FACT SHEET FOR NPDES PERMIT WA-004211-1
FACILITY NAME

Clark County Municipal Separate Storm Sewers

July 1999

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I. PUBLIC INVOLEMENT OPPORTUNITIES

The Department of Ecology (Ecology) held the following public workshop and public hearing for the proposed permit:

Public Workshop and Hearing

Date: June 22, 1999
Time: Workshop started at 7 p.m. and the hearing immediately followed the workshop
Location: Hazel Dell Sewer District
Community Room
8000 NE 52nd Court
Vancouver, WA

At the workshop, Ecology explained the need for and requirements of the proposed permit. The workshop participants had the opportunity to ask questions of and converse with Ecology staff members concerning the proposed permit. This was an informal process.

At the public hearing, Ecology staff summarily explained the need for and requirements of the permit. Then an opportunity for formal public comment commenced. Comments were recorded and transcribed into an official public record. Written comments were accepted through June 25, 1999. All oral comments made during the hearing, and written comments provided by the June 25, 1999 deadline, were considered by Ecology. A written summary of all comments and Ecology's responses was prepared and distributed to those who commented and others indicating interest. Copies of the summary, the public hearing record and comment letters are available by writing to:

Department of Ecology
P.O. Box 47696
Olympia, WA 98504-7696

II. PURPOSE OF THE PERMIT

The permit authorizes the discharge of stormwater from municipal separate storm sewers owned or operated by the permittee, to surface and ground waters of the State of Washington. As required by §402(p)(3) of the Clean Water Act, discharges covered under the permit must effectively prohibit non-stormwater discharges into storm sewers, and must apply controls to reduce the discharge of pollutants to Waters of the U.S. to the maximum extent practicable (MEP). As authorized by RCW 90.48.030 and 90.48.162 RCW, Ecology is also taking action through issuance of the permit to control impacts of stormwater discharges to waters of the state, which include ground waters.

Discharges from agricultural runoff, irrigation return flows, process and non-process wastewaters from industrial activities, and stormwater runoff from areas served by combined sewer systems are not regulated directly by the permit. These types of discharges may be regulated by local or other state requirements if they discharge to municipal separate storm sewers. The municipal stormwater permit authorizes the municipal separate storm sewer to discharge stormwater which comes from industrial facilities. However, many industrial activities need an industrial stormwater NPDES permit issued by Ecology to discharge stormwater into municipal storm sewers.

III. BACKGROUND

The Stormwater Problem

Stormwater runoff is acknowledged as a source of pollution that can damage important water resources, including streams, lakes, estuaries and wetlands, and ground water. Many recent studies have shown that runoff from urban areas typically contains significant quantities of the same general types of pollutants that are found in wastewater and industrial discharges and often causes similar water quality problems, such as fish and benthos disease and mortality, swimming beach and shellfish bed closures, and contamination of wells. These pollutants include heavy metals (e.g., chromium, cadmium, copper, lead, mercury, nickel, zinc), pesticides, herbicides, nutrients, bacteria, and synthetic organic compounds such as fuels, waste oils, solvents, lubricants, and grease.

In addition, the large impervious surfaces in urban areas increase the quantity and peak flows of runoff, which in turn cause hydrologic impacts such as scoured streambed channels, in-stream sedimentation and loss of habitat. Furthermore, because of the enormous volume of runoff discharges, mass loads of pollutants in stormwater can be significant.

There are a multitude of pollution sources that contaminate stormwater, including land use activities, operation and maintenance activities, illicit discharges and spills, atmospheric deposition, and vehicular traffic conditions. Many of these sources are not under the direct

control of the permittees that own or operate the storm sewers. Impacts from stormwater are highly site-specific and vary geographically due to differences in local land use conditions, hydrologic conditions, and the type of receiving water.

Controlling Stormwater Discharges

Stormwater quality is very difficult to manage because discharges are not continuous, highly predictable events. Rather, discharges are intermittent and weather-dependent in nature (i.e., rainfall and snowmelt). There are a wide range of pollutants in stormwater, and concentrations vary depending on storm events. Further difficulty in controlling municipal stormwater discharges comes from the large number of outfalls where stormwater is being discharged (hundreds or even thousands of outfalls within a city are typical). These features of stormwater runoff make application of conventional end-of-pipe treatment options to traditional wastewater discharges difficult, and often such options are not cost-effective to apply to stormwater.

