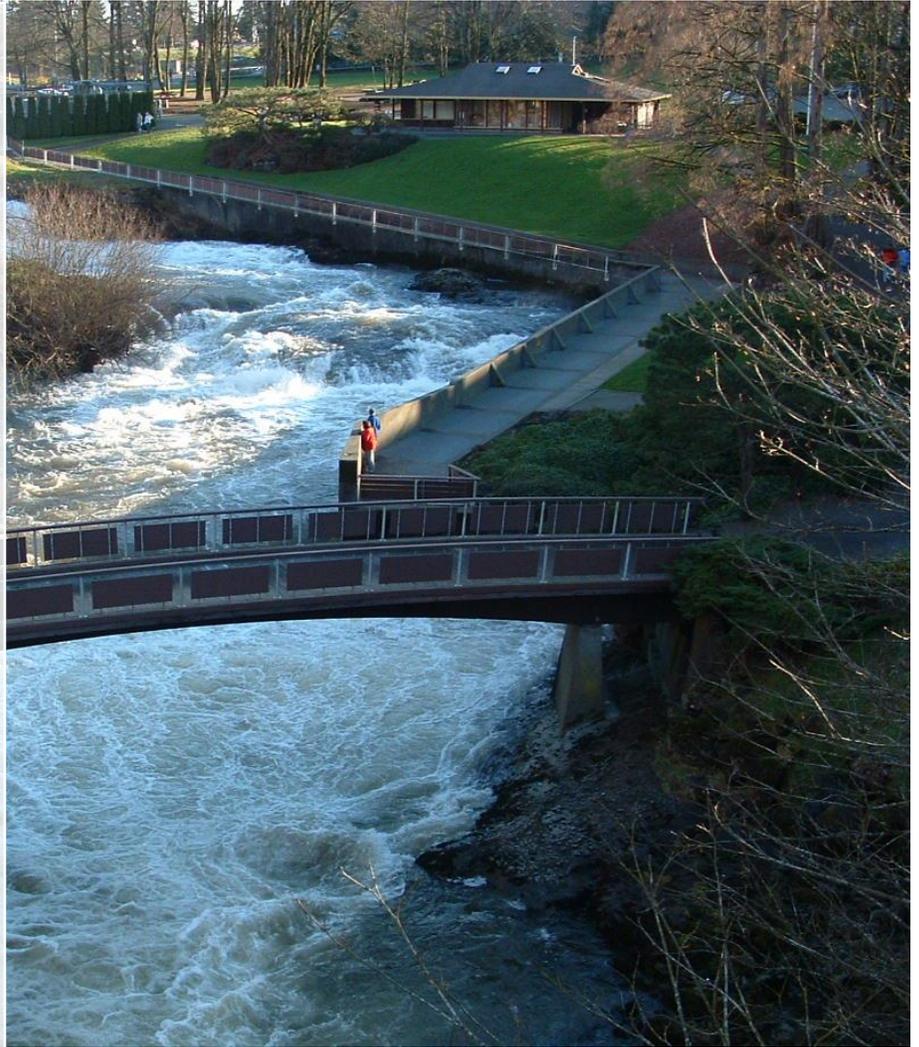


Stormwater Management Program

City of Tumwater, Washington

2016 Update



Written Pursuant to:
Western Washington NPDES Phase II
Municipal Stormwater General Permit
#WAR045020

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Background

Stormwater runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground. As the runoff flows over the land or impervious surfaces (paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality if the runoff is discharged untreated. The primary method to control stormwater discharges is the use of Best Management Practices (BMPs). In addition, most stormwater discharges are considered point sources and require coverage under a National Pollutant Discharge Elimination System (NPDES) permit.

During the early 1990's, the Environmental Protection Agency (EPA) created the NPDES to address the high levels of pollutants entering our nation's waters. The permitting system requires that waste producers having direct discharges to surface waters undergo an extensive permitting process to demonstrate that the impacts of respective industrial operation be minimized. Since the inception of the program, NPDES has been expanded to include stormwater issues.

Under the first phase of the permitting system, jurisdictions with populations of 100,000 or greater were required to go through the NPDES permitting process. Smaller jurisdictions like the City of Tumwater, with populations between 10,000 and 100,000 residents, have since been required to have a Municipal Stormwater Permit as part of Phase II of the program.

