training records must be kept and contain, at a minimum, dates, activities or course descriptions, and names and positions of staff in attendance. The Permittee shall document and maintain records of the training provided and the staff in attendance. Records must be kept for the full permit term (5 years).

APPENDIX D: Forms and SOPs

Inspection and tracking forms, SOPs, etc.

CITY OF OGDEN

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

Forms and Standard Operating Procedures (SOPs)

Prepared by:
Ogden Engineering Division
2549 Washington Blvd, Ogden, Utah 84401
Phone: 801-629-8000
Website: www.OgdenCity.com

Table of Contents

SOP 4.2.3.3.3: Outfall Inspection - Dry Weather Screening

1. Purpose

   To detect potential illicit discharges through inspections of outfalls during dry weather conditions. Dry-weather flows discharging from storm drainage systems can contribute significant pollutant loadings to receiving waters. Illicit dry weather flows originate from many sources. The most important sources typically include sanitary wastewater or industrial and commercial pollutant entries, failing septic tank systems, and vehicle maintenance activities.

2. Preparation
   a. Review past and present weather conditions (only inspect when at least 48 hours has passed since last precipitation event, unless responding to a citizen complaint or spill).
   b. Review outfall map and locate outfall(s) for inspection.
   c. Obtain outfall description and observations from previous inspections, so the outfall can be accurately identified, and observations compared.
   d. Gather all necessary equipment including: Clear sampling jar, map showing location, relevant SWMP Forms and SOPs, Outfall Inspection Form 4.2.3.3.3, pen, work tablet or camera (to take photos), Trimble GPS unit (to verify locations as needed), clip board, tape measure, flashlight, loppers/pruners, hand saw, gloves, waders (or boots), In-Situ Sample Troll (to measure water quality as needed).
3. Process
   a. Locate outfall (use hand tools as needed).
   b. Check if discharge is present.
      i. If yes, follow Phase 2 of Spill / Illicit Discharge Response Protocols. 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.).
      ii. If no, move to Step 4.
4. Documentation
   a. Fill out Outfall Inspection Form 4.2.3.3.3
   b. File photos (if necessary)
   c. Update maps as needed
   d. Submit all files to SWMP Coordinator

FORM 4.2.3.3.3: Outfall Inspection – Dry Weather Screening

1. Background Data			
Outfall ID:	Date:	Time:	Inspector(s):
Weather Conditions: ☐Sunny ☐Cloudy ☐Partly Cloudy ☐Rainy ☐Snowy ☐Windy ☐Other: _____ Temperature: _____ °F			Date of Last Precipitation: _____ Amount (inches): _____ ☐Rain ☐Snow
Note: Only inspect in dry weather conditions and when at least 48 hours has passed since last precipitation event.			
Location or Site Access Description (if needed):			

2. Outfall Description				
Item	Yes	No	Section Required	Complete Only if Necessary or Prompted
A.	☐	☐	Outfall is mapped accurately.	Size (inches) Width/Height or Diameter: _____ Type / Shape: ☐Round ☐Arch ☐Box ☐Swale Material: ☐RCP ☐PVC ☐CMP ☐Earthen Swale ☐Galvanized ☐Concrete ☐Other: _____ Trash Guard: ☐Yes ☐No Flared End: ☐Yes ☐No Rip-Rap Present: ☐Yes ☐No Apron Present: ☐Yes ☐No Land Use in Immediate Vicinity: ☐Residential ☐Commercial ☐Open Space: _____
B.	☐	☐	Municipal ID is correct.	
C.	☐	☐	Physical attributes (pipe size, material, etc.) are correct.	
If "NO" to any item A – C above, use Trimble to update location on GIS and fill in physical attributes above as needed.				
Item	Yes	No	Section Required	Complete Only if Necessary or Prompted
D.	☐	☐	Is there flow coming from the outlet? ☐Trickle ☐Moderate ☐Substantial	Follow SOP 4.2.3.5A Characterize Illicit Discharge and provide severity: ☐Level 0 ☐Level 1 ☐Level 2 ☐Level 3
E.	☐	☐	Are there any concerns with water below or near outfall?	
If "YES" to item D or E above, characterize discharge and proceed with Spill – Illicit Discharge Response Protocols as needed.				
Item	Yes	No	Section Required	Complete Only if Necessary or Prompted
F.	☐	☐	Is outfall submerged?	Notes:
G.	☐	☐	Is there buildup of sediment below or around outfall?	Depth: _____ Length: _____ Width: _____ (inches)
H.	☐	☐	Is there outfall damage?	☐Spalling, cracking, or chipping ☐Corrosion ☐Pipe / Trash Guard Separation
I.	☐	☐	Does the outfall allow free flow of water?	☐Garbage ☐Sediment ☐Vegetation ☐Animal Dens ☐Other: _____

3. Outfall Maintenance needs				
Item	Yes	No	Section Required	Complete Only if Necessary or Prompted
J.	☐	☐	Are there any noticeable environmental impacts around the outfall?	☐Scouring Sediment ☐Garbage Buildup ☐Sediment Buildup ☐Decaying Vegetation/Animals
K	☐	☐	Are there any maintenance needs	☐Obstruction Removal/Cleaning ☐Pipe Repair ☐Erosion Stabilization ☐Concrete Repair ☐Other: _____

SOP 4.2.3.4: Tracing Illicit Discharges

1. Preparation
    a. Review and consider information collected when illicit discharge was initially identified. If not already completed, document using FORM 4.2.3.9 Spill-Illicit Discharge Incident Tracking.
    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, pen, clipboard, flashlight, manhole hook, and mobile or tablet camera (to take photos), In-Situ Sample Troll (to measure water quality as needed).
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 and visually inspect upstream pipes, catch basins, etc. Open manholes as needed.
    c. If the source of the illicit discharge cannot be determined by a visual survey of the area or observation of the storm drain system, then consider the following additional steps:
        i. Use weirs, sandbags, dams, or optical brightener monitoring traps to collect or pool intermittent discharges during dry weather.
        ii. Smoke test or televise the storm drain system to trace high priority, difficult to detect illicit discharges.
        iii. Dye test individual discharge points within suspected buildings.
        iv. Use In-Situ Sample Troll to monitor water quality of flowing discharges or use container to collect intermittent discharges during dry weather for quality monitoring. Proceed with monitoring at upstream points following Figure 1 on next page to attempt to track the discharge systematically through the system based on water properties.
        v. Consider collecting samples of flowing discharges to confirm/refute illicit discharge.
    d. If the source is located, proceed with Phase 3 of the Ogden City Spill / Illicit Discharge Response Protocols to eliminate the source, and clean up the site. Follow SOP 4.2.3.6 Ceasing Illicit Discharges.
    e. If the source cannot be found, consider the location for future inspections.
3. Clean up
    a. Clean catch basin, clean storm drain, or initiate spill response, as applicable. Follow relevant SOPs.
4. Documentation
    a. Document all investigations and further actions using FORM 4.2.3.9 Spill-Illicit Discharge Incident Tracking.

SOP 4.2.3.4: Tracing Illicit Discharges (continued)

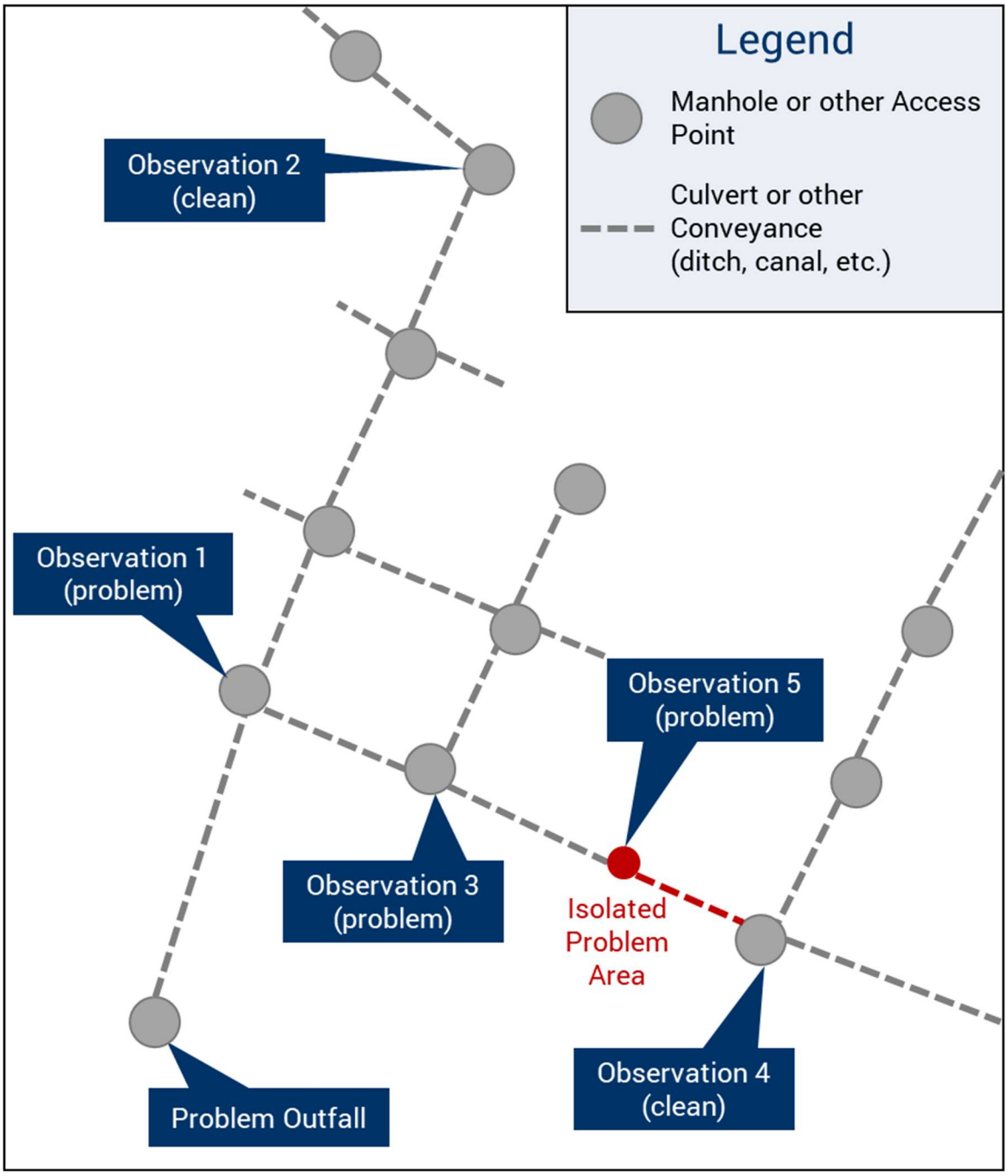


Figure 1: Systematic Storm Water System Observations for Illicit Discharge Tracing

SOP 4.2.3.5A: Characterizing Water Quality and Illicit Discharges

See images on Table 1 to assist in assigning water quality severity. Images should be printed in color for best use.

Physical Indicators of Flowing Discharge

1. Odor

Caution: Never inhale directly over the suspect area as it may contain vapors that could be harmful. Fill sample bottle at least halfway with sample water and hold about six inches away from your nose. Use your free hand to fan the scent to your nose.
Tip: Make sure the origin of the odor is the outfall pipe. Sometimes shrubs, trash, or dead animals, or even the spray paint used to mark the outfall can confuse the nose of field crews.

Description: ☐Musty ☐Sewage ☐Rancid or Sour ☐Oil or Gas ☐Sulfide (rotten egg smell) ☐Chlorine ☐Sharp or Pungent ☐Sweet or Fruity ☐Gasoline or Petroleum ☐ Other:

Severity Index:	**Odor Severity:**
0 – No odor is present.	**Level 0** ☐
1 – Odor is faint, or the crew cannot agree on its presence or origin.	**Level 1** ☐
2 – Indicates a moderate odor.	**Level 2** ☐
3 – Odor is so strong that crew smells it from a considerable distance away from the outfall or source.	**Level 3** ☐

2. Color

Tip: The best way to measure color is to collect the discharge in a clear sample bottle and hold it to the light. Field crews should also look for downstream plumes of color that appear to be associated with the outfall. See Table 2 for possible sources of specific discharge colors.

Description: ☐White ☐Brown ☐Gray ☐Yellow ☐Green ☐Orange ☐Red ☐Purple ☐Blue ☐Black ☐Other:

Severity Index:	**Color Severity:**
0 – Sample is clear with no indication of any color when analyzed in clear container.	**Level 0** ☐
1 – Primarily clear, faint colors may be present in sample container.	**Level 1** ☐
2 – Color is clearly visible in sample container, moderately intense.	**Level 2** ☐
3 – Flow is clearly visible or intensely colored. No sample container necessary to see color.	**Level 3** ☐

3. Turbidity

Tip: Like color, turbidity is best observed in a clear sample bottle. Turbidity can easily be confused with color, however, turbidity is a measure of how easily light can penetrate through the water sample, whereas color is defined by the tint or intensity of the color observed. Field crews should look for turbidity in the pool below the outfall and note any downstream turbidity plumes that appear to be related to the outfall.

Severity Index:	**Turbidity Severity:**
0 – Sample allows light to pass though easily and is comparable to clear water.	**Level 0** ☐
1 – Slight cloudiness to the water, some light cannot pass through clear sample container.	**Level 1** ☐
2 – Cloudy, more difficult to see through the water.	**Level 2** ☐
3 – Water is opaque; cannot see through.	**Level 3** ☐

4. Floatables

Tip: Sewage, oil sheen and suds are all examples of floatable indicators. Trash and debris are generally not floatables in the context of illicit discharge investigations but should be noted in any case for potential dumping or yard waste concerns.

Description: ☐Oil Sheen ☐Suds/Foam ☐Sewage/Toilet Paper (automatically level 3 severity)

Severity Index:	**Floatable Severity:**
0 – Only natural floatables are observed (suds caused by water turbulence, leaves, etc.)	**Level 0** ☐
1 – Few/slight amount of floatable, origin not obvious.	**Level 1** ☐
2 – Some to moderate amount with some indication of origin (e.g., possible suds or oil sheen)	**Level 2** ☐
3 – Some or severe amount with clear origin (e.g., obvious oil sheen, suds, or floating sanitary materials)	**Level 3** ☐

Overall Discharge Severity Characterization and Next Steps

Report overall severity as highest level of any category: (e.g., Odor = 1, Color = 1, Turbidity = 1, Floatable = 3, then Overall Severity is 3)

Overall Severity:	**Level 0** ☐	**Level 1** ☐	**Level 2** ☐	**Level 3** ☐
Corresponding Next Steps:	No further steps necessary	Report to Health Dept. and continue following Spill / Illicit Discharge Response Protocols		
		Contain Illicit Discharge SOP 4.2.3.5B	Use best judgement to determine if necessary to call Fire Dept. to help contain. Contain only within capabilities and aid in containment when support arrives to scene.	
		Once discharge is contained, proceed to Phase 3 of Illicit Discharge Response Protocols.		

SOP 4.2.3.5A: Characterizing Water Quality and Illicit Discharges (continued)

Table 1: Examples of Assigning Illicit Discharge Severity

 **Color:** Yellow, Severity 3 **Turbidity:** Severity 3 **Floatables:** Severity 0 **Overall Severity: Level 3**	 **Color:** Yellow, Severity 3 **Turbidity:** Severity 0 **Floatables:** Severity 0 **Overall Severity: Level 3**	 **Color:** Purple, Severity 3 **Turbidity:** Severity 0 - 1 (Confirm turbidity with clear sample bottle) **Overall Severity: Level 3**
 **Color:** None, Severity 0 **Turbidity:** Severity 0 **Floatables:** Severity 0 **Overall Severity: Level 0**	 **Color:** Brown, Severity 0 – 1 (Difficult to confirm. May be natural.) **Turbidity:** Severity 1 **Overall Severity: Level 1**	 **Color:** Brown, Severity 3 **Turbidity:** Severity 3 **Floatables:** Severity 3 **Overall Severity: Level 3**
 **Color:** White, Severity 3 **Turbidity:** Severity 3 **Floatables:** Severity 0 **Overall Severity: Level 3**	 **Color:** Green, Severity 3 **Turbidity:** Severity 2 - 3 (Confirm turbidity with clear sample bottle) **Floatables:** Severity 0 **Overall Severity: Level 3**	 **Color:** Clear, Severity 0 **Turbidity:** Severity 0 - 1 (Confirm turbidity with clear sample bottle) **Floatables:** Severity 0 **Overall Severity: Level 0 - 1**

SOP 4.2.3.5A: Characterizing Water Quality and Illicit Discharges (continued)

Table 1: Examples of Assigning Illicit Discharge Severity (continued)

 **Color:** Clear, Severity 0 **Turbidity:** Severity 0 **Floatables:** Oil Sheen, Severity 2 **Overall Severity: Level 2**	 **Color:** Brownish, Severity Unknown **Turbidity:** Severity Unknown (check with clear sample containter) **Floatables:** Synthetic Oil Sheen, Severity 3 **Overall Severity: Level 3**	 **Color:** Severity Unknown **Turbidity:** Severity Unknown (check with clear sample containter) **Floatables:** Synthetic Oil Sheen, Severity 3 **Overall Severity: Level 3**
 **Turbidity:** Severity Unknown (check with clear sample containter) **Floatables:** Severity 0 Note: Natural suds caused by turbulance **Overall Severity: Level 0**	 **Color:** Severity Unknown **Turbidity:** Severity Unknown (check with clear sample containter) **Floatables:** Suds/Foam, Severity 3 **Overall Severity: Level 3**	 **Color:** Severity Unknown **Turbidity:** Severity Unknown (check with clear sample containter) **Floatables:** Suds/Foam, Severity 3 **Overall Severity: Level 3**
 **Color:** Severity Unknown **Turbidity:** Severity Unknown (check with clear sample containter) **Floatables:** Suds/Foam, Severity 2 **Overall Severity: Level 2**	 **Color:** Clearish, Severity 0 **Turbidity:** Severity Unknown (confirm with clear sample containter) **Floatables:** Suds/Foam, Severity 2 **Overall Severity: Level 2**	 **Color:** Clear, Severity 0 **Turbidity:** Severity 0 (confirm with clear sample containter) **Floatables:** Suds/Foam, Severity 0 Note: Natural suds caused by turbulance **Overall Severity: Level 0**

SOP 4.2.3.5A: Characterizing Water Quality and Illicit Discharges (continued)

Table 1: Examples of Assigning Illicit Discharge Severity (continued)

 **Color:** Brown, Severity 1 **Turbidity:** Severity Unknown (check with sample containter) **Floatables**: Suds/Foam, Severity 3 Note: Discharge suspected to be sewage **Overall Severity: Level 3**	 **Floatables:** Severity 3 Note: Plume discharge suspected to be sewage **Overall Severity: Level 3**	 **Color:** Green, Severity 2 Turbidity: Severity 2 (check with sample containter) **Floatables:** Suds/Foam, Severity 3 Note: Toxic Algae Bloom **Overall Severity: Level 3**
 **Color:** Greenish white, Severity 1 - 2 **Turbidity:** Unknown (check with sample containter) **Floatables:** Suds/Foam, Severity 3 Note: Toxic Algae Bloom **Overall Severity: Level 3**	 **Color:** Black, Severity 3 **Turbidity:** Severity 3 **Overall Severity: Level 3**	 **Color:** Clear, Severity 0 **Turbidity:** Severity 0 **Floatables:** Severity 0 **Overall Severity: Level 0**

Table 2: Types of Odor and Possible Causes

Odor	Possible Cause
Rotten Egg / Hydrogen Sulfide (septic)	Raw sewage, decomposing organic matter or lack of oxygen
Chlorine	Wastewater treatment plant discharges, swimming pool overflow, industrial discharges
Sharp or Pungent	Chemicals or pesticides
Musty	Presence of raw or partially treated sewage, livestock waste
Gasoline or Petroleum	Industrial discharge, illegal dumping of wastes, wastewater
Sweet or Fruity	Commercial wash water, wastewater

SOP 4.2.3.5A: Characterizing Water Quality and Illicit Discharges (continued)

Table 3: Possible Sources of Various Discharge Colors

Color	Possible Sources	
Tan to Light Brown	• Suspended sediments (common after rainfall) • Construction runoff (sediments, etc.)	• Runoff from roads, agricultural or range land • Soil erosion caused by vegetation removal
Brown	• Construction runoff (sediments, etc.) • Meat (blood) • Printing facilities	• Concrete, Stone, Clay, and/or Glass cutting • Metal grinding • Mud or sediment erosion
Pea Green, Yellow, Brown, Brown-Green, Brown-Yellow, or Blue-Green	• Chemical plants, textiles • Sewage • Algae or plankton bloom (color depends on type of algae or plankton)	• Antifreeze (fluorescent green) • Fertilizer runoff • Vehicle wash water
Tea / Coffee	• Dissolved or decaying organic matter from soil or leaves (commonly associated with tree overhangs, woodlands, or swampy areas)	
Milky or Dirty Dishwater Gray to White	• Dairy / food processing • Concrete wash-out	• Gray water or wastewater, sewage (musty odor present)
Milky White	• Paint, lime, milk, grease, concrete • Swimming pool filter backwash	• Concrete wash-out • Stone cutting
Milky Gray-Black	• Raw sewage discharge or other oxygen-demanding waste (rotten egg or hydrogen sulfide odor may be present)	• Sulfuric acid spill
Clear Black	• Caused from turnover of oxygen-depleted waters	• Sulfuric acid spill
White crusty deposits	• Common in dry/arid areas or during periods of low rainfall where evaporation of water leaves behind salt deposits	• Also found in association with brine water discharge from oil production areas (a petroleum odor or an oily sheen may be present along banks)
Red, Orange-Red	• Leachate from iron deposits • Meat packing / processing	• Deposits on stream beds often associated with oil well operations (check for petroleum order)
Red, Purple, Blue, Black	• Fabric dyes	• Inks from paper and cardboard manufacturers

SOP 4.2.3.5A: Characterizing Water Quality and Illicit Discharges (continued)

Table 4: Potential Causes for High Turbidity

Possible Cause
• Soil erosion
• Runoff from a rain event
• Algae blooms
• Bottom sediment disturbances by aquatic life
• Construction or dredging
Note: If highly turbid (cloudy) water is observed, make sure to look upstream and downstream to see if anything around the site has changed since the last field inspection. An illicit discharge may be present if a highly turbid flow exists.

Table 5: Floatables and General Causes

Surface Scum	Possible Cause
Tan Foam	Usually associated with high flow or wave action; wind action plus flow churns water containing organic materials causing harmless foam; produces small patches to very large clumps.
White Foam	Sometimes patchy or covering wide area around wastewater outfall, thin and billowy, mostly due to soap.
Yellow, Brown, Black Film	Pine, cedar, and oak pollens form film on surface, especially in ponds, backwater areas, or slow-moving water in streams.
Rainbow Film (Sheen)	If a swirling pattern, then likely oil or other fuel type. Check for petroleum odor. If sheet-like and cracks if disturbed, then it is natural.

SOP 4.2.3.5A: Characterizing Water Quality and Illicit Discharges (continued)

Table 6: Land Uses, Generating Sites and Activities that Produce Indirect Discharges

Land Use	Generating Sites	Activity
Residential	• Apartments • Multi-family • Single Family Detached	• Car washing • Driveway cleaning • Dumping or spills (e.g., leaf litter and RV/boat holding tank effluent) • Equipment washdowns • Lawn/landscape watering • Septic system maintenance • Swimming pool discharges
Commercial	• Campgrounds / RV parks • Car dealers/rental car companies • Car washes • Commercial laundry/dry cleaning • Gas stations / auto repair shops • Nurseries and garden centers • Oil change shops • Restaurants • Swimming pools	• Building maintenance (power washing) • Dumping or spills • Landscaping / grounds care (irrigation) • Outdoor fluid storage • Parking lot maintenance (power washing) • Vehicle fueling • Vehicle maintenance/repair • Vehicle washing • Washdown of greasy equipment and grease traps
Industrial	• Auto recyclers • Beverages and brewing • Construction vehicle washouts • Distribution centers • Food processing • Garbage truck washouts • Metal plating operations • Paper and wood products • Petroleum storage and refining • Printing	• All commercial activities • Industrial process water or rinse water • Loading and unloading area washdowns • Outdoor material storage (fluids)
Institutional	• Cemeteries • Churches • Corporate campuses • Hospitals • Schools and universities	• Building maintenance (power washing) • Dumping or spills • Landscaping / grounds care (irrigation) • Parking lot maintenance (power washing) • Vehicle washing
Municipal	• Airports • Landfills • Maintenance depots • Municipal fleet storage areas • Ports • Public works yards • Streets and highways	• Building maintenance (power washing) • Dumping or spills • Landscaping / grounds care (irrigation) • Outdoor fluid storage • Parking lot maintenance (power washing) • Road maintenance • Spill prevention / response • Vehicle fueling • Vehicle maintenance / repair • Vehicle washing

SOP 4.2.3.5B: Containing Illicit Discharges

1. Purpose

   General procedures for properly containing, cleaning up, and disposing of any nonhazardous, non-storm water substance spilled or illegally discharged within Ogden City MS4. For hazardous or potentially hazardous substances, call 911 for assistance in Hazmat containment.

