Tacoma
City of Tacoma
Public Works Department

April 9, 2001

'01 APR 10 P2:58

Megan White
Water Quality Program Manager
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504

Dear Ms. White:

This report is submitted by the City of Tacoma pursuant to Section S10 of the National Pollutant Discharge Elimination System and State Waste Discharge General Permit for stormwater discharges from municipal separate storm sewers for the South Puget Sound Water Quality Management Area. This report covers the year 2000.

I certify under penalty of law, that this document and any 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 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 willful violations.

If you have any questions regarding the enclosed report, please contact John Burk, P.E. at 253-502-2103.

Sincerely,

John D. Stetson, P.E.
Division Manager
Science & Engineering

JDS:CLS (NPDES 2000 Report Transmittal)

File: NPDES

# City of Tacoma
# NPDES 2000 Annual Report

## Submitted April 9, 2001

This annual report is for the reporting period January 1 through December 31, 2000.

### *1. Status of implementing the components of the stormwater management program.*

This report describes the implementation of the Stormwater Management Program during 2000. The following reports, documents, and activities were completed in 2000 as per the SWMP schedule:

- The final addendum to the Thea Foss and Wheeler-Osgood Waterways Source Control Report was submitted to Ecology in February 2000.
- The 1999 Annual Report was submitted to Ecology.
- The Snake Lake monitoring and educational programs were implemented.
- An erosion and sediment control class was offered to all City staff and a lot more effort was placed on the control of erosion and sediment.
- New staff people were added to the Surface Water Program, including a new assistant division manager, engineers, a water quality representative and an engineering technician.
- The Strategy for Completing Basin Assessments was submitted to Ecology in March 2000.
- Improvements were made in interagency cooperation.
- Improvements were made to the plan review process.
- The City entered into an agreement with the Washington State Department of Transportation to cooperatively evaluate stormwater treatment facilities for effectiveness in removing contaminates of concern.

**S7B1 Stormwater Management Program Planning Process**

Surface Water Utility staff worked with managers and staff from the Wastewater Operations and Maintenance, Streets and Grounds, and Building and Land Use Services Divisions of the Public Works Department to compile the information needed for this report. Participation by elected officials and the public took place in 1995, 1996, 1999, and 2000. The City Council was updated several times during 2000 on the NPDES program and on the Endangered Species Act (ESA) activities that City staff were involved in.

City surface water staff also attended many meetings with the Washington State Department of Ecology (Ecology) and the other NPDES Phase I municipal permitees, related to the proposed new NPDES permit. These meetings took place early in 2000 and then again later in the year as endangered species act issues became a part of the proposed permit. Other meetings were held with Ecology and the Phase I permitees specifically to discuss monitoring issues and concerns.

The Public Works Department changed some of the names of the various programs on the utility side of its operations to more clearly indicate the close relationship that these utilities have with the protection of the environment. As part of this change, Utility Services was changed to Environmental Services and the name of the Engineering Division was changed to the Science and Engineering Division. The Stormwater Program was renamed the Surface Water Program.

Work was done in 2000 to establish a Tacoma Salmon Team that was established in early 2001. The team consists of staff from throughout the City of Tacoma, including surface water,

maintenance and operations, budget, legal, construction, planning, streets and grounds, land use, and other program areas. The Team will use a facilitated, Total Quality Process to develop a "Salmon Plan". This plan will be focused on the City of Tacoma and will provide guidance regarding salmon issues and concerns to all of the various City departments.

## S7B2 Water Quality Problems, Needs and Priorities

### Analysis of Needs and Priorities

The City's analysis of needs and priorities was included in the SWMP that Ecology approved. The SWMP includes a prioritized list of all of the City's unmet stormwater needs. The bulleted items on the first page of this report highlight many of the unmet needs that were addressed in 2000.

## S7B3 Legal Authority

### Adoption and Enforcement of Ordinance Containing Standards Equivalent to the Minimum Requirements of Ecology's Stormwater Management Manual

The City's drainage ordinance, Chapter 12.08 of the City Code, is currently in effect. The revision to the Ordinance has been drafted, but is still under review.

### Adoption and Enforcement of Ordinance Prohibiting Pollution Discharges to the City's Municipal Stormwater System

The City's existing ordinance currently prohibits the discharge of pollutants to the City's stormwater system.

## S7B4 Monitoring

Please refer to Section S12 Thea Foss Waterway Basin Program for information on monitoring activities in the Foss Basin.

The Snake Lake Sampling and Analysis Plan (SAP) was submitted in its final stage to Ecology in July 2000 in accordance with the City of Tacoma's NPDES permit. Since this submittal, the City has revised the SAP appropriately according to adaptive management guidelines and informed Ecology as needed. Phase I has been completed and the public education effort (Phase II) is underway. 1600 surveys were sent out to Snake Lake residents in 2000 and 384 were returned. This survey will be duplicated in 2001. The sampling effort will be completed in September 2001 and the final report submitted to Ecology in December 2001.

A local baywatch telephone hotline allows the public to report water pollution problems. The baywatch hotline (253-502-2190) was instituted in late 1998 and was operational throughout 2000. The City produced numerous advertisements to promote the hotline number and to raise public awareness of efforts to protect Commencement Bay from environmental threats. Specifically:

- Utility Bill inserts presented the hotline as a phone number the public could call to report environmental threats to the health of the bay.
- The City produced a color poster to promote bay-friendly alternatives in everyday activities and to advertise the hotline phone number.
- The City produced and distributed public service announcements for local TV stations advertising the hotline.

