Tacoma’s Regional Facilities Payment In-Lieu-of Construction Program for NPDES Stormwater Treatment and Flow Control Requirements

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City of Tacoma
Environmental Programs Group
City of Tacoma’s Background

- Incorporated in 1875
- Population 205,000 (2014)
  - 10 year growth 2.5% (2010)
  - Seattle area 13%
- Median income $51,000 (WA avg. $59,000)
- Unemployment 8.3%
- Typical commercial rental $20/sf

Needed to Support our Development Community in our Ultra-Urban Landscape
Hydrology

- 50 square miles
- 46% impervious
- 72% drains to flow control exempt receiving waters
- 500 miles of pipe
Add problem photos
The Vision

- Using Economy of Scale to get best unit price
- Using regional locations to get best improvement to receiving waters
  - Location
  - Operation and maintenance
- Developing this regional capacity into credits to sell to developers
  - To decrease uncertainties with permitting processes
  - To pass on best price
  - To promote redevelopment and jobs in Tacoma
- Use $$ to build the next targeted BMP
Bigger will be “Better” (lower unit cost)

- The economy of scale
- Cost advantages due to size or scale of operation
Regional Facilities can be Located and Sized to Create Positive Impact
Current Requirements

Phase I Municipal Stormwater Permit

National Pollutant Discharge Elimination System
State Waste Discharge General Permit
for discharges from
Large and Medium Municipal Separate Storm Sewer Systems

State of Washington
Department of Ecology
Olympia, Washington 98504-3000

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1321 et seq.

Until this permit expires, is modified, or revoked, persons that have properly obtained coverage under this permit are authorized to discharge to waters of the state in accordance with the special and general conditions which follow.

[Signature]

Waste Quality Program Manager
Department of Ecology
Regional Flow Reduction

- **SWM Manual** – On-site LID and detention ponds

- **Added** – Reduce flows through retrofit projects
  1. Converting to permeable surfaces
  2. Expand existing holding basin capacity
  3. Re-launch the “fee-in-lieu-of-construction” program to promote development
...and Regional Stormwater Treatment

- **SWM Manual** – On-site development / redevelopment requirements
- **Added** – Build regional treatment for Tacoma’s most sensitive receiving waters
  - Leverage regional treatment capacity to support development and redevelopment
  - Collect developer “pay-in” to build subsequent regional facilities
FLOW CONTROL/REDUCTION

Leach and Flett Creek Watersheds

Limited downstream capacity

Flow Control to forested conditions
Expansion of Regional Detention

- $3 million grant funding received
- Added 30 ac-ft detention capacity to Flett Watershed
- Capacity is being sold to provide funding for the next facility expansion
TREATMENT

Focusing on:

Thea Foss Waterway and Commencement Bay

Puyallup River
...Some Regional Treatment Facilities

- Media Filtration
  - 226 Media Canister Vault
  - Bioretention Facility
Capacity or “Credit” Analysis

- New facility sized for entire contributing Basin
  - 100% of the Flow Control/Treatment Basin
- New facility sized for a portion of the contributing Basin
  - Equivalent Area of Flow Control/Treatment
- Increase size of existing facility
  - Only the increased capacity is available for the In-Lieu-Of Construction Program
  - Equivalent Area of Flow Control/Treatment for the increased capacity
System Development Charge and Maintenance Surcharge

- **System Development Charge**
  - One-time charge used for capital costs and property acquisition
  - $/square foot: construction costs for the regional facility or group of facilities in a watershed converted to a normalized unit cost for the aggregate square footage of capacity credit

- **Maintenance Surcharge**
  - Annual or monthly surcharge used for maintenance
  - Only applies if maintenance costs increase due to construction or expansion of a facility
  - Annualized cost based on the Present Worth Value for O&M costs over a 20-year life-cycle
## Impact of Program on Participants

<table>
<thead>
<tr>
<th>Estimated Costs ($/sf)</th>
<th>Tacoma Regional Stormwater Treatment Facilities</th>
<th>Representative Sites¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23rd &amp; Ferry</td>
<td>A Street</td>
</tr>
<tr>
<td>Capital ($/sf)</td>
<td>$0.35</td>
<td>$1.02</td>
</tr>
<tr>
<td>Annualized 20 year O&amp;M ($/sf/year)</td>
<td>$0.005</td>
<td>$0.009</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated Costs ($/sf)</th>
<th>Medium &amp; Large Constructed Flow Control Facility</th>
<th>Gravel Pit Regional Flow Control Facility</th>
<th>Representative Sites¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small Commercial</td>
<td>Small Residential Plat</td>
<td>Large Residential Plat</td>
</tr>
<tr>
<td>Capital ($/sf)</td>
<td>$1.08 - $1.47</td>
<td>$6.29 (NA)</td>
<td>$0.94 ($1.70)</td>
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<tr>
<td>Annualized 20 year O&amp;M ($/sf/year)</td>
<td>$0.001- $0.01</td>
<td>NA</td>
<td>$0.08</td>
</tr>
</tbody>
</table>

¹ Representative sites include: Small Commercial, Small Residential Plat, Large Residential Plat, and Large Commercial Industrial Site.
Summary

Regional Facilities Programs:

- Can be targeted to our most sensitive watersheds and receiving waters
- Can enjoy economies of scale
- Can be organized and constructed to support development through pay-in or in-lieu programs
  - can provide developers with certainty regarding requirements, costs, and timeline
Questions?