Two basic control options exist for stormwater. One is to prevent pollutants from coming into contact with stormwater in the first place by using source control best management practices (BMPs). The second option is treatment BMPs. Source control BMPs include activities as diverse as changing vehicle and equipment maintenance activities to prevent the leaking of oil or other fluids; landscape design, installation, and maintenance to minimize stormwater runoff; product replacement or substitution (e.g., replace roofs that are sources of copper contamination with roofs that have no copper in them); land use zoning to reduce the intensity of urbanization in sensitive watersheds; covering up materials that are stored outside and exposed to rainfall and runoff; and prohibiting or restricting the use of certain chemicals that are causing a pollution problem (e.g., pesticides, or phosphorus in watersheds that drain to lakes). Where source control BMPs are feasible, they can be very effective in preventing stormwater contamination.

Treatment BMPs include detention or retention ponds, filtration, and infiltration devices that are designed to capture runoff and treat it using physical, biological, and/or chemical processes. The effectiveness and feasibility of treatment BMPs is variable, subject to some debate, and much remains to be learned. Treatment BMPs can be very costly to design, build, maintain, and operate.

In summary, the complexity inherent in stormwater discharges, and the difficulty of controlling such discharges means that it will take many years to fully implement a program which adequately mitigates or prevents their adverse environmental impacts.

Clean Water Act Amendments of 1987 and Subsequent Rulemaking by U.S. EPA

Amendments to the Clean Water Act in 1987 established new statutory requirements to control industrial and municipal stormwater discharges to waters of the United States. Waters of the United States include most surface water bodies and ground waters that are hydrologically

connected to surface waters (See discussion in this Fact Sheet under Special Condition S2 - Authorized Discharges). Municipalities with separate storm sewers serving populations of 100,000 or greater are required to have a National Pollutant Discharge Elimination System (NPDES) permit to discharge stormwater. Municipalities with populations of 250,000 or more are defined as "large" while those with populations between 100,000 and 250,000 are defined as "medium" municipalities. The U.S. EPA proceeded to implement 402(p) of the Clean Water Act through a rulemaking process which culminated in finalization of the stormwater rule in November 1990. The rule went into effect on December 17, 1990.

U.S. EPA implementing regulations define the term "municipality" to mean incorporated cities and unincorporated counties that have sufficient population in a Census Bureau designated urbanized area to meet the population thresholds. In addition, other public entities (excluding incorporated cities) regardless of their size, that own and operate storm sewer systems located within the municipalities that meet the population thresholds are also required to be covered under the permit program. Examples of other publicly-owned storm sewer systems include state highway systems, drainage districts, and flood control districts located within named municipalities. Permit application requirements are identical for medium and large municipalities with the exception that the permitting process started six months earlier for large municipalities.

Recognizing the complexity of controlling stormwater, Congress and the U.S. EPA have established a regulatory framework for municipal stormwater discharges that is very different from traditional NPDES permit programs. Some of the key provisions of the stormwater rule that reflect these differences are:

- Permits are to require the implementation of stormwater management programs rather than establishing numeric effluent standards for stormwater discharges (40 CFR 122.26(d)(2)(iv)).

- Permits are to cover a large geographic area rather than individual "facilities." Within a permit coverage area there will be hundreds or even thousands of individual outfalls discharging stormwater (40 CFR 122.26(a)(3)).

- Flexibility that allows the permittee to first focus their resources on the highest priority problems (40 CFR 122.26(d)(2)(iv)).

- A watershed approach is allowed, even encouraged, to comprehensively manage stormwater (40 CFR 122.26(a)(3) & (d)(2)(iv)).

- Pollution prevention is emphasized with some provisions requiring eliminating or controlling pollutants at their source and by requiring permittees to assess potential future impacts due to population growth and other factors (40 CFR 122.26(d)(2)(iv)(B) & (d)(1)(iii)).

Chapter 90.48 RCW - The Water Pollution Control Act

Along with requirements in federal law, there are state law requirements for the control of pollution. RCW 90.48.080 states that it is unlawful for any person to discharge anything which causes pollution of waters of the state. RCW 90.48.020 defines "waters of the state" to "include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and watercourses within the jurisdiction of the state of Washington." Ecology is granted authority to control pollution and protect all waters of the state in RCW 90.48.030.

