

# City of Tacoma Regional Stormwater Facility Plan

---



*Above:  
Ferry Street Regional  
Stormwater Facility*



*Right:  
Aerial view of the  
Gravel Pit Regional  
Stormwater Facility*

**July 2016**

## **Prepared by**

City of Tacoma  
Environmental Services Department  
Science and Engineering Division, Environmental Programs Group



## TABLE OF CONTENTS

---

1.0 Introduction .....	1
1.1 Goals.....	1
1.2 Background .....	2
1.2.1 Historical Payment In-Lieu-Of Construction Programs in Tacoma .....	2
1.3 Phase I NPDES Permit Requirements.....	2
2.0 Watershed Overview.....	4
2.1 Receiving Water Bodies .....	4
2.1.1 Regional Facility Plans .....	4
3.0 Regional Facility SITE Assessment and prioritization.....	6
3.1 Assessment of Existing Facilities .....	6
3.2 Future Facility Assessment.....	6
3.3 Flow Control/Treatment Capacity .....	8
4.0 Payment In-Lieu-of Construction Program .....	9
4.1 Participation.....	9
4.2 In-Lieu-of Construction System Development Charge and Maintenance Surcharge ....	9
4.2.1 Impact of Program On Participants.....	10
4.3 Tracking In-Lieu-of Stormwater Capacity .....	13
4.4 Annual Review .....	13
5.0 Conclusion .....	14

## LIST OF TABLES AND FIGURES

---

Table 3-1	Stormwater Retrofit Facilities Available Treatment and Flow Control Capacity
Table 4-1	“Example” Present Worth Capital and Annualized 20 year O&M Costs for Existing City of Tacoma Regional Facilities Compared to Representative New Development/Redevelopment Projects – Stormwater Treatment Only Capital Costs for Tacoma’s Stormwater Retrofit Facilities
Table 4-2	“Example” Present Worth and Capital and Annualized 20 year O&M Costs for Existing City of Tacoma Regional Facilities Compared to Representative New Development/Redevelopment Projects – Flow Control Only
Table 4-3	Example Facility Descriptions
Figure 2-1	City of Tacoma Watersheds

## **LIST OF ATTACHMENTS**

---

Attachment 1:

Flett Creek Watershed – Gravel Pit Regional Stormwater Facility

July 2016

*This page was intentionally left blank*

## ACRONYMNS

---

BMPs	best management practices
CIP	Capital Improvement Projects
Ecology	Washington State Department of Ecology
GIS	Geographic Information System
LID	Low Impact Development
MR	Minimum Requirements
NPDES	National Pollutant Discharge Elimination System
O&M	operation and maintenance
ROW	right-of-ways
SWMMWW	Washington State Department of Ecology's 2012 Stormwater Management Manual for Western Washington
Tacoma	City of Tacoma
SWMM	City of Tacoma's Stormwater Management Manual
TMC	Tacoma Municipal Code
WVHM	Western Washington Hydrologic Model

## 1.0 INTRODUCTION

---

Development in Tacoma can be complex due to the highly urbanized area. The complexities are driven by limited space, aging infrastructure and demolition costs. This plan is intended to meet the intent of Minimum Requirement #6 – Water Quality and/or Minimum Requirement #7 – Flow Control for stormwater mitigation as required by the Phase I National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit (Permit) for public and private new development and redevelopment projects by constructing regional facilities in-lieu-of constructing individual site-specific facilities. This plan seeks to:

- mitigate areas of the City of Tacoma (Tacoma) faster than would occur under normal development/redevelopment circumstances which will result in flow and pollutant load reductions to receiving waters by building regional facilities upfront of development/redevelopment;
- use economy of scale to get the best unit price for both construction and operations and maintenance of stormwater facilities by building larger regional facilities as opposed to smaller on-site facilities; and
- build mitigation in specific areas of concern resulting in an immediate relief in areas prone to localized flooding and an immediate increase in pollutant load removal.

