

NPDES MUNICIPAL STORMWATER MANAGEMENT PROGRAM
SNOHOMISH COUNTY, WASHINGTON
S7B5 - SWMP FISCAL ANALYSIS

S7B5 FISCAL ANALYSIS

Permit requirement

A fiscal analysis, covering the term of the permit, of the capital, and operation and maintenance expenditures necessary to implement the stormwater management program, and a description of staff, equipment, and support capabilities to implement the stormwater management program. The fiscal analysis shall include a description of the source of funds that are available or are proposed to meet the necessary expenditures.

Clarifications

The fiscal analysis will describe the anticipated source of funding for the SWMP, and a strategy for securing funding where shortfalls exist. The analysis will explain any limitations on spending funds identified.

The fiscal analysis will estimate staff, equipment and funding needed for each program component required by section S7B of the municipal permit.

The SWMP budget will propose annual funding levels during the term of the permit for each program component required by section S7B of the municipal permit.

The fiscal analysis will identify anticipated cost-sharing arrangements among permittees intended to reduce individual permittee costs of permit compliance.

Permittees are not expected to submit a detailed inventory of all equipment necessary to implement the SWMP.

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S7B5 - SWMP FISCAL ANALYSIS

Fiscal analysis for proposed SWMP

Budget sheet description

Table S7B85-1 shows total annual expenditures, staff time estimates, and revenue sources for each program component required by section S7B of the permit, for the years 1997 through 2000.

Typically, resources were not included in the budgets prepared by each County agency if the annual expense for an activity is less than \$5,000 or the time required is less than 0.1 FTE annually. For example, pollution prevention training for staff is included in the text as a required activity for most County agencies, but in many cases the time and money required were not included in the budget because they are below the thresholds listed above.

The budget information is intended to serve as supplementary information to the program elements described. The annual total County expenditures will be used to determine whether permit modifications are required as described in Special Condition S9A1 of the permit. Annual expenditures shown for specific program elements are contingent on legislative appropriations, and are not intended to serve as primary permit conditions or binding measures of implementation, unless so described in specific permit elements.

Revenue sources

The following revenue sources may be used to fund work described in this SWMP: Watershed Management Area fees, River Improvement Fund, County Road Fund, County General Fund, Real Estate Excise Tax, Airport use fees, Planning and Development Services permit fees, Solid Waste Tipping fees, cost-sharing arrangements among permittees, various grant funds, and miscellaneous revenues such as document sales. The County agrees to provide funding adequate to perform all activities described in the SWMP at the stated levels of effort. Funding for SWMP activities may be provided from any combination of available revenue sources.

Vehicles, equipment and facilities

The following vehicles and mobile equipment will be required to perform the works described in the SWMP: 14 pickup trucks or passenger vehicles, 4 dump trucks, 3 eductor trucks, 3 street sweepers, 1 backhoe, and 1 sidebar mower. The County will continue to operate its storm sewer waste decant facility.

NPDES STORMWATER MANAGEMENT PROGRAM - 4-YEAR BUDGET

Annual expenditures (\$1,000 increments)				
Required program element	1997	1998	1999	2000
1 Stormwater management plan development	121	121	121	57
2 Assessing water quality problems / needs / priorities	15	15	15	15
3 Developing legal authority to control stormwater	78	38	21	20
4 Monitoring stormwater impacts and SWMP effectiveness	209	266	281	281
5 Fiscal analysis for SWMP	0	0	0	0
6 Water resources data management system	96	96	96	96
7 Intergovernmental coordination for stormwater management	18	18	18	18
8 New development / redevelopment stormwater control	345	357	346	358
9 Existing residential / commercial area stormwater control	219	308	273	273
10 Municipal storm sewer operation and maintenance (O/M)	802	802	802	802
11 Reducing stormwater pollution in road O/M	83	83	83	83
12 Stormwater quality consideration in flood control projects	0	0	0	0
13 Minimizing stormwater pollution from pesticide / fertilizer	0	0	0	0
14 Eliminating illicit discharges to the municipal storm sewer	63	170	117	185
15 Control of industrial stormwater pollution to storm sewer	27	28	28	28
16 Stormwater pollution education	202	280	290	290
Column expenditure totals (\$1,000)	2278	2582	2491	2506