In addition, RCW 90.48.162 requires that municipalities are to obtain permits from Ecology for discharges of pollutants or waste materials to waters of the state. The Waste Discharge General Permit Program regulation, Chapter 173-226 WAC, establishes a permit program applicable to the discharge of pollutants, wastes, and other materials to waters of the state. Prior to issuance of these permits the state has not regulated municipal stormwater as a point source discharge under the state waste discharge permit program. The federal government decision to control municipal stormwater through NPDES permits created incentive and a need for application of Ecology's authority under RCW 90.48.162 to municipal stormwater.

RCW 90.48.035 grants Ecology authority to adopt standards for the quality of waters of the state. Ecology has adopted the following standards: Ch. 173-200 WAC Ground Water Quality Standards; Ch. 173-201A WAC Water Quality Standards for Surface Waters; and Ch. 173-204 WAC Sediment Management Standards. These standards generally require that permits that are issued by Ecology are to ensure that standards are not violated or a compliance schedule is put in place to bring discharges into compliance.

Description of the Municipal Stormwater Permit Application Requirements and Procedures

The issuance of a municipal stormwater NPDES permit is a multi-step procedure that occurs over a lengthy time period (typically three years) and is composed of a two-part application (Part 1 and Part 2) that forms the basis for the permit conditions.

The Part 1 application requires an assessment of the applicant's current stormwater management program and legal authority. It requires the applicant to submit the results of a field screening program intended to detect illicit (non-stormwater) discharges to municipal separate storm sewers. Mapping of outfalls from the municipal separate storm sewer system and sources of contamination to the system is required. In addition, a sampling program must be proposed that will be used to characterize the quality of stormwater discharges for a limited number of outfalls. Ecology has 90 days to approve or deny the proposed discharge characterization program.

In the Part 2 application, the applicant is required to submit a proposed stormwater management program, demonstrate adequate legal authority to support the management program and other regulatory requirements, conduct an assessment of controls, provide a fiscal analysis for the term of the permit (typically five years), and submit the characterization data resulting from the

sampling proposed in Part 1. The stormwater management program required under these permits is based upon the program description required in the Part 2 application. A description of the differences between the application requirements and the program required under the permit is found in the discussion of Special Condition S5.

IV. NPDES AND STATE WASTE DISCHARGE PERMITS

Under agreement with U.S. EPA - Region X, Ecology has the authority to authorize discharges to waters of the U.S. by issuing NPDES permits for those discharges. Ecology also has authority under state law to issue State Waste Discharge permits for discharges to state surface waters and ground waters. This municipal stormwater permit is issued under both authorities.

This allows Ecology to not only regulate discharges to surface waters under this permit, but also to regulate discharges to the ground. Discharges to ground are covered under the permit because portions of the areas regulated under these permits may include discharges of stormwater to the ground from municipal separate storm sewers. It is appropriate that the stormwater management programs that are required under these permits should apply area-wide, regardless of where water is discharged, and that measures are taken to reduce the discharge of pollutants to ground as well as surface waters.

Along with discharges to surface water, the implementation of controls for discharges to ground will be subject to a set of identified priorities for the stormwater management program of each permittee. Where existing stormwater discharges to ground are not identified as a priority concern, it is likely that retrofitting of controls will be minimal in the initial stormwater management programs. However, stormwater discharges to the ground from new development should be in accordance with Ecology's Stormwater Management Manual for the Puget Sound Basin, also referred to as the Technical Manual. In addition, actions to minimize the potential for ground water quality impacts resulting from stormwater discharges should be part of a long-term stormwater management program.

V. ECOLOGY'S APPROACH TO ISSUING CLARK COUNTY'S MUNICIPAL STORMWATER NPDES PERMIT

The federal stormwater rules required municipalities with populations greater than 100,000 and counties with unincorporated urbanized areas totaling 100,000 population or more to submit a two part application to obtain a NPDES stormwater permit for discharges from storm sewers they own and operate. Populations were based on the 1990 decennial census and it took several years to determine that Clark County had urbanized areas that totaled more than 100,000 in population.

In January of 1995, the Department of Ecology notified Clark County of the need to submit a permit application and in October of 1996 Clark County submitted their Part I application which

was approved in May 1997. Part II was submitted in September of 1998 and consisted of the SWMP that describes what the County is currently doing and what activities the County proposes to do to reduce the discharge of pollutants to and from storm sewers owned and operated by the County.