With this program, public and private entities will be allowed to pay a system development charge and maintenance surcharge in-lieu-of constructing individual site-specific stormwater treatment and flow control best management practices. The system development charge will be used to reimburse the city's capital costs associated with construction of a new or expanded regional stormwater facility. The maintenance surcharge will be used to reimburse the city's operation and maintenance of the new or expanded regional stormwater facility.

### 1.1 GOALS

The primary goal of this Regional Stormwater Facility Plan is to establish, use, and manage the City's Payment In-Lieu-of Construction Program for new development and redevelopment projects where stormwater flow control and/or water quality treatment is required. Additional goals of the program include:

- Providing viable and sustainable options for stormwater treatment for new and redevelopment projects.
- Utilizing scale efficiencies by combining the stormwater mitigation needs of individual projects into larger regional project (e.g., effectively reduce maintenance costs).
- Reducing the cost and land impacts imposed on the development community.
- Promoting redevelopment and jobs in Tacoma.
- Efficiently meeting NPDES Permit requirements.
- Developing a process to identify feasible locations for regional stormwater facilities.
- Developing a process that prioritizes and completes stormwater mitigation projects on a regional scale.
- Providing an effective and transparent accounting structure for tracking in-lieu-of stormwater mitigation needs and capacity.

The existence of the plan does not change the requirement for stormwater mitigation as defined in Chapter 12.08.090 of the Tacoma Municipal Code (TMC) and the City of Tacoma Stormwater Management Manual (SWMM) but provides an additional option for public and private projects to meet the requirements when thresholds are exceeded.

## **1.2 BACKGROUND**

Tacoma is about fifty square miles of urbanized land with 588 miles of stormwater conveyance pipe and 200 miles of ditch systems. Approximately 46% of the land cover is considered impervious.

Tacoma was incorporated in 1875 and now has a population of 202,000 (2012). Tacoma's economic situation is depressed in comparison to other areas in Washington State. For example:

- Tacoma's 10 year growth was 2.5% (2010) as compared to Seattle's 13%.
- The median income of \$48,000 is less than Washington State's average of \$57,000.
- Unemployment is 8.7%.
- Typical commercial rental is \$20 per square foot with a vacancy rate of 9.8%.

### **1.2.1 Historical Payment In-Lieu-Of Construction Programs in Tacoma**

Tacoma previously had payment in-lieu-of construction programs in the Leach Creek and Flett Creek Watersheds for flow control mitigation. Under the previous programs, developers paid a fee which was much less than the cost to construct a similar flow control capacity on a project site and less than the City's costs to replace the flow control capacity sold. Money collected through these programs was required to be spent within five years of its collection. With the limited funds received, it was not possible to leverage the funding needed to add sufficient capacity to the system to replace the capacity sold. The programs were discontinued in 2004 (Leach Creek Watershed) and 2008 (Flett Creek Watershed).

## **1.3 PHASE I NPDES PERMIT REQUIREMENTS**

Section S5.C.5 of the Permit requires the City to have a program to prevent and control the impacts of runoff from new development, redevelopment and construction activities. The City has met these requirements through adoption of the City of Tacoma Stormwater Management Manual (SWMM) and Tacoma Municipal Code 12.08. The SWMM requires certain projects to comply with Minimum Requirements (MR) #6 – Water Quality Treatment, Minimum Requirement #7 – Flow Control, and/or Minimum Requirement #8 – Wetlands Protection. The MRs are typically met through the use of individual site-specific best management practices (BMPs).

Regional stormwater facilities for new development and redevelopment projects are permitted by the Phase I NPDES Permit, Appendix 1, and described in the Washington State Department of Ecology Stormwater Management Manual for Western Washington (SWMMWW). Ecology's SWMMWW allows regional stormwater facilities as an alternative method of meeting MR #6, MR #7, and/or MR #8 for new development and redevelopment projects as referenced in the following sections.