The Department of Ecology (DOE) has the delegated responsibility to implement NPDES requirements within the State of Washington. Under the permit, affected jurisdictions are required to develop and implement a comprehensive Stormwater Management Program (SWMP) that includes, in general, the following components:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Controlling Runoff from New Development, Redevelopment and Construction Sites
- Pollution Prevention and Operations and Maintenance for Municipal Operations

The City of Tumwater's current Stormwater Permit was issued by the Washington State Department of Ecology in August of 2012, and will expire on July 31, 2018.

Introduction

The City of Tumwater NPDES Permit defines an approved Stormwater Management Program (SWMP) as a “set of actions and activities comprising the components listed in S5.B. and S5.C.1. through S5.C.5., and any additional actions necessary to meet the requirements of applicable TMDLs.” The City of Tumwater SWMP was written to document and describe the programs implemented and actions taken to fulfill permit requirements and protect our water resources from the effects of stormwater pollution. To that end, the components of the SWMP are intended to “reduce the discharge of pollutants from regulated small Municipal Separate Storm Sewer Systems (MS4s) to the maximum extent practicable”, and meet the State’s all known, available and reasonable methods of prevention, control and treatment (AKART) requirements, for the primary purpose of protecting water quality. While the SWMP is designed as a “living document” that can be adapted at any point as better pollution prevention practices are discovered, this version describes the City of Tumwater’s program as it exists in 2014, and provides guidance for future years.

While many of the practices described in the SWMP relate directly to Best Management Practices (BMPs) for City staff to utilize for stormwater pollution prevention, substantial effort is also required and being made toward educating the public about stormwater issues, as well as increasing public involvement in pollution prevention solutions. Additionally, regulatory mechanisms outlining pollution prevention responsibilities of both private and public entities are required under the NPDES permit, and as such, have been incorporated into this SWMP.

The SWMP will be updated on an annual basis to include improvements in the program. As part of the process, the public is encouraged to be involved in the development of potential changes. Comments or questions regarding the SWMP can be directed to the City of Tumwater Water Resources Program at 360-754-4140, or email ageorgeson@ci.tumwater.wa.us. The Stormwater Management Program is available for review in the stormwater section of the City’s website, located at www.ci.tumwater.wa.us

Stormwater Management Program Document Structure

This document is written in part to detail the status of the City’s compliance with the current NPDES permit. To that end, this document is structured such that individual permit reference numbers are provided in addition to the program summaries.

General Stormwater Program Permit Information

- Permitting Authority: Washington State Department of Ecology
- Permit Type: National Pollutant Discharge Elimination System (NPDES) Phase II
- Permit Number: WAR045020
- Permittee: City of Tumwater
- Date Issued / Effective Date: August 1, 2012 / August 1, 2013
- Permit Expiration Date: July 31, 2018
- Co-Permittees: Not Applicable
- 2016 Population: 23,040 (OFM)
- Area (sq. mi): 17.76
- Official Website: <http://www.ci.tumwater.wa.us/departments/public-works/utilities/stormwater/npdes-permit-program>

General MS4 Operator Information

- Operator Name: Jay Eaton, P.E.
- Operator Title: Public Works Director
- Represented Entity: City of Tumwater
- Mailing Address: 555 Israel Road SW
- City / State / Zip: Tumwater, WA 98501
- Phone Number: (360) 754-4140
- Email Address: jeaton@ci.tumwater.wa.us

Primary Contact

- Name: Dan Smith
- Title: Water Resources Program Manager
- Phone Number: (360) 754-4140
- E-mail Address: desmith@ci.tumwater.wa.us

Secondary Contact

- Name: Amy Georgeson
- Title: Water Resources Specialist
- Phone Number: (360) 754-4140
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General Information for Receiving Waters

Listed below are all the identified receiving water bodies to which outfalls discharge:

Receiving Streams (creek, stream, river, etc.)	Receiving Water Bodies (lake, wetland, ocean, etc.)	Receiving Watersheds
Percival Creek Deschutes River Fish Trap Creek Black Lake Ditch Desoto Creek Unnamed Creek crossing Tumwater Blvd and Dennis St (HUC: 17110016000180) Unnamed Creek along Tumwater Valley (HUC: 17110016000166)	Capitol Lake Puget Sound Barnes Lake Trosper Lake Black Lake Lake Susan – no known outfalls Munn Lake – no known outfalls Kirsop Wetland Several other unnamed wetlands	WRIA 13 – Deschutes River WRIA 23 – Chehalis Basin

S5.C.1. Public Education & Outreach Program Summary

Since 1990, the City of Tumwater has been committed to providing a stormwater-based public education program. Since the inception of the Stream Team program over 20 years ago, the City has worked both independently and collectively with neighboring jurisdictions to raise public awareness regarding stormwater issues. The public education and outreach program has evolved significantly through the years, and currently encompasses many different smaller programs designed to disseminate information regarding stormwater issues to a wide variety of individuals.