2. Preparation
   a. Review and consider information collected when illicit discharge was initially identified.
   b. Obtain storm drain mapping for the area of the reported illicit discharge.
   c. Gather all necessary equipment including: Spill containment kit, appropriate protective gear for the situation, traffic cones or other barricade supplies, manhole hook, and mobile or tablet camera (to take photos).
3. Process
   a. Stop the flow of the spill.
      i. If source is known and accessible, stop the flow from the source first. (e.g., close valves, rotate punctured drums, plug leaks where possible and safe to do so). If source is unknown, follow SOP 4.2.3.4 Trace Illicit Discharge **after the flow is contained**.
      ii. Build a berm or sandbag to prevent the flow on pavement and in ditches.
      iii. Place sandbags around downstream inlets to prevent flow into inlets.
      iv. Insert plugs in pipes to prevent flow within storm sewers.
      v. Divert flow to containment site or sanitary sewer, pump, or vacuum if applicable.
   b. Prevent runoff during rain. Cover with plastic or tarps, divert water flow on pavement or ditch area.
   c. Prevent substance from being tracked by traffic by barricading area off.
   d. Recover discharged material.
      i. Absorb liquids. Cover with sand, oil dry.
      ii. Vacuum liquid, sweep street.
   e. Call Ogden Fire Dept (911) to aid in containing liquids on bodies of water.
   f. Remove solids with a loader and dump truck, street sweeper, hand shovels, and broom.
4. Clean up
   a. Continue with Phase 3 of Ogden's Spill Response Protocols to trace the source of and cease the illicit discharge as applicable. Refer to Ogden City Waste Management Reference Manual for proper disposal of recovered material.
5. Documentation
   a. Document all investigations and further actions using FORM 4.2.3.9 Spill-Illicit Discharge Incident Tracking.

SOP 4.2.3.6: Ceasing Illicit Discharges

1. Purpose

   General procedures for properly ceasing or terminating an illicit discharge to the Ogden MS4 through notification of appropriate authorities and responsible entities and enforcing City Codes to eliminate the source using escalating enforcements as needed.

2. Preparation
   a. Obtain available property ownership information for the source of the illicit discharge.
3. Process
   a. Determine who is financially responsible.
   b. Require immediate cessation of improper disposal practices. Follow associated procedures as given below.
      i. For Private Property Owners:
         1. Contact Owner and issue written Notice of Violation of City Code 9-7D.
            a. Notice of Violation can require the responsible person to restore any affected property, pay remediation costs, implement treatment BMPs, and/or preform any other requirements listed in Municipal Code 9-7D-10 by a deadline set forth by the enforcement officer.
         2. Determine schedule for removal.
      ii. For Municipal Facility:
         1. Notify appropriate municipal authority or department head.
         2. Schedule removal.
         3. Remove illicit connection.
         4. Repair / correct cause of discharge.
   c. Suspend access to Ogden MS4 if threats of serious physical harm to humans or environment are possible.
   d. Direct responsible party to initiate repairs / corrections / cleanup. Coordinate with enforcement officials for escalating penalties in accordance with the municipal ordinance.
   e. Seek technical assistance from the Weber-Morgan Health Department or Utah Department of Water Quality, if needed.
4. Clean up
   a. Confirm illicit discharge is removed or eliminated by follow-up inspection as needed.
5. Documentation
   a. Document all investigations and further actions using FORM 4.2.3.9 Spill-Illicit Discharge Incident Tracking.

FORM 4.2.3.9: Spill / Illicit Discharge Incident Tracking Form

Fill out all ***(RQD)*** sections and other sections when info is available/relevant. Use extra space on page 2 to include photos, notes, etc.

PART A - To Be Completed By Storm Water Dispatch

1. Incident Location

Description of site where Illicit Discharge was observed: ☐Street ☐Parking Lot ☐Ditch ☐Catch Basin/Inlet ☐Curb ☐Stream/River ☐Grass/Landscaped Area ☐Pond ☐Construction Site ☐Other:

Address or location description ***(RQD)***:	Business/Landowner name (if known):

Brief description of incident, complaint, or method of discovery ***(RQD)***:

2. Reporter Information

Incident date ***(RQD)***:	Incident time:	Reporter name:	Reporter phone number:

3. Preliminary Substance Characterization

Source of spill (if known):	Substance name or description (color, odor, liquid, solid, etc.) ***(RQD)***:	Qty of Spill (if known):

4. Risk Assessment

Is anyone hurt or in immediate danger?	☐No ☐Yes
Is the substance known to be dangerous or hazardous to human health? (Flammable, toxic, explosive, etc.)	☐No ☐Yes

If "YES" to either question above, call 911.

Is the estimated quantity of substance spilled greater than one gallon?	☐No ☐Yes
Has the substance entered the storm system? (Inlet, river, stream, etc.)	☐No ☐Yes

If "YES" to either question above, call Weber-Morgan Health Department: (801) 399-7169

5. Public Works First Knowledge of Discharge:

Call date or date of first aware ***(RQD)***:	Time of awareness:	Name of first notified:

6. Dispatch Appropriately

☐ Inform and dispatch Storm Water crew	Phone: (801) 629-8721	After hrs. (801) 629-8221
☐ Call Engineering Division	Heather Wadman: (385) 382-6227	Alt. Taylor Nielsen: (801) 940-4329
☐ Email this form to SWMP Coordinator (Complete sections above as best as possible)		HeatherWadman@ogdencity.com

PART B - To be Completed By SWMP Coordinator

1. Investigation Notes

Date investigation initiated ***(RQD)***:	Investigators:	Methods used: ☐Tracking ☐CCTV ☐Sampling ☐Smoke/Dye testing ☐Other

Describe investigation actions:

2. Source Information

Is illicit discharge confirmed? ☐No ☐Yes	Suspected violator (name, personal information, vehicle description, etc.):

Is Substance Characterization (section 3) accurate? If not, update here:	Enforcement action taken:

3. Entity Responsible for Cleanup and/or Elimination

Business name (if applicable):	Name of contact person:	Phone:	Email address:

Date of removal ***(RQD)***:	Was removal verified: ☐No ☐Yes (if no, schedule follow up inspection)	Method of verification ***(RQD)***:

4. Follow Up Activities to Verify Removal

Follow up inspection Needed? ☐No ☐Yes	If yes, provide date:	Inspector name:	Date of removal verification ***(RQD)***:

FORM 4.2.3.9: Spill / Illicit Discharge Incident Tracking Form (continued)

Attach supporting information and provide additional notes as needed.

PART B (continued) - To be Completed by SWMP Coordinator

5. Additional Information and Notes (as needed or applicable)
Attachments added (review each and attach directly to this form or provide file location): ☐Inspection Photos ***(RQD)*** ☐Substance Safety Data Sheet (SDS) ☐Citations/Enforcements ☐Documented Communications ☐Other:
Location of supporting files (inspection photos are ***RQD***): ☐Attached directly to this form ☐Uploaded to file at this location:
Additional Incident Notes:

SOP 4.2.3.9.1: Spill / Illicit Discharge Response Protocols

1. Purpose

   Protocols for responding to public referrals of illicit discharges or MS4 employee-identified spills or illicit discharges to the Ogden storm water system.

2. Preparation
   a. Obtain and review City of Ogden Spill / Illicit Discharge Response Protocols Flow Chart and corresponding Forms and SOPs.
   b. If not already complete, report the discharge to Storm Water Dispatch (801) 629-8271 or (801) 629-8221 after hours.
3. Process
   a. Phase 1: Gather Information and dispatch
      i. Storm Water Dispatch to gather information, preform a preliminary risk assessment, and dispatch appropriately following Form 4.2.3.9 Spill-Illicit Discharge Incident Tracking Form.
      ii. Engineering Division and On-Call Utility staff to review information collected and report to scene.
         1. If discharge is obvious, and the substance is known to be hazardous, call 911 and Health Dept (801) 399-7160 for assistance in containment.
   b. Phase 2: Identify, Characterize, and Contain the discharge.
      i. If substance is known to be nonhazardous, follow SOP 4.2.3.5B Contain Illicit Discharge.
      ii. If substance is unknown, follow SOP 4.2.3.5A Characterize Illicit Discharge.
         1. If substance characterization indicates Level 1 Severity, follow SOP 4.2.3.5B Contain Illicit Discharge.
         2. If substance characterization indicates Level 2 or 3 Severity, call 911 and Health Dept (801) 399-7160 for assistance in containment.
      iii. Confirm discharge has been contained.
   c. Phase 3: Eliminate Source and Clean Up
      i. If source of discharge is unknown, follow SOP 4.2.3.4 Tracing Illicit Discharge.
      ii. If source is known, follow SOP 4.2.3.6 Ceasing Illicit Discharge. Refer to City Code 9-7D and 9-7E for legal authority and penalties in enforcement. Obtain assistance in enforcement from Code Enforcement or Police Dept. if needed.
4. Documentation
   a. Document all investigations and further actions using FORM 4.2.3.9 Spill-Illicit Discharge Incident Tracking.

DOC 4.2.3.9.1: Responsible Agencies Contact Information

Table 1 provides relevant agencies to be notified and involved in various spill or illicit discharge incidents.

Table 1: Illicit Discharge Responsible Agencies Contact, Roles, and Responsibilities

Agency	Contact Information	When to Involve	Role and Responsibilities
Ogden City Storm Water Dispatch and Utility Crew	(801) 629-8271 (801) 629-822 after hours	Always	- Containment of non-hazardous materials - Cease illicit discharge - Enforce - Document & Record - Educate
Ogden City Engineering Division	SWMP Coordinator: Heather Wadman (385) 382-6227 Alt. Taylor Nielsen (801) 940-4329	Always	- Containment of non-hazardous materials - Cease illicit discharge - Enforce - Document & Record - Educate
Weber-Morgan Health Department	(801) 399-7160 (801) 399-7169 after hours	If substance is: - greater than 1 gallon **OR** - has entered the storm system **OR** - Is thought to be hazardous	- Containment of hazardous materials - Ensure public safety - Aid in enforcement of violators, if needed
Emergency Response (Fire Department and Police Department)	911 (801) 629-8069 For non-emergency	When substance is thought to be hazardous	- Containment of hazardous materials - Ensure public safety - Aid in enforcement of violators, if needed
Ogden City Code Enforcement	(801) 629-8961	When assistance in enforcing City Code is necessary.	- Aid in enforcement of violators, if needed
Utah Department of Environmental Quality Environmental Response & Remediation Hotline	(801) 536-4123	When environmental remediation is necessary	- Technical assistance and regulatory measures

DOC 4.2.3.9.1: Responsible Agencies Contact Information (continued)

Table 2 provides example scenarios for dispatch guidelines on how to proceed in different saturations. Each incident is unique and will need to be addressed per its circumstances. Whenever safety to people or the environment is in question, it should be reported to emergency response personnel immediately (911).

Table 2: Example Scenarios of Appropriate Dispatch of Illicit Discharge Incidents

Type of Incident	Engineer Division	Storm Water Utility	Health Dept.	911
Public report of grass clipping in storm sewer	Y	Y	N	N
Public report of pet waste in storm sewer	Y	Y	N	N
Public Report of a sheen along the river	Y	Y	Y	Y
Public report of gasoline or other petroleum product entering storm sewer	Y	Y	Y	Y
Public report of an unknown chemical substance entering the storm sewer	Y	Y	Y	Y
Public report of chlorinated swimming pool water being discharged into storm sewer	Y	Y	Y	N
Public or employee report of carpet cleaning company discharging dirty water into storm sewer	Y	Y	Y	N
Employee notices grease and/or cooking oil going into storm drain during restaurant inspection	Y	Y	Y	N
Employee spills less than 1 gallon of gasoline while fueling a municipal vehicle – it does not enter the storm sewer; is contained and cleaned up	Y	Y	N	N
Employee spills less than one gallon of gasoline while fueling a municipal vehicle – it does enter storm sewer	Y	Y	Y	N
Employee notices large amount of unidentified substance on the river while in the field	Y	Y	Y	Y
Employee notices an unidentified substance discharging from an outfall to a waterway	Y	Y	Y	Y
During illicit discharge field screening, employee notices a small quantity (less than a gallon) of an unknown material / substance at the outfall	Y	Y	N	N
During illicit discharge field screening, employee notices large quantity of material with unusual color and odor	Y	Y	Y	Y

City of Ogden
Spill / Illicit Discharge Response Protocols

Legend

Start | Process | Decision | On-Page Reference

*Observer could be City staff, general public, another agency, etc.

Observer

Illicit Discharge Suspected → Call Dispatch → Phone **(801) 629-8271** After Hrs. **(801) 629-8221**

Storm Water Dispatch

Gather Information & Dispatch

Engineering Division/ On-Call Utility Staff

Examine Scene → Is discharge obvious?

Responsibilities End

Exam Scene More Thoroughly to be Sure → Is discharge confirmed?

No → Document & Record → Educate

Yes → Is substance known?

No → Characterize Illicit Discharge SOP 4.2.3.5A

Yes → Is substance hazardous?

No → Level 1 / Level 2 / Level 3 → Contain Illicit Discharge SOP 4.2.3.5B

Yes → Call for Assistance → If safe, contain within capabilities and aid in containment when support arrives to scene.

Trace Illicit Discharge SOP 4.2.3.4 → Can source be found?

No → Document & Record

Yes → Cease Illicit Discharge SOP 4.2.3.6 → Enforce

Fire Department/ Health Department (if needed)

Ensure public safety and communicate immediate findings to the Public Works Department

Contain Illicit Discharge following HAZMAT protocols

Code Enforcement/ Police Responder (if needed)

Aid in enforcement of violators (if needed)

Operational Phase	Phase 1	Phase 2	Phase 3
	Gather Information and Dispatch	Identify, Characterize, and Contain	Eliminate Source and Clean Up

Gather Information & Dispatch
- Complete Part A of Form 4.2.3.9 "Spill-Illicit Discharge Incident Tracking Form" and dispatch appropriately

Call for Assistance
- Call Health Dept. **(801) 399-7160**
- Use best judgement to determine if it is necessary to call the Fire Dept for assistance in containment **(911)**

Enforce
- Refer to City Code 9-7D and 9-7E for legal authority and penalties

Document & Record
- Complete Form 4.2.3.9
- Attach supporting docs. (photos, etc)
- Consider adding site to future inspections

Educate
- Distribute pamphlet
- Talk to nearby land or business owners

CITY OF OGDEN
CONSTRUCTION SITE STORM WATER RUNOFF CONTROL
Forms and Standard Operating Procedures (SOPs)

Prepared by:
Ogden Engineering Division
2549 Washington Blvd, Ogden, Utah 84401
Phone: 801-629-8000
Website: www.OgdenCity.com

Table of Contents

Pre-Construction SWPPP Plan Review

Developer_____ Phone: _____

Responsible Contact_____ Phone: _____

Submittal Date _____ Reviewed Date _____ Reviewed by _____

Pre-Construction SWPPP Review

- SWPPP maps or site plans must include the following (See Ordinance 9-7B-4):
  - Existing topography of the site
  - Delineation of any areas of vegetation or trees to be saved
  - Clear and definite delineation of any wetlands, natural or artificial water storage detention areas, and drainage ditches on the site
  - Clear and definite delineation of any 100-year floodplain on or near the site
  - Approved grading and drainage plans
  - Watercourses or portions of the city's storm drainage systems either on or near the site
  - Provisions for maintenance or erosion or sediment control facilities
- Size of site: _____ Acres
- Planned operations at the construction site:

  _____

  _____
- Planned BMPs used during the construction phase:

  _____

  _____
- Planned BMPs to be used to manage runoff created after development:

  _____

  _____

Potential Water Quality Impacts and Procedures

- Proper Grading, erosion control practices, sediment control practices, and watercourse crossings shall be established and approved
- Construction site measurements taken to assure sediment is not tracked onto public streets by construction vehicles or washed into storm drains
- Identify the pollutant source locations of any non-storm water discharges that could potentially impact water quality
- Assure identified locations will be properly controlled, managed, and maintained to prevent water quality contamination
- If water quality is impacted during construction, contractor shall contact the city SWPP inspector

Construction site priority considerations

- 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

Comments: _____

_____

_____

_____

_____

SWPPP Inspection Checklist

1. Pre-Inspection Items
    a. Contact Site Superintendent or Project Manager if no digital format
    b. Review previous inspections and are there reoccurring problems?
    c. Proper equipment: Hard hat, Vest, Safety shoes, Safety glasses, Electronic Equipment, Inspector credentials
2. On-Site Before Inspection
    a. Review SWPPP updates and changes
    b. Review any specific concerns
    c. Check contractor's inspection forms/issues
3. Inspection
    a. Use Electronic inspection on Energov – keep notes
    b. Check outfalls
    c. Check perimeter control
    d. Check entrances/exits
    e. Check erosion control BMPs
    f. Check sediment control BMPs
    g. Check for mud tracking
    h. Check stockpile/storage areas
    i. Check staging areas
    j. Take photos of good and bad
    k. Review findings with superintendent/project manager
4. Post Inspection
    a. Review inspection, complete and clarify as needed
    b. Inspection kept electronically with city IT department

Steps for Obtaining a Notice of Termination (NOT)

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 BMPs have been removed.

3. If there is work still to be completed, notes 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 the inspector 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. Once the State has received confirmation that the site meets all the requirements the NOT is granted.

Updated January 2018

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY

UPDES STORM WATER INSPECTION EVALUATION FORM FOR SWPPP COMPLIANCE

Inspection #: _____

Site Name: _____ UPDES Permit #: _____

Site Address: _____

Local Jurisdiction or County: _____ Inspection Cycle: High Priority ☐ 7 Days ☐ 14 Days ☐

Permit Effective Date: _____ Permit Expiration Date: _____ Total Project Area: _____ Total Disturbed Area: _____

Project Type: Subdivision ☐ Commercial ☐ Industrial ☐ Linear (Road/Pipe/Power) ☐ Land Disturbance ☐

OPERATOR CONTACT INFORMATION

Operator: _____ Phone: _____ E-mail: _____

On-site Facility Contact: _____ Phone: _____ E-mail: _____

Important Contacts: _____ Phone: _____ E-mail: _____

Important Contacts: _____ Phone: _____ E-mail: _____

SWPPP PRE-SITE REVIEW INFORMATION

1. Has a pre-construction review of the SWPPP been conducted by the appropriate municipal agency? Yes ☐ No ☐

2. Are contact names, positions, responsibilities, and telephone numbers of the Stormwater Team and all other site Operators listed in the SWPPP? Yes ☐ No ☐

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), TMDL requirements, buffer zones, structural controls, and does it define/explain non-structural controls? Yes ☐ No ☐

4. Does the SWPPP have an estimate of the area to be disturbed, a sequence of construction activities, the SW runoff coefficient before and after construction, a description of the soil types, controls for discharges from (asphalt/concrete) batch plants if any, list UIC Class 5 Injection Well activities and use, show wetland areas, and have a description of the nature of the construction activity? Yes ☐ No ☐

5. Does the SWPPP and site map show erosion and sediment controls placement & details, buffer zone documentation (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, chemical treatments etc?) Yes ☐ No ☐

6. Does the SWPPP and site map show and describe good housekeeping controls and storage areas of polymers, flocculants or other treatment chemicals, spill prevention and mitigation measures, staff training procedures and logs. (e.g. track out pad, street sweeping, material storage, construction waste containment and removal, sanitary waste, concrete washout pits, etc) Yes ☐ No ☐

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.) Yes ☐ No ☐

8.Are the SWPPP Certifications signed by the proper and responsible officers and parties (see permit Appendix G Part G. 16,1,2 & 1.3) Yes ☐ No ☐

9. Are the NOI , a copy of the State permit, Appendix logs and forms in the SWPPP? Yes ☐ No ☐

NOTICE OF TERMINATION (NOT) INSPECTION

Site Name: _____ Evaluation Date: _____

Site Address: _____

Inspected By: _____ Title/Organization: _____

1. Has the site been properly stabilized according to permit requirements? Yes ☐ No ☐

2. Have all temporary BMPs been removed? Yes ☐ No ☐

3. Have post-construction (permanent storm water system) elements been constructed and inspected in accordance with approved project drawings? Yes ☐ No ☐

4. Is the site acceptably clean? Yes ☐ No ☐

COMMENTS:

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.

Inspector (*Print Name*) _____ Title: _____ Signature: _____ Date: _____

Operator: (*Print Name*) _____ Title: _____ Signature: _____ Date: _____

Operator: (*Print Name*) _____ Title: _____ Signature: _____ Date: _____

ADDITIONAL COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

By: Date:

Project Name: Project Address:

Updated September 2018

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY

SWPPP COMPLIANCE INSPECTION FORM

Inspection #: _____

Project Name: _____ Address: _____ Date: _____

Owner: _____ Contractor (Gen/Sub): _____ Start time: _____

Site Contact: _____ Phone: _____ Stop Time: _____

UPDES Permit #: _____ Expiration: _____ Weather: Sunny Cloudy Raining ☐ Snowing ☐ Other _____

Date of last rain event: _____ Duration: _____ Approx. Rainfall (in): _____

Inspected By (Print): _____ Local Jurisdiction or County: _____

Reason for Inspection: Scheduled ☐ Complaint/Tip ☐ Random ☐ Receiving Waters: _____

Inspection Code (Check):	SW sampling ☐ SW non-sampling ☐	Inspector Code (check):	(S) State ☐ (L) Local ☐	1-Municpal ☐ 2-Industrial ☐ 3-State ☐ Type Code (check):

SWPPP, EROSION, SEDIMENT AND HOUSEKEEPING BMP's INFORMATION	YES	NO	N/A
1. Is the SWPPP on site and accessible, or is the SWPPP location posted in an obvious place and reasonably accessible (in a short time)?	☐	☐	☐
2. Are erosion control, sediment control, buffer controls and good housekeeping BMP's installed on the site as shown in the SWPPP?	☐	☐	☐
3. Has the SWPPP been updated to reflect the current site conditions (modifications dated & initialed on site map, new BMPs on site map, discontinued BMPs crossed off site map, new BMP details & spec's in SWPPP, SWPPP amendment Log, etc.)?	☐	☐	☐
4. Are on-site inspections being performed and recorded by a qualified person on a weekly or biweekly basis, reporting items required by permit? (Inspector name, qualifications and signature, weather, problems/repairs, corrective action, new BMPs, removed BMPs, discharges, etc.)	☐	☐	☐
5. Have all corrective action items from previous inspections been logged, addressed and documented within the time frame allotted?	☐	☐	☐
6. Are SW flows entering and leaving the construction site controlled, managed, or diverted around the site? (e.g. buffer zones perimeter controls, berms, silt fence, up gradient boundary diversion, down gradient boundary sediment control, etc.)	☐	☐	☐
7. Is there evidence of sediment discharge such as mud flows or soil deposits from the construction site in downstream locations?	☐	☐	☐
8. Is there evidence of vehicles tracking soil off the construction site?	☐	☐	☐
9. Is there soil, construction material, landscaping items, or other debris piled on impervious surfaces (roads, drives) that could be washed with SW to a storm drain or water body?	☐	☐	☐
10. Is there a need to repair, maintain, or improve erosion control BMPs (temporary stabilization, erosion blankets, mulch, vegetated strips, rip rap, surface roughening, pipe slope drain, dust control, etc)?	☐	☐	☐
11. Is there a need to repair, maintain, or improve sediment control BMPs (silt fence, check dams, fiber rolls, sediment trap/basin, inlet protection, waddles, straw bails, curb cut-back, etc?	☐	☐	☐
12. Is there a need to repair, maintain, or improve good housekeeping controls (clean track out pad, sweeping, construction materials management, litter/trash control, port-o-potties staked down, fueling areas, concrete wash out area, proper curb ramps, spill prevention, etc)?	☐	☐	☐
13. Are there disturbed areas that have not had construction activities for 14 to 21 days without stabilization? (except snow or frozen ground)?	☐	☐	☐
14. Are there places where BMPs are needed and should be installed or not needed and should be removed?	☐	☐	☐

COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

Identify the problem and its location. If appropriate, describe (in general terms) what needs to be completed. However, only if qualified (e.g., you are a designer) should you be mandating specific BMPs to install. Include the date when corrections are made.

Inspector, please list all applicable SEV codes

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.

Inspector (*Print Name*) _____ Title: _____ Signature: _____ Date: _____

Operator: (*Print Name*) _____ Title: _____ Signature: _____ Date: _____

Operator: (*Print Name*) _____ Title: _____ Signature: _____ Date: _____

ADDITIONAL COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

By: _____ Date: _____

Project Name: _____ Project Address: _____

EPA Form 3560-3 SEV Codes and Descriptions

D0R11	☐ Discharge without a permit	BR19B	☐ Failure to properly operate and maintain BMP's
D0R18	☐ Failure to apply for a Notice of Termination	BR19A	☐ Failure to properly install/implement BMP's
B0R12	☐ Failure to conduct inspections	E0R16	☐ Failure to submit required report (non-DMR)
B0C17	☐ Failure to develop any or adequate SWPPP/SWMP	A0R22	☐ Narrative effluent violation
B0C18	☐ Failure to implement SWPPP/SWMP	D0R12	☐ Failure to submit required permit information
B0R41	☐ Failure to maintain records	A0R12	☐ Numeric effluent violation
C0R11	☐ Failure to monitor	B0R42	☐ Violation of a milestone in an order

CITY OF OGDEN
POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS
Forms and Standard Operating Procedures (SOPs)

Prepared by:
Ogden Engineering Division
2549 Washington Blvd, Ogden, Utah 84401
Phone: 801-629-8000
Website: www.OgdenCity.com

Table of Contents

Storage and Mobilization of Nonhazardous Dry/Wet Materials and Spoils

1. Purpose

   To prevent pollution of stormwater by ensuring proper material storage and mobilization methods. This procedure applies to non-hazardous materials such as salt, sand, gravel, landscaping materials, asphalt, green waste, and non-hazardous waste removed during street and storm water system cleaning. For potentially hazardous substances such as chemicals and fertilizers, pesticides, and herbicides, refer to SOP 4.2.6.6.1.F respectively.

2. Preparation
   a. Utilize truck with proper containment for the material being mobilized.
   b. Determine disposal site or delivery location of excavated material.
   c. Confirm that location of material storage is developed in such a way to eliminate potential of material discharge into the storm water system during a storm event (i.e., impervious ground surface, exterior berm, secondary containment, overhead cover, enclosed storage, etc.)
   d. Determine the path of travel to and from disposal site.
   e. If material is dry with the potential to be blown out during transport, wet down material or cover and contain properly.