Note: \$121,000 expenditure in years 1997 - 1999 for element 1 include annual \$88,000 repayment of SRF loan for SWMP development

Staff time (FTE)				
Required program element	1997	1998	1999	2000
1 Stormwater management plan development	0.1	0.1	0.1	0.1
2 Assessing water quality problems / needs / priorities	0.2	0.2	0.2	0.2
3 Developing legal authority to control stormwater	1.0	0.6	0.3	0.3
4 Monitoring stormwater impacts and SWMP effectiveness	2.8	3.5	3.6	3.6
5 Fiscal analysis for SWMP	0.0	0.0	0.0	0.0
6 Water resources data management system	1.1	1.1	1.1	1.1
7 Intergovernmental coordination for stormwater management	0.3	0.3	0.3	0.3
8 New development / redevelopment stormwater control	6.1	6.2	6.0	6.2
9 Existing residential / commercial area stormwater control	1.4	2.3	1.9	1.9
10 Municipal storm sewer operation and maintenance (O/M)	9.4	9.6	9.6	9.6
11 Reducing stormwater pollution in road O/M	3.9	3.9	3.9	3.9
12 Stormwater quality consideration in flood control projects	0.0	0.0	0.0	0.0
13 Minimizing stormwater pollution from pesticide / fertilizer	0.0	0.0	0.0	0.0
14 Eliminating illicit discharges to the municipal storm sewer	1.0	1.8	1.8	1.8
15 Control of industrial stormwater pollution to storm sewer	0.5	0.5	0.5	0.5
16 Stormwater pollution education	4.3	4.8	4.8	4.8
Column FTE totals	32.0	34.8	34.1	34.3

NPDES MUNICIPAL STORMWATER MANAGEMENT PROGRAM
SNOHOMISH COUNTY, WASHINGTON
S7B6 - DATA MANAGEMENT

S7B6 Data Management

Permit requirement

A mechanism for gathering, maintaining, and using adequate information to conduct planning, priority setting, and program evaluation activities. The information and its forms of retention shall include, but not be limited to:

- a) Mapping of known municipal separate storm sewer outfalls.
- b) Mapping of tributary conveyances, and the associated drainage areas of *major municipal separate storm sewer outfalls* (draining greater than 50 acres or greater than 36" diameter pipe).
- c) Maps depicting existing land use.
- d) A map depicting zoning.
- e) A data base, including at least the following information:
 - precipitation records
 - stormwater quality and quantity records
 - water quality and physical characteristics of receiving water that may be impacted by stormwater
 - a description and location of structural BMPs and other structural controls for stormwater discharges.

Clarifications

SWMPs will describe the existing system for gathering, maintaining, and using information needed for planning, priority setting, and program evaluation; [SWMPs will] identify any needed improvement to the system, and provide an implementation schedule.

**NPDES MUNICIPAL STORMWATER MANAGEMENT PROGRAM
SNOHOMISH COUNTY, WASHINGTON
S7B6 - DATA MANAGEMENT**

Introduction

Snohomish County submitted the maps described above to Ecology in 1993, in Part 2 of the original NPDES permit application. Since that time, the County has developed a central Geographic Information System, which will be the main vehicle for NPDES data management.

The GIS consists of separate layers of information which are maintained by county departments, municipalities, and state and federal agencies. Some of the datasets in the GIS include: sewer districts, water districts, watershed management areas, FEMA flood hazard zones, wetlands, hydrography, soils, digital elevation, land cover, geology, precipitation, and watershed boundaries. The GIS is described in the first major section below.

Various departments manage information that may not be included in the central GIS. Management of these data is described in the second major section below, organized by County agency.

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SNOHOMISH COUNTY, WASHINGTON
S7B6 - DATA MANAGEMENT

Proposed Program for Data Management

CENTRAL COUNTY GIS

Activity: Maintenance of maps depicting existing land use.

SuWM and PDS have developed a number of mapped sets of information depicting existing land use, described below.