Despite this extensive public awareness campaign, the hotline has received limited use by the public to date.

City staff monitor the shorelines of the entire Commencement Bay area by a City owned boat. This is done on a monthly basis. The monitoring is done at low tide to the extent practicable. Identified problems are addressed.

The bay patrols were performed on the following dates: January 12, February 18, March 10, April 10, May 16, June 8, August 21, September 21, October 17, November 22, and December 11. No boat patrol was performed in July due to extensive boat repairs required Areas of the shoreline were video taped during patrols, establishing a record of existing conditions. If incidents were detected during a patrol, an incident report form was filled out that documented the incident and the follow up action or referral.

The benefit of these patrols comes not only from correcting the specific problem, but they also raise the awareness of businesses and the general public about proper operations on and around the water. Copies of the videotapes and the incident report forms are available

The environmental group, Citizens for a Healthy Bay, is sponsoring a Bay Keeper program. The person hired as the Bay Keeper has a boat and also patrols the City's many miles of shoreline. The City committed $10,000 to their program and coordinates its efforts with those of this environmental group.

The City of Tacoma sponsors the Pierce Conservation District Stream Team Stream Team has many volunteers that do important, but limited, stream monitoring in several streams (i.e. Swan Creek, Puget Creek, and Hylebos Creek). They monitor for pH, temperature, and other basic parameters.

The Middle Waterway Estuarine Natural Resources Restoration site was completed in October 2000 The first planting of riparian trees and shrubs was completed in November 2000 and the first monitoring event in December 2000. The upper and lower salt marsh areas will be planted in 2001. The Middle Waterway Estuarine Natural Resources Restoration Site is the first one to be completed that fulfills our consent decree for the Natural Resource Damages Assessment (NRDA) Monitoring was also performed prior to the commencement of the project and after the project was completed in order to ensure that no contamination left the project boundary.

Developers are required to monitor wetlands in areas where wetlands could be impacted by development. They are required to submit reports Approximately one-half of the City's Wetlands Specialist's time is spent on wetland monitoring activities. These activities include review of monitoring reports submitted as part of the permit approval process, tracking violations, monitoring shorelines, and field visits.

There is an official weather station at the Central Wastewater Treatment Plant and four rain gauges located throughout the City The rain gauge information is recorded and used as needed. Currently, the City is considering updating these instruments. The City contracts with a weather service and receives weather reports twice a day. This information provides an early warning of heavy rains and potential flooding. Maintenance crews are dispatched to proactively check and maintain trouble spots prior to anticipated heavy rains to ensure the proper operation of the system.

In an effort to better our sampling technique and results, the City has invested $70,000 in new state of the art, ISCO YSI 600XL samplers. These sophisticated machines will enable us to collect accurate samples even in situations of tidal influence and sporadic rain events These samplers are being utilized in both Snake Lake and Thea Foss sampling efforts

**STORM SEWER MONITORING IN COMMERCIAL/INDUSTRIAL AREAS**

Please refer to Section S12 Thea Foss Waterway Basin Program for additional information about monitoring in commercial and industrial areas.

**S7B5 Fiscal Analysis**

The operation and maintenance of the Surface Water Utility is funded from service charges. No revenue is derived from taxes from the City's general fund. Major capital improvements are funded from revenue bonds and pay-as-you-go financing. The service charges are reviewed annually to insure that they are adequate to pay operation and maintenance costs, debt service, capital improvements, and taxes. All changes to the rates must be approved by the City Council.

**SURFACE WATER UTILITY**

During the reporting period of January 1 through December 31, 2000, the Surface Water Utility spent $15.9 million. The expenditure categories are as follows:

**OPERATIONS:**

| | |
|---|---|
| **Transmission** | |
| Personal Services | $707,275.38 |
| Supplies & Other Services and Charges | $329,079.37 |
| Miscellaneous Capital Outlay | $145,521.18 |
| **Total** | **$1,181,875.93** |
| **Pumping** | |
| Personal Services | $38,463.16 |
| Supplies & Other Services and Charges | $137,823.97 |
| Miscellaneous Capital Outlay | -- |
| **Total** | **$176,287.13** |
| **Holding Basins** | |
| Personal Services | $40,182.58 |
| Supplies & Other Services and Charges | $17,668.46 |
| Miscellaneous Capital Outlay | -- |
| **Total** | **$57,851.04** |
| **Engineering** | |
| Personal Services | $310,013.85 |
| Supplies & Other Services and Charges | $252,812.05 |
| Miscellaneous Capital Outlay | $42,415.05 |
| **Total** | **$605,240.95** |
| **Source Control** | |
| Personal Services | $695,070.24 |
| Supplies & Other Services and Charges | $744,330.35 |
| Miscellaneous Capital Outlay | -- |
| **Total** | **$1,439,400.59** |
| **Laboratory** | |
| Personal Services | $276,663.32 |
| Supplies & Other Services and Charges | $101,599.99 |
| Miscellaneous Capital Outlay | $105,102.90 |
| **Total** | **$483,366.21** |