3. Process
   a. Load and transport in manner to minimize spillage and tracking of material.
   b. Check truck for spillage.
   c. Utilize one route of transport.
   d. For wet materials that need dewatering, dewater in a contained area, and discharge all wastewater to the sanitary sewer system (with approval of local authorities) where feasible.

4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. If necessary, clean route of transport to remove any spilled material.
   c. Wash out equipment truck and other equipment in designated vehicle wash area.

5. Documentation
   a. If necessary, supply supervisor with trucking receipts, Pre-trip Inspection form, crew, details of task completed, and any issues.
   b. Ensure documentation of proper disposal methods of all waste and wastewater removed during cleaning and maintenance of the storm water conveyance system such as street sweeping and catch basin cleaning.

Vehicle Storage, Maintenance, and Mobilization

1. Purpose

   To prevent pollution of stormwater by vehicles and equipment in storage and mobilization.

2. Preparation
   a. Inspect parking areas for stains/leaks on a regular basis.
   b. Provide drip pans or adsorbents for leaking vehicles.
   c. Determine equipment needed for transport and method (trailer, truck bed) needed to transport equipment.
   d. Conduct pre-trip inspection of equipment to ensure any loose material is removed, that there are no leaking fluids, and all equipment is secure.
3. Process
   a. Whenever possible, store vehicles inside where floor drains have been connected to sanitary sewer system.
   b. When inside storage is not available, vehicles and equipment shall be parked in the approved designated areas and away from storm drain inlets as much as possible.
   c. Maintain vehicles to prevent leaks as much as possible.
   d. Address any known leaks or drips as soon as possible. When a leak is detected a drip pan will be placed under the leaking vehicle to collect the drip. Schedule the vehicle for immediate maintenance.
   e. The shop will provide a labeled location to empty and store drip pans.
   f. If any leaks are discovered, a drip pan will be used to collect the fluids and vehicle will be scheduled for repairs.
   g. Clean up all spills using dry methods.
   h. Never store leaking vehicles over a storm drain.
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. Any leaks that are spilled on the asphalt will be cleaned up with dry absorbent; the dry absorbent will be swept up and disposed of in the garbage.
   c. The paved surfaces around the building will be swept as needed, weather permitting.
   d. Off load equipment if necessary.
   e. Conduct post-trip inspection of equipment before storage.
   f. If equipment needs to be washed, conduct cleaning according to SOP 4.2.6.6.1.D, and only in an approved area with a sanitary sewer connection.

Roadways and Parking Lot Maintenance

1. Purpose

   To prevent pollution of storm water run-off from parking lots, Roadways during normal use as well as during maintenance of these entities.

2. Preparation
   a. Conduct regular employee trainings.
   b. Clean these areas regularly. Especially before any kind of maintenance is performed.
   c. Refer to city's street sweeping maps for routes.
   d. Mark out the area that is going to be worked on and use any traffic control if necessary, following the guidelines of the MUTCD manual.
   e. Cover or lower any necessary manholes, catch basins, valves, etc.
   f. Identify potential places where materials being used, or products produced during maintenance could enter the storm water system
   g. Areas that need work need to be clean and dried before work begins.
3. Process
   a. When applying products to roadway or parking lot surfaces follow the manufactures specifications for application: rate, temperature of material, and thickness of application.
   b. When material is being applied or rolled do not exceed 5 mph to precent the material from rolling into the gutters and storm drains.
   c. Do not apply more material than recommended to prevent material from running of into the storm water system.
   d. When the material being applied to surface needs to be rolled in make sure to roll the entire area a minimum of two times.
   e. Allow material the allotted time specified by manufacture before traffic is allowed to be on surface.
4. Clean up
   a. Sweep any areas that are needed during or following construction as well as on the specified street sweeping schedule.
   b. For disposal of any products used or excess materials please follow City of Ogden Waste Handling and Management Practices
   c. Remove covers or raise any manholes, catch basins, valves, etc.
   d. If it appears that any chip seal materials have entered the inlet boxes, remove the material according to the SOP for catch basin cleaning
5. Documentation
   a. Record the dates and locations of maintenance into the database and maps.

Catch Basin Cleaning

1. Purpose

   To protect stormwater by maintaining the ability of catch basins to trap sediments, organic matter, and litter. This reduces clogging in the storm drain system as well as the transport of sediments and pollutants into receiving water bodies.

2. Preparation
   a. Always inspect catch basins for structural integrity and evidence of illicit discharges. If gross contamination is present (sewage or oil) stop cleaning and report to supervisor and Health Department
   b. Remove accumulated trash and sediment from the grate.
   c. Conduct visual inspection on outside of grate.
   d. Make sure nothing needs to be replaced.
   e. Conduct inside visual inspection to verify what needs to be cleaned.
3. Process
   a. Contact Facilities Manager if drain appears to be clogged or in need of service. Facilities Manager will give direction to follow the procedures below or arrange with Public Works to service the system.
   b. Clean using a high-powered vacuum truck to start vacuum standing water and sediment.
   c. Use a high-pressure washer to break up any remaining material in the catch basin, while capturing the slurry with the vacuum. Sweep parking areas, as needed, or as directed.
   d. After catch basin is clean remove any sediment that might have entered the pipe.
   e. Systematically clean catch basins per maintenance plan.
   f. If cleaning by hand (shovel etc.) stockpile and cover removed material on an impermeable surface until it can be properly disposed.
   g. Dispose solids in a sealed waste container that will be transferred to a permitted, lined solid waste landfill or other solid waste treatment facility. Fluids collected during catch basin cleaning shall be discharged to a sanitary sewer, or buffered detention area.
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. When the vacuum truck is full of sediment, take it to the designated location to dump all sediment out of truck and into a drying bed.
   c. Wash down area before leaving the designated dump location.
5. Documentation
   a. Keep records of number of catch basins cleaned, date cleaned, and any other issues resolved.
   b. Record the amount of waste collected and number of catch basins cleaned and the area in which they were cleaned.

Creek and Ditch Management

1. Purpose

   To protect creeks and ditches from sediment and pollution resulting from creek and ditch maintenance activities.

2. Preparation
   a. Check creek channels prior to spring runoff and identify potential problem areas.
   b. Monitor creeks and ditches on a regular basis.
   c. Check culverts and crossings before spring runoff and after every storm.
   d. Identify areas requiring maintenance.
   e. Employ best management practices (e.g., check dams, waddles, gravel socks, silt fences) as required to prevent sediments and organic material from releasing further downstream.
   f. Properly remove and dispose of material collected when maintenance activities are completed.
3. Process
   a. Clean debris as necessary from channels, culverts, and ditches. Place debris in truck to be hauled away.
   b. Maintain access and easements to these areas.
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. Stabilize soils if necessary.
   c. Sweep up any tracked-out debris from the site.
5. Documentation
   a. Keep a log of actions preformed.
   b. Keep any notes or comments of any problems.

Detention Pond Cleaning

1. Purpose

   To protect stormwater by removing trash and debris from detention ponds.
2. Preparation
   a. Schedule the pond cleaning work for a time when dry weather is expected.
   b. Remove any sediment and trash from grates, placing it in a truck for disposal.
   c. Conduct 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.
3. Process
   a. Provide outlet protection where feasible to minimize the amount of debris that might leave basin during cleaning process.
   b. Clean basin by using backhoe or front-end loader to remove debris and sediment from the bottom.
   c. Continue cleaning structures and pond bottom as necessary by sweeping and shoveling.
   d. Put all material removed into a truck to be hauled away and properly disposed of.
   e. Some structures may require use of a vacuum truck. If so, use the same procedures described for cleaning catch basins.
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. After cleaning basins clean off the concrete pads using dry methods (sweeping and shoveling).
   c. Make sure they are swept and clean
5. Documentation
   a. Keep a log of the detention basins/ponds cleaned including site, individuals involved in cleaning, and a description of the type of debris removed.
   b. Record the amount of waste removed.
   c. Keep any notes or comments of any problems that were discovered.

Waterline Maintenance and Flushing

1. Purpose

   To prevent debris from entering the stormwater system during routine and unplanned waterline maintenance such as repair, replacement, and flushing activities
2. Preparation
   a. Make sure service trucks are stocked with BMP's materials for inlet protection.
   b. Determine direction of discharge flow.
   c. Place inlet protection at the nearest downstream storm drain inlet.
   d. Clean the gutters leading to inlet
   e. Isolate the waterline to be worked on
   f. If possible, monitor chlorine residual of the discharged water.
3. Process
   a. Make a diligent effort to keep discharged water from entering the excavation.
   b. Direct any discharge to a predetermined area.
   c. Remove and dispose of any excavated material to the proper location.
   d. Preform any necessary repairs or maintenance.
   e. Keep flow path clear and cleaned.
   f. If needed use a diffuser to reduce pressure and velocity of the waterline while its being flushed.
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. Inspect storm drain inlets.
   c. Clean flow path as necessary.
5. Documentation
   a. Complete any documentation or reporting as necessary.

Painting and Graffiti Removal

1. Purpose

   To protect stormwater by properly storing, using, and disposing of paint and paint removal products. Used in the process of painting or removing unwanted paint.

2. Preparation
   a. Calculate the amount of paint required for the job.
   b. Use water-based paints whenever possible.
   c. Determine whether the wastes will be hazardous or not and designate the proper disposal of said wastes.
   d. Determine locations of storm drain inlets and sewer inlets that may need to be protected.
   e. Prepare surfaces to be painted without generating wastewater by scraping.
   f. Thoroughly sweep up all paint scrapings and place them in the appropriate solid waste containers.
   g. If paint stripping is needed, use a citrus-based paint remover whenever possible, because it is less toxic than chemical strippers.
   h. If wastewater will be generated use curb dyke, etc. around the activity to collect the filter and collect the debris.
3. Process
   a. Paint curb/pavement.
   b. Prevent over-spraying of paints and/or excessive sandblasting.
   c. Use drip pans and drop clothes in areas of mixing paints and painting.
   d. Store latex paint rollers and brushes in airtight bags to be reused later.
   e. Have available absorbent material and other BMP's ready for an accidental paint spill.
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. Paint out brushes and rollers as much as possible. Squeeze excess paint from brushes and rollers back into the containers prior to cleaning them.
   c. Pour excess paint from trays and buckets back into the paint can containers and wipe with cloth or paper towels. Dispose of towels according to the recommendations on the paint being used.
   d. 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.
   e. Cleanup oil-based paints with paint thinner. Never clean oil-based paints in a sink or over a storm drain. Filter the solvents and reuse if possible. Dispose of any generated material during this process properly.
   f. Upon completion of the painting project, a five-gallon bucket of clean water is used to clean the paint sprayer until the water comes out clear. The mixture of sprayed water/paint is directed at a pile of waste material. The material is allowed to dry before it is taken to the landfill.

Washing and Cleaning

1. Purpose

   To prevent pollution of stormwater during cleaning of vehicles, equipment, and structures.
2. Preparation
   a. Trucks, vehicles, and equipment shall be washed in a designated area, with a drainage system that is attached to the sanitary sewer system.
   b. No washing will be done where wastewater will enter the storm drain system.
3. Process
   a. Wipe off dirt, dust, and fluids with a disposable towel and deposit in trash receptacles.
   b. Minimize water and soap use when washing.
   c. Use hoses with automatic shut off nozzles to minimize water usage.
   d. Never wash vehicles over or near a storm drain.
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. Clean solids from the settling pits on an as-needed basis.
   c. Deposit any debris in the proper trash receptacles.
   d. Non-porous surfaces to be swept or blown free of debris.

Use, Storage, and Transport of Chemicals, Herbicides, Pesticides, and Fertilizers

1. Purpose

   To protect stormwater by properly applying, storing, and transporting pesticides, herbicides, fertilizers, and any chemicals being used.

2. Preparation
   a. Read the materials Safety Data Sheets (SDS) before work begins.
   b. Make sure your state Chemical Handling Certification (i.e., Hazwoper) is complete and up to date before handling any chemicals.
   c. Make sure all pesticide application is conducted or supervised by personnel certified by Utah Department of Agriculture.
   d. Calibrate fertilizer and pesticide application equipment to avoid excessive application.
   e. Use pesticides only if there is an actual pest problem.
   f. Time and apply the application of fertilizers, herbicides, or pesticides according to the manufacturer's recommendation for best results ("Read the Label").
   g. Know the weather conditions. Do not use products if rain is expected within a 24- hour period. Apply products only when wind speeds are low (less than 5 mph).
   h. Store products in high, dry locations, according to manufacturer's specifications and applicable regulations.
   i. Clearly label secondary containers.
   j. Properly dispose of products according to manufacturer's specifications and applicable regulations.
   k. Regularly inspect product storage areas for leaks and spills.
   l. Supervisors ensure that employees handling and transporting chemicals are trained on the proper procedures.
   m. Ensure there is a spill kit onsite for containment and prevention of pollutants from discharging into stormwater systems.
   n. Have proper PPE available and wear it prior to handling chemicals as necessary or as required.

(continued next page)

Use, Storage, and Transport of Chemicals, Herbicides, Pesticides, and Fertilizers (continued)

3. Process
    a. Follow the manufacturer's recommendations for mixing, applying, and disposing of pesticides ("Read the Label").
    b. Wear the proper PPE for the chemical being used or handled.
    c. When possible, use cultural, biological, and/or mechanical methods for weed and pest control.
    d. Do not mix or prepare products 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.
    e. Employ techniques to minimize off-target application (e.g., spray drift, over broadcasting) of products.
    f. Whenever possible spot treat affected areas only instead of entire location.
    g. Choose the least toxic pesticides that still achieve results.
    h. Never apply controlled pesticides unless certified to do so.
    i. Never apply products before a heavy rainfall.
4. Clean up
    a. Follow City of Ogden Waste Handling and Management Practices
    b. Clean up any spilled chemicals.
    c. Rinse equipment only when necessary. Triple rinse product containers and use rinse water as product. Dispose of unused product as hazardous waste.
    d. Always follow all federal and state regulations governing use, storage and disposal of fertilizers, herbicides, chemicals, or pesticides and their containers ("Read the Label").
    e. Never discharge rinse water or excess chemicals to storm drain, sewer, or ground surface.

Open Spaces and Park Maintenance

1. Purpose

   To protect stormwater by ensuring open space areas are kept free of trash and debris, stormwater controls are properly maintained and inspected. As well as preventing material and debris from entering stormwater system during park maintenance.

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 water system mapping, inspection schedules, and maintenance schedules.
   c. Locate all storm drain collection structures and inlets in the right-of-way
   d. Mulch clippings to help reduce the amount of supplemental fertilizer required.
   e. Install temporary catch basin protection as required.
   f. If any excavation is taking place, make sure to call Blue Stakes Center of Utah two days prior to work taking place.
3. Process
   a. Use eye and hearing protection.
   b. All refueling and maintenance of equipment will take place away from storm drain system. All spills will be cleaned up immediately using a provided spill kit.
   c. Sweep or blow clippings and small amounts of dirt to grass areas.
   d. Dig holes; place spoils on tarps or plastic near the hole where they may easily be placed back around roots. Avoid placing spoils in the gutter.
   e. Do not place floatable landscape materials (bark etc.) where stormwater will carry it off.
   f. Backfill the hole with existing spoils, compost, and a little fertilizer if desired. Do not use excessive amounts.
   g. Thoroughly water the plant to remove any air pockets that may be in the soil.
   h. Stake plants, if necessary, to stabilize it.
   i. Provide erosion control on slopes where necessary using tackifiers, erosion mats, soil stabilizers, or other appropriate methods.
4. Clean up
   a. Clean any loose material off asphalt or gutter to prevent material from entering the storm drain.
   b. Clean trash receptacles on a regular basis to prevent them from overflowing.
   c. Transport to and dispose of materials at approved facility.
   d. Follow City of Ogden Waste Handling and Management Practices

Fueling

1. Purpose

   To prevent pollution of stormwater during maintenance and fueling of vehicles.
2. Preparation
   a. Train employees on proper fueling methods and spill cleanup techniques.
   b. Where possible, 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.
3. 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 the designated fueling area in the facilities area.
   g. When fueling small equipment from portable containers fuel in an area away from storm drains and water bodies.
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. Immediately clean up spills using dry absorbent material (e.g., kitty litter, sawdust, etc.). Sweep up absorbent material and dispose of properly.
   c. Large spills shall be contained as best as possible, and a Hazmat team should be notified as soon as possible.
5. Documentation
   a. Comply with underground storage tank records and monitoring requirements.

Cold Weather Operations

1. Purpose

   To prevent pollution of stormwater from all snow removal and de-icing activities and to protect stormwater by minimizing the impact of snow piles which contain sand, salt, and trash which generate concentrated releases of pollutants during spring snowmelt conditions.

2. Preparation
   a. a. Store de-icing material under a covered storage area, or other approved storage method that prevents runoff from entering the storm drain.
   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. Equip supervisor vehicles with spill cleanup kits in case of hydraulic line rupture or other spills.
   e. Train employees in spill cleanup procedures and proper handling and storage of de-icing materials
3. 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 to be effective on roads.
   d. Turn spreader off while loading and any other time the vehicle is not moving in the forward position.
   e. Park trucks loaded with de-icing material inside when possible.
   f. Never dispose of snow in wetlands, lakes, streams, rivers, mudflats, or near drinking water sources.
   g. Never store snow in well-head protection areas (Drinking Water Source Protection Zones).
   h. Identify sensitive ecosystems prior to disposal and avoid disposal in these areas.
   i. Store snow at least 25 feet from the high-water mark of a surface water.
   j. Store snow at least 75 feet from any private water supply, at least 200 feet from any community water supply, and at least 400 feet from any municipal wells.
   k. Clear debris in storage area each year prior to snow storage use.
   l. Clear debris in snow storage area and immediately after snowmelt occurs of each year the storage area is in use
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. Sweep up all spilled de-icing material around loading area.
   c. Clean out trucks after snow removal duty in approved washout area.
   d. Provide maintenance for vehicles in covered area.

High Priority Facility Semi-Annual Comprehensive Inspection

6. Purpose

   To help stay up to date on areas that may require maintenance, which handle storm water

7. Preparation
   a. Identify “High Priority” Facilities
   b. Map of all Locations
   c. Become Familiar with potential pollutants at the various sites.
8. Process
   a. Find and identify BMP’s or other systems are functioning correctly
   b. Look for evidence of spills at the site
   c. If a spill is found, follow the SOP Tracing Illicit discharges and Characterizing discharges SOP.
   d. Whenever possible take photographs of the suspected illicit discharge.
   e. Inspect all waste storage areas and dumpsters for leaks have any necessary repairs fixed immediately by the responsible party.
   f. Inspect vehicle maintenance and fueling areas and look or spots where pollutants may build up
   g. Inspect material handling areas
   h. Add any actions need to be fixed and follow up to make sure they are completed ASAP.
9. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. Remediate any issues
   c. Clean up any spills immediately to prevent contact with precipitation and prevent runoff to storm drain system.
   d. Initiate spill response.
10. Documentation
    a. Fill out Semi-Annual comprehensive High Priority Inspection log for facility and mark that the Semi-Annual comprehensive inspection has been completed.
    b. If a deficiency was found, make a note on the Semi-Annual comprehensive High Priority Inspection Log, and fill out the Note Log for that facility.
    c. Document that the inspection was completed in the “Y” drive.

High Priority Facility Monthly Visual Inspection

1. Purpose
   To help stay up to date on areas that may require maintenance that handle storm water
2. Preparation
   a. Identify “High Priority” Facilities
   b. Map of all Locations
   c. Become Familiar with potential pollutants at the various sites.
3. Process
   a. Find and identify BMP’s or other systems are functioning correctly
   b. Look for evidence of spills at the site
   c. If a spill is found, follow the SOP Tracing Illicit discharges and Characterizing discharges SOP.
   d. Whenever possible take photographs of the suspected illicit discharge.
4. Clean up
   a. Follow City of Ogden Waste Handling and Management Practices
   b. Remediate any issues
   c. Clean up any spills immediately to prevent contact with precipitation and prevent runoff to storm drain system.
   d. Initiate spill response.
5. Documentation
   a. Fill out Monthly High Priority Inspection log for facility and mark that the Monthly inspection has been completed.
   b. If a deficiency was found, make a note on the monthly High Priority Inspection Log, and fill out the Note Log for that facility.

MS4 High Priority Facility Monthly Visual Inspection Log

Date	Inspector Name	Deficiencies Identified	Corrective Actions Taken

Note: Follow SOP for High Priority Facility Monthly Visual Inspections. Correct deficiencies Immediately. Scan and submit this log and any supporting attachments to the SWMP Coordinator on the first day of each quarter.

Ogden City

Quarterly Comprehensive Inspections
High Priority Facilities
Storm Water Management Plan 2020

City of Ogden - Urban Runoff Management Plan
MUNICIPAL FACILITY SITE COMPLIANCE INSPECTION CHECKLIST

Department:_____ Weekly Inspection ☐ Quarterly Inspection ☐
Inspector:_____ Date _____

Facility Name

Address | Zip Code

	Question	Y	N	N / A	(If "NO") Resolution
General					
1	Has the employee performing this inspection had activity-specific storm water BMP training this year?				
2	Are activity-specific BMPs in place?				
3	Are your contractors adhering to the minimum BMPs that were listed in the contract?				
4	Is your facility reasonably clean and free of litter and debris?				
5	Are parking lots reasonably clean and free of debris? If sweeping the lot, note estimated substance and weight of debris in tons.				
6	Is landscaped area irrigation contained within the landscaped area?				
7	Are pesticides/herbicides/fertilizers minimized where feasible?				
8	Are storm drains stenciled? If no, contact Storm Water Pollution Prevention Division for stencils and paint.				
9	Are storm drain inlets clean and free of debris?				
10	If cleaning of the storm drain was needed, note estimated substance and weight of debris (in tons) since last inspection.				
11	Is area absent of any evidence of a discharge, spill, and or leak?				
12	If a minor spill is observed entering the storm drain system during the inspection, have you reported it to the Storm Water 801-629-8404				
Trash storage areas					
13	Is area reasonably clean and uncluttered?				
14	Are trash cans and garbage bins kept covered?				
15	Is the number and placement of the trash cans sufficient for your facility?				

	Question	Y	N	N / A	(If "NO") Resolution
Fueling areas					
16	Is a stocked spill kit available at fuel island?				
17	Is area clean and free of spills? If spill is observed, clean up using dry methods.				
Vehicle/equipment maintenance area					
18	Is work area reasonably clean?				
19	Are drip pans readily available for leaking vehicles?				
20	Are spill containment materials and stocked cleanup kits readily available?				
21	Are maintenance activities contained within the designated area?				
22	Are bulk hazardous materials/liquids stored outside in secondary containment?				
Materials loading/unloading and storage areas					
23	Is area reasonably clean and free of litter, debris and loose material?				
24	Is materials storage area covered?				
25	Are materials and stocked cleanup kits readily available?				
26	If outdoors, is water from surrounding areas prevented from reaching material storage areas?				
27	Are bulk hazardous materials/liquids stored outside in secondary containment?				
Other Important Areas for inspection					
28	Are the BMPs installed properly?				
29	Are BMPs in good working condition? If no, they need to be replaced.				

30. For any ineffective BMPs (i.e., the wrong BMP is used), describe an effective replacement BMP and update your URMP section.

Maintaining Detention Ponds

Pond:_____Date:_____Inspected by:_____ Type of Inspection: ☐ Routine ☐ Storm Event _____ (# days since event)

General Observations:
Is water flowing? ☐ Yes ☐ No Standing water? ☐ Yes ☐ No Depth:_____Comments:_____

Any evidence of obstructions or erosion in vicinity of the pond that could affect performance? ☐ Yes ☐ No

Pond Conditions:
Does the pond sides/slopes/bottom show signs of settling, cracking, sloughing or other problems? ☐ Yes ☐ No

Do the embankments, emergency spillway (if applicable), or side slopes show any erosion or instability? ☐ Yes ☐ No

Is there any evidence of animal burrowing or other activity that could contribute to instability or increased erosion? ☐ Yes ☐ No

Is there evidence of encroachment into the pond or improper use of the pond? ☐ Yes ☐ No

Do vegetated areas need mowing? ☐ Yes ☐ No ☐ Mowed today ☐ Will schedule mowing

Are there areas that need to be re-vegetated? ☐ Yes ☐ No ☐ Will schedule re-vegetation activities

Do vegetated areas need thinning, i.e. cattails, willows, trees? ☐ Yes ☐ No ☐ Thinned today ☐ Will schedule thinning

Is there accumulation of trash, debris and/or litter to be removed? ☐ Yes ☐ No ☐ Removed today ☐ Will schedule removal

Any signs of vandalism or other activity that could affect performance of the pond? ☐ Yes ☐ No

If permanent pool, any visible pollution? ☐ Yes ☐ No

Erosion at high water mark? ☐ Yes ☐ No

Abnormally high water level? ☐ Yes ☐ No _____
(May indicate obstruction at orifice, or trash rack; verify outlet structure operating properly)

Unusual Algae blooms? ☐ Yes ☐ No _____
(May signal too many nutrients in runoff; identify dog activity and clippings management; will need monitoring)

Structural Components:
Are the pipes/inlets going into or out of the pond clogged or obstructed? ☐ Yes ☐ No

Is the outfall channel from the pond functioning appropriately? ☐ Yes ☐ No

Is the inflow trickle channel working properly? ☐ Yes ☐ No

Is the orifice and/or trash rack obstructed? ☐ Yes ☐ No

Is the outfall channel, trickle channel or other conveyance in need of repair? ☐ Yes ☐ No

Are the manholes, frames, and covers associated with the outfall channel in appropriate condition? ☐ Yes ☐ No

Do any safety features, such as fences, gates or locks need repair or replacement? ☐ Yes ☐ No

Plan of Action:
If answered **YES** to any of the above, the following is an anticipated *Maintenance Needs Action List*:

Total number of concerns:_____
(Yes answers)

☐ Need more monitoring (Anticipated schedule to re-visit; identify what will trigger action)

☐ Need routine repair (Approximate schedule for repairs; date of follow-up to re-inspect)

☐ Need immediate repair (Take action if correct equipment on site; or contact supervisor)

_____
Signature

CITY OF OGDEN
WASTE HANDLING AND MANAGEMENT PRACTICES

Guidance Manual and Standard Operating Procedures

Prepared by:
Ogden City Public Works Department
Engineering in Collaboration with Waste Management Division
2549 Washington Blvd, Ogden, Utah 84401
Phone: 801-629-8000
Website: www.OgdenCity.com

Table of Contents

Purpose

The purpose of this document is to provide guidance on local disposal methods and contacts for different types of waste from activities conducted by or overseen by Ogden City staff, residents, or those doing business within the City. In addition, this manual outlines how to prevent discharges from refuse receptacles kept on Ogden City properties and other locations, which could cause pollutants to enter Ogden City's storm water system. Since storm drain systems are not connected to a sanitary sewer treatment plant, water traveling through the storm drain system flows directly to local streams, rivers, and lakes untreated. As defined in Ogden City Code, it is illegal to dump or discharge any non-storm water substances to the City's storm sewer system.