Per Ecology's SWMMWW, Section 2.4.1 – New Development::

*Regional stormwater facilities may be used as an alternative method of meeting Minimum Requirements 6, 7, and 8, through documented engineering reports detailing how the proposed facilities meet these requirements for the sites that drain to them. Such facilities must be operational prior to and must have capacity for new development.*

Per Ecology's SWMMWW, Section 2.4.2 – Redevelopment:

*Local governments can also establish criteria for allowing redevelopment projects to pay a fee in lieu of constructing water quality or flow control facilities on a redeveloped site. At a minimum, the fee should be the equivalent of an engineering estimate of the cost of meeting all applicable stormwater requirements for the project. The local government should use such funds for the implementation of stormwater control projects that would have similar benefits to the same receiving water as if the project has constructed its required improvements. Expenditure of such funds is subject to other state statutory requirements.*

## 2.0 WATERSHED OVERVIEW

---

Tacoma covers 50 square miles, 46% is considered to be impervious surface. 72% of the City drains to flow control exempt receiving waters. This chapter identifies and describes the watersheds and asset management areas (basins) within the City of Tacoma. Water Resource Inventory Areas (WRIAs), watersheds, and asset management areas are defined as follows:

- WRIAs – These are large watersheds based on geographic areas usually associated with large river systems. Ecology has identified 62 WRIAs. Tacoma is located within the Puyallup WRIA (#10) and the Chambers-Clover WRIA (#12). Information on the WRIAs can be found at: <http://www.ecy.wa.gov/apps/watersheds/wriapages>.
- Watersheds – Nine smaller watersheds have been identified by Tacoma. Some of these watersheds are associated with stream systems and some are identified geographically.
- Asset Management Areas – The City’s watersheds are further divided into Asset Management Areas. Asset Management Areas are the drainage areas served by the larger subbasins of the stormwater conveyance system. The Asset Management Areas for each watershed are designated by a double letter and double number labeling system.

Information in this document will refer to Tacoma’s nine watersheds (see Figure 2-1). The nine watershed areas with their asset management area designations in the parentheses are as follows:

- Flett Creek (FL)
- Leach Creek (LC)
- Northeast Tacoma (NE)
- Joe’s Creek (JC)
- North Tacoma (NT)
- Thea Foss Waterway (FS)
- Tideflats (TF)
- Lower Puyallup (LP)
- Western Slopes (WS)

A full description of each watershed and its flow control and water quality requirements are detailed in the City of Tacoma Stormwater Management Manual (Tacoma SWMM), Volume 1, Chapter 2. The SWMM is available online at [www.cityoftacoma.org/stormwatermanual](http://www.cityoftacoma.org/stormwatermanual).