Individual educational programs and outreach activities are evaluated and prioritized annually to assess effectiveness. Many programs have an evaluation component that is designed to measure the understanding and adoption of targeted behaviors among the targeted audience. In addition, the City participated in a regional survey in 2010 to further evaluate the community’s base level of understanding. The combined results of these evaluation techniques will be utilized to direct future education and outreach resources more effectively, and to evaluate changes in adoption of the targeted behaviors.

All targeted audiences outlined in the NPDES Permit, S5.C.1.a., receive stormwater-related messages through many different means that include informational meetings and workshops, press releases, brochures, bill stuffer messages, newsletters, and local radio and television media. Program messaging will continue to be evaluated on an annual basis to ensure that all intended audiences continue to receive educational messages that are pertinent to their interests as well as utility outreach needs.

The Water Resources Department utilizes ASIST software for tracking all components of education and outreach, as well as many of the other requirements of the NPDES Permit.

Currently, the City of Tumwater utilizes the following programs for stormwater-related outreach and education:

General Education and Outreach

- Development of educational materials for the general public that discuss the impacts of stormwater runoff on surface waters and the overall impact of impervious surfaces. Best Management Practices (BMPs) are developed and distributed, offering education and opportunities for environmental stewardship actions, pet waste reduction, vehicle maintenance, landscaping and stream buffer management.
- Development of BMPs for the general public and businesses, including home-based and mobile businesses, that focus on the use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials. The BMPs address the impacts of illicit discharges and how to report them.
- Development of BMPs targeting homeowners, landscapers and property managers that address yard care and landscape techniques protective of water quality, as well as the use and storage of pesticides and fertilizers. Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees are included to provide the residential site manager with an understanding of lower impact techniques. Also included in this series are BMPs for food service practices, carpet cleaning, auto repair and maintenance and stormwater pond maintenance for sites engaged in these activities.
- Engineers, contractors, developers, review staff, and land use planners are provided with technical standards for stormwater site and erosion control plans, low impact development techniques, including site design, pervious paving, retention of forests and mature trees and stormwater treatment and flow control BMPs. The 2010 Erosion Control and Drainage Design Manual provides specific technical information regarding these BMPs, and is available on the City's web site as well as through the Public Works Department.

In addition to the outreach materials associated with the following programs, general information and outreach materials can be obtained at the City of Tumwater Public Works counter, or on the City's website, located at www.ci.tumwater.wa.us

Stream Team Program

The City supports and participates in the local and regional Stream Team program to develop and support educational curricula materials for distribution to area schools, including classroom presentations, field trips, field activities and creative learning exercises. Targeted audiences includes primary through middle school aged students.

Stream Team also facilitates "action projects" geared toward conservation and restoration of riparian areas and protection of water resources. Examples of these projects include tree plantings and maintenance of revegetated riparian areas, as well as storm drain marking projects.

Quarterly newsletters describing the upcoming work to be conducted by Stream Team (staff and volunteers), as well as upcoming scheduled activities are regularly posted to the City's website. All other

materials are available upon request, or posted throughout the City's website located at www.ci.tumwater.wa.us

The City will also continue active participation and coordination for volunteer surface water monitoring through the Stream Team program. Monitoring activities include macroinvertebrate, fish-passage and habitat assessments and other biological surface water quality testing. Work plans containing detailed objectives and goals are developed annually as part of the regional Stream Team program. These work plans are reviewed annually to meet the changing needs of the community and the stormwater program goals.

South Sound GREEN Participation

The City of Tumwater coordinates with staff from the Global Rivers Environmental Education Network (GREEN) to convey messages important to the utility's resource conservation role and watershed protection. Participation in GREEN program includes providing materials necessary for educational outreach to targeted audiences and supporting opportunities for participation in educational and watershed stewardship programs such as an annual water quality monitoring program twice per year.

City staff also coordinates with South Sound GREEN to develop and support educational curricula materials for distribution to area schools, including classroom presentations, field trips and creative learning exercises. Targeted audiences will include primary to middle school aged students. An Interlocal agreement is renewed every five years that outlines and provides funding for the South Sound GREEN program. The current agreement is in place through 2020.