**MISCELLANEOUS:**

**General Services**

| | |
|---|---|
| Personal Services | $436,361.10 |
| Supplies & Other Services and Charges | $3,071,142.74 |
| Miscellaneous Capital Outlay | $2,844.93 |
| Depreciation | -- |
| **Total** | **$3,632,640.54** |

**Debt Service**

| | |
|---|---|
| Principal and Interest | $1,974,006.11 |
| Other | $29,980.25 |
| **Total** | **$2,003,986.36** |

**Other Department Divisions not included above:**

**Miscellaneous**

unknown at this time

**Capital Projects:**

| | |
|---|---|
| T-Street Gulch | $304,634.29 |
| Coal Gasification Cleanup | $31,385.36 |
| Hosmer Basin | $94,044.26 |
| Foss Waterway Cleanup | $1,669,715.00 |
| NE Tacoma System | $145,591.22 |
| NRDA | $1,678,689.07 |
| Misc Superfund | $169,700.70 |
| Miscellaneous | $2,236,622.42 |
| **Total** | **$6,330,822.32** |
| **Grand Total** | **$15,911,471.07** |

A description of the types of activities associated with the above expenditures is contained in Volume 3 of Tacoma's Stormwater Management Manual. Relating the budget amount in each of the above categories to the actual expenditures is very difficult at this time. Some activities are budgeted in one activity or organization but are actually spent and therefore charged to a different activity or organization. As a result, the actual expenditure in any one line item does not necessarily relate to the budget number for that same category. Some capital expenditures may be budgeted in the operating budget but the expenditure is taken from the capital budget and vice versa. However, based upon recent discussions with Ecology, this financial reporting requirement will not be included in the new NPDES permit scheduled for issuance in Summer 2001.

The expected revenue from rates in 2001 is $14.2 million. The anticipated expenditures for the year 2001 will likely be greater than in 2000. This is due to increasing activities in the Surface Water Utility. There will be increased emphasis on source control, public education, and on revising the stormwater manual as required by the Department of Ecology. In addition, there are numerous planning, design, and construction activities funded by the Utility. Some of these are to comply with federal consent decrees and other federal and/or state mandates, etc. Finally, there will be added demands on staff and Utility resources as the impact of the listing of salmon under the Endangered Species Act is felt.

## S7B6 Data Management

### DEVELOPMENT OF LAND COVER INFORMATION MAPS AND DATA

A GIS mapping system has been in use for the past several years. A source control database for industrial and commercial sites has been developed. It tracks business inspections and compliance status.

The stormwater GIS information currently in use is a first draft of the stormwater system. It has not been verified or field checked, and new storm lines installed since the mid-1990s have not been added to the system, resulting in a lot of data gaps. This system is currently being updated. A staff person is going through the City a section at a time and the GIS sewer maps are being updated and corrected. The sources of information that are being used for the updates include as-builts, GPS points taken by City survey crews, and field inspections by City crews.

The mapping of Tacoma's wetlands was completed and is now available to staff and to the development community online.

### DESCRIPTION AND LOCATION OF MAJOR STRUCTURAL BMPS AND OTHER STRUCTURAL CONTROLS

The type of mapping is now available.

### MAPPING STORM SEWER OUTFALLS AND TRIBUTARY CONVEYANCES

This type of mapping has been available for many years.

### WATER QUALITY COMPLAINT INVESTIGATIONS AND DATABASE DEVELOPMENT AND MAINTENANCE

A customer request database and a separate business database are currently in use.

## S7B7 Intergovernmental Coordination

The City continued its involvement in the Tri-County Endangered Species Act (ESA) efforts in 2000 and into 2001. This effort has involved the municipalities of Pierce, King, and Snohomish Counties as well as many of the larger cities, including Seattle, Everett, and Bellevue. Representatives from Ecology, the Tribes, environmental groups, businesses, and land developers are also included. City staff have served on many of the Tri-County ESA workgroups including stormwater. The stormwater workgroup, representing the above mentioned groups, continued to spend a lot of time in 2000 developing a draft proposal for a model stormwater management program that would protect fish. The goal of the workgroup is to have a program that is acceptable to the National Marine Fisheries agency. There has also been a major ongoing effort to incorporate this information into the NPDES permitting effort. These efforts are continuing into 2001.

City staff also participate in Ecology's Stormwater Policy Advisory Committee. This Committee meets about every two months and provides guidance to Ecology on stormwater policy issues.

City Surface Water staff met with Ecology and Pierce County staff to discuss issues relating to the different stormwater management manuals in an effort to coordinate efforts. A meeting was held with staff from the Surface Water Utility, Tacoma Water (the drinking water utility) and the Tacoma-Pierce County Health Department to discuss common issues and concerns, including source control priorities, the NPDES permit, ESA issues, and new stormwater BMPs.

City staff also met with surface water/stormwater staff from Seattle, Bellevue, Pierce County, Lacey, and Snohomish County in October and November of 2000. These meetings were held to discuss the overall municipal stormwater programs to gain information that would be of help in the ongoing development of Tacoma's programs.

Meetings were also held with representatives of the AmeriCorps program, the Washington State Conservation Corps, and staff from local colleges to discuss possible future partnerships and programs.