Ecology has decided to approve the Part II application and the County's SWMP with the issuance of the individual NPDES stormwater permit. The permit will be issued on July 16, 1999 and expire on December 31, 2000. The reason for the short term of the permit is that Ecology is currently working on a general statewide municipal stormwater permit that is scheduled for issuance in July 2000. Clark County will be covered under the statewide general permit as soon as it becomes available.

The permit outlines the components of a stormwater management program in special condition S5, and sets deadlines for the SWMP component development and implementation in special condition S9 during the term of the permit.

VI. DISCUSSION OF PERMIT CONDITIONS

Summary

The municipal stormwater NPDES permit requires the on-going development and implementation of a stormwater management program for municipal separate storm sewers owned or operated by the permittee. The stormwater management program must be approved by Ecology. The permittee is to identify participation in watershed-wide coordination activities to the extent appropriate. Implementation of approved stormwater management programs constitutes reduction of pollutants to the maximum extent practicable (MEP) during the life of the permit, as required in section 402(p)(3)(B) of the federal Clean Water Act.

The conditions defining the stormwater management program requirements are based on U.S. EPA regulations for the municipal stormwater permit program (CFR title 40, §122.26), on the stormwater elements of the Puget Sound Water Quality Management Plan, and on the State Water Pollution Control Act, Chapter 90.48 RCW. The stormwater management program must include: program priorities that reflect an appropriate balance between prevention and correction; program components to control pollutants in accordance with approved priorities; adequate legal authority and fiscal resources; a monitoring program; and an implementation schedule.

S1 - Permit Coverage Area

A permit is required for discharges from all the municipal separate storm sewers owned or operated by Clark County.

S2 - Authorized Discharges

This section clarifies that the permit authorizes the discharge of stormwater from municipal separate storm sewers, owned or operated by the permittee, to waters of the state. The permit authorizes new and existing stormwater discharges from existing conveyances. The permit also authorizes stormwater discharges from new stormwater conveyances constructed after the issuance date of the permit provided those conveyances have received all applicable state and local permits, including compliance with the State Environmental Policy Act (SEPA). The control measures required under the permit are area-wide and will apply to any future discharges from the municipal storm sewer systems.

Since municipal separate storm sewers carry stormwater and other flows, the permit authorizes the discharge of stormwater commingled with other flows. Industrial process wastewater and non-process wastewater are non-stormwater discharges and cannot be authorized under the permit because of the requirement in section 402(p)(3)(B)(ii) of the federal Clean Water Act that municipal permits are to prohibit non-stormwater discharges to the municipal separate storm sewer system. However, such discharges to municipal separate storm sewers can be authorized if they receive an NPDES permit (other than the municipal stormwater permit) from Ecology. All other non-stormwater discharges are to be addressed through the program to detect and remove illicit discharges and improper disposal as required under special condition S5.b.8.g.

The discharge of stormwater associated with industrial activities through municipal separate storm sewers is authorized by the permit, but is required to have a separate NPDES permit under U.S. EPA regulations. For further explanation of the reasons for the separate permit requirement, see the preamble to the amendments to 40 CFR parts 122, 123, and 124 published in the Federal Register, Friday, November 16, 1990.

In paragraph S2.C., Ecology states that it is not authorizing illicit discharges nor relieving entities responsible for those discharges from responsibilities and liabilities under state and federal laws. These laws include CERCLA (Superfund), and OPA (Oil Pollution Act).

In paragraph S2.D., applicable only to the South Puget Sound Water Quality Management Area permit, Ecology states that it is not authorizing stormwater discharges to waters on trust or restricted lands within the Puyallup Tribe of Indians Reservation. The tribe or U.S. EPA has responsibility to authorize such discharges. This is in accordance with a December 1988 Settlement Agreement among the Tribe, U.S. EPA, Ecology and others.

S3 - Responsibilities of Permittee

The permittee is responsible for implementing the stormwater management program to reduce the discharge of pollutants, reduce impacts to receiving waters, and make progress toward compliance with surface water, ground water and sediment standards from stormwater discharges to municipal separate storm sewers the permittee owns or operates.

S4 - Compliance with Standards

The municipal stormwater NPDES permit program involves the regulation of a large number of discharges under a single permit. This approach is different from the usual approach of individual NPDES permits for specific discharges and presents many challenges for state and local governments. The inherent difficulties in controlling stormwater discharges, as described earlier in the background section, means that it will take many years to fully implement a municipal stormwater permit program which achieves all the objectives of the U.S. EPA stormwater regulations, the federal Clean Water Act, and state law. Though some local governments and the state have had programs to reduce stormwater impacts, particularly in the Puget Sound Basin, this permit represents a commitment, and a significant step towards achieving these objectives.