Technical Assistance Program

The City will continue to provide technical assistance to local businesses and homeowner associations to increase awareness and technical expertise on necessary maintenance, water quality, habitat protection and water quality impacts.

Technical assistance includes, in general, a site visit and inspection, assessment of needs and/or concerns and follow-up to ensure necessary stormwater facility maintenance occurs in a timely fashion.

Pollution Prevention Program

The City periodically conducts outreach to Tumwater businesses with the assistance of Thurston County Environmental Health. The Business Pollution Prevention program has multiple goals, but focuses primarily on the proper handling, use, storage, and disposal of hazardous materials, as well as providing guidance on selecting environmentally-friendly products to promote the reduction of these materials in the watershed. Stormwater Best Management Practice discussions are also an integral part of the Pollution Prevention Program.

In recent years, this campaign has been targeted to audiences in the City's Wellhead Protection Areas (WHPAs) and operates on a two year cycle. Businesses within WHPAs receive a technical assistance visit, at a minimum, every six years. Higher risk businesses will undergo a site assessment every two years.

The City is currently in the process of expanding this program to provide assessments to businesses outside the WHPAs in an effort to ensure these materials are used responsibly

Stormwater Pond Maintenance Workshops

Staff coordinates the cities of Olympia and Lacey and Thurston County to provide two stormwater pond maintenance workshops per year. One is targeted to homeowner associations, and property management firms; the other is targeted to maintenance contractors. These workshops review stormwater facility maintenance responsibilities, regulatory requirements and maintenance standards in an effort to ensure necessary work is conducted regularly and to the defined standards. Technical site visits often result as part of these general workshops.

Community Car Wash Kit Program

Community car washes are important fundraisers for worthy causes. Unfortunately, they can also cause environmental harm. Very often, groups hold community car washes on parking lots, not realizing that the soapy water running into the storm drain may empty into nearby surface waters. Car wash water and the dirt it carries may be toxic to fish and other aquatic life.

To ensure these car washes do not impact surface or groundwater, the City notifies local businesses known to support such events of the risks of contaminated runoff and assesses the level of protection needed to prevent the potential risks from becoming real impacts to the MS4 and/or receiving waters. Many sites have appropriate treatment in place; however, if a site is identified to have a direct discharge to the stormwater system, the business is asked to remind the community group to contact the City for a free car wash kit and an alternate site for the event.

The “Clean Cars, Clean Streams” kits provided by the City include sidewalk signage, environmentally-friendly car wash solution, sponges, buckets and hose nozzles. Sites that have appropriate treatment already in place are provided with storefront signage acknowledging their support for community fundraisers in an environmentally-friendly manner.

The City also encourages the use of car wash ticket programs provided by local car washes as an alternative to traditional fund-raising car washes. These programs offer car wash tickets to community groups at a reduced cost and, in turn, the groups can re-sell the tickets for profit. This approach is successful in directing the public to utilize car washes that offer not only stormwater BMP’s, but also good water conservation practices.

The City of Tumwater also promotes the use of commercial car washes as the BMP when washing any vehicle. The City gives away over 100 car wash tickets per year as part of this promotion effort.

Tumwater Pet Waste Program

This program is designed to educate the general public and targeted audiences about the potential for pet waste to impact surface waters, and how each can address the problem. Targeted audiences include veterinarian offices, pet stores and registered pet owners.

General outreach for the pet waste program utilizes conventional media outlets, utility bill stuffers, web site, social media, brochures and direct mail. To encourage citizens to help reduce pollution from pets, City of Tumwater offers free neighborhood pet waste stations, including colorful signs and dog waste bag dispensers, and educational brochures for neighborhood associations and other public use areas.

As part of its Stream Team program, City of Tumwater also distributes on-leash dog waste bag dispensers at its Public Works counter, at regional events and to every household who adopts a dog through Joint Animal Services.

S5.C.2. Public Involvement and Participation Program Summary

The City of Tumwater fosters public involvement and participation in the Stormwater Management Program on many levels. Participation is available via environmental programs such as the Stream Team volunteer network, as well as individual environmental stewardship activities. These programs are valued not only for their educational component, but also for their ability to raise understanding and awareness of stormwater-related issues and to encourage increased participation in surface water management practices, such as policy-making and regulation compliance.

The City continues to provide additional ongoing opportunities for public involvement through advisory councils, watershed committees, and participation at Public Works Committee and City Council open meetings.