SuWM maps - Land Cover Information:

SuWM is developing a layer of land cover information on the GIS. The land cover information is not yet county-wide. The Quilceda-Allen Watershed has been coded with land cover categories for use in hydrologic modeling during the planning process. The next watershed which will be coded with this information is French Creek, where a planning process is beginning. SuWM plans to add this land cover information by watershed, in order of planning priorities. The categories of land cover include:

- Wetlands
- Impervious areas - airports, industrial areas, commercial areas with large blocks of impervious surface
- Single family, grassy, at a density of 1 or less per acre
- Single family, forest, at a density of 1 or less per acre
- Medium density residential with 1-3 per acre
- High density residential with greater than three per acre and all multifamily
- Agricultural
- Forest
- Recent clear-cut
- Undeveloped land - parks, utilities, stream corridors, or other grassy areas
- Other - includes roads

PDS - Existing Land Use

1. PDS has begun mapping existing land use in unincorporated Urban Growth Areas. Maps have been completed in the areas of Snohomish, Mill Creek, Gold Bar, Lake Stevens, and Arlington-Marysville. Information is available for Monroe, but maps are not yet complete. These maps are in digital format.
2. PDS has mapped open space/greenbelt areas for the county in digital format.
3. PDS has mapped Lands Useful for Public Purposes in digital format. These maps contain information on utility corridors, parks, trails, sewer lines, and treatment plants.

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During the first permit cycle, SuWM and PDS will continue to transfer land use information into the GIS.

Activity: Development of zoning maps

The Snohomish County GIS contains three types of zoning information.

1. Urban Growth Area Boundaries: Planning and Development Services maintains a county-wide layer of urban growth area boundaries on the GIS. The layer is at a scale of 1:24,000.
2. PUD Parcel Base: The parcel base contains city limits which are updated as annexations occur.
3. Comprehensive Plan Designations: Planning and Development Services also maintains a county-wide layer of future land use designations based on the county's comprehensive plan on the GIS. This information is at a scale of 1:100,000 and is registered on the PUD parcel base. The categories of future land use include:
 - National Forest
 - Local forest
 - Commercial forest
 - Commercial forest - transition area
 - Local agriculture
 - Upland agriculture
 - Riverway agriculture
 - Mineral lands
 - Low density rural residential (1 dwelling unit/20 acres)
 - Medium density rural residential -10 (1 DU/10 acres)
 - Medium density rural residential - 5 (1 DU/5 acres)
 - Medium density rural residential - 2.3 (1 DU/2.3 acres)
 - High density rural residential (1-2 DU/acre)
 - Urban low density residential (4-6 DU/acre)
 - Urban medium density residential (6-12 DU/acre)
 - Urban high density residential (12-24 DU/acre)
 - Incorporated cities, towns, and tribal lands
 - Other land uses
 - Urban reserve
 - Rural commercial
 - Urban commercial
 - Rural industrial
 - Urban industrial

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S7B6 - DATA MANAGEMENT

PDS Zoning Maps

PDS has developed maps of existing zoning covering most of the unincorporated county. These maps are at a scale of 1:24,000 and use the county assessor base maps. These maps are not in digital format.

These practices will be continued during the term of the permit.

Activity: Data base development and maintenance

The County GIS includes the Washington State Annual Precipitation Isohyets at a scale of 1:100,000 which is maintained by DNR. SuWM has five precipitation gages throughout the county which record on dataloggers at five minute intervals. The locations of the gages are on the GIS and are linked to the data. The precipitation data are collected and stored in the dataloggers as well as in spreadsheet files. SuWM uses a hydrologic software program to calculate storm intensities.

SuWM conducted stormwater sampling for the initial NPDES permit application. These data will be transferred into the GIS in 1997. Stormwater data collected during the term of the permit under other program elements will be entered into the GIS.

The SuWM water quality monitoring sites are mapped on the GIS. The GIS layer also contains supporting information for each site, which includes a description of the site location, the frequency of sampling, beginning and ending dates of sampling, and parameters sampled. This GIS layer is linked to a database of the actual water quality data. The water quality database is maintained by SuWM. Fields in the database include the site name, sampling data, time of sampling, season, velocity, staff gage reading, depth, pH, conductivity, temperature, oxygen, fecal coliform bacteria, nitrate-nitrite, total phosphorus, total suspended solids, hardness, copper, lead, zinc, and detergents. SuWM will transfer stormwater quality and quantity data into the GIS in 1997, and will continue to maintain the databases described above during the term of the permit.