Nora Jewett from Ecology spoke to the Surface Water staff about the Total Maximum Daily Load (TMDL) process

**GENERAL COORDINATION FOR MONITORING, MAPPING, DATA MANAGEMENT AND MODELING**
The City continues to coordinate a variety of activities with other municipalities and agencies. Issues related to the Flett drainage basin are coordinated with Pierce County, Lakewood and the Washington State Department of Transportation (WSDOT). Activities related to the ASARCO site are coordinated with the City of Ruston, Metro Parks Tacoma, and the United States Environmental Protection Agency (EPA). Issues related to the clean up of the Foss Waterway are coordinated with WSDOT, EPA, the Army Corps of Engineers, the Washington State Department of Natural Resources, the Puyallup Tribe, and Ecology. Activities related to the T-Street drainage basin are coordinated with Pierce County. Activities related to the Leach Creek drainage basin are coordinated with the cities of University Place and Fircrest There is also an environmental group that has formed with Leach Creek as its focus. The Surface Water staff has met with and has coordinated information with this group Activities in NE Tacoma, including the Joe's Creek drainage basin, are coordinated with Federal Way. Activities in the Hylebos Creek drainage basin are coordinated with the cities of Federal Way, Fife, Milton, and Edgewood, and with Pierce and King Counties.

The City has also coordinated activities with the environmental group, Citizens for a Healthy Bay. A coordination meeting was held with managers and staff from the Public Works Department and members of Citizens for a Healthy Bay. Coordinated activities have included $10,000 in City financial support for the Bay Keeper program The City has also worked with this group on storm drain stenciling and plantings along the Middle Waterway. Partnerships with this environmental group are continuing into 2001

**GENERAL COORDINATION FOR CONTROL OF STORMWATER POLLUTION FROM OTHER JURISDICTIONS**
The City continues to coordinate with other jurisdictions and agencies in a variety of ways. The City participates in the NPDES municipal permittees group, the Puyallup River Watershed Council, the Hylebos Watershed Action Team, and the APWA Stormwater Managers' Meetings. Funds are provided to the Pierce County Conservation District to support the Stream Team, which is sponsored by Tacoma, Pierce County, and the cities of Puyallup, Fife, Sumner, and Lakewood.

**DEVELOPMENT OF COORDINATED SWMPS FOR WATERBODIES SHARED WITH OTHER MUNICIPAL PERMITTEES**
The City coordinates with other municipalities to address stormwater concerns in shared waterbodies as described above.

## S7B8a Runoff from New Development and Redevelopment

**DEVELOPMENT OF AN ORDINANCE CONTAINING MINIMUM TECHNICAL REQUIREMENTS EQUIVALENT TO ECOLOGY'S MANUAL**
The City developed a draft Stormwater Management Manual, Volume I - Design which was submitted to Ecology in 1995 for comments. An Equivalency Document for this manual was submitted to Ecology for review in 1999. The City's manual will be updated within six months of the adoption of Ecology's new manual, based on an agreement between the City and Ecology

Stormwater plans for all new development and redevelopment projects are being reviewed and then the projects are inspected in the field. Many aspects of the draft Stormwater Design Manual,

including the detention release rates are being implemented in this process. Stormwater facilities designed by staff and by consultants are done in accordance with the Design Manual. Erosion and sediment control plans are reviewed for compliance with the City's Excavation and Grading Ordinance and our Stormwater Design Manual

The plan review process was improved in 2000. A lead engineer was assigned to the program and four additional staff were also added, including engineers and an engineering technician. Many of the policies and procedures have been improved resulting in a better process. This team has increased the timeliness and quality of the plan review process. Often times the team members identify potential erosion and water quality issues prior to plan submittal.

Staff continue to provide consultations and educational meetings with developers, planners, and engineers involved in the land development process.

The Building and Land Use Services Division of the Public Works Department distributes NPDES Construction Notice of Intent forms to all developers who have projects that will include 5 acres or more of land clearing activities. These projects require a separate NPDES permit from Ecology.

An erosion and sediment control class was developed in 1999 and offered three times to all applicable City staff in March 2000. The class was a full day and featured an outside speaker who is an active participant in the International Erosion and Sediment Control Association. The Surface Water Utility sponsored the class and it was offered to all engineers, inspectors, planners, and other staff involved in land development activities that could cause erosion and sediment problems. Noticeable improvements have been made in erosion and sediment control since the class was offered.

**S7B8b Existing Residential and Commercial Development Runoff**

The City's current program includes business inspections, drainage complaints, interagency coordination, stormwater education, a major source control effort in the Foss Waterway drainage basin, and enhanced activities in the Snake Lake drainage basin.

The City has had an ongoing business inspection program for several years. The program focuses on three different types of inspections: formal business inspections, informal inspections or focused inspections as well as special projects. Approximately 14 stormwater specific inspections were done in the Thea Foss drainage basin. Please refer to S12 Thea Foss Waterway Basin Program for more information about these inspections. Other inspections involved working with Ecology staff on special projects such as Clean Care, a business that is a solvents recycling/hazardous waste treatment site, and is located in the Foss drainage basin. Two other stormwater specific business inspections were done in 2000.