The Stormwater Management Program, as well as any subsequent updates to the program, and annual reports required as part of the NPDES Stormwater Permit, is posted on the City of Tumwater website. Additionally, the website invites the public to become involved in the Stormwater Management Program through the submittal of comments, and/or by attending regular meetings of the Tumwater City Council.

The City's SWMP is reviewed annually for compliance with NPDES requirements and updated as needed. All updated SWMPs are posted to the website no later than March 31st following the year reviewed. All stormwater related activities under consideration through a public process are posted throughout the City's website, located at www.ci.tumwater.wa.us

S5.C.3. Illicit Discharge Detection & Elimination Program Summary

Storm System Map

The City of Tumwater has developed a comprehensive map of the public stormwater system, as well as a facility location map for private stormwater systems. These maps, which are maintained by the City's GIS Manager, are updated as necessary following the completion of new projects or updates of existing pipe systems.

The development community (public) is involved through the development and submittal of as-built engineering documents for private construction projects, which staff incorporates into the City's stormwater map.

The current stormwater infrastructure map is reviewed and refined on a continual basis, and is periodically updated to include the following information:

- The location of all known city-owned storm sewer outfalls and receiving waters.
- Structural stormwater BMPs owned, operated, or maintained by the City.

- For all storm sewer outfalls with a 24-inch diameter or larger, or an equivalent cross-sectional area for non-pipe systems: (a) Tributary conveyances (indicate type, material, and size where known), (b) Associated drainage areas, and (c) Land use.
- All connections to the municipal separate storm sewer authorized or allowed by the Permittee after February 16, 2007.
- Geographic areas served by the City that do not discharge stormwater to surface waters.

Illicit Discharge Ordinance

The City of Tumwater Ordinance # 2009-018 was adopted in February, 2010. The goal of the revised rule, which replaced the City's previous stormwater-related Ordinance, adopted in 1986, was to provide an enforcement mechanism that effectively prohibits non-stormwater, illegal discharges, and/or dumping into the City's storm sewer system to the maximum extent allowable under State and Federal law. The IDDE ordinance includes escalating enforcement procedures and actions.

The ordinance provides exemptions for the following categories of non-stormwater discharges:

- Diverted stream flows.
- Rising ground waters.
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)).
- Uncontaminated pumped ground water.
- Foundation drains.
- Air conditioning condensation.
- Irrigation water from agricultural sources that is commingled with urban stormwater.
- Springs.
- Water from crawl space pumps.
- Footing drains.
- Flows from riparian habitats and wetlands.
- Non-stormwater discharges covered by another NPDES permit.
- Discharges from emergency firefighting activities in accordance with S2 Authorized Discharges.

The City's ordinance prohibits the following categories of non-stormwater discharges, unless the stated conditions are met:

- Discharges from potable water sources, including water line flushing, hyper-chlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4.
- Discharges from lawn watering and other irrigation runoff. These shall be minimized through, at a minimum, public education activities (see section S5.C.1) and water conservation efforts.

- Dechlorinated swimming pool discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and re-oxygenized if necessary, volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.
- Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents. The Permittee shall reduce these discharges through, at a minimum, public education activities (see section S5.C.1.) and/or water conservation efforts. To avoid washing pollutants into the MS4, Permittees must minimize the amount of street wash and dust control water used. At active construction sites, street sweeping must be performed prior to washing the street.
- Other non-stormwater discharges. The discharges shall be in compliance with the requirements of the stormwater pollution prevention plan reviewed by the Permittee, which addresses control of construction site de-watering discharges.

Illicit Discharge Detection and Elimination (IDDE) Program

The City developed and implemented an ongoing Illicit Discharge Detection and Elimination (IDDE) program to detect and address non-stormwater discharges, spills, illicit connections and illegal dumping into the City's storm system. The program was fully implemented during 2009, and includes:

- Procedures for prioritizing areas likely to have illicit discharges, including at a minimum: evaluating land uses and associated business/industrial activities present; areas where complaints have been registered in the past; and areas with storage of large quantities of materials that could result in spills.
- Field assessment activities, including visual inspection of priority outfalls identified on City maps during dry weather and for the purposes of verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges.
 - Receiving waters including the Deschutes River, Percival Creek and Black Lake Ditch are visually inspected regularly. Screening for illicit connections is conducted using: Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004. The City maintains compliance with the NPDES permit by investigating (or referring to the appropriate agency) within 7 days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge, spill, or illegal dumping; and immediately investigating (or referring) problems and violations determined to be emergencies or otherwise judged to be urgent or severe.
- Procedures for tracing the source of an illicit discharge including visual inspections. When necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures to help identify potential sources.
- Procedures for removing the source of the discharge; including notification of appropriate authorities, notification of the property owner, technical assistance for eliminating the

discharge, follow-up inspections, and escalating enforcement and legal actions if the discharge is not eliminated.