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S7B6 - DATA MANAGEMENT

DATA MANAGEMENT BY SPECIFIC COUNTY AGENCIES

AIRPORT

Activity: Mapping and assessment of storm sewer

The storm sewer at the airport was mapped in 1994 using GPS equipment. This information is in AutoCad format. The condition of stormwater facilities was assessed in 1994.

During the first permit cycle, the Airport will transfer information to County GIS, as needed by either the Airport or other County agencies and revise storm sewer maps as development occurs.

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SNOHOMISH COUNTY, WASHINGTON
S7B6 - DATA MANAGEMENT

SURFACE WATER MANAGEMENT

Activity: Central GIS support (described above)

The SuWM practices described above will be continued during the term of the permit.

Activity: Description and location of major structural BMPs and other structural controls

The Drainage Response and Investigation (DRI) section of SuWM maintains a database which contains information on stormwater BMPs for residential plats and county road right-of-ways. Facilities in the inventory include detention ponds, biofiltration swales-swales, oil pollution control devices, vaults, and other facilities. The Drainage Facility Inventory is linked to another database which contains information on the maintenance of each facility. The inventory is also linked to a paper file which contains information such as the residential plat, construction plans and information on accessing the facility.

These practices will be continued during the term of the permit.

Activity: Mapping storm sewer outfalls and tributary conveyances

Work to satisfy these mapping requirements will be performed by SuWM as part of the illicit discharge elimination program, and is described in Section S7B8g of this program.

Activity: Water quality complaint investigations

SuWM staff investigate water quality problems reported by citizens or other county or agency staff. Information from these investigations is stored in a database. The information includes the location and nature of the problem and any actions taken to correct the problem. These practices will be continued during the term of the permit.

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S7B6 - DATA MANAGEMENT

PLANNING AND DEVELOPMENT SERVICES (PDS)

Activity: Central GIS support (described above)

The PDS practices described above will be continued during the term of the permit.

S7B7 Intergovernmental Coordination

Permit requirement

Identification of watershed-wide coordination mechanisms and a schedule to complete the following during the term of the permit:

- a. development of coordinated stormwater management programs for shared waterbodies among permittees;
- b. coordination of data management and mapping activities for compatibility among permittees' efforts; and
- c. coordination of monitoring and modeling activities to develop comparable data sets among permittees when estimating pollutant concentrations and loads, evaluating impacts, and assessing controls.

Clarifications

SWMPs will include a description of mechanisms to address stormwater problems that span political boundaries.

Data management and mapping will be coordinated among permittees to the extent feasible.

Monitoring and modeling activities will be coordinated among permittees to the extent feasible.

A watershed planning and management process may be used by jurisdictions for identifying management goals and the roles and responsibilities of the participants. The scale of watershed, e.g., regional, river basin, sub-basin, will be identified by the jurisdictions involved.

Municipalities are expected to identify and prioritize activities that WSDOT can undertake to assist in implementing municipal SWMPs. WSDOT is expected to consider these priorities in developing its permit and statewide priorities.

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S7B7 - INTERGOVERNMENTAL COORDINATION

Proposed program for intergovernmental coordination

GENERAL COORDINATION - VARIOUS COUNTY AGENCIES

General coordination for monitoring, mapping, data management, and modeling

Snohomish County is continuously coordinating with other municipalities about monitoring, mapping, data management, and modeling. This coordination will continue through the term of the permit.

General coordination for control of stormwater pollution from other jurisdictions

Snohomish County is continuously coordinating with other jurisdictions on matters affecting water quality. In the recent past, these efforts have included the following elements.