The Washington State Department of Transportation (WSDOT) has an outfall associated with SR509 where it crosses the Foss Waterway. There have been problems associated with the outfall's tide gate. The City and WSDOT have resolved the issues and the City will be making improvements to the outfall in 2001 with the installation of a new tide gate to be provided by WSDOT.

The City has a Washington State Department of Ecology delegated Wastewater Pretreatment Program. The staff doing these inspections also look for stormwater problems. Seventy-six inspections of businesses were done in 2000. The Pretreatment staff also respond to stormwater complaints for the Surface Water staff when they are not available, and they also respond to spills for Ecology.

## S7B8c Municipal Storm Sewer Operation and Maintenance

The Public Works Department has an Environmental Services/Maintenance Division that is responsible for maintaining both the storm drainage and the sanitary sewer systems. The following tables indicate the level of maintenance efforts that were completed during 2000.

**Municipal Storm Sewer Operation & Maintenance**
**January 2000 to December 2000**

| | |
|---|---|
| # of CB's Cleaned | 3,842 |
| # of CB's Checked | 2,506 |
| # of Scuppers Cleaned | 76 |
| # of Culverts Cleaned & Checked | 606 |
| Ft of Ditches Cleaned & Brushed | 50,700 |
| # of Detention Ponds Cleaned & Checked | 320 |
| Ft of Storm Main Cleaned & TV'ed | 12,725 |
| Ft of Storm Main Flushed | 11,242 |
| Ft of Storm MH's Checked | 1,384 |
| Ft of Storm MH's Cleaned | 1,795 |
| Ft of Storm Main Backcut | 11,242 |
| Ft of Storm Main TV'ed (Pay) | 17,756 |
| Ft of Storm Main TV'ed (In House) | 16,675 |
| Storm Drainage & Flooding Problem Calls | 38 |

The Environmental Services/Maintenance Division is developing a comprehensive maintenance program that will extend the life of facilities and systems, and improve system reliability and performance This program includes maintenance improvements and modifications, monitoring and evaluation of system performance, and the development of specific performance standards for each maintenance activity. Some of the critical maintenance activities included in the maintenance program are TV inspections, catch basin inspection and cleaning, ditch inspection and maintenance and the cleaning of scuppers and sumps.

The City is working on the development of a program for private stormwater facility maintenance. These responsibilities have been included in the City's proposed new updates to the stormwater ordinance.

Vactor waste is currently being decanted and the dry material is used at the landfill as daily cover. The liquid waste is being discharged to the sanitary sewer. Testing continues to be performed on the dry material before disposal.

## S7B8d City Road Operation and Maintenance

The Streets and Grounds Division of the Public Works Department is responsible for road operation and maintenance. This division sweeps the streets, does manual cleaning of stormwater features such as culverts and catch basin grates, has a fall leaf pick-up program, has a de-icing and snow removal program, and responds to spills.

Operations in 2000 were very similar to 1999. The City had 2 or 3 sweepers in use on a daily basis. Approximately 4,300 miles of street were swept and 4,500 cubic yards of material were collected.

Staff from the Streets and Grounds Division also were very active participants in the Tri-County ESA efforts They have proactively adopted the Streets and Roads Program developed by the Tri-County group, and are currently implementing the activities in this program.

**S7B8e Water Quality Considerations in Flood Management Projects**
The City did not construct any flood control projects in 2000.

**S7B8f Runoff from Pesticide and Fertilizer Application**
Educational efforts in this area were incorporated into the City's overall educational programs.

The City also participated with other municipalities in a lawn mower program. Mulching mowers and hand mowers were offered to the public at a discount. The use of these mowers will reduce the need for lawn fertilizer application, will reduce air pollution and energy use, and will reduce the amount of solid waste that's generated.

**S7B8g Illicit Storm Sewer Discharge Elimination**
The elimination of illegal discharges is one of the City's top stormwater priorities. The City currently has an ordinance that is used to enforce the elimination of illicit discharges. This ordinance is currently being revised.

The City has two staff people devoted to the elimination of illicit discharges. When they do business inspections, they provide the business operators with technical assistance regarding the elimination of illicit discharges and they educate business operators about the proper BMPs to use. Volume II of the City's Stormwater Management Manual, "Stormwater Pollution Prevention Manual: A Guide to Best Management Practices for Industries, Businesses and Homeowners", is used in the industrial stormwater program for guidance in the storage and containment of chemicals.

The field staff observe or assist emergency response agencies with spill response activities. They provide the agencies with information on the City's stormwater system with the goal of keeping the spilled material out of the system. They continue to work with mobile washers and charity car wash operators to ensure that these types of washing activities are done correctly. The field staff also responds to general concerns regarding water quality problems.

The City has a household hazardous waste disposal and recycling center located at the landfill. This popular facility provides a place for the community to safely dispose of waste products that otherwise might end up in a storm drain.

A portion of the City's existing South Tacoma sanitary trunk line was replaced in 2000 to eliminate occasional wet weather overflows into the Flett Creek stormwater system. The trunk line, built in the late 1940s, services a portion of the south end of Tacoma. The capacity of the line was not adequate to meet current flows in the service area. This major project was done in two phases and included the installation of approximately 6,000 feet of trunk line. The work involved construction in two high capacity arterials and also went under a railroad track. The City was directed to provide additional capacity to this line under an Administrative Order issued by the Department of Ecology on May 5, 1998.