- Tracking of the IDDE program, including complaints received follow-up actions and other pertinent data, is managed in the City's Lucity asset management program and included in annual reporting.

IDDE Education

Water Resources and Operations staff periodically attend training regarding Illicit Discharge Detection and Elimination. The Center for Watershed Protection and the Environmental Protection Agency are also utilized for continuing education via webinars and educational literature. The training and education received are used to continually evaluate and improve the City's IDDE program components.

IDDE Reporting Hotline – 360-754-4150

The City maintains a 24 hour IDDE reporting hotline. The hotline is posted on the City website, and is intended as a resource for citizens who witness illegal dumping of pollutants that may enter the storm system, or contaminate local water bodies or groundwater aquifers. Upon receiving a report, on-duty or on-call staff are dispatched to the spill site, where it is either cleaned up or appropriate emergency response staff are contacted if necessary.

Staff Training

An ongoing training program was developed and implemented for all municipal field staff who, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system. The Water Resources Department is responsible for developing and coordinating this training, which occurs on an annual basis. Proper procedures for reporting and responding to the illicit discharge/connection are included as part of this training.

Follow-up training is provided as needed to address changes in procedures, techniques or requirements. The City documents and maintains records of the training provided.

S5.C.4. Controlling Runoff from New Development, Redevelopment and Construction Sites Program Summary

Adoption of Drainage Design and Erosion Control Manual

The City of Tumwater adopted the 2010 Drainage Design and Erosion Control Manual (DDECM) in May, 2010. Ordinance 2010-003 is the legislative action that provided for the adoption of the manual. The current manual adopts minimum requirements, technical thresholds, and definitions for new development, redevelopment and construction site activities that are at least as stringent as those outlined in Appendix I of the NPDES permit. Prior to adoption of the 2010 DDECM, the requirements of the 2005 Department of Ecology Manual were utilized for development guidance. The City is actively in the process of updating our Drainage Design and Erosion Control Manual this should be finalized in 2017. The development community is advised to design stormwater facilities in accordance with the WA Department of Ecology's most current addition to ensure all the most restrictive standards are being

followed, until such time that Tumwater’s manual is formally adopted. In addition, the City of Tumwater passed Ordinance 2016-037, which included a review and revision to existing regulations as needed to comply with the new ECY NPDES LID permit requirements. This ordinance was passed on January 3, 2017.

The DDECM outlines a permitting process with plan review, inspection and enforcement capability to meet standards identified in the City’s NPDES permit for both private and public projects. At a minimum, this program shall be applied to all sites that disturb a land area 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale.

Provisions to verify adequate long-term operation and maintenance (O&M) of post-construction stormwater facilities and BMPs that are permitted and constructed pursuant to the above are also included within the DDECM.

Non-structural preventive actions and source reduction approaches such as Low Impact Development (LID) techniques, measures to minimize the creation of impervious surfaces and measures to minimize the disturbance of native soils and vegetation are also incorporated into the current DDECM. In considering LID techniques, factors such as site conditions, access and long term maintenance are evaluated.

Until the new Drainage Design and Erosion Control Manual is adopted, the City is continuing to use the 2010 Drainage Design and Erosion Control Manual. However, in those areas where the Tumwater Drainage Manual and the Ecology Manual differ, we are requiring that the new, more restrictive Ecology Manual requirements apply. The current Drainage Manual is available at the Public Works counter or can be accessed on the City’s website, located at <http://www.ci.tumwater.wa.us/departments/public-works/utilities/stormwater/plans-program-guidance/stormwater-manual>

Permitting Process

The City requires developers to implement the guidelines outlined in the DDECM adopted by the City. These requirements are enforced through regular site inspections by the Public Works and Community Development Departments. The City also requires all developments to undergo a site plan review process that identifies and addresses potential water quality impacts.

The City will continue to require the development community to comply with the standards outlined in the most current Drainage Manual and stormwater protection ordinance. Staff will also continue with regular, unannounced site visits to ensure compliance with the standards.