Please help us protect our storm water by reporting improper waste disposal methods to:

City of Ogden Illicit Discharge Hotline
Phone: (801) 629-8271
After Hours: (801) 629-8221
*For emergencies, call **911***

Responsibility

Waste management is a shared responsibility that falls on the whole community. While Ogden City is responsible for organizing the management and collection of various types of waste within the City, private individuals, property owners, and people doing business in Ogden hold responsibilities for managing the waste they generate. Various groups, along with their responsibilities relating to waste disposal practices within Ogden City are described below.

Ogden City Public Works Department

Ogden City's Engineering, Waste Management, and Storm Water Divisions are responsible for working with staff to keep this document up to date and revised as needed. Ogden City Engineering and Storm Water Crew will coordinate efforts to respond to any illicit discharges that may occur.

Managers and Supervisors

Managers and Supervisors are responsible for ensuring compliance with this procedure. Managers are to train their staff in the proper disposal of waste materials to prevent spills of potential pollutants into the storm water system.

Ogden City Staff

Ogden City staff must follow correct procedures in accordance with this SOP. Staff are responsible for degerming the type of waste they need to dispose of and the appropriate procedure to ensure it is disposed of properly. Staff are also responsible for reporting instances of leakage, missing covers, or misuse of material receptacles.

General Public

Ogden's residential and general public, as well as those conducting business within the City such as, but not limited to, representatives of institutions, industrial and commercial facilities, developers, and contractors, have the responsibility to follow appropriate procedures for the disposal of waste they generate to reduce the environmental effect that comes from improper waste disposal practices.

Local Waste Disposal and Recycling Contacts

The table below provides various waste disposal and recycling contacts local to Ogden City that are mentioned throughout this document.

Table 1: Local Waste Disposal and Recycling Contacts

Waste Type	Agency	Contact	Address
Municipal Solid Waste 'Garbage'	Ogden City Waste Management Division	(801) 629-8271	133 W 29th Street Ogden, UT 84401
Recyclable Items (see Table 4)	Ogden City Recycling		
Green Waste (see Table 3)	Ogden City Green Waste		1845 Monroe Blvd Ogden, UT 84401
Glass	Ogden City Glass Recycling	• 1845 Monroe Blvd (Green Waste Site) • 2828 Harrison Blvd (N/E Corner Parking Lot) • 502 Wall Ave. (Ball Park Parking Lot)	
Household Hazardous Waste (see Table 2) Green Waste (Clean Grass & Leaves) E-Waste (TVs & Monitors only)	Weber County Transfer Station	Admin: (801) 399-8803 Compost: (801) 726-8212	867 West Wilson Lane Ogden, Utah 84401
Construction & Demolition (C&D) Materials Fill Dirt (see Table 6)	Weber County Class VI C&D Landfill *Moulding & Sons Landfill*	(801) 399-9994 mouldinglandfill@aol.com	10485 West 900 South Ogden, Utah 84404
Recyclable Items (see Table 4)	Recycled Earth	(801) 452-6143	3027 Midland Dr Ogden, UT 84401
Various Metals and More (see Table 5)	Bloom Recyclers	(801) 393-5396	690 Exchange Rd Ogden, UT 84401
Asbestos Containing Materials (ACM)	Utah Department of Environmental Quality (DEQ) Division of Air Quality (DAQ) Asbestos Program	(385) 277-1055 asbestos@utah.gov	195 North 1950 West Salt Lake City, UT 84116
Prescription Drug Drop Off	Weber County Sheriff's Office Lobby	(801) 778-6602	1400 Depot Dr Ogden, UT 84404
Electronic Recycling	Staples	(801) 392-4222	4043 Riverdale Road Ogden, UT 84405
	Best Buy	(801) 395-0045	1093 West Riverdale Rd Riverdale, UT 84405
Plastic Bag/Wrap Recycling	Smiths	(513) 762-4000	1485 Harrison Blvd Ogden, UT 84404
	Wal-Mart	(801) 917-1026	1959 Wall Ave Ogden, UT 84401

Note: Reference to any specific commercial products, processes, or services, or to any trade, firm, or corporation is for the information and convenience of the public, and does not constitute endorsement, recommendation, or favoring by the City of Ogden, or its officers, employees, or agents. Ogden accepts no responsibility in the waste management practices of any private entities mentioned. Any list of organizations providing services that may be of interest to the public is not intended to be a complete list and is not regularly updated. Fees may apply. Please contact each agency directly for further details on fees and types of waste accepted.

Types of Waste and Recommended Disposal Practices

Waste comes from a variety of sources such as individuals, homes, schools, offices, hospitals, and industries. Improper handling and disposal of waste can have a detrimental impact on the surrounding environment. Management practices differ based on the type of waste being handled. This section of the document describes Ogden's recommended best management practices for common types of waste generated in an urban environment.

Municipal Solid Waste

Municipal solid waste, commonly referred to 'trash', 'refuse', or 'garbage', consists of everyday items that are used and discarded into the green cart or general waste refuse receptacle for pick up by Ogden City Waste Management Division. Green carts are provided to Ogden residents for weekly curbside pickup as part of the City's garbage services. While municipal solid waste is not regulated for special disposal, recyclable materials should be separated from this material and placed into the nearest blue recycling cart or delivered to the appropriate recycling facility. Refer to the *Recyclable, Recoverable, or Reusable Materials* section of this document for local recycling options. Household Hazardous Waste should not be discarded into the general waste refuse receptacles. Items considered to be Household Hazardous Waste are described in further detail below. Ogden City has the right to terminate service in whole or in part if prohibited or unapproved materials are placed into residential garbage or recycling carts.

Household Hazardous Waste (HHW)

Household hazardous waste (HHW) is anything in or around your home that is poisonous, flammable, corrosive, or toxic, as well as products (such as electronics) that contain certain harmful materials. Please refer to the manufacturer's guidelines on proper use and disposal of these products. Weber County Transfer Station accepts small quantities (5 gallons or less) of household hazardous waste. The table below gives guidance on household hazardous waste accepted at the Transfer Station. For specific questions regarding restrictions and associated fees, contact the Transfer Station directly.

Table 2: Guidelines on HHW Accepted at Weber County Transfer Station

Acceptable			Unacceptable
✓ Paint	✓ Automotive Products	✓ Fertilizers	∅ Asbestos
✓ Paint Thinner	✓ Household Cleaners	✓ Propane Tanks	∅ Free Liquid Waste
✓ Stain	✓ Batteries (Lead Acid)	✓ Gasoline	∅ Medical Waste
✓ Oil	✓ Batteries (Rechargeable)	✓ Kerosene Diesel Fuel	∅ Sewage or Sewage Sludge
✓ Antifreeze	✓ Pesticides		∅ Business Waste

Liquid Household Hazardous Waste

Products, such as paints, cleaners, oils, and fertilizers contain hazardous ingredients that will harm the environment if used or disposed improperly. Ogden encourages residents to limit the use of these products when possible, follow manufacture's recommendations on use and disposal, and avoid purchasing excess quantities. As stated above, Weber County Transfer Station accepts many types of liquid HHW. When delivering approved liquid hazardous waste to the Transfer Station, waste must be properly labelled and stored in a tightly sealed, disposable container. Cans with small amounts of residual paint can be opened and allowed to harden after which they can be thrown into the general trash.

Weber County Transfer Station Re-Use Program

The Transfer Station has developed a re-use program where residents can take advantage of used paint, thinners, approved pesticides, and other miscellaneous materials brought in by the public. It is available during regular business hours.

Prescription Medications

Prescription medicines should not be discarded in the general trash or flushed down the toilet. Safe disposal of prescription medicine and other medical waste helps the environment. Many local police departments or pharmacies provide prescription drug drop off boxes in Ogden. The Weber County Sheriff's Department offers a prescription drug drop off box in their lobby that is available during normal business hours. You may leave drugs in their original container, or seal them in a bag or other non-breakable container for disposal. Loose pills, needles, or other sharp objects are not accepted.

Electronic Waste (E-Waste)

Electronic waste, commonly referred to as 'E-Waste' includes cell phones, computers, televisions, cameras, and other similar electronic devices. Electronic equipment can contain toxic compounds such as lead, mercury, cadmium, and brominated flame retardants that can leach into the soil and water supplies or contaminate our air if sent to landfills or incinerated. Electronics donation and recycling is a great way to help conserve resources and natural materials. Refer to the *Electronics Recycling* section below for further details.

Green Waste

Ogden City offers a Green Waste Disposal Site as a free service provided to Ogden City residents who pay garbage fees. This facility also sells compost, mulch, rock chips and other similar materials. The table below gives guidance on what types of green waste is accepted at the site. For more information, visit contact the Green Waste site directly.

Table 3: Guidelines on Waste Permitted at Ogden's Green Waste Site

Acceptable	Unacceptable
✓ Brush	∅ Roots
✓ Leaves	∅ Stumps
✓ Grass	∅ Sod
✓ Small Tree Branches	∅ Dirt

Pet Waste

Pet waste contains bacteria that has been known to cause illness in humans and can contaminate waterways. Therefore, pet waste should not be left in residential yards and other open spaces such as parks or trails. The most environmentally safe way of disposing of your dog's droppings is to flush it down the toilet, but another option is to bag it and dispose it into a green general waste cart. If residents are at a city owned facility with a pet, please locate any of the green pet waste labeled containers for proper pet waste disposal.

Recyclable, Recoverable, or Reusable Materials

Recyclable materials can be diverted from disposal in a landfill and accepted by Ogden City's Recycling program. Staff and residents are responsible for properly sorting as much of their recyclable, recoverable, or reusable materials as possible to reduce Ogden City's environmental impact.

Curbside Recycling Services

Blue carts are provided to Ogden City residents for curbside pickup services. The following table provides guidance on what is permitted to be recycled within the blue carts.

Table 4: Guidelines on Waste Permitted in Blue Carts for Curbside Recycling Services

Acceptable	Unacceptable	
✓ Clean plastics with labels #1 & #2 (water & soda bottles, milk jugs, laundry detergent, etc.)	∅ No plastic bags, wrap or film	∅ No needles or medical waste
	∅ No food waste, no soiled products	∅ No Styrofoam
	∅ No yard waste or grass	∅ No waxy or gloss paper items
✓ Household (kitchen) steel and aluminum cans	∅ No clothes or shoes	∅ No batteries
	∅ No toys or bulk plastic items	∅ No containers with liquid
✓ Clean, unwaxed, flattened cardboard	∅ No glass	∅ No diapers
✓ Clean Paper	∅ No shredded paper	∅ No plastic lined mail pouches

Additional Local Recycling Options

Additional information on recycling options for items not permitted in the blue curbside recycling carts is provided below:

Plastic Bags/Wraps Recycling

Plastic bags/wraps should not get recycled in curbside bins. They must be returned to participating drop-off locations such as retail stores such as Smiths and Wal-Mart for recycling.

Glass Recycling

Ogden City provides residents with glass recycling options at three separate locations for free. Large containers marked 'Glass Recycling' are located at 1845 Monroe Blvd (Green Waste Site), 2828 Harrison Blvd (N/E Corner Parking Lot), and 502 Wall Ave. (Ball Park Parking Lot). These refuse receptacles will remain covered when not in use.

Metal Recycling

Small quantities of household metals, including soda or aluminum cans, can be deposited in the blue recycling containers provided for residential pickup. Large quantities of metal such as vehicle parts, wires, castings, window frames, and many other metal items can be dropped off at or coordinated for pick up by a local scrap yard such as Bloom Recyclers. Also accepted are miscellaneous items such as lead/acid batteries, magnesium, glass, paper, and others. The following table provides guidance on what types of metals are accepted at Bloom Recyclers.

Table 5: Guidelines on Waste Permitted at Bloom Recyclers

Acceptable		Unacceptable	
✓ Aluminum	✓ Paper	∅ Mattresses or Carpet	∅ E-Waste (TVs, Monitors)
✓ Brass	✓ Stainless Steel	∅ Styrofoam	∅ Hazardous Materials
✓ Copper	✓ Miscellaneous (glass, batteries, etc.)	∅ Yard Waste or Wood	∅ Kegs or Sealed Tanks
✓ Ferrous Metals		∅ Window Glass or Mirrors	∅ Fiberglass

Electronics Recycling

Many electronics including, but not limited to, TVs, computers, cell phones and other appliances can be recycled locally at various locations such as Staples and Best Buy. A few local electronic recycling locations have been provided in the Local Waste Disposal Contacts Table at the beginning of this document.

Construction and Demolition (C&D) Materials

Construction and demolition (C&D) materials consist of the debris generated during the construction, renovation, and demolition of buildings, roads, and bridges. C&D materials often contain bulky and heavy materials, such as concrete, wood, metals, glass, and other building components. While major construction, renovation, and demolition projects are expected to have their own C&D refuse receptacle available on site, Ogden City recommends bringing these types of materials to the Weber County Class VI Construction & Demolition Landfill which is managed and operated by Moulding and Sons Landfill, LLC. The table below provides general guidelines on the types of waste accepted at this facility, but we encourage reaching out to the facility directly for clarification on acceptable waste and associated fees.

Table 6: Guidelines on C&D Accepted at Weber County Class VI C&D Landfill

Acceptable		Unacceptable	
✓ Nonhazardous C&D waste defined by UAC R315-301-2(17)	✓ Yard & Inert Waste	∅ Railroad Ties	∅ Commercial Waste
✓ Building Materials	✓ Soils	∅ Hazardous Waste	∅ Industrial Waste
✓ Packaging	✓ Contaminated Soils[2]	∅ Polychlorinated Biphenyls (PCBs)	∅ Car & Truck Tires
✓ Rubble[1]	✓ Waste Tires[3]	∅ Household Waste	∅ Furniture, Appliances, Mattresses, & TVs
	✓ Dead Animals	∅ Special Waste	∅ Liquid Waste
	✓ Clean Fill Free of Charge		

[1] Resulting from construction, remodeling, repair, abatement, rehabilitation, renovation, and demolition operations on pavements, houses, commercial buildings, and other structures

[2] Must contain less than 0.03 mg/kg Benzene, 13 mg/kg Ethylbenzene, 12 mg/kg Toulene, and 200 mg/kg Xylenes

[3] Must meet the requirements of UAC R315-320

Asbestos-Containing Material (ACM)

Due to the overall hazard to the environment and human health, certain asbestos-containing materials (ACMs) are regulated and require specialized training and certification for handling and disposal. Please contact the Utah Department of Environmental Quality Division of Air Quality (DAQ) Asbestos Program for further information and a list of certified asbestos companies.

Waste Management Standard Operating Procedures

All people within Ogden, including City staff, private individuals, property owners, and people doing business in Ogden, are expected to follow the Standard Operating Procedures (SOPs) described below as applicable.

Waste Storage

- Place refuse receptacle in a convenient, easily observable area.
- Whenever possible, store garbage containers beneath a covered structure or inside to prevent contact with storm water.
- Locate refuse receptacles on a flat, hard surface that does not slope or drain directly into the storm drain system.
- Install berms, curbing, or vegetation strips around waste storage areas as needed to control storm water entering and leaving the site.
- Use refuse receptacles, and refuse receptacle with lids and without drain holes and keep lids closed when not in use.
- Use best management practices to ensure excess quantities of chemicals are not purchased. Storage areas should be checked regularly to ensure large quantities of chemicals are not accumulating, or any of these stored chemicals are leaking.

Waste Handling

- Staff and residents are responsible for depositing their waste in the nearest appropriate trash can or general front load refuse receptacle, as appropriate.
- Staff and residents are responsible for ensuring that their material makes it into the refuse receptacle and debris is not left around the refuse receptacle as a result of their disposal efforts.
- Staff and residents are responsible for closing the lid or door to the refuse receptacle after depositing material inside.
- Staff whose responsibilities include emptying building refuse receptacle, are responsible for collecting material from buildings and depositing them in the nearest appropriate refuse receptacle.

Inspection and Maintenance

- Keep areas around refuse receptacles clean of all litter or debris.
- Inspect refuse receptacles for leaks regularly, and have repairs made immediately by responsible party. Any City-owned leaking refuse receptacles or refuse receptacles without lids should be reported to Ogden City Waste Management Division.
- Wash out refuse receptacles as needed to keep odors from becoming a problem. Ensure wash waters do not enter the storm system.

Waste Pickup and Mobilization

- Refuse receptacles to be emptied regularly to keep from overfilling.
- Refuse receptacles are on a routine service schedule to prevent overflowing refuse receptacles. Service schedules are periodically adjusted as needed to reflect user demands. Report City-owned overflowing refuse receptacles to Ogden City Waste Management Division

APPENDIX E: Relevant Municipal Code

Ogden City Municipal Code relevant to the SWMP is provided for reader's convenience. Please refer to Ogden City Code Library available online for most up-to-date City Codes.

7-6-1: ENGINEERING REGULATIONS, DESIGN STANDARDS, CONSTRUCTION SPECIFICATIONS AND TRAFFIC CONTROL REGULATIONS, AND VARIANCES:

A. The city engineer shall propose for adoption by the city council regulations, design standards, construction specifications, and traffic control regulations for all work performed in the "public way", as defined under section 7-5-1 of this title.

1. The city engineer may adopt additional or different standards for work within the public way for construction projects undertaken by the city or by a contractor hired by the city.

2. The city engineer shall implement reasonable inspection and testing procedures to ensure compliance with the regulations, standards and specifications adopted by the city council.

B. All work performed in the public way shall conform to the requirements of the following codes:

1. The engineering regulations, design standards, construction specifications and traffic control regulations adopted pursuant to subsection A;

2. The current edition of the American Public Works Association (APWA) Manual of Standard Specifications and Plans;

3. The American Water Works Associations (AWWA) Manuals of Practice and Standards;

4. The 2011 Manual on Uniform Traffic Control Devices (MUTCD) with all items and addendums as adopted by the State of Utah.

C. When there are practical difficulties involved in carrying out the provisions of this title or of adopted engineering regulations, the city engineer may grant a variance to a standard adopted in this title or in the adopted engineering regulations and the permit file shall be updated to include the variance and the reason for the variance.

1. A variance may be granted only if the permittee demonstrates to the satisfaction of the city engineer, or the city engineer's designee, all of the following criteria:

a. The granting of such variance complies with the intent and purpose of this title or the adopted engineering regulations and will not be materially detrimental to the public welfare or injurious or create adverse impacts to adjoining property or other property and improvements in the vicinity;

b. The proposed method or procedure produces a compensating or comparable result which is in the public interest; and

c. The proposed method or procedure, based upon sound engineering judgment, meets the objectives of safety, function and maintainability as would be achieved under the regulations of this title or the adopted engineering regulations.

2. Any proposed variance from road standards which does not comply with the current fire code, as adopted by title 16, chapter 2 of this code, or its successor provisions, may not be granted without the concurrence of the fire marshal.

3. Maintenance considerations shall be included in the design for a variance, and future costs shall not be excessive or shall be borne and reliably performed by the permittee or requesting property owner.

4. A variance granted under this section shall not constitute a grant of special privilege inconsistent with the limitation upon uses of, or standards associated with, other properties in the vicinity and in the zone in which the work is being done.

5. If a variance includes deferring any work associated with property outside of the public way or imposing maintenance obligations on the adjoining property, a deferral or other agreement shall be executed with the property owner and recorded against the property.

6. A permittee may appeal a decision allowing or denying a variance to the public services director within ten (10) days after the permittee is notified of the decision.

D. Whenever the following terms are used in the APWA Manual of Standard Specifications and Standard Plans, or in the provisions of this chapter, they shall have the following meanings:

CONTRACTOR:	The person, firm, or corporation named as such in the permit or other agreement within the city.
ENGINEER:	The duly appointed city engineer of the city, or the city engineer's duly authorized representative.
OWNER:	The public body or authority, corporation, association or firm with whom the contractor has entered into an agreement or been permitted by to perform work within the area identified.

(Ord. 2015-34, 7-7-2015; amd. Ord. 2020-46, 9-15-2020)

CHAPTER 7

STORM WATER POLLUTION PREVENTION

ARTICLE A. GENERAL PROVISIONS

SECTION:

9-7A-1: TITLE:

This chapter shall be known as the *STORM WATER POLLUTION PREVENTION ORDINANCE OF OGDEN CITY*.

(Ord. 2006-45, 7-25-2006)

9-7A-2: PURPOSE:

The purpose of this chapter is to provide for the health, safety, and general welfare of the inhabitants of the city through the regulation of nonstorm water discharges to the city storm drainage system to the maximum extent practicable as required by federal and state law. This chapter establishes methods for controlling the introduction of pollutants into the city's storm sewer system in order to comply with requirements of the Utah pollutant discharge elimination system (UPDES) permit process, operating pursuant to the national pollutant discharge elimination system (NPDES) permitting process under the clean water act. The objectives of this chapter are:

A. To regulate the contribution of pollutants to the city storm sewer system and the waters of the state of Utah by storm water discharges by any user.

B. To prohibit illicit connections and discharges to the city storm sewer system.

(Ord. 2006-45, 7-25-2006)

9-7A-3: MINIMUM STANDARDS:

The standards set forth in this chapter are minimum standards. The provisions of this chapter do not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

(Ord. 2006-45, 7-25-2006)

9-7A-4: DEFINITIONS:

For the purposes of this chapter, the following terms shall have the indicated meanings:

AUTHORIZED ENFORCEMENT OFFICER: The employees of the city designated by the mayor with the authority to enforce the provisions of this chapter.

BEST MANAGEMENT PRACTICES ("BMPs"): Includes schedules of activities, prohibitions of practices, maintenance procedures, design standards, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly into the waters of the state of Utah. BMPs also include treatment requirements, operating procedures, educational activities, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

CITY STORM DRAINAGE SYSTEM: City owned facilities by which storm water is collected and/or conveyed, including, but not limited to, any streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and humanmade or altered drainage channels, reservoirs, and other drainage structures. The city storm drainage system is a municipal separate storm sewer system (MS4) permitted and operating under a UPDES storm water discharge permit.

CLEAN WATER ACT: Federal water pollution control act (33 USC section 1251 et seq.).

CONSTRUCTION ACTIVITY: Activities occurring in furtherance of a construction project, including, but not limited to, land disturbing activities; hauling of soil and rock; explosive and abrasive blasting; implosion; handling of building materials; concrete, stone and tile cutting; operation of motorized and nonmotorized machinery; and operation of motor vehicles on the site, staging areas, parking areas, storage areas, or any access routes to the construction site.

HAZARDOUS MATERIALS: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

ILLEGAL DISCHARGE: Any direct or indirect nonstorm water discharge to the storm drain system, except as exempted in section 9-7B-2 of this chapter.

ILLICIT CONNECTIONS: Either of the following: any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including, but not limited to, any conveyances which allow any nonstorm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by the authorized enforcement officer, or any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the authorized enforcement officer.

INDUSTRIAL ACTIVITY: Activities subject to NPDES and UPDES industrial permits as defined in 40 CFR, section 122.26 (b)(14).

LAND DISTURBING ACTIVITY: A human induced change to improved or unimproved land, including, but not limited to, new home or building construction, expansion of an existing building or home, demolition activity, clearing, grubbing, leveling, excavation, fill operations, clearing, trenching, landscaping, grading, drainage, pipe installation, drilling, mining, dredging, road construction or improvement, paving, construction of earthen berms, and improvements for use as parking or storage.

MINOR LAND DISTURBING ACTIVITY: Any construction activity where less than five thousand (5,000) square feet is subject to land disturbing activity, unless such land disturbing activity is within three hundred feet (300') of a watercourse. "Minor land disturbing activity" shall not include initial grading of, or construction of a main building on, a subdivided lot within a subdivision plat for which an SWPP permit or a UPDES permit was previously required.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4): A municipally owned and operated storm water collection system that may consist of any or all of the following: curb and gutter, drainage swales, piping, ditches, canals, detention basins, inlet boxes, or any other system used to convey storm water that discharges into canals, ditches, streams, rivers, or lakes not owned and operated by the municipality.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER DISCHARGE PERMIT: A storm water discharge permit issued by the United States environmental protection agency (EPA), or the state of Utah (UPDES) under authority delegated pursuant to 33 USC section 1342(b), in compliance with the federal clean water act and its amendments.

NONSTORM WATER DISCHARGE: Any discharge to the storm drain system that is not composed entirely of storm water.