Interjurisdictional Policies on Natural Environment, Parks and Recreation and Open Space: In January 1994 the Snohomish County Tomorrow Steering Committee formally accepted a set of "Interjurisdictional Policies on Natural Environment, Parks and Recreation and Open Space." Snohomish County Tomorrow (SCT) is the County's collaborative planning process composed of local citizens and elected officials from every jurisdiction. The cities, towns, tribes, and county have worked together through SCT since 1989 to apply the regional vision and later the goals of the GMA to our local planning needs.

b. General Policy Plan: The Snohomish County Council adopted the General Policy Plan (GPP) in June 1995. The GPP represents the fulfillment of the County's first phase of GMA planning and it constitutes an essential part of the County's GMA comprehensive plan. The main purpose of the GPP is to establish a Countywide framework of goals, objectives, and policies to guide more detailed planning and implementation actions in the unincorporated portions of UGAs and in rural areas.

The GPP's "Natural Environment" policies direct the county to use interjurisdictional planning to address surface water quality issues during the preparation of forthcoming urban and rural subarea plans. The GPP also calls for an interjurisdictional process in conjunction with the Quilceda/Allen watershed planning process and the Tulalip Tribes to analyze and set policies and requirements for surface water retention, detention and instream flow in the preparation of a master plan for the Smokey Point area.

c. Interlocal Agreements for Joint Planning Between the County and its Cities: In 1990 the County and its cities began joint planning efforts for unincorporated

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S7B7 - INTERGOVERNMENTAL COORDINATION

urban growth areas. Interlocal agreements were negotiated during this first phase of GMA planning with sixteen of the twenty cities and towns and resulted primarily in recommendations on final urban growth area boundaries and proposed refinements to the GPP. The County is again negotiating interlocal agreements for joint planning with the cities in a second phase of GMA planning that will focus on the preparation of detailed subarea comprehensive plans and implementing regulations, with an initial emphasis on the unincorporated portions of UGAs. The County has initiated UGA subarea planning processes with the cities of Arlington, Gold Bar, Lake Stevens, Lynnwood, Mill Creek, Monroe, Marysville, and Snohomish. Interlocal agreements for joint planning with several of the cities have already been approved by the County Council.

Some of these second phase interlocal agreements, such as those with the Cities of Snohomish and Lake Stevens, specifically identify surface water issues as a topic to be addressed during the joint planning process.

d. Interlocal Agreements Concerning Annexation Within City's Growth Planning Areas: In 1995 the County began negotiating a series of interlocal agreements with some of its cities regarding annexation issues. An interlocal agreement has been finalized with the City of Edmonds and negotiations with the City of Monroe for a similar agreement are nearly complete. It is anticipated that the County will soon begin negotiating with the Cities of Stanwood and Arlington. These interlocal agreements are in part intended to help facilitate the proper transition of services and capital projects from the County to the cities at the time of annexation, enable reciprocal imposition of impact mitigation requirements and regulatory conditions that affect improvements in the respective jurisdictions, and address other relevant annexation issues.

The annexation interlocal agreements are also likely to address surface water issues. For example, the draft interlocal that is currently being negotiated with Monroe defines fee and service responsibilities related to watershed management, maintenance and ownership responsibilities of drainage improvements and facilities, improvement responsibilities, and future joint watershed planning, capital construction and other related services.

e. Memorandum of Understanding with the Snohomish Conservation District: In early 1993 Snohomish County finalized a memorandum of understanding with the Snohomish Conservation District in order to provide funding to the District in exchange for a variety of professional services, including some funding related to farm water quality. Under the current scope of work, the District assists farmers in the implementation of agricultural best management practices that will reduce or eliminate non-point sources of pollution. The agreement also funds a staff position with the District that is intended to work directly with farmers on these issues.

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S7B7 - INTERGOVERNMENTAL COORDINATION

Coordination efforts with other municipalities to control stormwater pollution will continue during the term of the permit.

Development of coordinated SWMPs for waterbodies shared with other municipal permittees

The Snoqualmie River, Swamp Creek, Bear Creek, and Little Bear Creek flow from Snohomish County into King County directly. North Creek flows from Snohomish County into the City of Bothell, from which it flows into King County. Stormwater flows at hundreds of locations between Snohomish County and the state highway right-of-way owned by the Washington State Department of Transportation (WSDOT).

The municipal permittees have organized a core interagency committee to discuss permit and program issues. A subcommittee has been organized to coordinate BMP research.

Beginning in 1997 and continuing through the term of the permit, the interagency committee will further identify coordination needs and implementing agencies, based on review of approved SWMPs.