The program includes a permitting process with plan review, inspection and enforcement capability to meet the standards listed below, for both private and public projects. At a minimum, this program applies to all sites that disturb a land area 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale. At a minimum, the inspection and enforcement procedures include the following components:

- Staff inspects, prior to clearing and construction, all known development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 Identifying Construction Site Sediment Transport Potential.
- Staff inspects all known permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. Staff shall enforce as necessary based on the inspection and in doing so, will utilize the enforcement procedures adopted in Ordinance #O2009-018.
- Staff inspects all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls such as stormwater facilities and structural BMPs. Also, staff shall verify a maintenance plan is completed and responsibility for maintenance is assigned.
- Compliance with the inspection requirements above shall be determined by the presence and records of an established inspection program designed to inspect all sites and achieving at least 95% of scheduled inspections. Inspection and recordkeeping activities regarding construction activities are recorded using the City's Eden software program.

Stormwater Ordinance

The City of Tumwater has two ordinances that serve as guidance for the stormwater management program. As stated previously, the DDECM was adopted by ordinance #2010-003 and addresses construction site sediment and erosion control. The City enforces the standards set forth in the DDECM as part of the development review process. In addition, the City adopted Ordinance #2009-018, which more specifically addresses illicit discharges, some of which may be the result of development practices. Ordinance #2009-018 outlines additional enforcement actions that may be utilized to prevent offsite discharges, including those associated with construction sites.

The ordinance includes:

Provisions to verify adequate long-term operation and maintenance (O&M) of post-construction stormwater facilities and BMPs that are permitted and constructed such as:

- Maintenance requirements by system owners.
- The requirement for maintenance agreements for privately maintained stormwater facilities.
- Procedures for acceptance of existing stormwater facilities.
- Enforcement procedures that may be utilized to ensure compliance.

Inspection Program

Ordinance #2009-018 also grants the authority and outlines the procedures for City inspection of privately maintained stormwater facilities and establishes maintenance standards that are as protective or more protective of facility function than those specified in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington.

All privately owned stormwater facilities will be inspected by City personnel on an annual basis, unless a lighter schedule is justified. Inspection records, including correspondence with the persons responsible for the maintenance are maintained and recorded. The following records will be maintained:

- Inspection reports
- Warning letters
- Notices of violation
- Other enforcement records

In cases where maintenance records justify less frequent inspections, privately owned facilities may be inspected on a bi-annual basis.

Inspections of all new flow control and water quality treatment facilities, including catch basins, for new residential developments that are a part of a larger common plan of development or sale, are conducted every 6 months during the period of heaviest house construction (i.e., 1 to 2 years following subdivision approval) to identify maintenance needs and enforce compliance with maintenance standards as needed.

Notice of Intent (NOI) for Construction/Industrial Activity

As part of the Development permitting process, prospective developers are issued copies of the “Notice of Intent for Construction Activity”, or the “Notice of Intent for Industrial Activity”, depending upon which NOI applies to their development project.

Construction Site Runoff – Employee Training

The City verifies that all staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training is provided as needed to address changes in procedures, techniques or staffing. The City shall document and maintain records of the training provided and the staff trained.

S5.C.5.Pollution Prevention and Operation and Maintenance for Municipal Operation Program Summary

Maintenance Standard Development

With adoption of the 2010 DDECM, the City of Tumwater adopted maintenance standards for both public and private stormwater facilities that are as protective, or more protective, of facility function than those specified in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington.

The purpose of the standards is to determine when maintenance is necessary for a given facility and guidance on the performance of the necessary maintenance. The maintenance standard is not a measure of the facilities required condition at all times between inspections. Exceeding the

maintenance standard between inspections and/or maintenance is not a permit violation, but every attempt is made to insure that maintenance standards are maintained to the greatest degree possible.

Unless there are circumstances beyond the City's control, when inspection identifies an exceedance of the maintenance standard, maintenance shall be performed per the following schedule:

- Within one year for wet pool facilities and retention/detention ponds.
- Within six months for typical/regular maintenance.
- Within nine months for maintenance requiring re-vegetation.
- Within two years for maintenance requiring capital construction of less than \$25,000.

Circumstances beyond the City's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the City will document the circumstances and how they were beyond control.

Annual Stormwater Facility Inspections

The City of Tumwater maintains an ongoing inspection program for City-owned stormwater infrastructure. This program entails the following:

1. Annual inspection of all municipally-owned stormwater treatment and flow control facilities, other than catch basins, and taking appropriate maintenance actions in accordance with the 2010 DDECM. The annual inspection requirement may be reduced based on inspection records.