NOTICE OF INTENT (NOI): The application for permit required to be filed with the state of Utah to obtain coverage under the UPDES storm water discharge permit.

POLLUTANT: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to, paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

PREMISES: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

STORM WATER: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

STORM WATER CONVEYANCE SYSTEM: Any channel or pipe for collecting and directing storm water.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP): A document which describes the best management practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to storm water, storm water conveyance systems, and/or waters of the state of Utah to the maximum extent practicable.

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) STORM WATER DISCHARGE PERMIT: A permit issued by the state of Utah, under authority delegated pursuant to 33 USC section 1342(b), that authorizes the discharge of pollutants to waters of the state of Utah, whether the permit is applicable on an individual, group, or general areawide basis.

WASTEWATER: Any water or other liquid, other than uncontaminated storm water, discharged from a facility.

WATERCOURSE: Any natural or improved stream, river, creek, ditch, channel, canal, conduit, gutter, culvert, drain, gully, swale, or wash in which waters flow either continuously or intermittently.

WATERS OF THE STATE OF UTAH: All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage system, 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 the state of Utah or any portion thereof, except that 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, shall not be considered to be "waters of the state of Utah".

(Ord. 2006-45, 7-25-2006)

ARTICLE B. CONSTRUCTION ACTIVITY

SECTION:

9-7B-1: APPLICABILITY:

This article shall apply to any construction activity and land disturbing activity, directly or indirectly associated with construction projects, and all persons engaged in such construction activity and land disturbing activity, directly or indirectly associated with construction projects, within the corporate limits of the city, unless specifically exempted herein.

(Ord. 2006-45, 7-25-2006)

9-7B-2: PERMITS:

A. Required: Every person shall obtain a storm water pollution prevention permit (hereinafter "permit" or "SWPPP permit") before commencing any construction activity in the city, unless exempt under the provisions of this article.

B. Storm Water Pollution Prevention Plan Required: No person shall be granted a permit for land disturbing activity on sites greater than one acre without submitting a storm water pollution prevention plan (hereinafter "plan" or "SWPPP"), which plan must be approved by the authorized enforcement officer.

C. Permit Exempt Activities: No permit is required for the following activities:

1. Any emergency activity that is immediately necessary for the protection of life, property, or natural resources;

2. Existing nursery and agricultural operations conducted as an allowed main or accessory use under the zoning ordinances of the city; or

3. Minor land disturbing activity.

D. Application Contents: Each application for a permit shall include:

1. Date of application and the address of the site;

2. A description of the project;

3. Name, address and telephone number of the owner of the site;

4. Name, address and telephone number of the applicant, if different from the owner;

5. Name, address, and telephone number of the general contractor, or if none, the name(s), address(es), and telephone number(s) of the contractor(s), subcontractor(s) or persons actually doing the land disturbing activities and their respective tasks;

6. The date that construction activity will commence and the estimated time frame for completion of the construction activity after the commencement date, expressed in monthly increments;

7. The fee imposed in title 4, chapter 6 of this code, except that the fee may be waived when the applicant is the city, or a contractor performing work on behalf of the city;

8. For sites five (5) acres and larger, a copy of the NOI; and

9. Signature of the applicant.

E. Bond; Financial Guarantee: For sites one acre or larger, the applicant will be required to file with the city a faithful performance bond or financial guarantee meeting the requirements of section 14-3-7 or 15-13-23 of this code, in an amount deemed sufficient by the authorized enforcement officer to cover all costs of improvements or maintenance of improvements necessary for implementation of the SWPPP for such period as specified by city, and engineering and inspection costs to cover the cost of failure or repair of improvements installed on the site.

F. Grading; Construction: Initial grading of, or construction of a main building on, a subdivided lot within a subdivision plat for which an SWPPP permit or a UPDES permit is required, shall comply with the permit established for the subdivision plat, unless a separate SWPPP permit is approved for the lot.

G. Term Of Permit: The permit shall be granted for the number of months estimated by the applicant to be necessary for completion of the proposed construction activity, which permit shall expire after the estimated period of time has elapsed. Any portion of a month shall be counted as one full month. If construction activity will exceed the number of months granted on the permit, the applicant shall request an extension from the authorized enforcement officer prior to the expiration date and pay the monthly fee for each additional month under the requested extension period. Failure to request such extension and pay the required fees shall be considered to be a violation of this article. No refunds shall be granted in the event the applicant overestimates the period of time for construction.

(Ord. 2006-45, 7-25-2006)

9-7B-3: REVIEW AND APPROVAL:

A. The authorized enforcement officer will review each application for a permit to determine its conformance with the provisions of this article. Within thirty (30) days after receiving an application, the authorized enforcement officer shall in writing:

1. Approve the permit application, together with any required SWPPP;

2. Approve the permit application, together with any required SWPPP, subject to such reasonable conditions as may be necessary to secure compliance with the requirements of this article, and issue the permit subject to these conditions; or

3. Disapprove the permit application, together with any required SWPPP, indicating the reason(s) and procedure for submitting a revised application and/or submission.

B. Failure of the authorized enforcement officer to act on an original or revised application within thirty (30) days of receipt shall authorize the applicant to proceed in accordance with the plans as filed unless such time is extended by agreement between the applicant and the authorized enforcement

officer. Pending preparation and approval of a revised plan, development activities shall be allowed to proceed in accordance with conditions established by the authorized enforcement officer.

(Ord. 2006-45, 7-25-2006)

9-7B-4: STORM WATER POLLUTION PREVENTION PLANS:

A. Storm water pollution prevention plans shall include the following:

1. Map(s) or site plan(s) describing:

a. The existing topography of the site;

b. Delineation of any areas of vegetation or trees to be saved;

c. Clear and definite delineation of any wetlands, natural or artificial water storage detention areas, and drainage ditches on the site;

d. Clear and definite delineation of any 100-year floodplain on or near the site;

e. Approved grading and drainage plans;

f. Watercourses or portions of the city's storm drainage systems either on or near the site.

2. A sequence of construction activity to occur on the site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosions and sediment control measures, and establishment of permanent vegetation.

3. All storm water pollution control measures or BMPs necessary to meet the objectives of this article throughout all phases of the construction and after completion of development of the site. Depending upon the complexity of the project, the drafting of intermediate plans may be required at the close of each season.

4. Provisions for maintenance of erosion or sediment control facilities.

5. An inspection schedule for determining the overall effectiveness of the SWPPP.

6. Such other additional information or data deemed necessary to ensure compliance with the requirements of this article.

B. Storm water pollution prevention plans shall be stamped as approved by a registered civil engineer. The authorized enforcement officer may waive such requirement when it is self-evident that the construction activity is simple, clearly shown, and entails no hazard or nuisance potential to adjacent properties or watercourses, and does not include the placement of fill upon which a structure may be erected.

C. Requests to modify a permit or an SWPPP shall be submitted and reviewed in the same manner as provided in sections 9-7B-2 and 9-7B-3 of this article for permit applications; provided that any modification deemed by the authorized enforcement officer to be minor may be approved on site or informally by the authorized enforcement officer without the need for a formal application and fee payment. Such informal modifications shall be documented on a field report or correction notice, and the approved plans, with a dated signature.

(Ord. 2006-45, 7-25-2006)

9-7B-5: SWPPP DESIGN REQUIREMENTS:

A. The authorized enforcement officer may establish by administrative order city design criteria for grading, erosion control practices, sediment control practices, and watercourse crossings, which administrative order shall be effective upon filing in the city recorder's office.

B. Grading, erosion control practices, sediment control practices, and watercourse crossings shall meet any design criteria established by the authorized enforcement officer pursuant to subsection A of this section, and shall be adequate to prevent transportation of sediment from the site to the satisfaction of the authorized enforcement officer. Cut and fill slopes shall be no greater than two to one (2:1), except as approved by the authorized enforcement officer to meet other community or environmental objectives.

C. Clearing, except that necessary to establish sediment control devices, shall not begin until all sediment control devices have been installed and have been stabilized.

D. Erosion control practices shall, at a minimum, include the following:

1. Soil stabilization shall be completed within five (5) days of clearing or inactivity in construction.

2. If seeding or another vegetative erosion control method is used, it shall become established within two (2) weeks or the authorized enforcement officer may require the site to be reseeded or a nonvegetative option employed.

3. Soil stockpiles maintained off site must be stabilized or covered at the end of each workday.

4. Specialized techniques meeting design criteria approved by the authorized enforcement officer must be employed to stabilize steep slopes or along drainageways to ensure stabilization.

5. The entire site must be stabilized, using a heavy mulch layer or another method that does not require germination to control erosion, at the close of the construction season if applicable.

6. Techniques shall be employed to prevent the blowing of dust or sediment from the site.

7. Techniques that divert upland runoff past disturbed slopes shall be employed.

E. Sediment control requirements shall include:

1. Settling basins, sediment traps and perimeter controls.

2. Settling basins that are designed in a manner that allows adaptation to provide long term storm water management, if required by the authorized enforcement officer.

3. Protection for adjacent properties by the use of a vegetated buffer strip in combination with perimeter controls.

F. Waterway and watercourse protection requirements shall include:

1. A temporary stream crossing installed and approved by the authorized enforcement officer if a wet watercourse will be crossed regularly during construction.

2. Stabilization of the watercourse channel before, during, and after any in-channel work.

3. All on site storm water conveyance channels designed according to city design criteria established pursuant to subsection A of this section or the city's engineering standards adopted pursuant to title 7, chapter 6 of this code.

4. Stabilization adequate to prevent erosion located at the outlets of all pipes and paved channels.

G. Construction site access requirements shall include measures adequate to ensure that sediment is not tracked onto public streets by construction vehicles or washed into storm drains.

(Ord. 2006-45, 7-25-2006)

9-7B-6: GENERAL REQUIREMENTS:

A. Erosion, sediment, or discharge of pollutants, resulting from construction activity, which enter onto public property or private property not controlled by the permit holder, shall be eliminated to the maximum extent practicable unless otherwise permitted or exempted under this article.

B. All construction activity commenced pursuant to an approved storm water pollution prevention plan or permit must at all times comply with the conditions of the storm water pollution prevention plan or permit. The permit holder shall be responsible for ensuring their contractor(s), subcontractor(s), utility trenching subcontractor(s), and all other persons entering the site abide by the conditions of the permit. The permit holder's signature or that of his authorized agent on the permit shall constitute an agreement by the permit holder to accept responsibility for meeting the conditions of the permit.

C. No construction activity shall take place without a valid permit unless exempted herein. If a permit has been suspended or revoked, all work covered by the permit shall cease until a new permit is issued.

D. The authorized enforcement officer shall receive notification of pending permitted construction activity a minimum of forty eight (48) hours prior to commencement of such activity.

E. All necessary action shall be taken to minimize the depositing and tracking of mud, dirt, sand, gravel, rock or debris on the public right of way. The owner of the site of the construction activity or the permit holder with respect to the construction site shall be responsible for any cleanup of the public rights of way, city storm drainage system, or private property not under the permit holder's control necessitated from any tracking or depositing of mud, dirt, sand, gravel, rock or debris, or shall reimburse the city for any expenses incurred by the city to effectuate the cleanup.

F. Construction ramps shall be constructed of material that will not erode or deteriorate under adverse conditions, and shall not be placed in a manner as to interfere with or block the passage of storm water runoff.

G. No debris, dirt, aggregate or excavated materials, or construction supplies shall be placed on the public right of way unless permitted by the city. In addition, public sidewalks shall not be removed, blocked, or otherwise rendered unusable by construction activity, equipment or materials, or portable toilets, unless a safe, usable alternative walkway, meeting the city's engineering standards adopted pursuant to title 7, chapter 6, of this code, is placed on the same side of the right of way by the contractor.

H. No owner or lessee of real property shall allow the property to be unoccupied, unused, vacant or undeveloped after the topsoil has been disturbed or the natural cover removed, unless control measures are undertaken to prevent mud, sand, dirt and gravel from migrating off site and entering the public right of way or the city's storm water system. Soil or aggregate stockpiles shall not be stored on unoccupied, vacant, unused, or undeveloped property unless otherwise permitted by the city and such control measures are in place. This provision is not meant to prevent individual homeowners from accepting title of land that is not yet landscaped, and such homeowners will not be in violation of this chapter.

I. All temporary erosion and sediment control measures shall be removed after final site stabilization. Trapped sediment and other disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized within thirty (30) days from removal of the temporary measures.

(Ord. 2006-45, 7-25-2006)

9-7B-7: INSPECTION:

A. Required Inspections:

1. Under the permit, the authorized enforcement officer may require inspections at the following stages of construction activity:

a. Start of construction;

b. Installation of sediment and erosion measures;

c. Completion of site clearing;

d. Completion of rough grading;

e. Completion of final grading;

f. Close of the construction season, if applicable; and

g. Completion of final landscaping.

2. If required, the authorized enforcement officer shall either approve that portion of the work completed or shall notify the permit holder wherein the work fails to comply with the permit or SWPPP as approved. To obtain required inspections, the permittee shall notify the authorized enforcement officer at least twenty four (24) hours before any required inspection.

B. Control Measures: The permittee or the permittee's agent shall make regular inspections of all control measures, including, but not limited to, inspection of erosion control measures before rainstorms when there is a five (5) day forecast of rain. Such inspections shall be under the supervision of a registered civil engineer. The authorized enforcement officer may waive such requirement when it is self-evident that the work is simple, clearly shown, and does not include the placement of fill upon which a structure may be erected. The purpose of such inspections will be to determine the overall effectiveness of the control plan and the need for additional control measures. All inspections shall be documented in written form and made available upon request to the authorized enforcement officer, or submitted to the authorized enforcement officer at such time intervals specified in the approved permit.

C. Authorized Enforcement Officer: The authorized enforcement officer may enter the property of the permit holder as deemed necessary to make regular inspections to ensure the validity of the reports filed under subsection B of this section.

D. Plans: Plans for grading, stripping, excavating, and filling work bearing the stamp of approval of the authorized enforcement officer shall be maintained at the site during the progress of the work.

(Ord. 2006-45, 7-25-2006)

9-7B-8: STOP WORK ORDERS:

A. The authorized enforcement officer may suspend or revoke a permit, or stop work on a construction activity, either for the entire construction project or any specified part thereof, if any of the following conditions exist:

1. Any land disturbing activity is being undertaken without a required permit;

2. The SWPPP is not fully implemented;

3. The applicant fails to obtain an extension on an expired permit; or

4. Any of the conditions of the permit are not being met.

B. The stop work order shall be in writing and shall be given to the owner of the real property involved, the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the

cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.

C. Any person who continues any work after having been served with a stop work order, except such work as that person is directed to either implement the SWPPP, meet the conditions of the permit, or otherwise comply with the requirements of this article, shall be in violation of this section.

(Ord. 2006-45, 7-25-2006)

ARTICLE C. RESERVED

ARTICLE D. ILLICIT DISCHARGES

SECTION:

9-7D-1: APPLICABILITY:

This article shall apply to all water entering the city storm drain system or the waters of the state of Utah generated on any developed and undeveloped lands unless explicitly exempted under the provisions of this article.

(Ord. 2006-45, 7-25-2006)

9-7D-2: PROHIBITION OF ILLEGAL DISCHARGES:

A. No person shall discharge or cause to be discharged into the city storm drain system or watercourses any materials, including, but not limited to, pollutants or waters containing any pollutants

that cause or contribute to a violation of applicable water quality standards, other than storm water.

B. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

1. The following discharges are exempt from discharge prohibitions established by this article:

a. Water line flushing or discharge from potable water sources;

b. Irrigation or lawn watering runoff;

c. Diverted stream flows;

d. Rising ground waters;

e. Uncontaminated ground water infiltration to storm drains;

f. Uncontaminated pumped ground water;

g. Foundation or footing drains (not including active ground water dewatering systems);

h. Water from crawl space pumps;

i. Air conditioning condensation;

j. Springs;

k. Individual residential washing of vehicles;

l. Natural riparian habitat or wetland flows;

m. Swimming pool or water reservoir discharge (if dechlorinated - typically less than one PPM chlorine);

n. Discharges or flows from emergency firefighting activities;

o. Residual street wash water; and

p. Any other water source not containing pollutants.

2. Discharges specified in writing by the authorized enforcement agency as being necessary to protect public health and safety.

3. Dye testing is an allowable discharge, but requires a verbal notification to the authorized enforcement agency prior to the time of the test.

4. The prohibition shall not apply to any nonstorm water discharge permitted under a UPDES or NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the federal environmental protection agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

(Ord. 2006-45, 7-25-2006; amd. Ord. 2020-45, 9-15-2020)

9-7D-3: PROHIBITION OF ILLICIT CONNECTIONS:

A. The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

B. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing

at the time of connection.

C. A person is considered to be in violation of this article if the person connects a line conveying sewage to the city storm water system (MS4), or allows such a connection to continue.

(Ord. 2006-45, 7-25-2006)

9-7D-4: SUSPENSION OF MS4 ACCESS:

A. Suspension Due To Illicit Discharges In Emergency Situations: The authorized enforcement officer may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or waters of the state of Utah. If the violator fails to comply with a suspension order issued in an emergency, the authorized enforcement agency may take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the state of Utah, or to minimize danger to persons.

B. Suspension Due To The Detection Of Illicit Discharge: Any person discharging to the MS4 in violation of this article may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The authorized enforcement officer will notify a violator of the proposed termination of its MS4 access. The violator may petition the authorized enforcement officer for a reconsideration and hearing.

C. Illegal Reinstatement: A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section, without the prior approval of the authorized enforcement agency.

(Ord. 2006-45, 7-25-2006)

9-7D-5: INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGES:

Any person subject to an industrial or construction activity UPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the authorized enforcement officer prior to the allowing of discharges to the MS4.

(Ord. 2006-45, 7-25-2006)

9-7D-6: MONITORING OF DISCHARGES:

A. Applicability: This section applies to all facilities that have storm water discharges associated with industrial activity, including construction activity.

B. Access To Facilities:

1. The authorized enforcement officer shall be permitted to enter and inspect facilities subject to regulation under this article as often as may be necessary to determine compliance with this article. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the authorized enforcement agency.

2. Facility operators shall allow the authorized enforcement officer ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge storm water, and the performance of any additional duties as defined by state and federal law.

3. The authorized enforcement officer shall have the right to set up on any permitted facility such devices as are necessary in the opinion of the authorized enforcement officer to conduct monitoring and/or sampling of the facility's storm water discharge.

4. The authorized enforcement officer has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure storm water flow and quality shall be calibrated to ensure their accuracy.

5. Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the authorized enforcement officer and shall not be replaced. The costs of clearing such access shall be borne by the operator.

6. Unreasonable delays in allowing the authorized enforcement officer access to a permitted facility is a violation of a storm water discharge permit and of this article. A person who is the operator of a facility with a UPDES permit to discharge storm water associated with industrial activity commits an offense if the person denies the authorized enforcement officer reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this article.

7. If the authorized enforcement officer has been refused access to any part of the premises from which storm water is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this article, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this article or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the authorized enforcement agency may seek issuance of a search warrant from any court of competent jurisdiction.

(Ord. 2006-45, 7-25-2006)

9-7D-7: REQUIREMENTS TO PREVENT, CONTROL, AND REDUCE STORM WATER POLLUTANTS BY THE USE OF BEST MANAGEMENT PRACTICES:

The authorized enforcement officer will adopt requirements identifying best management practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the city storm water system, or waters of the state of Utah. The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the city storm water system or waters of the state of Utah through the use of these structural and nonstructural BMPs. Further, any person responsible for a property or premises, which is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and nonstructural BMPs to prevent the further discharge of pollutants to the city storm water system or watercourses. Compliance with all terms and conditions of a valid UPDES permit authorizing the discharge of storm water associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section. These BMPs shall be part of a storm water pollution prevention plan (SWPPP) as necessary for compliance with requirements of the UPDES permit.

(Ord. 2006-45, 7-25-2006)

9-7D-8: WATERCOURSE PROTECTION:

Every person owning property by or through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

(Ord. 2006-45, 7-25-2006)

9-7D-9: NOTIFICATION OF SPILLS:

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or water of the U.S. said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of nonhazardous materials, said person shall notify the authorized enforcement officer in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the authorized enforcement officer within three (3) business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three (3) years.

(Ord. 2006-45, 7-25-2006)

9-7D-10: ENFORCEMENT:

A. Notice Of Violation: Whenever the authorized enforcement officer finds that a person has violated a prohibition or failed to meet a requirement of this article, the authorized enforcement officer may order compliance by written notice of violation to the owner and any other responsible persons. Such notice may require, without limitation:

1. The obtaining of a required permit;

2. Submission of storm water pollution prevention plan;

3. The performance of monitoring, analyses, and reporting;

4. The elimination of illicit connections or discharges;

5. That violating discharges, practices, or operations shall cease and desist;

6. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;

7. Payment of a civil penalty or the imposition of costs to cover administrative and abatement or remediation costs; and

8. The implementation of source control or treatment BMPs.

B. Abatement; Deadline: If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise, if the authorized enforcement officer anticipates city performance of abatement, that should the violator fail to remediate or restore within the established deadline, the work may be done by the city or a contractor hired by the city and the expense thereof charged to the owner.

(Ord. 2006-45, 7-25-2006)

9-7D-11: APPEAL OF NOTICE OF VIOLATION:

Any person receiving a notice of violation may appeal the determination of the authorized enforcement officer. The notice of appeal must be filed in writing in the city recorder's office within ten (10) days of date of the notice of violation. Hearings shall be conducted as provided in title 4, chapter 4, article A of this code. All applications for hearing shall be accompanied by a copy of the notice of violation and the applicable fee established in section 4-6-1 of this code.

(Ord. 2006-45, 7-25-2006)

9-7D-12: ENFORCEMENT MEASURES AFTER APPEAL:

If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, within thirty (30) days of the decision of the hearing officer upholding the decision of the authorized enforcement officer, then the authorized enforcement officer, in addition to any other remedy provided herein, may enter upon the subject private property and is authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the authorized enforcement officer or designated contractor to enter upon the premises for the purposes set forth above.

(Ord. 2006-45, 7-25-2006)

9-7D-13: RECOVERY OF COST OF ABATEMENT OR REMEDIATION:

A. Itemized Statement; Preparation And Delivery: If city abatement or remediation is performed pursuant to section 9-7D-12 of this article, the city treasurer, in coordination with the authorized enforcement officer, shall prepare an itemized statement of all expenses incurred by the city in the performance of such abatement work authorized under the provisions of this article, together with all administrative costs incurred by the city, and shall mail a copy thereof to the owner of the property demanding payment within thirty (30) days of the date of mailing. Such notice shall be considered served when mailed by certified mail addressed to the property owner's last known address.

B. Failure To Make Payment: In the event the property owner fails to make payment of the amount set forth in the statement described in subsection A of this section to the city treasurer within thirty (30) days of the date of mailing, the city treasurer may cause suit to be brought in an appropriate court of law or may refer the matter to the county treasurer as provided herein.

C. Hearing: Any property owner mailed a statement of itemized costs and demand for payment may request a hearing before the mayor or a hearing officer designated by the mayor. All applications shall be made by filing a written application in the city recorder's office, together with a copy of the statement and the fee established in section 4-6-1 of this code, within ten (10) days of the date of mailing of the statement. Upon receipt of an application for hearing, the city recorder shall immediately notify the authorized enforcement officer and the city treasurer. Hearings shall be conducted as provided in title 4, chapter 4, article A of this code.

D. Collection Through Taxes: In the event that the city elects to refer the expenses to the county treasurer for inclusion in the tax notice of the property owner, the city treasurer shall make in triplicate an itemized statement of all expenses and administrative costs incurred in the city's performance of such abatement work and shall deliver the three (3) copies of said statement to the county treasurer within ten (10) days after the expiration of the thirty (30) day period. Thereupon the costs of said work shall be pursued by the county treasurer in the same manner provided in section 12-8-9 of this code.

E. Collection By Lawsuit: In the event collection of costs of abatement are pursued through the courts, the city shall sue for and receive judgment for all of said expenses of abatement, together with all administrative costs incurred by the city, reasonable attorney fees, interest and court costs, and shall execute upon such judgment in the manner provided by law.

(Ord. 2006-45, 7-25-2006)

9-7D-14: VIOLATIONS DEEMED A PUBLIC NUISANCE:

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this article is a threat to public health, safety, and welfare, and is declared and deemed a public nuisance, and may be summarily abated or restored at the

owner's expense as provided herein, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken pursuant to title 1, chapter 4, article C, of this code.

(Ord. 2006-45, 7-25-2006)

9-7D-15: ATTORNEY FEES, COSTS AND EXPENSES:

The authorized enforcement agency may recover all attorney fees, court costs and other expenses associated with enforcement of this article, including sampling and monitoring expenses.

(Ord. 2006-45, 7-25-2006)

ARTICLE E. PENALTIES

SECTION:

9-7E-1: PENALTY:

A. Criminal Penalties: Any person who violates any of the provisions of this chapter, or who fails to comply with an order of suspension, revocation or stop work issued pursuant to the provisions of this chapter, shall be deemed guilty of a class B misdemeanor and, upon conviction thereof, shall be punished as set forth in title 1, chapter 4, article A of this code.

B. Civil Penalties: Failure to correct a violation of this chapter after notice of violation and expiration of the warning period may be enforced by imposition of the following civil penalties pursuant to title 1, chapter 4, article B of this code:

1. The first civil citation issued after expiration of the warning period shall subject the person to the initial penalty as provided in subsection C of this section.

2. The second civil citation issued after expiration of the warning period and the prior imposition of the initial penalty shall subject the person to the intermediate penalty as provided in subsection C of this section.

3. Any subsequent civil citation issued after expiration of the warning period and the prior imposition of an intermediate penalty, or any reoccurring violation under section 1-4B-6 of this code, shall subject the person to the maximum penalty as provided in subsection C of this section.