To achieve the objectives of the Clean Water Act, Congress decided that discharges from municipal separate storm sewers must meet all applicable provisions of sections 402(p) and 301(b)(1)(c) of the Act. These provisions require a prohibition on non-stormwater discharges in municipal storm sewers, controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), and any more stringent limitations necessary to meet water quality standards. Neither Congress nor EPA have defined what is meant by "maximum extent practicable" (MEP). Therefore, Ecology has determined what is expected of permittees to comply with these standards.

A. State law requires all dischargers, including stormwater dischargers, to apply all known, available, and reasonable (methods) of treatment (AKART) to prevent and control the pollution of waters of the state (RCW 90.48.010).

"MEP" (the federal requirement) and "AKART" (the state requirement) are technology-based statutory requirements. Traditionally, Ecology determines, or uses a U.S. EPA determined, specific effluent quality which it considers as achieving such technology-based statutory requirements.

Given the large number of municipal storm sewers covered by this permit, the wide variation in quantity and quality of these discharges, the lack of adequate data on stormwater quality, and the uncertainty and variability of the pollutant removal effectiveness of currently accepted BMPs, it is not feasible at this time to establish specific numeric effluent quality limitations that represent technology-based standards for municipal stormwater discharges. Therefore, the permit requires the development and implementation of a stormwater management program which includes the implementation of BMPs and other program components. Ecology will consider compliance with these requirements as meeting the technology-based requirements of MEP and AKART. MEP is likely to be defined differently in future permits as the ability to control stormwater discharges improves, or if a federal definition of MEP is adopted.

As required by the Puget Sound Water Quality Management Plan, Ecology has adopted a manual which defines appropriate BMPs for addressing stormwater erosion and sediment control, runoff control, and control of pollution from urban land uses. Under the Puget Sound Water Quality Management Plan, local governments in the Puget Sound Basin are required, subject to the availability of local funding, to adopt Ecology's manual, or an equivalent manual for control of stormwater from new development, redevelopment, and construction sites. The adoption and implementation of BMPs in these manuals by these entities is considered justification that the requirement is known, available, and reasonable.

B. Attaining compliance with water quality standards presents an even greater challenge than compliance with technology-based requirements. Federal and State laws require application of any more stringent limitations necessary to meet all applicable water quality standards, including surface water, ground water, and sediment management standards. In this state, U.S. EPA-approved water quality standards include surface water and sediment management standards. Compliance with ground water standards is a state requirement and not a federal requirement. The implementation of the existing, known, available and reasonable BMPs and other strategies will not likely be sufficient to attain compliance with the present surface and ground water quality and sediment quality standards at many discharge locations. Regulations implementing the standards allow compliance schedules to meet them. Ecology's permitting strategy and schedule to achieve compliance with standards is:

- To require the permittee to adopt a stormwater management program consisting of identified priorities and an implementation schedule to address all components of special condition S5 and special condition S9 selected for implementation during the first permit cycle.

- To assess the success of those programs through monitoring and other evaluation efforts.

- To require in subsequent programs, re-evaluations of the priorities of the stormwater management program and the level of effort in some program components in light of monitoring and evaluation results.

- To require in subsequent programs, implementation of more effective BMPs, if necessary, as they are developed.

- To evolve towards compliance with standards through successive permit cycles and program updates.

This strategy is to be implemented through this and subsequent permits.

Finally, it is fair to note that achieving compliance with standards for some pollutants may require source control strategies which extend beyond the authority of the permittee.

Possible examples of this include pollutants generated by internal combustion engine exhaust, tire wear, and brake wear.

C. This condition delineates that the permittees' stormwater discharges to surface water are regulated by federal and state statutes and regulations. Compliance with ground water standards is regulated only by state authority. However, it is U.S. EPA policy that where hydrologic connectivity exists between surface water and ground water, discharges to ground water can be regulated under federal Clean Water Act authority to meet surface water quality and sediment management standards. (See e.q., Exxon Corp. v. Train, 554 F.2d 1310, 1312, n.1 (5th Cir. 1977); Mcclellan Ecological Seepage Situation v. Weinberger, 707 F.Supp. 1182, 1195-96 (E.D. Cal. 1988); and Washington Wilderness Coalition v. Hecla Mining, case # CS 94-233 FVS).