**S7B8h Industrial Stormwater Monitoring and Control**
The City reviews all commercial plans for adequacy of the private storm sewer systems and their connection to the City's system. New construction is inspected to ensure compliance with City requirements.

The City's two stormwater Source Control staff inspect industrial sites. The industrial inspections are coordinated with Ecology staff as appropriate. This coordination includes the referral of problem sites to Ecology when the industry has an industrial NPDES permit.

## S7B8i Stormwater Education

### EMPLOYEE EDUCATION

The City encourages its Surface Water staff to participate in continuing education. Numerous staff have attended workshops and classes on both a regional and national level. These classes have included topics such as BMPs, water quantity and water quality, erosion and sediment control, and maintenance and operation of constructed wetlands.

City staff also participate in the APWA Stormwater Managers' Meetings, the NPDES Municipal Permittees Work Group, the Puyallup River Watershed Council, the Hylebos Watershed Action Team, and the Chambers-Clover Creek Council. All of these provide opportunities for additional stormwater education.

One notable event was the "How to Put the BEST Back into your Best Management Practices" class taught by John McCullah representing the International Erosion Control Association (March 2000). This one-day class was offered three times and was attended by a variety of City employees from various departments and covered both traditional and innovative erosion control methods.

### PUBLIC EDUCATION

The City has an extensive public educational program. The City is one of the sponsors of the Pierce Conservation District Stream Team, a multi-jurisdictional effort. The Stream Team helps community groups organize storm drain stenciling efforts. They also offer other programs such as wetland and stream bank clean ups and revegetation, workshops and tours for the public. The Stream Team also has a water quality booth that is used at various community events including the Puyallup Fair and Maritime Fest. The Stream Team has a very large, active group of volunteers.

The Stream Team, the environmental group Citizens for a Healthy Bay, the City's Surface Water Management Program, Metropolitan Park District's Manitou Community Center Day Camp, and Papa John's Pizza sponsored a storm drain stenciling day in Tacoma in July 2000. Many volunteers, including several families, turned out to help and approximately 100 storm drains were stenciled.

Surface Water Management is continuing to work with the Metro Parks Tacoma to support a variety of educational efforts that will focus on stormwater and marine life. The City has committed $20,000 per year for five years for these efforts. These monies will be put towards creating an interactive space and personnel that will facilitate public education and make the connection between non-point source pollution and Commencement Bay waters. These activities will take place at the Point Defiance Zoo and Aquarium in the Simpson Lab's Discovery Center. Opening date is scheduled for May 2001.

Surface Water Management also distributed flyers and posters focused on things that the community could do to protect water quality such as car washing, auto maintenance, pet waste disposal, and use of yard chemicals.

Surface Water Management, Waste Water Management, Solid Waste Management, and Tacoma Water are continuing an ongoing effort with the Tacoma Public School District to provide new environmental education curriculum in schools, specifically third grade. A book and video are currently being worked on that focus on Tacoma's Water Cycle. As part of this ongoing effort a full day workshop, put on by Public Works staff, was offered to teachers on stormwater, wetlands, and wastewater.

As a result of a Public Involvement and Education Grant (PIE), Surface Water Management, Solid Waste Management, and Waste Water Management, along with staff from the City's Community Relations Department, kicked off the beginning of the EnviroChallenger program in June 2000. This staffed, mobile educational unit goes out to schools and provides environmental education to the K-5 children of Tacoma. Units include the titles: Water Quality, Watersheds, Recycling and Waste Prevention, Household Hazardous Materials, Salmon and the Endangered Species Act, The Waste Stream, and Worm Composting.

The EnviroChallenger messages reached approximately 2,500 kids in Tacoma, as 102 classroom presentations were made in 2000. This has been an award winning program. It received the People's Choice Award at the 2000 Puyallup Fair, the Environmental Hero Award from the environmental group, Citizens for a Healthy Bay, and the Public Involvement and Education Award from the national Association of Metropolitan Sewerage Agencies. The Puget Sound Water Quality Action Team recommended this program for a national Non-Point Pollution conference that will be held in Chicago this Spring. At their recommendation, a paper was submitted and selected for presentation, and the program staff person will be speaking at the conference. The City of Tacoma is very proud of this successful program.

The City also supported the Swan Creek PIE Grant that enable residents in the Swan Creek/T-Street area of Tacoma to be involved in environmentally focused, family orientated projects and day camps.

The City committed to be the prime sponsor of the Puget Sound Research Conference organized by the Puget Sound Water Quality Action Team. The purpose of the conference is to provide a forum for presenting and discussing the environmental and natural resource science information that will guide our region's efforts to restore and protect the biological health and diversity of Puget Sound and the Georgia Basin. As the prime sponsor we committed $25,000 for the conference.

Staff participated in a variety of other educational activities such as presentations to University of Washington Tacoma students, the environmental group Citizens for a Healthy Bay, and high school students. Staff also assisted with the water quality booth at the Puyallup Fair.

**S12 Thea Foss Waterway Basin Program**

The City's NPDES municipal stormwater permit, issued in 1995, contained a special provision requiring the development of a stormwater program specific to the Foss Waterway. Much of the work to establish the program was done in 1995 and early 1996, prior to this reporting period.