### 2.1 RECEIVING WATER BODIES

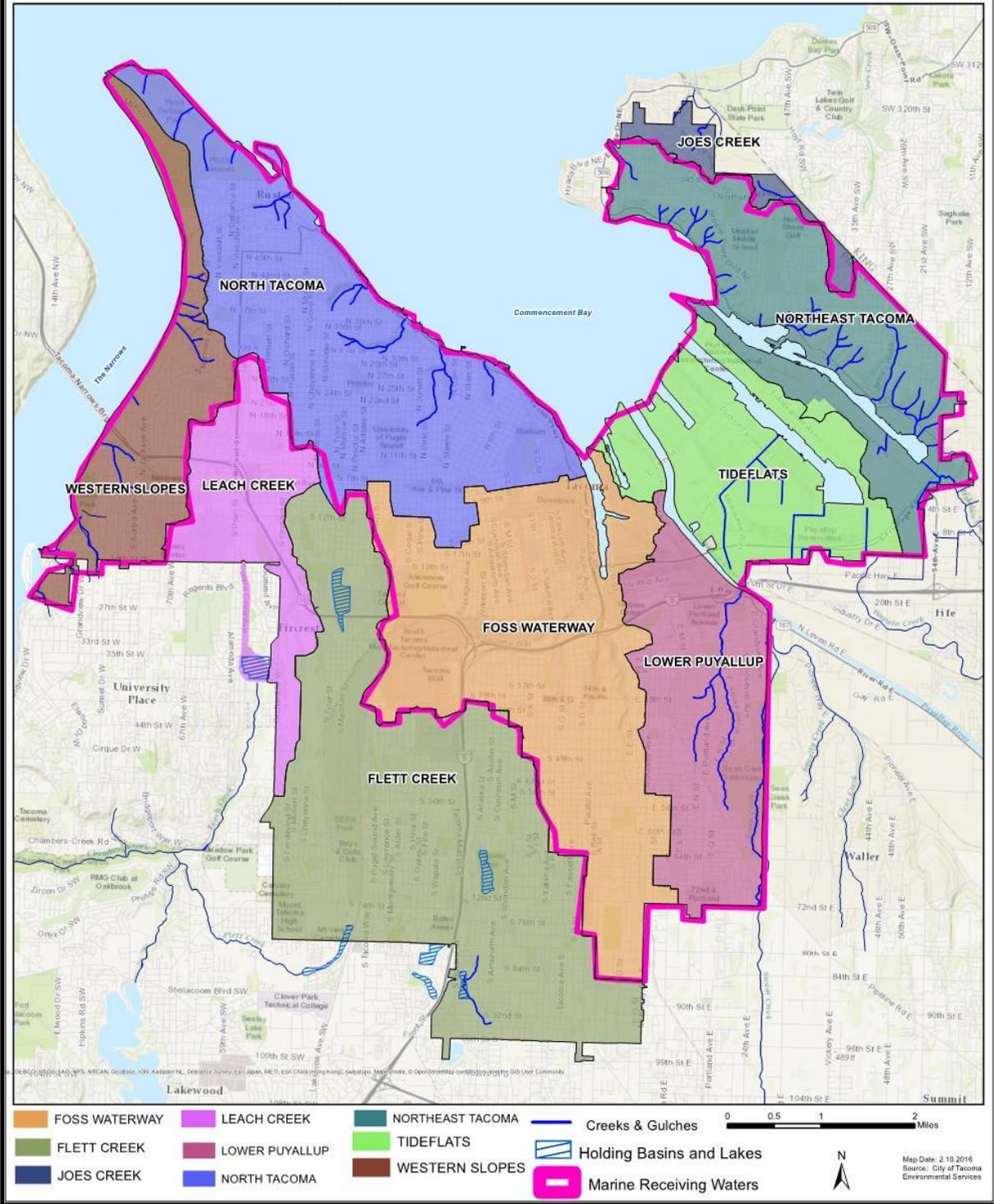
The City of Tacoma’s stormwater systems discharge into two types of receiving waters: marine/estuarine waterbodies and fresh waterbodies. Figure 2-1 provides a general overview of the typical receiving waterbody type for each watershed. Approximately 20,000 acres discharge to marine waterbodies and approximately 9,000 acres discharge to fresh waterbodies.

Stormwater mitigation requirements differ depending upon if the ultimate discharge location is a freshwater or marine waterbody (see the SWMM, available online at [www.cityoftacoma.org/stormwatermanual](http://www.cityoftacoma.org/stormwatermanual).)

#### 2.1.1 Regional Facility Plans

Watershed or area specific regional facility plans will be developed and will include each regional facility proposed to be used in this program. These regional facility plans are included as attachments to this document.

# Figure 2-1 City of Tacoma Watersheds



## **3.0 REGIONAL FACILITY SITE ASSESSMENT AND PRIORITIZATION**

---

Site assessment is necessary to develop facilities that will provide stormwater mitigation necessary to meet the requirements of the SWMM. Site assessments may be completed for existing stormwater facilities to determine if they can be used to meet the goals of this program. In addition to individual facility assessments, watersheds will be assessed on a whole to determine if there are available locations for installation of new regional facilities. Specific assessments are or will be part of the watershed or facility specific plans as regional facilities are enrolled in the program. These plans will be attached as attachments to this plan.

For all assessments, available design reports, facility plans and project costs will be reviewed. The information obtained will be used to:

1. establish available capacity for water quality treatment and/or flow control, and
2. establish the payment in-lieu-of construction system development charge and maintenance surcharge.