S5 - Stormwater Management Program

A. The federal stormwater rules require a description of a stormwater management program to cover the duration of the permit. This section requires the permittee to continue to develop and implement a stormwater management program. The stormwater management program forms the core requirement of the permit.

B. This section defines a stormwater management program as a plan for the term of the permit, and spells out the components of a stormwater management program. The permittee must propose a plan which describes how and when it will implement priority program components. The planning period is the term of the permit, approximately from 1999 to 2000.

Conditions S5.B.1 through 7 describe program components which are necessary administrative, legal, or evaluation measures. All of these components must be included in a stormwater management program. Special Conditions S5.B.8.a.i. describe stormwater program control components which should directly effect pollutant reductions. The level of effort for these stormwater control components should be determined with regard to program priorities and in light of budget limitations as described in S5.B.5.

The permittee has an existing stormwater program and it is likely that the permittee will have to modify their program to meet some of the permit requirements. Given the immense scale of stormwater problems, it is unrealistic to expect the permittee to immediately have a stormwater management program that satisfy each of the required components.

Ecology anticipates that the permittee will phase-in program implementation. The program should describe the proposed method for implementing program components which have been identified as priorities based on local water quality needs. The program should also identify steps necessary to phase in implementation, and a schedule for those

steps. Depending on identified needs and budget restrictions (see explanation under S5.B.5., below), the plan may not include efforts in all the program components listed in this condition.

Stormwater management program components S5.B.3, 8b, 8d, 8e, and 8f are drawn directly from federal regulations (40 CFR 122.26) or the Puget Sound Water Quality Management Plan. Explanation of the reasons for including these components in a stormwater management program is found in the preamble to the U.S. EPA stormwater regulations published in the Federal Register on November 16, 1990, and in the Puget Sound Water Quality Management Plan. The remaining program components are either a modification of a federal rule, or Puget Sound Plan provision, or drafted specifically for this permit. These warrant further explanation, and are discussed below.

S5.B.1. - COMPREHENSIVE PLANNING PROCESS

The federal stormwater rules call for a description of the comprehensive planning process used to develop the stormwater management program. Ecology has included this requirement as part of the stormwater management program, and added a request for additional information about the relationship to other planning processes. Given the interconnection of stormwater issues with decisions regarding land use and transportation, it is reasonable to expect that other planning processes, including the Growth Management Act, will play a part in development of the local stormwater management program.

S5.B.2. - STORMWATER MANAGEMENT NEEDS AND PRIORITIES

This condition requires permittees to assess their stormwater needs, to prioritize those needs, and to develop an implementation plan and schedule based on those prioritized needs. The needs analysis, priority system, and the resultant implementation plan and schedule are subject to Ecology review.

Though the permits establish a list of program components as requirements for stormwater management programs, local governments are given the flexibility to set priorities for their program. Program priorities should be based on what is known about water quality threats and impairments and sources of pollution to discharges from the permittees' municipal separate storm sewers. Program priorities can determine the level of effort and the implementation schedule for different parts of the stormwater management program requirements. They should help establish the basis for monitoring to evaluate the effectiveness of the local programs. To make progress toward achieving state and federal water quality objectives, stormwater management programs must include problem prevention and problem correction aspects.

The federal stormwater rules require an implementation schedule for the program to reduce pollutants from commercial and residential areas. However, the rules do not call for an implementation schedule for all components of the stormwater management program. Since the stormwater management program is the core requirement for the permit, Ecology considers it reasonable to require an implementation schedule for the proposed program for the term of the permit.

S5.B.4. - MONITORING

The federal stormwater rules require municipalities to propose a stormwater monitoring program for the term of the permit (40 CFR Part 122.26(d)(2)(iii)(D)). However, few specific requirements of such programs are listed. In the preamble to the federal rule (See pages 48049 - 48052 of the Federal Register, Volume 55, No. 222, November 16, 1990) U.S. EPA indicates that they favor ... " a permit scheme where the collection of representative data is primarily a task that will be accomplished through monitoring programs during the term of the permit." In the same text, they indicate that "an estimate of annual pollutant loading associated with discharges from municipal stormwater sewer systems is necessary to evaluate the magnitude and severity of the environmental impacts of such discharges and to evaluate the effectiveness of controls which are imposed at a later time."