Source control activities conducted within the Thea Foss Waterway Basin over the past several years are documented in the Source Control Report, Thea Foss and Wheeler-Osgood Waterways Drainage Basins, referred to as Appendix Q (Round 3 Data Evaluation and Pre-Design Evaluation Report). In February 2000, the final submittal to Appendix Q was published, which includes updates on outstanding source control issues, and two reports related to source control investigations. Rounds 4 and 5 were submitted in early 2001. Subsequently, source control activities conducted in the Thea Foss Waterway Basin are summarized in quarterly progress reports submitted to Ecology and EPA. In February 2000, the first such quarterly report was submitted covering the period from October 1, 1999 to December 31, 1999. The quarterly report covering the period from January 1, 2000 to March 31, 2000 was submitted in June 2000. Due to unanticipated staffing changes at the City, subsequent quarterly reports have not been submitted at this time. These reports are in process and are expected to be submitted in the near future.

In 2000, source control efforts within the Thea Foss Waterway Sub-Watershed focused on outstanding issues and concerns. A detailed list of ongoing issues and concerns has been compiled by the Stormwater Source Control Workgroup, consisting of representatives from the

City of Tacoma, the Department of Ecology (Ecology), the Environmental Protection Agency (EPA), the industrial business community, the Thea Foss Participants Group, and Citizens for a Healthy Bay. The Workgroup meets approximately every 6 weeks to cooperatively discuss and provide status updates on each action item.

**INSPECTIONS**

In 2000, approximately 14 stormwater specific inspections were conducted at businesses within the Thea Foss Sub-Watershed. Most of the inspections were performed to evaluate compliance status at businesses where concerns were previously noted. Summaries of inspection activities are contained in the quarterly reports.

Please refer to section S7B8b Existing Residential and Commercial Development Runoff for inspections done as part of the City's Wastewater Pretreatment Program.

**EDUCATION**

The City continues to provide residents and businesses with educational handouts and pamphlets pertaining to BMPs. Residential letters and pamphlets are routinely distributed in neighborhoods following complaint investigations. During inspections, businesses are provided both general and specific BMPs targeting applicable activities. Follow up inspections and letters are also utilized for education.

**COMMERCIAL AND INDUSTRIAL MONITORING**

In 2000, as part of the City's ongoing investigation to identify potential sources of contaminants of concern (COCs), specifically bis(2-ethylhexyl)phthalate (BEP), a number of sediment samples were obtained from catch basins at various businesses. Depending on the sample results, the City may require corrective actions be taken, such as implementation of specific BMPs, in order to eliminate or minimize the discharge of contaminants from private drainage systems. In addition, the City has compiled a map of sample locations and results that serves as a tool for identifying possible areas of concern within the watershed.

**SOURCE CONTROL INVESTIGATIONS**

Pugnetti Park, located at Pacific Avenue and SR 509/South 21st Street, is the site of an old abandoned gas station. The site discharges into outfall #235. The site is currently owned by the Washington State Department of Transportation. The site has been extensively monitored and weathered gasoline has been found. Ecology and the Tacoma-Pierce County Health Department have been involved in the assessment of the site. It has been listed as a State Waste Site and Ecology has proposed limited remedial action and the funding to support the action. Known points of infiltration have been identified and the City is working to eliminate these sources of infiltration into our storm drainage system.

In December, most of the stormwater system contributing to outfall #230 was TVed and serious cracks and breaks were found in an old deep clay tile storm line in Hood Street. It may be a possible conduit for channeling wastes from upstream into the Foss Waterway. It has been added to the list of capital improvement projects and replacement is anticipated in 2001.

A redevelopment site along the Foss Waterway was not storing problem wastes properly. City staff visited the site and contacted the project manager and the piles of waste were covered.

A marina and fueling station on the Foss Waterway was boat washing outside of their containment area. City staff requested that the washing procedure be stopped and referred the problem to the Washington State Department of Ecology for follow up.

A contractor was pressure washing a building in the #230 drainage basin and the wash water was being discharged to the Foss. City staff discussed the problem with the contractor and the practice was stopped.

Paint was being discharged into the storm drain system from an apartment house on South 8th and J Streets. This complaint was investigated and the discharge was eliminated.

**OTHER MONITORING ACTIVITIES**

Sediment traps deployed in the Fall of 1999 in accordance with the Draft Thea Foss Waterway Stormwater Sampling and Analysis Plan were retrieved in January 2000. In January 2000, in-line sediment traps were re-deployed in order to collect additional data pertaining to contaminant concentrations associated with suspended particulate matter in stormwater. Sediment traps were deployed at 22 locations, including Outfall 230 (7 locations), Outfall 235 (3 locations), Outfall 237A (7 locations), Outfall 237B, Outfall 243, Outfall 245, Outfall 248, and a background (residential) location upstream in Basin #237A. Results of these sampling events were reported to Ecology in December 2000 and January 2001, respectively.

The City is continuing to work with Ecology to finalize the Thea Foss Waterway Stormwater Sampling and Analysis Plan. In addition, the City has submitted Draft Sampling and Analysis Plans for Total and Dissolved Constituents in Stormwater, and for Phthalate Source Study, Phase I and will continue to work with the agencies to finalize these documents and begin the sampling programs.