### **3.1 ASSESSMENT OF EXISTING FACILITIES**

Existing stormwater facilities or those planned as part of Tacoma's Capital Improvement Program (CIP) may be reviewed for inclusion in the program. The most current SWMM must be used for evaluating the capacity of existing facilities. At a minimum, the following information will be used in the assessment:

- Total drainage area to facility
- Land use type draining to facility
- Amount of impervious surface coverage draining to facility
- Amount of lawn/landscaped area draining to facility
- Amount of forested area draining to facility
- Treatment type achieved by facility (basic, enhanced, phosphorus)
- Does facility meet requirements of current SWMM
- Treatment or flow control drainage area meeting the current SWMM requirements, which may be less than the total drainage area to the facility
- Overall construction costs including: construction contract, administration, design and permitting, and construction management.

### **3.2 FUTURE FACILITY ASSESSMENT**

In addition to evaluating existing stormwater facilities, each Tacoma watershed will be assessed to identify locations where stormwater facilities have a high potential for flow control and/or water quality benefits. Both public and private property will be assessed for viability. Potential sites will be assessed using site evaluation factors (see Table 3-1) to assess the effectiveness of the projects and rank the projects in a quantitative framework. Maps will be maintained showing the location of viable project sites. GIS based data and maps will be reviewed for the following:

- Potential opportunities where open space and right-of-ways are in close proximity to a stormwater conveyance system
- Topographical locations that would allow for a gravity flow system
- Locations of existing stormwater facilities with upgrade potential
- Property ownership
- Locations with potential for infiltration

**Table 3-1: Facility Ranking based on Site Evaluation Factors**

Site Evaluation Factors	Ranking
<b>Economic/cost Factors:</b>	
Capital Cost	High -1, Medium -2, Low -3
Operation and maintenance costs	High -1, Medium -2, Low -3
Potential to replicate/leverage	Low -1, Medium -2, High -3
Hazards/risks to existing infrastructure	High -1, Medium -2, Low -3
Potential for multiple funding sources (City Surface Water fund and others, grants, other city funds, in-lieu of fees, partnerships)	Low -1, Medium -2, High -3
Amount of stormwater treatment or flow capacity available for Payment In-Lieu-Of Construction Program	Low - 1, Medium - 2, High - 3
<b>Social/Community Factors:</b>	
Multiple benefits potential (walkways, parking, parks, bike trails, other CIP projects)	Low -1, Medium -2, High -3
Conflicting uses (parking in ROW, etc.)	High -1, Medium -2, Low -3
Supports Community Goals or other plans (e.g., First Creek, Wapato, other Neighborhood groups, Metro Parks, etc.)	Low -1, Medium -2, High -3
Visibility & Education Value	Low -1, Medium -2, High -3
Supports Equity, Health and Safety	Low -1, Medium -2, High -3
<b>Other Factors to consider:</b>	
Discharges to fresh waters designated for aquatic life use	No -1, Yes -3
South Tacoma Groundwater Protection District	No -1, Yes -3
Protection of cleanup sites (Thea Foss Waterway, Hylebos Waterway, ASARCO, South Tacoma Field)	No -1, Yes -3
303(d) listed waterbodies	No -1, Yes -3
Identified local capacity or pollution problems	No -1, Yes -3
Located in a priority area (redevelopment plans, mixed use centers, watershed where other public and private projects are or will be constructed)	No -1, Yes -3

Preliminary engineering reports with designs and costs estimates will be developed for higher ranked sites and will include design, construction, and other upgrade costs, as well as operation and maintenance costs. Capitalized annual costs (the PW of a project with an infinite life) and life cycle costs will also be calculated. The life cycle costs for each facility will be included. These costs can be used to compare and rank the facilities.

Preliminary reports should contain the same information required for a Stormwater Site Plan in the SWMM, use the City of Tacoma Capital Project PreDesign Report Content Guidance, and also include economic and social factors such as:

- Potential to replicate
- Potential for multiple funding sources
- Potential for multiple benefits (parks, trails, other CIP projects)
- Conflicts with existing uses (parking in ROW)

- Being supportive of community goals or other basin planning efforts
- Visibility and educational value
- Being supportive to health and safety
- Being supportive of aquatic species

The reports will be available for CIP planning and for use when seeking possible funding opportunities.

Projects will be ranked with respect to the site evaluation and considerations such as complexity of permitting, coordination with other City projects, and state and federal mandates. The following table provides the ranking system that will be used. Project ranking will be reevaluated over time as site conditions and priorities change.