C. Civil Penalty Schedule: Violations of this chapter shall carry civil penalties pursuant to the following schedule:

Violation Classification	Initial Penalty	Intermediate Penalty	Maximum Penalty
1. Failure to obtain a required permit or submit a required SWPPP	$ 125.00	$ 250.00	$ 500.00
2. Failure to comply with the conditions of an SWPP permit, an approved SWPPP, or a	125.00	250.00	500.00

suspension, revocation or stop work order			
3. Failure to comply with a final notice of violation pursuant to section 9-7D-10 of this chapter; provided that, if the violation involves: a) a direct discharge or spill into the waters of the state of Utah; b) any discharge or spill within 300 feet of the Ogden River or the Weber River; or c) a failure to maintain the Ogden River or the Weber River pursuant to section 9-7D-8 of this chapter, the penalty shall be:	125.00 1,000.00	250.00 1,000.00	500.00 1,000.00

D. Injunctive Relief: This chapter may also be enforced by injunction, mandamus, abatement or any other appropriate judicial action in law or equity.

E. Separate Offense Each Day: Each day that any violation of this chapter continues shall be considered a separate offense for purposes of the penalties and remedies available to the city.

F. Compliance Not Excused: No criminal conviction or imposition of penalties shall excuse the person from otherwise complying with the provisions of this chapter.

(Ord. 2006-45, 7-25-2006)

9-7E-2: REMEDIES NOT EXCLUSIVE:

The remedies listed in this article are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

(Ord. 2006-45, 7-25-2006)

CHAPTER 4

DEVELOPMENT PLAN REVIEW PROCESS

SECTION:

15-4-1: PURPOSE:

A. The development plan review process is established in order to assure that new development proposed for Ogden City will comply with the requirements of this code, and to ensure that new development is designed and constructed in a manner that will:

1. Ensure that all growth and development is consistent with the requirements of this title and the Ogden City general plan;

2. Foster the safe, efficient and economic use of the land, the city's transportation infrastructure, and other public facilities and services;

3. Ensure adequate infrastructure servicing new development;

4. Provide for adequate drainage of surface water and reduction of flood damage;

5. Provide adequate on site litter control;

6. Provide safe and convenient vehicular access and circulation, and encourage patterns of land use that decrease automobile trip length and encourage trip consolidation;

7. Improve the design, quality and character of new development;

8. Encourage the development of vacant properties within established areas;

9. Ensure that development proposals are sensitive to the character of existing neighborhoods; and

10. Ensure that development proposals are sensitive to natural areas and features.

B. Compliance with the regulations of this chapter in no sense excuses a developer from the applicable requirements outlined elsewhere in this code.

(Ord. 99-38, 10-19-1999)

15-4-2: DEFINITIONS:

The following terms, as used in this chapter, shall have the respective meanings as indicated:

DEVELOPMENT PLAN REVIEW TEAM: Representatives from the following city departments or divisions: current planning division, building services division, engineering division, operations division, water division, and fire department. Representatives from other departments or divisions of the city, or other agencies, which have been assigned to review development proposals for compliance with city regulations.

DEVELOPMENT PROPOSAL: A proposal to Ogden City for the approval of new development or a substantial change to existing development.

DIRECTOR: The director of the community and economic development department, or the director's designee.

FINAL PLAN: A site plan that shows all approved requirements and conditions for development of a project.

NEW DEVELOPMENT: The construction or exterior alteration of any building or structure, or the modification of a site for an existing or new building or structure. "New development" shall not include construction of or changes to a single-family dwelling or a two-family dwelling, unless such dwellings are being constructed or modified as a group dwelling, a PRUD, a residential infill development, or a conditional use.

SUBSTANTIAL CHANGE: Those changes or modifications that:

A. Change the use or character of the development;

B. Increase the overall density or intensity of use;

C. Increase the coverage of the site by structures;

D. Reduce previously approved requirements for open space, amenities or landscaping;

E. Change the number of parking spaces to below the minimum required;

F. Modify on site traffic circulation or affect driveways;

G. Increase the impervious area of the site which increases storm drainage requirements; or

H. Alter the location of existing or proposed utilities.

(Ord. 99-38, 10-19-1999; amd. Ord. 2001-32, 6-5-2001; Ord. 2007-67, 9-18-2007)

15-4-3: TYPE OF DEVELOPMENT APPLICATIONS:

A. Project Development Plan: All development proposals must be processed and approved through submittal of a "project development plan". If the applicant desires to develop in phases, i.e., with two (2) or more separate project development plan submittals, an "overall development plan" will also be required prior to, or concurrently with, the project development plan for any one phase. The requirement for project development plan review may be waived by the director for expansions or alterations that do not constitute a substantial change. The reason(s) for the waiver will be put in writing by the director, and a copy filed with the city's permanent records for the site.

B. Overall Development Plan: An overall development plan shall be required for any property that is intended to be developed over time in two (2) or more separate project development plan submittals. The purpose of the overall development plan is to establish general planning and development control parameters for projects that will be developed in phases with multiple submittals while allowing sufficient flexibility to permit detailed planning in subsequent submittals. Approval of an overall development plan does not establish any vested right to develop property in accordance with the plan.

(Ord. 99-38, 10-19-1999)

15-4-4: APPLICATION AND REVIEW PROCESS:

A. Conceptual Review Meeting:

1. Purpose: Conceptual review is an opportunity for an applicant to discuss requirements, standards and procedures that apply to a development. Major problems and a course of action for their resolution can be identified before a formal application is made.

2. Applicability: A conceptual review meeting is encouraged for all development proposals, including existing developments that are proposed to have substantial changes.

3. Conceptual Plan Submittal: A sketch plan of the proposed development that shows the location of the proposal, major use areas, streets and other significant features is drawn. This is brought as the discussion exhibit for the conceptual review meeting.

4. Staff Review And Recommendations: A meeting shall be held at appointed times with the development plan review team and those proposing a development in order to discuss the conceptual plan. After the meeting, the review team shall furnish the applicant with written comments and recommendations to inform and assist the applicant in the preparation of the development application. The information shall include whether the use is permitted or conditional and what the existing zone is, and advise the applicant on the applicable review process.

B. Formal Submittals:

1. Application Forms: All applicants for proposed new development shall complete an application form established by the director and made available to the public.

2. Application Submittal: The application form, fees, plans and other supporting material as required by the city shall be submitted to the planning division. All pieces of the application package and requirements of the submittal forms must be present and verified by the director before the application is accepted. The director may waive items on the application form that are not applicable due to the particular circumstances or conditions of that development proposal.

3. Determination Of Completeness: The planning division, upon receipt of the application, shall determine whether or not the application is complete and ready for review based on the stated requirements for submittal and requests for exceptions to the submittal requirements. If the material that has been submitted is determined to be incomplete, all review of the submittal will be delayed until the planning division receives the necessary material to make the submittal complete.

C. Review Process:

1. Review Requirement: All applications for proposed new development plans shall be reviewed by the development plan review team. If the plan is required to be reviewed and approved by the planning commission or mayor under other provisions of this title, the development plan review team shall submit recommendations to such officials.

2. Department, Division And Agency Review: The director shall within two (2) working days, transmit a copy of the project development plan to each of the reviewing departments, divisions and agencies, with the date that the proposed plan will be discussed at a development plan review team meeting. The reviewing departments and agencies shall submit comments to the director at least two (2) working days before the scheduled meeting, which shall be compiled for presentation and discussion with the applicant at the meeting.

3. Development Plan Review Team Meeting: Within twenty (20) working days after receipt of a complete application, the development plan review team shall meet to discuss the application with the applicant. At this meeting, the applicant will be informed whether the application complies with all applicable standards of this code. The applicant will also be informed of proposed conditions for approval, which may be imposed to eliminate areas of noncompliance or mitigate any adverse effects of the development proposal. The applicant will be given an opportunity at the meeting to make presentations, ask questions, propose alternative conditions. The proposal may be tabled to a subsequent meeting if the director determines that more information is necessary or upon request of the applicant.

4. Director Determination: After consideration of the proposed plan at the meeting, the director shall within seven (7) working days make a determination whether the proposed plan is in compliance with the requirements of this code and may impose conditions to eliminate areas of noncompliance or mitigate any adverse effects of the development proposal. Such determination shall be in writing and provided to the applicant.

5. Resubmittals: If major areas of noncompliance or significant changes are evident, the director may require that the applicant revise the submittal and resubmit prior to further consideration and review by the development plan review team.

6. Submittal Of Final Plans: Upon receiving approval of the project development plan the applicant shall submit three (3) final plans to the director for approval. The final plans shall be submitted according to city requirements and must incorporate all conditions of approval.

7. Appeals:

a. If the director has designated another official in the department to have responsibility for the development plan review process under this chapter, any decision of the designated official may be appealed to the director by filing a written appeal to the director within thirty (30) days of the design being appealed. Any decision of the director shall be a final administrative determination, subject to appeal to the board of zoning adjustment.

b. Decisions made by the planning commission or mayor may be appealed to the board of zoning adjustment.

(Ord. 99-38, 10-19-1999; amd. Ord. 2001-32, 6-5-2001, eff. 6-30-2001)

15-4-5: STANDARDS:

A. Review Criteria: In addition to criteria established in other provisions of this code, the following criteria shall be considered in the review and evaluation of a project development plan, or other site plan approved under the provisions of this title, consistent with a reasonable use of the site for the purposes permitted or allowed by the regulations of the underlying zone:

1. If the proposal requires a conditional use permit or other development permit, it must conform to the conditions imposed under the permit.

2. The development shall be served with adequate water supply and be connected to the water and sewer mains, in accordance with city standards.

3. The plan shall maximize the convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent ways. The plan shall show traffic flow patterns for vehicles and pedestrians that provide safe and adequate access to, from and within the site.

4. The site plan shall show adequate measures of implementing low impact development, or, if LID is not appropriate, other methods to prevent pollution of surface or ground water, to minimize erosion and sedimentation, and to prevent changes in groundwater levels, increased runoff and potential for flooding. Drainage shall be designed so that runoff shall not be increased, groundwater recharge is maximized, and neighboring properties will not be adversely affected. The above requirement shall include compliance with title 9, chapter 6 of this code or its successor provisions, requiring installation of storm sewer facilities.

5. Adequate containers for trash enclosure areas.

B. Public Improvements:

1. Required: The following public improvements shall be required for all project development plans or any other site plan approved under the provisions of this title:

a. The applicant shall be responsible for the dedication and improvement of all off site public improvements that do not presently exist along frontage of the project according to a half width of the ultimate right of way as provided in the minimum standards for design and specifications approved by the city engineer, adopted pursuant to titles 7 and 14 of this code. Such improvements shall include, but are not limited to, curb, gutter, sidewalk, drive approaches, waterways, road base, asphalt, striping, streetscape, storm drainage, fire hydrants, copper laterals, piping of irrigation ditches and flood control systems, fencing of canals, extension of water lines, appurtenances and sewer lines, etc.

b. If existing sidewalk, curb and gutter, or drive approaches are in need of "extraordinary repairs", as defined and provided in sections 7-7-1 and 7-7-2 of this code, the applicant shall be responsible for such improvements.

c. The applicant shall be responsible for any upgrades to existing off site public improvements necessary to meet city standards applicable for the provision of water and sewer.

d. The area within the public right of way between the curb and gutter and sidewalk shall be landscaped with lawn, approved street trees, flowers or shrubs, in accordance with the landscaping standards of this code.

2. Installation Of Curb, Gutter Or Sidewalk: Where no curb and gutter or sidewalk exists along any public way adjacent to property proposed for new development or construction under this title, these street improvements must be installed at the time of any new development or construction unless, due to special circumstances existing on the street, the city engineer certifies that the installation of curb and gutter is impractical or not desirable. "Special circumstances" may include, but are not limited to:

a. Development at midblock where no improvements exist in either direction of the proposed development provided the applicant agrees to record a city approved covenant and agreement for future public improvement installation.

b. Improvements are planned as part of a special improvement district or capital improvement plan.

C. Engineering Design Standards:

1. Development projects must comply with all design standards, requirements, and specifications for the following services as certified by the appropriate agency, or variances must be granted by such agency:

a. Water supply.

b. Sanitary sewer.

c. Fire protection and emergency services.

d. Flood hazard areas.

e. Storm drainage.

f. Streets/roadways.

2. As a matter of courtesy, the city will notify the following agencies of the proposed project, however, the applicant shall be responsible to make contact with each of the following service providers regarding their individual requirements for development. These requirements shall also be included on the final plan:

a. Telephone.

b. Electricity.

c. Natural gas.

d. Cable television.

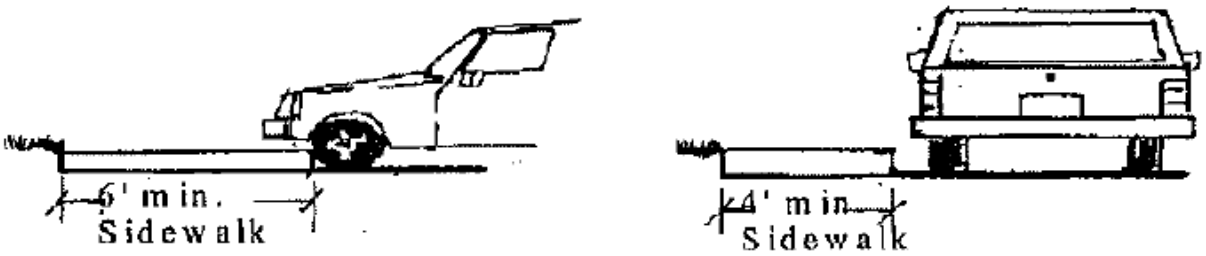
e. Irrigation water.

f. Mass transit.

g. Post office.

D. Walkways:

1. For all on site sidewalks, provide a minimum six foot (6') wide sidewalk when the sidewalk is also used as tire stop for parked vehicles. In all other cases a minimum four foot (4') wide sidewalk is required.



2. The design of walks within the public right of way must meet the city standards for construction of public improvements.

3. The design of all walkways shall meet the requirements associated with accepted design standards for handicapped access use.

E. Landscaping: These criteria apply to all proposed new development:

1. Landscape Plan: As part of any proposed development, the owner or developer shall submit a landscape plan to the planning division for approval. All landscaping plans shall demonstrate conformance with the applicable requirements contained in this section.

2. Landscape Objectives: Landscaping should substantively satisfy the following objectives to the extent that they apply to the specific site:

a. Landscaping should be encouraged that will serve the function of enhancing the visual environment by:

(1) Adding visual interest through texture, color, size and shape, etc.;

(2) Enhancing perspective by framing views, complementing architecture, screening and creating points of interest and activity;

(3) Defining and screening parking areas and associated access lanes from adjacent residential zones and public rights of way; and

(4) Providing attractive landscaping features included in low impact development applications such as bioswales, rain gardens, etc.

b. Landscaping should be encouraged that will serve the function of ensuring public safety by:

(1) Guiding the circulation of cars and people;

(2) Controlling access to parking lots;

(3) Making traffic diverters prominent;

(4) Defining the relative importance of streets by varying the species, height and location of landscaping; and

(5) Providing improved water quality through the implementation of low impact development standards which include natural plant filtration processes to clean storm water.

c. Landscaping should be encouraged that will serve the function of minimizing the nuisance of noise and glare. Landscaping should be encouraged that will service the function of conserving energy by:

(1) Shading hot summer sun; and

(2) Blocking cold winter winds.

d. Care should be taken to integrate the project to the site. Landscaping is one tool in carrying out this thoughtful consideration of the land. Sensitivity to topography and useful existing vegetation should be used in determining building location and special uses. The total landscape should be harmonious with the overall neighborhood concept.

e. Preservation of existing landforms and mature trees is usually desirable.

f. Visual variety should be the aim of landscaping treatment. Landscaping should be used to break up large expanses of pavement and, where appropriate, provide options for managing storm water by means of low impact development.

g. Species that are a public nuisance or that cause excess litter should be avoided.

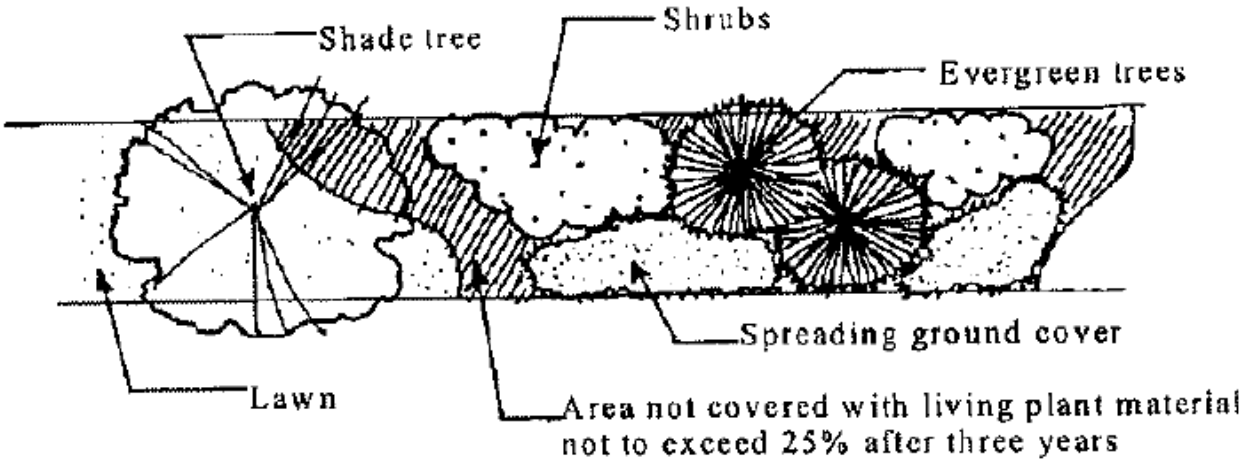
h. Landscaping and other design elements, such as pavers, lighting, seating, etc., as deemed appropriate, should enhance the visual environment by creating a visually obvious and definite entry point or entry corridor, enframing views, complementing the architecture, screening objectionable views and creating points of interest.

i. Landscaping, combined with other design elements, should ensure public safety by: guiding the circulation of cars and people, controlling access to parking lots, and making traffic diverters prominent.

3. General Requirements:

a. All required front and side yard setbacks facing a street, as well as the area of the public right of way defined by a curb or gutter shall be landscaped utilizing ground covers, trees and shrubs.

b. When shrubs or ground covers other than grass are used for landscaping, the spacing, type and size of plants used shall be such that seventy five percent (75%) of all landscaped areas shall be covered with living material within three (3) years of planting.



c. Planting beds shall be covered with rock or wood mulch to a minimum depth of three inches (3").

d. Plant material shall be species that are regionally appropriate and suitable for the site specific planting conditions, including available moisture, shade, salt tolerance, wind exposure, ability to utilize low impact development and soil pH.

e. The maximum allowable cut or fill slope is three feet (3') horizontal distance for one foot (1') of rise. Slopes steeper than three to one (3:1) will require retaining walls or other types of approved slope stabilization methods.

f. No plant material greater than twenty four inches (24") in height shall be located within fifteen feet (15') of a curb cut.

g. For all properties, except those associated with group dwellings, PRUDs and multiple-family dwellings, all on site landscape areas shall be planted with a minimum of one live tree per one thousand (1,000) square feet of landscaped area.

h. For properties with new multiple-family dwellings in residential zones, areas not covered with pavements or structures shall:

(1) Be landscaped with grass or other ornamental plant material;

(2) Have a minimum of one tree per unit in addition to the street trees required in the parkway; and

(3) Have five (5) 5-gallon shrubs per unit planted on the lot.

4. Size Of Landscape Materials At Time Of Planting: Unless specified elsewhere in this code:

a. Deciduous shade trees shall have a minimum caliper size, as defined by industry standards, of:

(1) Two inches (2") for multi-family dwellings, commercial and industrial developments, and in residential zones when placed by the developer; and

(2) One and one-fourth inches (1.25") in residential zones when placed by the individual property owner.

b. Evergreen trees shall be a minimum of four feet (4') tall.

c. Shrubs shall be of a size generally known in the landscape industry as requiring at least a one gallon container.

5. Installation And Maintenance:

a. Landscaping shall be installed in all areas not occupied by buildings, parking, storage, future phased plan areas or accessways and in accordance with the approved landscape plan.

b. Landscaping shall be installed prior to occupancy of any unit in the structure. In the case of inclement weather that prevents the installation of the required improvements, the time completion of the improvements may

be extended, in writing, upon the approval of the applicable reviewing body or designee. However, in no case shall the time for completion be extended beyond June 1 immediately following the completion date. A financial guarantee according to section 15-13-23 of this title shall be required prior to issuing building permits.

c. All landscaping, fencing, walls and other buffering/screening materials shall be maintained in a good, healthy, weed free, effective condition by the owner. Diseased or dead plant material shall be removed and replaced by June 1 if due to winterkill or October 1 if the plant material dies during summer months. Deteriorated or ineffective fencing material shall be removed and replaced within three (3) months of notice of correction.

d. Landscaping materials shall be contained so as not to obstruct any portion of the public sidewalk or street pavement.

e. All landscaping shall be protected from automobile overhang.

f. Sizing of plant material utilized for low impact development shall be sufficient at the time of planting to provide required filtration and meet design standards.

6. Irrigation System Design:

a. Irrigation systems shall be designed to avoid or minimize overspray of water onto paved surfaces or structures.

b. Landscaped areas shall be irrigated with an underground irrigation system. Areas with existing natural vegetation of shrubs (e.g., Wood's rose, willows, sagebrush) or trees (e.g., box elder, scrub oak, maple, birch) are not required to be irrigated unless site improvements have altered the historic drainage pattern or soil absorption patterns so as to reduce the amount of available water so the planting cannot exist in its natural state.

7. Tree Preservation:

a. Significant trees and significant groves shall be preserved to the extent reasonably feasible. Existing trees and shrubs within areas that can be developed (excluding river setbacks/buffer zones, floodways and wetlands areas) may be used to satisfy the landscaping requirements of this section. All required landscape plans shall accurately identify the locations, species, size, condition and proposed disposition of all significant trees or significant groves.

b. Existing trees that will remain and their root systems shall receive adequate water to ensure survival, and shall be protected from damage, soil contamination and compaction within the drip line during construction through the use of barricades or fencing.

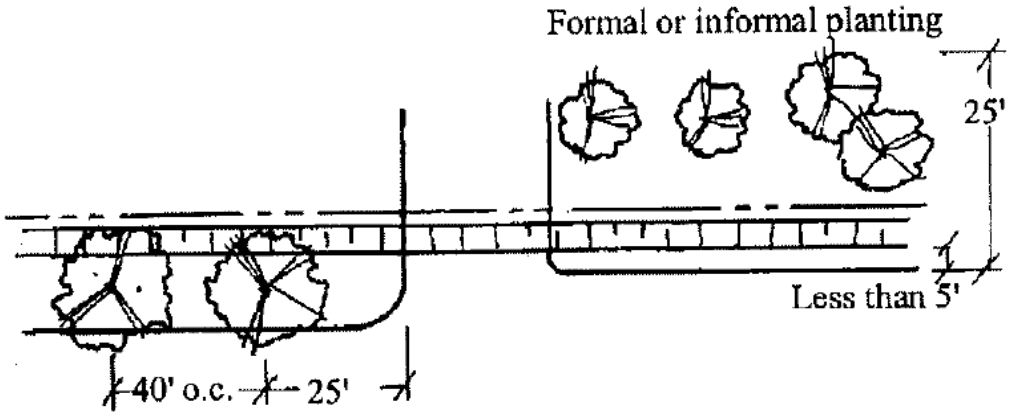
8. Street Trees: When the public street frontage has existing curbs or is required to install curbs as part of the development improvements, street trees shall be required to be installed in the parkway.

a. Large trees shall be spaced at forty feet (40') on center, medium trees shall be spaced at thirty feet (30') on center, and small trees shall be spaced at twenty feet (20') on center.

b. In areas with existing aboveground power lines, new street trees that exceed a height of twenty five feet (25') at maturity may not be installed underneath the power lines.

c. Street trees shall not be closer than twenty five feet (25') to any drive approach.

d. If the space in the parkway is less than five feet (5') wide the required trees shall be placed outside of the parkway but within twenty five feet (25') of the curb line and may be arranged in a formal or informal manner.



F. Buffer Yards (Protection Of Adjoining Residential Zoned Properties):

1. Purpose Of Screening: The intent of the screening requirements provided herein is to protect residential zones from the potential impacts commonly associated with commercial and manufacturing uses, such as lights, noise, increased pedestrian and automobile traffic, invasions of privacy and physical intrusions on property.

2. Screening Requirement: Whenever commercial or manufacturing development abuts property in a residential zone, screening is required to protect residential properties from the potential impacts of lights, noise, increased pedestrian traffic, invasions of privacy and physical intrusions on property. Based on the applicant's site plan, the department will determine the potential impacts resulting from location, site design and layout as they relate to the areas of concern identified in table A of this section. The applicant may then choose from among those screening options in table A of this section that will mitigate all of the identified impacts. The specific standard for each option is identified in table B of this section. Determinations may be appealed to the planning commission. If there are no potential impacts, screening is not required.