In December 2000, the City entered into an agreement with the Washington State Department of Transportation and others to cooperatively evaluate stormwater treatment technologies for effectiveness in removing contaminants of concern. WSDOT has completed construction of the testing facility located under the I-5 freeway bridge near the University of Washington in Seattle, and sampling is expected to begin in the Fall of 2001.

Intensive monitoring of vapors and the supporting water samples have been taking place at Pugnetti Park near the University of Washington-Tacoma and in Gallagher's Gulch. Efforts are ongoing to determine the source of the vapors. Project oversight has also been provided to the major redevelopment efforts currently underway along Dock Street.

**SPILLS**

Throughout 2000, City staff responded to a number of spill complaints. Spills reports are kept on file and reported to the agencies in the quarterly progress reports.

***2. Notification of any recent or proposed annexations or incorporations.***

Approximately forty acres in the NE Tacoma area were annexed to the City. An annexation at the southeast end of Tacoma near East 93rd and McKinley Avenue is pending.

***3. Differences between planned and actual expenses.***

Relating the planned expenditures in each of the above categories to the actual expenditures was still very difficult in 2000. The City's budget and fiscal tracking systems are not structured to fit the NPDES needs. They were developed to comply with the State Auditor requirements and conform to the Government Accounting Procedures (GAP). Some activities are budgeted in one activity or organization but are actually spent and therefore charged to a different activity or organization. As a result, the actual expenditure in any one line item does not necessary relate to the budget number for that same category. And finally, some capital expenditures may be budgeted in the operating budget but the expenditure is taken from the capital budget and vice versa. However,

based on permit negotiations with Ecology, the requirement for financial reporting will not be included in the next NPDES permit.

Changes were made to the time card tracking system late in 2000, so staff time spent on the various NPDES activities within the Surface Water Program could be better tracked for in-house use in 2001.

***4. Revisions, if necessary, to the remaining years of the fiscal analysis reported in the approved stormwater management program.***

Revisions to the fiscal analysis section are not necessary.

***5. For the fourth year report, a summary and analysis of the cumulative monitoring data collected throughout the term of the permit.***

The fourth year report was submitted in September 1999.

***6. A summary describing compliance activities, including the nature and number of official enforcement actions, inspections and types of public education activities.***

The Buildings and Land Use Division of Public Works is responsible for the permitting of a wide variety of land use activities throughout the City. They issue residential and commercial building permits, clearing and grading permits, and permits for shorelines, wetlands, and other critical areas. They also process all land use permit applications including short plats, formal plats, and other activities. This Division improved their activity tracking system beginning in 2000 and also placed a renewed emphasis on erosion and sediment control, so the numbers shown below are quite a bit higher than those in the 1999 report. During 2000, the following actions were taken:

- Grading and filling permits - 57
- Erosion control inspections - 888
- BMP failure inspections - 223
- Tracking sediment off-site - 274
- Grading inspections - 95
- Shoreline investigations - 2

During 2000, ten calls were received from the public regarding water quantity and flooding concerns. Approximately 120 water quality complaint calls were received and were addressed. These calls related to a variety of concerns such as vehicle storage, working on vehicles, painting, spills relating to vehicular accidents, business practices related to improper storage of chemicals, and vehicle and equipment washing. For the most part, these types of complaints were taken care of through education of the citizens involved.

The Surface Water staff also responded to erosion and sediment control complaints. Problems ranged from lack of, or improperly installed silt fencing, to tracking of sediments onto City rights of way. There were also problems associated with discharging turbid water into the stormwater system via direct connections and/or physically pumping water from a low spot to a catch basin or a manhole.

Staff from the Washington State Department of Ecology also responded to many water quality complaints and concerns within the City during 2000. Some of these sites may have been located in unincorporated areas outside of the City limits of Tacoma, but were tracked as having a Tacoma address. The following numbers were provided by Ecology staff:

- Spill calls except drug labs – 148
- Water quality referrals – 17
- City referrals – 8
- Water pollution calls – 70
- Drug labs – 180

***7. Identification of known water quality improvements or degradation.***

City staff have responded to complaints regarding sediment being tracked on Marine View Drive from three existing businesses. These businesses had minimal erosion control protection at their sites thereby allowing material to either be tracked onto the street by truck traffic and/or overland flow during storm events. Through education of these business owners, significant improvements were made to their operations.

The City's Clean Bay Car Wash program was utilized by many charitable groups which sponsored car washes. The use of the car wash kits prevented a lot of dirty, soapy water from entering our stormwater system. Community groups were also educated through this program about the importance of keeping our water clean.

The City is also in the process of improving some of its catch basin/sump systems along Marine View Drive to capture more of the sediment that is coming from the steep hillsides along the east side of the road. These improvements will result in less sediment being discharged to Commencement Bay.

The City has also focused on issuance and regulation of Special Approved Discharge Permits, particularly with respect to the dewatering activities that take place on some construction sites. This emphasis has reduced the amount of sediment that gets into our stormwater system.

Please refer to the Source Control Investigations Section under S12 Thea Foss Waterway Basin Program for additional information about water quality improvements.

***8. Status of watershed-wide coordination and activities which the permitee has undertaken individually or jointly as part of the Special Condition S7B7.***

Please refer back to S7B7 for information on watershed-wide coordination and activities.