### **3.3 FLOW CONTROL/TREATMENT CAPACITY**

Flow control and/or water quality capacity credit for each regional stormwater facility will be calculated using the procedures outlined in Ecology's guidance document "Stormwater Control Transfer Program – Out of Basin" available at:

<http://www.ecy.wa.gov/programs/wq/stormwater/municipal/controltransfer.html>. The City of Tacoma Stormwater Management Manual will be used as supplemental guidance when applicable.

## **4.0 PAYMENT IN-LIEU-OF CONSTRUCTION PROGRAM**

---

### **4.1 PARTICIPATION**

Each individual watershed or facility plan will specify the types and locations of projects which can participate in the program. Both public and private projects are eligible to participate in this program. This program is a voluntary program; projects are not required to participate in this program and can choose to construct individual site-specific facilities at their discretion.

New development projects will only be allowed to participate in this program if a regional facility is operational at the time of complete application for construction permits for private projects or at 60% design phase for public projects. Redevelopment projects may participate in this program if a regional facility is operational or included on the six-year CIP plan at time of a complete application for construction permits for private projects or at 60% design phase for public projects.

All projects are responsible for ensuring compliance with all applicable Minimum Requirements of the SWMM even if some of these MRs are met through the use of this program. Regional oil control facilities will not be constructed under this program; individual onsite oil treatment BMPs will be required for any project that triggers oil treatment per the SWMM. If a regional water quality treatment facility does not meet the treatment goals of the project, the project will not qualify for the program and must apply individual onsite BMPs per the SWMM (ex. projects required to provide enhanced treatment do not qualify for this program if the regional facility can only provide basic treatment).

The property owner will be required to sign an agreement to participate in the program. A project applicant or developer may not enter into the agreement unless they are also the property owner. The property owner may enter into the agreement and the developer or applicant may pay the fees on behalf of the property owner.

### **4.2 IN-LIEU-OF CONSTRUCTION SYSTEM DEVELOPMENT CHARGE AND MAINTENANCE SURCHARGE**

A distinct payment in-lieu-of construction system development charge and maintenance surcharge will be calculated for each watershed participating in the program. The system development charge will be used for capital costs and property acquisition and a maintenance surcharge will be used for long-term operation and maintenance of regional facilities participating in the program.

The system development charge is a one-time charge paid by the property owner or developer. This charge offsets the cost of construction of the participating regional stormwater facilities. The maintenance surcharge is a monthly surcharge added to the parcel's surface water bill and will be used by the City for long-term operation and maintenance of participating regional stormwater facilities.

The system development charge will be based upon capital costs and will be calculated for each regional facility participating in the program. The system development charge is the aggregate present worth (PW) value for the capital costs (overall construction costs) of the regional facilities within a watershed. This may be a single facility or several facilities participating in the program for that watershed.

The capital costs are based on actual project costs or are estimated costs based on the engineer estimates or contract costs. The payment in-lieu-of construction system development charge for each watershed will be converted to a normalized unit cost based on the aggregate square footage of capacity credit for the regional facilities.

The maintenance surcharge will be based upon life cycle costs and will be calculated for each regional facility participating in the program. The maintenance surcharge will only be applied if maintenance costs increase due to the construction of or expansion to a facility. The maintenance surcharge is the annualized cost based upon the present worth (PW) value for the O&M activities over a twenty year life of the regional facility. O&M costs will be based on actual O&M costs incurred on similar City of Tacoma owned facilities, unit costs from vendors, and from Ecology's 2013 "Cost Analysis for Western Washington LID Requirements and Best Management Practices".

The payment in-lieu-of construction maintenance surcharge for each watershed will be converted to a normalized unit cost based on the aggregate square footage of capacity credit for the regional facilities. The maintenance surcharge will be re-evaluated if maintenance requirements change or at least every ten years.