* Reducing the inspection frequency shall be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the City may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with NPDES Permit G19 Certification and Signature.

2. Spot checks of potentially damaged permanent treatment and flow control facilities (other than catch basins) after major (greater than 24-hour-10-year recurrence interval rainfall) storm events. If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the inspections.

3. The City performs inspection of half of the city catch basins every year (or every catch basin is inspected every two years). The City of Tumwater inspects all catch basins, and performs catch basins maintenance as needed. Decant water is disposed of in accordance with Appendix 6 Street Waste Disposal.

4. Compliance with the inspection requirements above shall be determined by the presence of an established inspection program designed to inspect all sites and achieving inspection of 95% of all sites.

Stormwater Pollution Prevention Practices

Through adoption of the 2010 DDECM, the City established practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways owned or maintained by the City and road maintenance activities conducted by the City. The following activities were addressed through the adopted BMPs:

- Pipe cleaning
- Cleaning of culverts that convey stormwater in ditch systems
- Ditch maintenance
- Street cleaning
- Road repair and resurfacing, including pavement grinding
- Snow and ice control
- Utility installation
- Pavement striping maintenance
- Maintaining roadside areas, including vegetation management
- Dust control

The City also established BMPs to reduce pollutants in discharges from all lands owned or maintained by the City, including but not limited to: parks, open space, road right-of-way, maintenance yards, and stormwater treatment and flow control facilities.

These policies and procedures address:

- Application of fertilizer, pesticides, and herbicides including the development of nutrient management and integrated pest management plans.
- Sediment and erosion control.
- Landscape maintenance and vegetation disposal.
- Trash management.
- Building exterior cleaning and maintenance.

Employee Training

The City provides an on-going training program for employees whose construction, operations or maintenance job functions may impact stormwater quality. The City will also continue to provide general education to City employees on the proper handling, storage, and disposal of hazardous materials through direct contact and use of various media, including flyers, brochures and/or crew seminars.

Training programs shall address the importance of protecting water quality, the requirements of the City's NPDES permit, operation and maintenance standards, inspection procedures, BMP selection, ways to perform job activities to prevent or minimize impacts to water quality and procedures for reporting water quality concerns, including potential illicit discharges.

Follow-up training will be provided as needed to address changes in procedures, techniques or requirements.

All training activities shall be documented for compliance with the NPDES permit.

Pollution Prevention Plan (SWPPP)

The City maintains a Stormwater Pollution Prevention Plan (SWPPP) for the Operations and Maintenance Facility as well as for the Facilities Department. The SWPPPs are included as an Appendix to this document. The SWPPPs identify potential sources of stormwater pollution and the Best Management Practices that will be undertaken to minimize pollution risks and meet the requirements of the NPDES permit. The SWPPPs includes an implementation plan and identification of the personnel responsible for implementing the BMPs.

All staff operating from facilities covered by the SWPPPs shall be trained on the proper use of the plan, as well as BMPs identified within the plan.

S8. Monitoring

Stormwater Monitoring

For the current permit cycle (2013-2018), the City of Tumwater has elected to pay into the Ecology sponsored elective funds for Status and Trends Monitoring, as well as for the Effectiveness Studies Monitoring. Payments made to Ecology in 2016 for this monitoring are as follows:

2016 Status and Trends Monitoring:	\$4,095
2016 Effectiveness Studies:	\$6,823
2016 Source Identification and Diagnostics Monitoring:	\$ 633
RSMP 2016 Total Funds:	\$ 11,551

In addition, the City of Tumwater also pays into an additional Thurston County Surface Water Monitoring Program. Annually, the City of Tumwater budgets about \$10,000 for this monitoring, of which, \$9,885 was expended in 2016. The Thurston County program consists of stream flow, precipitation and ambient monitoring, reporting and program administration.

The objectives of the Thurston County surface water monitoring program are to:

- Collect baseline information about the water quantity and water quality condition of streams and lakes in Thurston County;
- Identify problem areas and;
- Track trends in stream flow and water quality over time.

Thurston County performs monthly water quality monitoring within the City of Tumwater at Black Lake Ditch and the Deschutes River. In addition, they maintain stream gauges on Percival Creek and Black Lake Ditch within the City of Tumwater. Thurston County produces a water quality report every two years. The most recent report is available on their website:

<http://www.co.thurston.wa.us/health/ehrp/pdf/AR11-14/2012-2014-AnnualReport-Streams-Final-11-30-16.pdf>