TABLE A: SCREENING OPTIONS

Impacts On Adjacent Residentially Zoned Property					
Areas Of Concern	**Lights**	**Noise**	**Privacy**	**Objectionable View**	**Access Restrictions**
Impacts On Adjacent Residentially Zoned Property					
Areas Of Concern	**Lights**	**Noise**	**Privacy**	**Objectionable View**	**Access Restrictions**
Parking	A,B,C[1],D,E or H[1]	C[1],D,E or H[1]	C[1],D,E or H[1]	A,B,C[1],D,E or H[1]	D,E,F,G,H or I
Service entrance	C[1],D,E or H[1]	C[1],D,E or H[1]	C[1],D,E or H[1]	C[1],D,E,G or H[1]	D,E,F,G,H or I
Dumpster	C[1],D,E or H[1]	C[1],D,E or H[1]	C[1],D,E or H[1]	C[1],D,E,G or H[1]	D,E,F,G,H or I
Outdoor storage	C[1],D,E or H[1]	C[1],D,E or H[1]	C[1],D,E or H[1]	C[1],D,E,G or H[1]	D,E,F,G,H or I
Outdoor activity area	C[1],D,E or H[1]	C[1],D,E or H[1]	C[1],D,E or H[1]	C[1],D,E,G or H[1]	D,E,F,G,H or I
Distance of building	E or H[1]	None	E or H[1]	E or H[1]	None

Note:

1. This is an option only when abutting residentially zoned property is vacant or has substantial existing vegetation. In either instance the time needed for growth of vegetation will not be detrimental to the buffering needs.

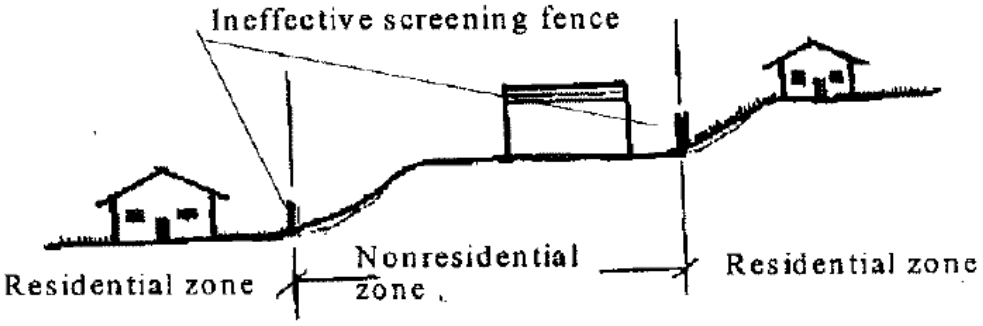
TABLE B: SCREENING OPTION DESCRIPTION

Option	Screening Type	Purpose And Standards
Option	**Screening Type**	**Purpose And Standards**
A	4' high berm	Screens vehicles in parking lot and decreases asphalt appearance, except when difference in topography offsets screening. Any berm shall have a minimum height of 4' and a stabilized side slope of no greater than 3:1 ratio of run to rise. A minimum width of 12' is required for this option.
B	Berm with shrubs sufficient to achieve a 4' high screen	Screens parking lot and buffers building. Evergreen shrubs shall be of a locally adapted species such as pyracantha, yew, juniper, or evergreen euonymus. Shrubs shall be a minimum of 5 gallon size when planted and shall be expected to reach a minimum height of 4' within 5 years of planting. Shrubs shall be planted at a maximum of 5' on center. The berm shall have a stabilized side slope no greater than 3:1 ratio of run to rise.
C	Evergreen hedge with an ultimate height of at least 5'	Screens parking lot except when difference in topography offsets screening. Buffers building which is close to property line. Shrubs shall be of a locally adapted evergreen species such as arborvitae (Thuja occidentalis or orientalis), juniper (Juniperus virginiana or chinensis), pyracantha, yew (Taxus media), or evergreen euonymus (Euonymus japonica). Shrubs shall be a minimum of 5 gallon size when planted and shall be expected to reach a height of at least 5' within 5 years of planting. Shrubs shall be planted at a maximum of 5' on center.
D	A 6' tall solid fence in either wood, vinyl or chainlink with interlocking opaque vinyl or a 6' tall decorative masonry wall with textured surfacing facing the residential use	Screens ground level lights, noise, objectionable views, provides privacy and access restrictions. Texture provides aesthetic relief. "Decorative masonry" shall include split face block or brick, fluted block, or masonry wall with stucco finish, but shall not include openings in the wall surface below a height of 6'. Bumper guards set back a minimum of 2.5' from the fence shall be required when the fence abuts parking.
E	A minimum 6' wide landscaped strip with trees and either a 6' tall solid fence of either wood, vinyl or chainlink with interlocking opaque vinyl or a 6' tall decorative masonry wall with textured surfacing facing residential use	Screens ground level lights, higher level lights, noise, objectionable views, provides privacy, access restrictions and additional noise mitigation. Trees shall be a minimum 2" caliper spaced at a minimum of 20' on center. "Decorative masonry" shall include split face block or brick, fluted block, or masonry wall with stucco finish, but shall not include openings in the wall surface below a height of 6'.
F	6' chainlink fence	Provides security and access restriction.
G	6' chainlink fence with inserts in the fence fabric	Provides security and access restriction. Inserts help screen objectionable views. Inserts shall be of a durable opaque material and shall be kept in good repair.

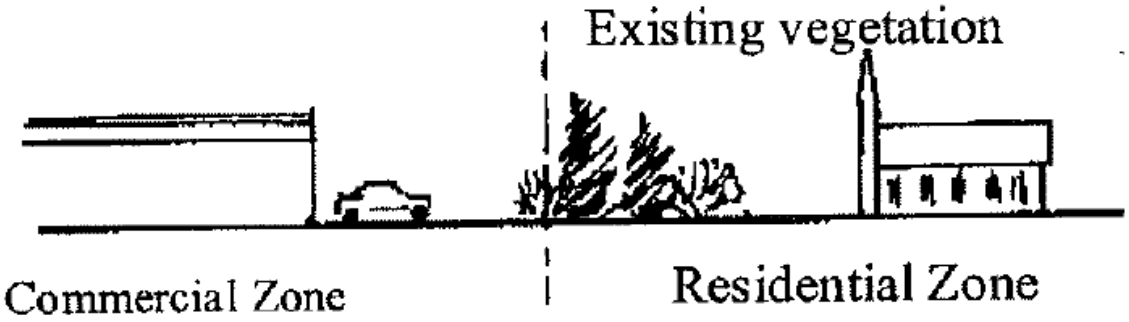
H	6' open fence with evergreen shrubs and trees	Screens ground level and higher level lights, provides security and access restrictions. Vegetative screen provides additional noise mitigation and screens objectionable views. Trees and shrubs shall be of a locally adapted species such as pine, spruce, arborvitae, juniper, pyracantha, evergreen euonymus, with a plant size of at least 15 gallons for trees and 5 gallons for shrubs. Shrubs shall be expected to reach a height of at least 5' within 5 years of planting. Trees shall be planted at a maximum of 20' on center and shrubs at 5' on center.
I	Ornamental wrought iron or other decorative see through fencing	Provides some access restriction. Used when this is the only impact from the proposed development.

3. Waivers: When one of the following conditions exist on a site and based on those site conditions any of the required screening options would not provide sufficient screening to the residential properties as described in tables A and B of this section, the director may waive the screening requirement in full or in part.

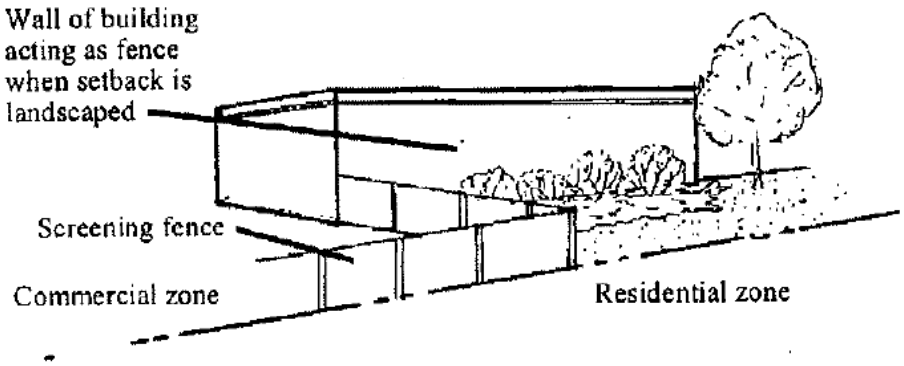
a. Topography: Immediate grade differences exist between the development and residential zone to such an extent that no additional buffering or protection of the residential zone would be provided by the fence.



b. Visual Screening: Existing vegetation along the zone boundary provides adequate visual screening, provided that the adjacent residentially zoned property is fully developed with other than a dwelling or dwelling units.



c. Substitution Of Building For Fence: The wall of a commercial building facing a side or rear yard adequately serves as a screening fence, provided that the yard setback area between the building and the property line shall be entirely landscaped. It shall be unlawful to use any part of such area for storage, dumping, garbage receptacle, loading and unloading, delivery, other service access or parking.



4. Building Openings: Any building or structure proposed next to a residential zone shall be designed so that door openings, freight and delivery doors and docks, vents, exhausts, storage areas and other functions which create noise, or unsightly views are located on sides of the building other than the side facing the residential zone, except for emergency doors. If in the design there are no other options available than to locate one or more of these items on the residential side of the building the planning commission shall review the plan to consider if it is appropriate to allow exceptions. The planning commission may grant an exception if a site design mitigation plan is proposed which increases landscaped setbacks, increases screening, or uses grade alterations which would reduce the impacts which could be experienced by those uses in the residential zone.

G. Screening Of Service And Storage Areas And Utilities: These requirements apply to, but are not limited to, aboveground utility appurtenances, storage areas, and open areas where machinery, vehicles or equipment are stored or repaired.

1. Outdoor storage, trash collection or compaction, loading or other such uses shall be located to the rear or side of the building, and not next to public streets or public sidewalks.

2. Outdoor storage, truck parking, HVAC equipment, trash facilities and other service functions shall be located and screened so that the visual and acoustic impacts of these uses are fully contained and out of view from public use areas. Landscape, plant and building elements shall be used to screen all sides of such elements, except where an opening is required for access. If access is only possible on a side that is visible from public use areas, a removable screen shall be required. The screen shall prevent eighty percent (80%) of the screened element from being visible.

3. When outdoor storage is the only use on the site the storage areas shall be set back twenty feet (20') from any public street property line. The twenty foot (20') setback area shall be landscaped according to the standards of this section.

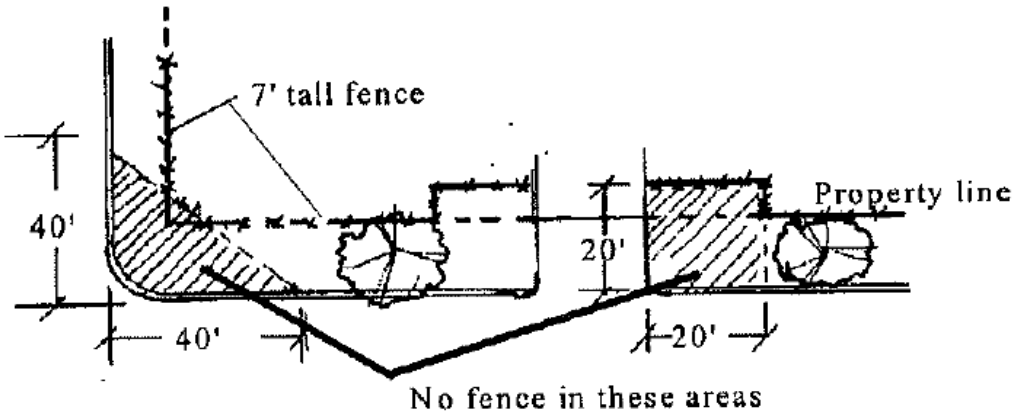
4. Screening measures shall be incorporated into the overall design of the building, so that the architectural design of the building and screening is compatible.

5. Acceptable screening materials include plants, walls, fences, topographic changes or a combination of these techniques.

H. Fencing:

1. No fencing of commercial or manufacturing properties shall be erected in any required front or side yard setback facing any of the following streets: Wall Avenue, Washington, Harrison, 1200 West, Pennsylvania Avenue, 1900 West, 1200 South, 2000 South, 2100 South, 2400 South, 2550 South, 30th and 31st Street Expressway. If fencing is placed in the front or side yard setback facing a street in any other area, the fencing shall be see through if landscaping areas are immediately behind the fence.

2. The fence height in the front yard setback for other locations which are zoned commercial or manufacturing not noted above shall be a maximum of seven feet (7') high except at the corners of street intersections if the fence obstructs the view according to the traffic code sight triangle. In those cases fences shall be set back according to the traffic code sight triangle area. Where driveways enter onto a public street, the fencing shall be on private property and setback a minimum of twenty feet (20') from the curb line of the public street for a distance of twenty feet (20') on either side of the driveway in order to ensure view of oncoming traffic.



I. Exterior Illumination:

1. All development, except developments that contain only single- family residential uses, shall submit for approval a proposed lighting plan.

2. All development shall design lighting to meet the safety and security needs of the development. When exterior lighting is used, lighting shall be designed to minimize glare and diffusion onto other properties. When the use is next to a residential zone, direct and defused light shall be shielded from the residential zoned area.

3. Site lighting that may be confused with warning, emergency or traffic signals is prohibited.

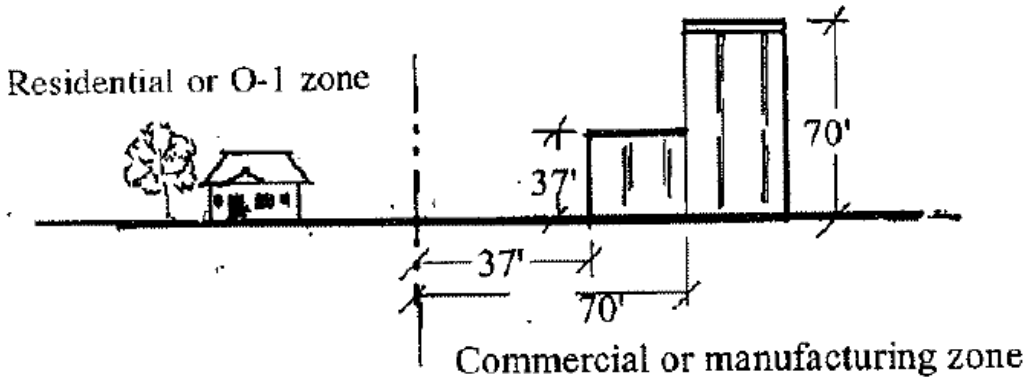
J. Building Design:

1. Glare:

a. Building materials shall not create excessive glare. If highly reflective building materials are proposed, the potential for glare from such materials will be evaluated for their potential adverse impact on adjacent property owner(s) in terms of vehicular safety, outdoor activities, privacy or enjoyment of views.

b. Mirror glass with a reflectivity of greater than sixty percent (60%) is prohibited.

2. Design And Placement Of Tall Buildings: Any building or structure proposed to be in excess of thirty five feet (35') tall that is next to a residential or open space zone shall be set back thirty five feet (35') plus one foot (1') for every foot the building is taller than thirty five feet (35'). A building or structure may stagger the height as long as the height of the section that is over thirty five feet (35') meets this setback from the residentially zoned property line.



3. Exterior Building Materials In Commercial Zones: The construction of buildings in the commercial zones should use materials which are compatible with the materials used in the construction of commercial buildings adjacent to the property.

a. Metal sided premanufactured buildings are not permitted in the commercial zones nor are exterior surfaces which are composed substantially of metal, except as provided in subsection J3b of this section.

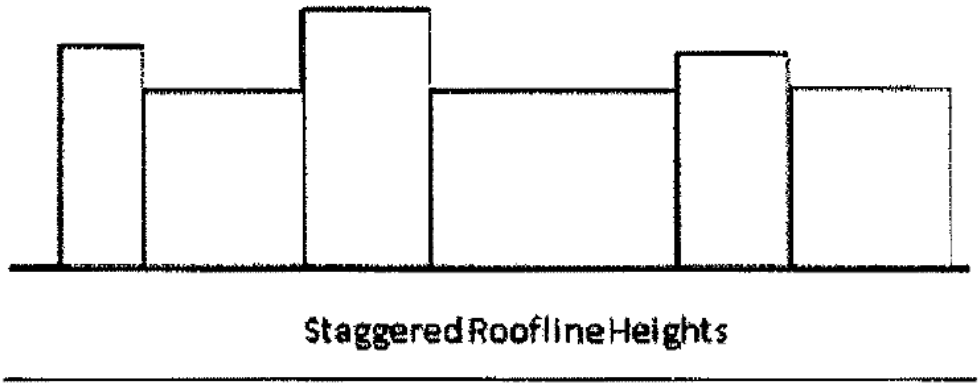
b. In the C-3 zone, building exteriors are allowed which use new architectural metal that enhances the architectural design, provides interest and are compatible with other buildings in the area if:

(1) The building front facade has sixty percent (60%) or more glazing; or

(2) The planning commission approves the use of new architectural metal as the main exterior surface material based on the following considerations:

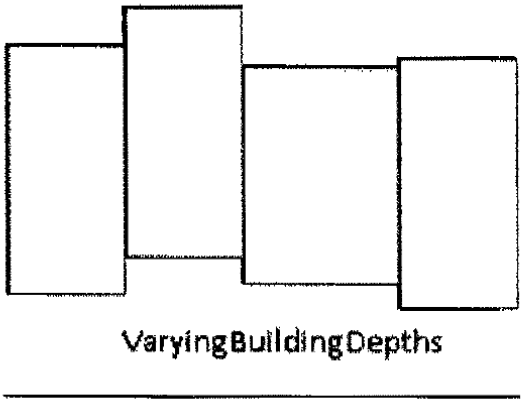
(A) The building front must have a minimum of twenty percent (20%) glazing and use two (2) or more different types of architectural metals and/or materials;

(B) The building has staggered roofline heights along with flat cornices; and



Staggered Roofline Heights

(C) The building front has varying depths and is not made up of long flat walls.



Varying Building Depths

c. If there is a question of the compatibility of the exterior surface treatment an appeal on the appropriateness of the material can be made to the planning commission.

(Ord. 2016-12, 3-1-2016; amd. Ord. 2020-55, 11-10-2020)

15-4-6: EXPIRATION:

Unless the owner or developer has made all corrections or other changes to the development plan, as required by the city, and obtained a building permit within a period of one year from the date of the city's initial written comments concerning corrections or other changes to the development plan, the application shall expire and become void, and any vested rights thereunder will be lost. The planning commission may grant a maximum

extension of six (6) months under exceptional circumstances. Once the application has expired, in order to reintroduce the proposed development, the owner or developer must submit a new application with all applicable fees.

(Ord. 2007-67, 9-18-2007)

CHAPTER 27

SENSITIVE AREA OVERLAY ZONE SA

SECTION:

15-27-1: PURPOSE AND INTENT:

A. Certain areas of the City are characterized by slope, vegetation, drainage, rock outcroppings, geologic conditions, and other physical factors which, if disturbed for the purposes of development, can cause physical damage to public or private property or both. Therefore, the development of such areas and adjacent land requires special care on the part of the public and private sectors.

B. The standards, guidelines and criteria established by this Chapter shall include, but not be limited to the following:

1. The protection of public from natural hazards of storm water runoff and erosion by requiring drainage facilities and the minimal removal of natural vegetation.

2. The minimization of the threat and consequential damages of fire in hillside areas by establishing fire protection measures.

3. The preservation of natural features, wildlife habitat and open space.

4. The preservation of public access to mountain areas and natural drainage channels.

5. The retention of natural topographic features such as drainage channels, streams, ridge lines, rock outcroppings, vistas, trees, and other natural plant formations.

6. The preservation and enhancement of visual and environmental quality by use of natural vegetation and the prohibition of excessive excavation and terracing.

7. The assurance of an adequate transportation system for the total hillside area to include consideration of the approved Master Street Plan of the City. This system design will consider densities and topography with minimal cuts, fills and other visible scars.

8. The establishment of on-site traffic facilities that ensure ingress and egress for vehicles including, emergency vehicles into all developed areas at any time.

9. The encouragement of a variety of development designs and concepts that are compatible with the natural terrain of the sensitive areas and will preserve open space and natural landscape.

(Ord. 76-15, 5-6-1976; amd. Ord. 85-27, 6-13-1985)

15-27-2: DEFINITIONS:

As used in this Chapter, the following words and terms shall have the meanings ascribed to them in this Section:

AVERAGE SLOPE: Shall mean and be determined by the use of the following formula:

A. $S = \frac{.00229\ (I)\ (L)}{A}$

S = Average slope in percent.

.00229 = The conversion factor of square feet to acres.

A = Total number acres in the parcel.

I = Contour interval in feet. The contour interval may not exceed ten feet (10').

L = Summation of the length of all contour lines, in feet, within the parcel.

B. In the determination of the average slope, the average (A) need not include any part of the site having a slope greater than thirty percent (30%). If such areas are excluded from determination of average slope, their acreage shall not be included as part of the total area of the site for purposes of determining the number of dwelling units allowed, but may be included with individual building lots.

C. Areas with slopes exceeding thirty percent (30%) may be:

1. Placed in permanent open space and maintained by a responsible legal entity; or

2. Platted with adjacent approved building lots with an open space easement; or

3. Other proposals may be prepared by the developer and submitted for approval of the Planning Commission.

BUILDABLE LAND: That land within a lot or development site, no part of which has slope exceeding thirty percent (30%).

DEVELOPMENT SITE: Shall mean and include the total perimeters of a subdivision or a planned unit development, or a tract, lot or parcel of land intended to be used as commercial, industrial or institutional use.

GROSS ACREAGE: The total area of the development, including all rights of way and other nonresidential uses.

IMPERVIOUS MATERIALS MATTER: That is impenetrable by moisture.

NATURAL VEGETATION: This term shall include orchards, indigenous trees, shrubs, grass and perennial growth.

NET RESIDENTIAL ACREAGE: All land within a development site devoted exclusively to a residential use.

OPEN SPACE: Includes land area of the site not covered by buildings, parking structures, or accessory structures except recreational structures. May also include any combination of public, private and common spaces.

USABLE OPEN SPACE: Is that which:

A. Has been properly designed;

B. Has been provided with landscaping and perhaps other facilities; and/or

C. Has been provided with a program of continuing maintenance.

(Ord. 76-15, 5-6-1976; amd. Ord. 85-27, 6-13-1985; 1999 Code)

15-27-3: SCOPE AND APPLICATION:

A. Creation: There is hereby created a Sensitive Area Overlay Zone consisting of those areas shaded on that certain plat of the City, dated May 2, 1985, which has been filed with the City Recorder and made a part hereof.

B. Jurisdiction Of Sensitive Area Overlay Zone: The provisions of this Chapter shall apply to all lands in the City which lie within the area designated on the Zoning Map as the Ogden City Sensitive Area Overlay Zone. No building or structure may be erected or reconstructed on land which is designated on the Zoning Maps of the City as sensitive area, nor shall such land be subdivided, graded or otherwise disturbed for purposes of development or subdivision, unless such construction, subdivision or disturbance is undertaken in accordance with this Chapter.

C. Effect Of Provisions: The regulations of this Chapter shall be supplemental to, and not in lieu of, the applicable zoning provisions of the use district in which the land is located and/or general provisions applicable to all zones. However, in the event of conflict between such additional provisions and the provisions of this Chapter, the more restrictive provisions shall apply.

D. Application To Previous Development: The provisions of this Chapter shall have no application to any development or other construction project which has been granted preliminary approval prior to the effective date hereof.

(Ord. 76-15, 5-6-1976; amd. Ord. 85-27, 6-13-1985)

15-27-4: DENSITY, LOT SIZE, WIDTH AND CHARACTERISTICS:

A. Single-Family Dwelling Units:

1. Minimum Lot Size: The minimum lot size with respect to lots upon which single-family detached dwelling units are located in subdivisions or otherwise shall be determined by reference to the following table:

Average Slope Of Development Site	Minimum Lot Size	Minimum Lot Width
0-10%	Same as underlying zone	Same as underlying zone
10.01-20%	15,000 sq. ft.	At least 100' at front setback line
20.01-30%	20,000 sq. ft.	At least 120' at front setback line
30.01+%	Not permitted	Not permitted

2. Planned Unit Development And Cluster Subdivision: The maximum density with respect to dwelling units per gross acre for dwelling units in a planned unit development for cluster subdivision shall be the same as that allowed for single-family detached dwellings unless otherwise approved by the planning commission.

3. Maximum Impervious Material Coverage: The maximum impervious material coverage that shall be allowed upon lots which single- family dwelling units are located shall be thirty percent (30%)

of the total lot area or seven thousand five hundred (7,500) square feet, whichever is smaller, including accessory buildings, patios, and driveways; provided however, that the maximum impervious material coverage may exceed thirty percent (30%) or seven thousand five hundred (7,500) square feet upon approval of the mayor after review and recommendation by the planning commission.

4. Buildable Area:

a. Single-family dwelling structures shall be located only upon areas constituting buildable land, which area shall be fully contiguous and shall be at least five thousand (5,000) square feet in size, and shall have minimum dimension, either length or width, of fifty feet (50');

b. Single-family dwelling structures shall be set back no further than two hundred fifty feet (250') from a public or private street except by approval of the planning commission and subject to the following standards:

(1) The home is connected to city water and sewer;

(2) The access drive does not require substantial cuts or fill, but can be developed on existing topography and meet all other requirements for access in this chapter; and

(3) The driveway layout follows natural openings and does not require removal of large amounts of vegetation.

c. All accessory structures shall be located upon buildable land, unless otherwise approved by the planning commission, upon a showing by the developer that such location will not be contrary to the purposes of this chapter.