#### **4.2.1 Impact of Program On Participants**

The impact of a payment in-lieu-of construction program on participants was evaluated by comparing the cost of "example" payment in-lieu-of construction system development charges developed from existing large scale regional City of Tacoma facilities to life cycle costs for stormwater mitigation facilities at representative development sites. The PW O&M costs are also provided to show the O&M costs incurred by development sites for site-specific facilities. See Table 4-1 through 4-3 below. The analysis shows that a Payment In-Lieu-Of Construction Program is a viable option in the City of Tacoma and average projected payment in-lieu-of construction system development charge and maintenance surcharge range from:

- Capital Costs of \$0.35/sf to \$1.02/sf for stormwater treatment only facilities with average Annualized 20 year O&M Costs of \$0.01/sf .
- Capital Costs of newly constructed medium and large facilities are \$1.08/sf to \$1.47/sf for flow control only facilities with Annualized 20 year O&M Costs of \$0.01/sf or less.

**Table 4-1: “Example” Present Worth Capital and Annualized 20 year O&M Costs for Existing City of Tacoma Regional Facilities Compared to Representative New Development/Redevelopment Projects – Stormwater Treatment Only**

Estimated Costs (\$/sf)	City of Tacoma Regional Stormwater Treatment Facilities			Representative Sites <sup>1</sup>			
	23 <sup>rd</sup> and Ferry	A Street	Hood Street	Small Commercial	Small Residential Plat	Large Residential Plat	Large Commercial Industrial Facility
Capital (\$/sf)	\$0.35	\$1.02	\$0.74	\$6.67 (NA)	\$1.45 (NA)	\$0.94 (\$1.70)	\$3.32 (\$3.90)
Annualized 20 year O&M (\$/sf/year)	\$0.005	\$0.009	\$0.014	\$0.37	\$0.06	\$0.07	\$0.09

<sup>1</sup>Values in parenthesis represent costs including the land value; values not in parenthesis represent costs not including land value.

**Table 4-2: “Example” Present Worth and Capital and Annualized 20 year O&M Costs for Existing City of Tacoma Regional Facilities Compared to Representative New Development/Redevelopment Projects – Flow Control Only**

Estimated Costs (\$/sf)	Medium and Large Constructed Flow Control Facility	City of Tacoma Regional Stormwater Flow Control Facility	Representative Sites <sup>1</sup>			
		Gravel Pit	Small Commercial	Small Residential Plat	Large Residential Plat	Large Commercial Industrial Facility
Estimated Capital Costs (\$/sf)	\$1.08 - \$1.47	\$0.97	\$6.29 (NA)	\$2.35 (\$3.29)	\$0.94 (\$1.70)	\$1.58 (\$2.06)
Annualized 20 year O&M Costs (\$/sf/year)	\$0.001- \$0.01	NA	\$0.08	\$0.11	\$0.04	\$0.04

<sup>1</sup>Values in parenthesis represent costs including the land value; values not in parenthesis represent costs not including land value.

**Table 4-3: Example Facility Descriptions**

<b>Facility</b>	<b>Description</b>
<b>City of Tacoma Stormwater Treatment Facilities</b>	
23 <sup>rd</sup> and Ferry	226 cartridge Stormfilter vault providing basic treatment for 42 acres of residential and commercial development
A Street	Two separate Bayfilter vaults containing a total of 39 cartridges providing basic treatment for 33 acres of commercial development in downtown core
Hood Street	Bioretention facility providing enhanced treatment for 35 acres
<b>City of Tacoma Flow Control Facilities</b>	
Gravel Pit	Regional basin being expanded to provide flow control for 68 acres of commercial, residential, and industrial development.
Medium or Large New Flow Control Facility	Engineer's cost estimate for constructing a new regional flow control facility to provide flow control for 59 acres at Tacoma Community College and 430 acres at the Gravel Pit site.
<b>Representative Site</b>	
Small Commercial	0.31 acre lot with a 3,000 square foot building, 12 parking stalls with associated drive aisles and site landscaping. For stormwater treatment only, the project will install a Bayfilter cartridge system. For stormwater treatment and flow control, the project will install a filterra unit and a detention tank. For flow control only, the project will install a detention tank.
Small Residential Plat	1.42 acre lot with construction of roadway, sidewalks, driveways, and 6 single family residences. For stormwater treatment only, the project will install a filterra unit. For stormwater treatment and flow control, the project will install a combined stormwater treatment and flow control wetland. For flow control only, the project will install a detention pond.
Large Residential Plat	9.23 acre lot with construction of roadway, sidewalks, driveways, and 51 single family residences. For stormwater treatment only, the project will install a stormwater treatment wetland. For stormwater treatment and flow control, the project will install a combined stormwater treatment and flow control wetland. For flow control only, the project will install a detention pond.
Large Commercial/Industrial Lot	11 acre lot with construction of two buildings with associated parking and drive aisles. For stormwater treatment only, the project will install a Stormfilter unit, biofiltration swales, and a bioretention facility. For stormwater treatment and flow control, the project will install a Stormfilter unit, biofiltration swales, a bioretention facility and a detention pond. For flow control only, the project will install a detention pond.