5. Flag Lot: A flag lot may be approved by the planning commission after determining that due to topographic conditions, sensitive land concerns, or other requirements of this chapter, streets cannot or should not be extended to access substantial buildable areas that would otherwise comply with the minimum lot standards. Also, the following criteria must be met:

a. Only one single-family dwelling may be constructed as a main use on a flag lot;

b. The minimum lot area, exclusive of the access stem, shall be one hundred twenty five percent (125%) of the minimum lot area required in the zoning district;

c. The width of the access stem shall be at least thirty feet (30') with a paved twenty foot (20') wide driveway and a minimum five foot (5') wide landscaped buffer on each side of the driveway. The buffer area is provided to help screen adjacent properties and to provide a drainage area for the paved portion of the access strip;

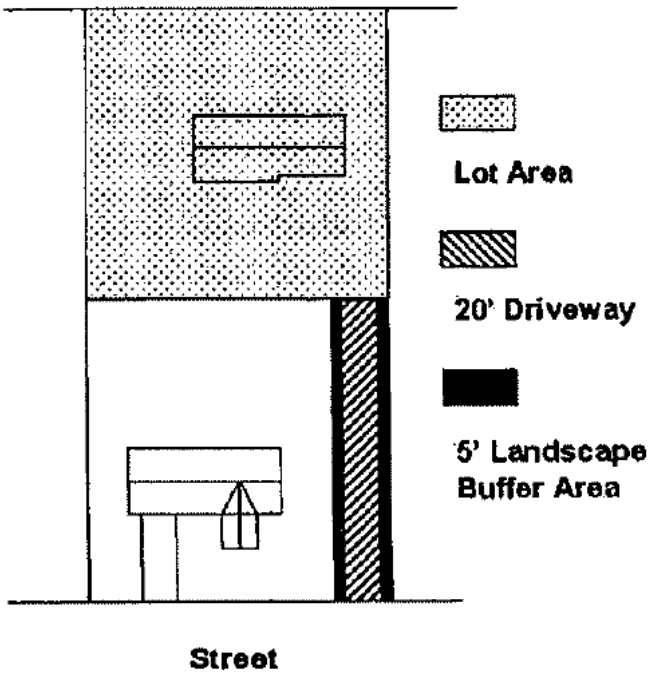
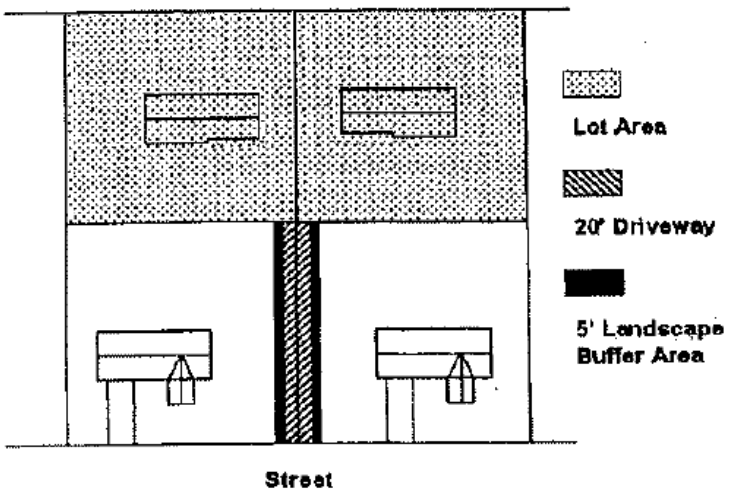


Figure 1- Typical Flag Lot

d. The planning commission may require that one access stem serve two (2) lots and that a cross access agreement be recorded. Where such access is shared, the width and frontage requirements for each property may be reduced to fifteen feet (15'). The landscape buffer shall not be required between abutting access stems operating as a shared access;



e. Approved street numbers shall be located in such a manner as to be plainly visible and legible from the street fronting the lot.

B. Multiple Units In R-2 Through R-5 Zones:

1. Maximum Lot Width And Density: Maximum lot width and maximum density shall be determined by the following table:

Average Slope Of Development Site	Minimum Lot Width	Maximum Density
0-10%	Same as underlying zone	Same as underlying zone
10.01-20%	100'	Maximum density of underlying zone x 0.70
20.01-30%	120'	Maximum density of underlying zone x 0.50
30.01+%	Not permitted	Not permitted

2. Maximum Impervious Material Coverage: The maximum impervious material coverage that shall be allowed upon lots upon which multiple-family units are located shall be thirty percent (30%) of the total lot area.

(Ord. 76-15, 5-6-1976; amd. Ord. 85-27, 6-13-1985; Ord. 90-49, 9-27-1990; Ord. 93-34, 9-7-1993; Ord. 2001-35, 6-5-2001)

15-27-5: DEVELOPMENT STANDARDS:

It is intended that the development standards and provisions, as set forth herein, shall be required in connection with all building and construction in the Ogden City sensitive area overlay zone.

A. Drainage And Erosion: The area of the watershed shall be used to determine the amount of stormwater runoff generated before and after construction.

1. The "rational method" or other method as approved by the city engineer shall be used in computing runoff. The basic formula for the "rational method" is:

Q = CIA in which

Q = Runoff in cubic feet per second (CFS)

C = Coefficient of runoff or the portion of stormwater that runs off a given area (the actual C value used shall be approved by the city engineer)

I = Average rainfall intensity during time of concentration for ten (10) year return period in inches per hour. The "time of concentration" shall be defined as the time required for water to flow from the most remote point of the section under consideration

A = Drainage area in acres

2. Lots shall be arranged so as to ensure adequate setbacks from drainage channels. The 100-year storm shall be that basis for calculating setbacks. No structures shall be allowed in the 100-year floodplain.

3. Facilities for the collection of stormwater runoff shall be required to be constructed on development sites and according to the following requirements:

a. Such facilities shall be the first improvement or facilities constructed on the development site;

b. Such facilities shall be designed so as to detain safely and adequately the maximum expected stormwater runoff for a 10-year storm of two (2) hour duration, and to release it at a controlled rate equal to the runoff rate generated by the site in its natural condition. Said natural runoff rate shall not exceed 0.2 cubic feet per second per acre. The facilities shall be designed to detain runoff for a sufficient length of time so as to prevent flooding and erosion during storm runoff flow periods;

c. Such facilities shall be so designed as to divert surface water away from cut faces and sloping surfaces of a fill;

d. The existing natural drainage system will be utilized, as much as possible, in its unimproved state;

e. Where drainage channels are required, wide shallow swales lined with appropriate vegetation shall be used instead of cutting narrow, deep drainage ditches;

f. Flow retarding devices, such as detention ponds and recharge berms, shall be used where practical to minimize increases in runoff volume and peak flow rate due to development. Areas which have shallow or perched groundwater or areas that are unstable must be given additional consideration. Each facility shall have an emergency overflow system to safely carry any overflow water to an acceptable disposal point.

4. Construction of the development site shall be of a nature that will minimize the disturbance of vegetation cover, especially between October 1 and April 15 of the following year.

5. Erosion control measures on the development site shall be required to minimize the solids in runoff from such areas. The detailed design system to control stormwater erosion during and after construction shall be contained in the grading and drainage report described in section 15-27-8, "Appendix A", of this chapter.

B. Vegetation And Revegetation:

1. All areas on development sites cleared of natural vegetation in the course of construction of off site improvements shall be replanted with revegetation which has good erosion control characteristics.

2. New planting shall be protected with mulch material and fertilized when in conjunction with the planting and watering schedule in subsection B5 of this section.

3. The use of persons or firms having expertise in the practice of revegetation (i.e., licensed landscape architects or nurserymen) shall supervise the planting and installation of revegetative cover.

4. Vegetation shall be removed only when absolutely necessary, e.g., for the construction of buildings, roads and filled areas.

5. After the completion of off site improvements, vegetation will be planted in all disturbed areas only during the following time periods:

a. March 15 through May 15; and

b. September 15 through October 31.

c. If irrigated, planting may be done during summer months.

d. Such vegetation shall be a mixture of plant materials, i.e., trees, shrubs, grass and forbs. Native plant materials will be preferred.

6. No vegetation shall be removed on slopes over thirty percent (30%) except as approved by the planning commission for trail and/or open space improvements.

7. Topsoil removed during construction shall be conserved for later use on areas requiring vegetation or landscaping, i.e., cut and fill slopes.

8. All disturbed soil surfaces shall be established or covered prior to November 1. If the planned impervious surfaces (i.e., road, driveways, etc.) cannot be established prior to November 1, a temporary treatment adequate to prevent erosion shall be installed on those surfaces.

9. The property owner and/or developer shall be fully responsible for any destruction of native or applied vegetation identified as necessary for retention and shall be responsible for such destroyed vegetation. They shall carry the responsibility both for employees and subcontractors from the first day of construction until the completion of off site improvements. The property owner and developer shall replace all destroyed vegetation with varieties of vegetation approved by the planning commission. The property owner shall assume responsibility upon purchase of the lot.

C. Fire Protection:

1. Areas without a recognized water supply shall meet special requirements, on an individual basis, as established by the fire department, water utility and engineering department.

2. Each development site and building permit for private lots, flag lots, and lots where the front setback is greater than fifty feet (50'), shall be reviewed by the fire department to see that it complies with requirements for fire apparatus.

3. Spark arresters shall be installed in every fireplace constructed indoor or outdoor. Screen openings in such arresters shall not be in excess of one-fourth inch ($^1/_4$") in diameter.

D. Geology:

1. Any development within a band one-eighth ($^1/_8$) of a mile on either side of a mapped fault trace must submit a geologic report as part of the development review process.

2. Development of all structures used for human occupancy shall take place fifty feet (50') or farther from any active earthquake fault trace. Active fault traces are those identified and mapped by the city or those identified by special studies required of the developer.

3. Development of all structures used for critical facilities shall take place one hundred fifty feet (150') or farther from any active earthquake fault trace. Critical facilities shall include dams, reservoirs, fuel storage facilities, power plants, nuclear reactors, police and fire stations, schools, hospitals, nursing homes, and emergency communication facilities.

4. No structures shall be built on any zones of deformation with respect to active faults. Off site improvement design will be approved by the planning commission, upon recommendation of the city engineer.

5. No structures or off site improvements shall be allowed on any active landslide area.

6. Problems associated with development on or near perched groundwater and shallow groundwater must be mitigated in a manner as approved by the planning commission.

7. No structures shall be allowed in any high hazard rockfall zone unless mitigation measures are taken to the satisfaction of the planning commission.

E. Grading, Cuts And Fill:

1. Exposed unstable surfaces of an excavation or fill shall not be steeper than one vertical to two horizontal (1:2).

2. All permanent fill shall be located so that settlements, slidings, or erosions shall not damage or cover streets, curb, gutter, sidewalks or buildings.

3. All fill and degrees of compaction shall comply with the standards of the building code, as adopted by title 16, chapter 2 of this code, or its successor provisions.

4. The top and bottom edges of slopes caused by an excavation or fill up to ten (10) vertical feet shall be three (3) horizontal feet from the property line or public right of way lines.

5. The maximum vertical height of all cuts or fills shall be ten feet (10'). Fills for slumps or other natural depressions may exceed ten feet (10') if approved by the planning commission.

6. All structures, except retaining walls or soil stabilization improvements, shall have a setback from the crest of the fill or base of the cut of a minimum distance equal to in depth of the fill or the height of the cut, unless a structurally sound retaining wall is built for the cut or fill slope. Retaining walls may be a part of the dwelling unit.

F. Streets And Ways: Streets, roadways and private accessways shall follow as nearly as possible the natural terrain. The following additional standards shall apply:

1. At least two (2) ingress and egress routes shall be provided for each subdivision or PRUD unless the number of units served is less than twenty (20) and if the likelihood of street blockages is deemed by the planning commission to be an acceptably low risk.

2. Points of access shall be provided to all developed and nondeveloped areas for emergency and firefighting equipment. Driveways located upon each lot extending from a public or private street shall have a maximum grade of ten percent (10%) and shall be of a sufficient width and design to admit and accommodate firefighting equipment.

3. Cul-de-sacs shall not exceed six hundred feet (600') in length, unless "Dead-End" signs are posted at the entrance, and shall have a fifty foot (50') radius right of way and a forty foot (40') radius improved turnaround. Stub streets that are longer than three hundred feet (300') shall have a temporary turnaround at the end thereof.

4. Centerline curvatures shall be reviewed by the city engineer for such things as design speeds, sight distances and stopping distances.

5. Variations of the street design standards developed to solve special hillside visual and functional problems may be presented to the planning commission for consideration and approval. Examples of such variations may be the use of split roadways to avoid deep cuts, one-way streets, modifications of surface drainage treatments or sidewalk design.

6. Development sites which are located near canyon trails will provide access to those trails. Parking areas may be required by the planning commission at trailheads.

7. The maximum amount of impervious surface for streets and ways shall be twenty percent (20%) of the entire development site. All streets or rights of way for vehicular traffic shall be subject to the following limitations:

a. The maximum grade of such streets or rights of way shall be ten percent (10%) except as hereafter provided;

b. The mayor, after receiving a recommendation from the fire and engineering departments, may grant approval for a grade exceeding ten percent (10%). Grades shall not exceed the grade recommended by the city engineer for private streets;

c. The provisions of this subsection shall not apply to streets or rights of way already constructed or which have heretofore been granted preliminary approval by the planning commission;

d. Roads shall be designed to meet the city road base, asphalt and compaction standards.

G. Architectural Design:

1. Buildings proposed for construction in hillside or canyon areas within the Ogden City sensitive area zone shall be designed to be visually compatible with the natural beauty of the hillsides and canyons. The use of building materials in colors that will blend harmoniously with the natural settings are encouraged. Such material as natural woods, brick (earth colors) and stone are considered to be most appropriate.

2. The planning commission shall review the design and specified exterior materials and colors for all structures other than single-family dwellings. Building permits for such structures shall not be granted until building materials and colors have been approved by the planning commission.

3. Innovative designs for single-family dwelling units, e.g., earth sheltered dwellings with grass roofs, etc., may be allowed after approval by the planning commission, provided such innovations are also allowed under the city's building code, or that they have been granted the appropriate variances.

H. On Site Development: The property owner shall be fully responsible for making all improvements in accordance with the development site approval, e.g., drainage, erosion and vegetation constraints.

I. Bond: In addition to the provisions requiring the posting of a bond as set forth elsewhere in the ordinances of the city, the property owner/developer may be required by the mayor to guarantee the completion of revegetation projects, the stabilization of grading sites, cuts and fill and construction of stormwater runoff facilities, the construction of recreation centers as required in this section. If such additional bond is required, it shall be in an amount equal to the cost of construction of such projects and shall continue for one year after the completion date of such projects, improvements or facilities.

J. Exceptions: Exceptions to the requirements and provisions as outlined in this section may be approved by the mayor; provided, that the developer or owner of such development site can demonstrate to the satisfaction of the mayor that the requested exceptions shall not be detrimental to the general well being of the neighborhood nor in violation of the stated purposes in this chapter.

(Ord. 2011-39, 6-28-2011)

15-27-6: REVIEW AND APPROVAL PROCEDURE:

A. Conceptual Approval: All applications for a planned unit development, subdivision or other site plan shall comply with all applicable ordinances of the city. In addition, conceptual approval must first be granted by the planning commission prior to application for preliminary approval.

1. Submittal For Concept Approval:

a. Vicinity Map: Covers sufficient adjoining territory to indicate clearly nearby street patterns, property lines, other adjacent properties in the developer's ownership, and other significant features that will have a bearing upon the development;

b. Contour Map: Showing a proposed subdivision and street layout, existing substantial buildings, significant trees, watercourses, drainage ditches, storm or sanitary sewers with size and flow line elevation, water lines, gas lines, power lines, permanent easements, and other features that will have a bearing upon the design of the subdivision or on the provision of utilities.

2. Planning Commission Action: The planning commission may approve, approve with conditions, or deny the application for conceptual approval. Any approval by the planning commission shall specify which, if any, special studies and reports must be submitted for preliminary approval. Any concept denial shall include the reasons for such denial. This decision of the planning commission shall be final unless an interested party files an appeal to the mayor within fifteen (15) days of the planning commission's decision.

B. Preliminary Approval: Any individual seeking preliminary approval for development in the sensitive area overlay zone shall submit the following information to the planning commission for review:

1. Written Documents:

a. A legal description of the total site proposed for development, including a statement of present and proposed ownership and present and proposed zoning;

b. A statement of planning objectives to be achieved by the development through the particular approach proposed by the applicant. This statement should include a description of the character of the proposed development and the rationale behind the assumptions and choices made by the applicant;

c. A development schedule indicating the approximate date when construction of the project or stages of the project can be expected to begin and be completed;

d. A statement of the applicant's intentions with regard to the future selling or leasing of all or portions of the development;

e. Quantitative data for the following: total number and type of dwelling units; parcel size; proposed lot coverage of buildings and structures; approximate gross and net residential densities; total amount of open space (including a separate figure for usable open space);

f. Special studies as required by the Planning Commission under conceptual approval. These may include economic feasibility studies or market analysis, soil characteristics report, grading or erosion control plan, geologic report, vegetation preservation and protection report, hydrology and storm drainage and fire protection report (see Appendix A for study guidelines). All reports submitted herein shall be prepared by persons or firms licensed to practice their specialty or expertise in the State of Utah, if such license is required, or by one having demonstrable expertise in such field of practice.

2. Site Plans: Site plans shall include, in addition to the above provisions, the following:

a. Location of the proposed planned unit development, subdivision, cluster subdivision, or other development, with identification of abutting streets;

b. A slope map at a scale of one inch equals fifty feet (1" = 50') for development sites of less than ten (10) acres and a scale of one inch equals one hundred feet (1" = 100') for development sites of greater than ten (10) acres and a determination of the average slope of the proposed development;

c. The slope map referred to in subsection B2b of this Section shall also include a designation of all areas in the proposed development having a slope in excess of thirty percent (30%);

d. Topographic contours;

e. The total acreage, number of lots and proposed total density and average slope for residential developments;

f. The location and approximate size of the proposed lots;

g. A general street location, width, and grade of all proposed streets and radius of any cul-de-sacs;

h. Location of existing or proposed schools, churches, or parks;

i. Location of known hazards, (i.e., faults, drainage, rockfall, etc.) and the boundaries of the 100-year flood plain;

j. Soil type and general description;

k. Land use data, i.e., the amount of residential land, transportation land, etc., by acreage and percent;

l. Vegetative type map;

m. Existing and proposed utility lines (water, sanitary sewer and storm drains), etc.;

n. Proposed landscape plan, including the species identification and quantity of plants to be installed at the various locations throughout the site;

o. All engineering calculations performed and acquired pursuant to the provisions of the ordinances of the City shall be made available to the City Engineer as part of the review and approval process.

3. Planning Commission Action: After weighing all the evidence, the Planning Commission must take formal action, either approving the plan as presented, approving it subject to certain specified modifications, or disapproving it. A letter containing the Planning commission's recommendation shall then be forwarded to the mayor.

4. Mayoral Action: The mayor shall review and approve or disapprove all preliminary development plans in the sensitive area overlay zone.

C. Final Approval: Based on the establishment of compliance with the preliminary development plan through the review of finalized site plans and specifications, and the review of any materials required by the review authority, the planning commission shall approve, approve with modifications or disapprove the final site plan. Developments requiring the recording of subdivision, condominium or dedication plats must also have approval by the mayor.

1. Compliance With Preliminary Plan: The final development plan shall be deemed in substantial compliance with the preliminary development plan, provided modification by the applicant does not involve a change of one or more of the following:

a. Violate any provision of this chapter;

b. Vary the lot area requirement by more than ten percent (10%);

c. Involve a reduction of more than ten percent (10%) of the area reserved for common open space and/or usable open space;

d. Increase the floor area proposed for nonresidential use by more than ten percent (10%);

e. Increase the total ground area covered by buildings by more than five percent (5%);

f. Significantly alter the road system or on-site circulation pattern; or

g. Eliminate any recreational or community facilities approved in the preliminary plan.

2. Spot Elevations, Grading Plans: Application for final approval shall include with the improvement drawings, spot elevations on all lot corners or contour grading plans of all lot frontages. The scale will be the same as the improvement drawings.

(Ord. 76-15, 5-6-1976; amd. Ord. 85-27, 6-13-1985; Ord. 91-51, 12-1-1991; 1999 Code)

15-27-7: ISSUANCE OF BUILDING PERMITS:

There shall be no construction, development or grading upon the development site until final approval has been granted, as provided in this section. Before the construction of single- family dwelling units upon lots shall be allowed, a plot plan drawn to scale (at least 1 inch equals 10 feet) for such lots shall be submitted to the building official, which plot plan shall show lot lines, existing and proposed contours at two foot (2') intervals, location of proposed single-family dwelling units, walks, driveways, patio areas. The plot plan will also show vegetation, drainage, and erosion controls and such plot plan shall be attached to the building permit.

(Ord. 76-15, 5-6-1976; amd. Ord. 85-27, 6-13-1985; Ord. 2001-32, 6-5-2001, eff. 6-30-2001)

15-27-8: APPENDIX A:

A. Soil Characteristics Report: A soils report should be prepared by a person or firm qualified by training and experience which would furnish specific soil data for the property to be developed and methods that would control urban erosion. Data on the soil should include:

1. Soils map of the property involved, delineating the soil types;

2. An accurate slope map;

3. Major soil hazard ratings in relation to total area of development;

4. Percentage of area to be disturbed in relation to total area of development.

B. Grading Or Erosion Control: A grading or erosion control plan should accompany the development application showing the specific methods to be employed to control urban erosion and sedimentation and should include as a minimum:

1. The grading plan shall show present topography to include elevations, lines and grades including the location and depth of all proposed fills and cuts of the finished earth surfaces using a contour interval of two feet (2') or less. Access or haul road location, treatment and maintenance requirements shall be included;

2. The specific control practices to be employed on the disturbed area where necessary (includes seed mixes, types of mulches, etc.);

3. All calculations and proposed details used for design and construction (of debris basins, impoundments, diversions, dikes, waterways, drains, culverts and other water management for soil erosion control measures) shall be shown. Calculations shall employ predictions of soil loss from sheet erosion. Equations should include factors of:

a. Rainfall intensity and energy;

b. Soil stability;

c. Land slope and length of slope or topography;

d. Condition of the soil surface and land management practices in use;

e. Surface cover, grass, woodland, crop, pavement, etc.;

4. Specific dates on the length of time exposure for unprotected, cleared and graded areas;

5. A schedule showing when each stage of the project will be completed, including estimated starting and completion with reference to other stages of the project.

C. Geology: A geologic investigation of the site should be prepared containing the following information:

1. Location and size of subject area, and its general setting with respect to major geographic and/or geologic features;

2. The individual or agency who perform the geologic mapping upon which the report is based, and when the mapping was prepared;

3. Abundance, distribution, and general nature of exposure of earth materials within the area;

4. Nature and source of available subsurface information;

5. A geologic map should accompany the report and should delineate the following:

a. Rock composition and structural elements;

b. Surface and subsurface distribution of earth materials exposed or inferred within both bedrock and surficial deposits;

c. The nature and distribution of earth materials, faults, folds, slide masses, zones of contortion or crushing joints, fractures, shear zones, or other significant features;

6. Written recommendations for construction of proposed improvements to avoid impact of any potential geologic hazards.

D. Vegetation And Preservation Report: Vegetation preservation and protection report shall include:

1. Location and identification (by species) of existing vegetation;

2. The vegetation to be removed and method of disposal;

3. The vegetation to be planted;

4. Slope stabilization measures to be installed;

5. Analysis of the environmental effect of such operations including effects on slope stability, soil erosion, water quality, fish and wildlife, and fire hazard;

6. Topsoil stockpile areas will be designated;

7. Solar orientation is recommended for review.

E. Hydrology And Storm Drainage: A hydrology report should be prepared by a person or firm qualified by training and experience to have expert knowledge of the subject and should include an adequate description of the following:

1. A flood analysis should be made for all stream channels that occur on the site:

a. 100-year storm frequency based on rain on a saturated soil mantle or snow pack taking the results which cause the greater flood flow;

b. On streams with a meandering channel and relatively flat gradient way of the standard flood plain analysis of streams may be used (i.e., U.S. Corps of Engineers Standard Project Flood);

c. On mountain streams with relatively steep gradients only those analyses based on turbulent flow conditions may be used. "Bulking", if it occurs, must be recognized and channel cross sections increased to allow for it. Mud flows and other debris must also be considered in the analysis;

d. History of prior flooding;

e. Investigation of effects of short duration high intensity rain storms on the proposed storm drainage system will handle the predicted flows including the impact on areas below.

2. The ability of the existing stream channels to accommodate the estimated increase in storm flow due to the proposed development should be defined with respect to water flow and velocity. If the stream channel or banks are subject to erosion, measures to be taken to minimize this impact should be specified by consideration of the following:

a. The proposed streamside environment zone on the site plan and criteria for determining the zone must be delineated;

b. Natural flow patterns as they affect the proposed development should be described and evaluated;

c. Means by which the manmade drainage systems will deliver water to the natural channel systems should be specified.

3. Subsurface Hydrology:

a. The location and size of swamps, springs, and seeps shall be shown on the site plan and an investigation made to determine the reasons for the occurrence of these underground water sources. (An analysis of the vegetative cover or other surface information may be used to show the presence of underground water.)

b. Effects of the proposed development on subsurface water sources for areas immediately downstream should be defined and evaluated;

c. Effects of the proposed development on subsurface water sources for areas immediately downstream should be defined and evaluated;

d. If infiltration systems are proposed for handling increased flows caused by the proposed development, their operation and failure prevention measures should be described.

F. Fire Protection: A fire protection report should be prepared to assess fire probability and potential hazards by a person or agency qualified by training and experience. Elements of the report should include the following:

1. The width and approximate location of any easements required for access of fire protection equipment;

2. Agreements, if any, entered into by the applicant and a fire protection entity or other government agency that could have concerns about fire probability (State and Federal agencies);

3. The approval of the subdivision design and fire protection measures by the fire protection agency;

4. A letter from the chief of the fire protection entity stating:

a. Fire flow recommended by insurance service organizations;

b. The existing fire flow capability proposed to serve the project.

(Ord. 85-27, 6-13-1985; amd. 1999 Code)