### **4.3 TRACKING IN-LIEU-OF STORMWATER CAPACITY**

Tacoma will maintain and track the balance of capacity used and available for each watershed and each regional stormwater facility within that watershed. Tacoma will track the following at minimum:

- Total amount of capacity available
- Total amount of capacity remaining
- For each project utilizing the program
  - Total project area
  - Hard surfaces area requiring mitigation
  - Lawn/landscaped areas requiring mitigation
  - Hard surfaces area utilizing regional facility
  - Lawn/landscaped area utilizing regional facility
  - system development charge and maintenance surcharge paid

When the amount of capacity used for any regional facility reaches 85%, Tacoma will seek to provide additional regional facility capacity through construction of new or retrofit of existing facilities. If additional flow control or water quality treatment capacity isn't provided for the watershed or regional facility basin area, Tacoma will discontinue the payment in-lieu-of construction program for that watershed or regional facility basin area and require subsequent new development and/or redevelopment to meet all MRs through the use of individual site-specific stormwater facilities.

### **4.4 ANNUAL REVIEW**

The program will be reviewed annually. This review will include:

- A review of the Permit and SWMM to ensure any changes or modifications do not affect this program
- A review of available capacity within the watershed and each regional facility
- A review of system development charge and maintenance surcharge paid for each watershed and any changes or modifications for the system development charge and/or maintenance surcharge.
- A review of the six-year CIP plan to check for updates and changes
- Ranking of any potential projects.

## 5.0 CONCLUSION

---

The City of Tacoma's Regional Facilities Program will provide a feasible and sustainable solution to flow control and water quality mitigation on a regional scale. The program is designed to meet NPDES Permit requirements and will seek to reduce the cost and land impacts of multiple individual site-specific stormwater management facilities by utilizing scale efficiencies. The Regional Facilities Program provide a higher assurance of appropriate operation and maintenance of stormwater facilities.

## REFERENCES

---

- Ecology 2013. "Cost Analysis for Western Washington LID Requirements and Best Management Practices", State of Washington Department of Ecology, prepared by Herrera Environmental Consultants, Inc., June 28, 2013.
- Ecology 2015. DRAFT Stormwater Control Transfer Program – Out of Basin, May 2015, Publication No. 15-10-017. Washington State Department of Ecology.
- HCCC 2012. Hood Canal Coordinating Council In-Lieu Fee Program Instrument and Hood Canal Regional Stormwater Retrofit Plan Project Description, submitted by Hood Canal Coordinating Council with assistance from Environmental Science Associates, June 15, 2012
- Herrera 2013. 2013 City of Redmond, Washington, Citywide Watershed Management Plan, Prepared for City of Redmond Public Works Natural Resources Division. Prepared by Herrera Environmental Consultants, Inc. November 25, 2013.
- PC 2005. Pierce County Stormwater Management and Site Development Manual 2005. Pierce County Water Programs.
- Redmond 2012. City of Redmond, WA, Chapter 13.20 STORMWATER CAPITAL FACILITIES CHARGES, as of November 6, 2012.
- Redmond 2010. City of Redmond Regional Facilities Plan, February 5, 2010.
- Washington State Department of Transportation Stormwater BMP Retrofit for Existing Facilities.