Ecology concurs with these statements and has written this condition to establish broad monitoring objectives. Specifics concerning monitoring strategies will be established in the permittees' stormwater management program. This is appropriate because the science of monitoring stormwater discharges and their impacts is new and still developing.

The development of cost-effective and meaningful strategies for monitoring stormwater and its impacts is the subject of much nationwide debate. Ecology wants the permittee to make maximum use of evolving information and strategies in establishing their monitoring program. The U.S. EPA rules imply, and U.S. EPA guidance assumes that some monitoring for chemical constituents in stormwater is necessary. Ecology concurs with this view. However, there also may be cost-effective and useful biological and visual monitoring methods that can be employed by the permittee. Also, there may be opportunities to complement and coordinate with Ecology ambient monitoring efforts.

Because Washington has adopted sediment management standards for marine waters, and is developing similar standards for fresh waters, the scope of monitoring programs must include assessing sediment impacts. Also, because this permit covers stormwater discharges to ground, the scope of monitoring programs should include impacts to ground water. A monitoring program to adequately cover all these needs in this permit cycle would be overwhelming. Ecology expects that in this first permit, permittee will establish a monitoring program which focuses on identified priorities.

All the monitoring objectives listed in the permit remain applicable in the long run, regardless of those identified priorities. Knowledge of pollutant loads and of average event mean concentrations from representative areas drained by the municipal storm sewer system are necessary to gauge whether the stormwater management program is making progress towards the goal of reducing the amount of pollutants discharged. On a smaller scale, we also need to determine the effectiveness of specific BMPs in reducing pollutant discharges and receiving water impacts. The third objective, identification of significant pollution sources, is already a Puget Sound Water Quality Management Plan requirement.

Finally, there is a need to evaluate the effect of stormwater on receiving waters, and assess progress toward the ultimate goals of protecting the receiving waters, aquatic habitat, aquatic resources, and their beneficial uses. Receiving water monitoring can include surveys of streambed physical characteristics, chemical analyses of water and sediment quality, and various types of biological monitoring (e.g., bioassays and stream surveys). Modeling efforts may help predict likely impacts and aid development of strategies to avoid impacts. Results of monitoring will be used by the permittee to reassess stormwater management program priorities, and to evaluate and modify the stormwater management program.

The expenditure of large amounts of money on stormwater management programs makes it imperative that we allocate a reasonable amount of resources to determine program effectiveness. Although the scope of the monitoring program is yet to be established, Ecology anticipates that the sampling and analysis costs could be at least in the tens of thousands of dollars per year. The permittee may be able to realize some cost savings through cooperative monitoring agreements with other permittees and Ecology. Ecology sees potential cost savings in avoiding duplicative monitoring for BMP effectiveness (subparagraph b) and for impacts on shared waterbodies (subparagraph d). Also, the permittee is encouraged to share field and laboratory staff expertise, time, and material resources. Coordination with Ecology monitoring efforts may also help with cost savings.

S5.B.5. - FISCAL ANALYSIS

The federal stormwater regulations, at 40 CFR 122.26(d)(2)(vi), require the permittee to provide a fiscal analysis, including yearly cost estimates, for the capital and operation and maintenance expenditures necessary to accomplish the activities of the program. A fiscal analysis is needed to evaluate the municipalities' ability to prepare and implement management programs, and is an appropriate measure to justify a proposed stormwater management program. Where adequate funds are not available to implement all aspects of a program to reduce the discharge of pollutants to the maximum extent practicable, it will be necessary to propose a strategy and a schedule for seeking additional funding, and to reschedule program activities accordingly.

In addition, at 40 CFR 122.26(d)(2)(iv), the federal stormwater regulations require a description of staff and equipment available to implement the stormwater management program. Ecology has chosen to combine this requirement with the fiscal analysis since they are logically linked, and added a request for information on support capability.

S5.B.6. - ADEQUATE INFORMATION

This condition is a modification of, and a logical follow-up to a requirement of the federal rules regarding municipal stormwater permit applications. The permit application requirements in 40 CFR 122.26 specify a two-part application process. "The purpose of the two-part application process is to develop information, in a reasonable timeframe, that would build successful municipal stormwater management programs and allow the permit writer to make informed decisions with regard to developing permit conditions." The Part 1 application information, together with the results of the discharge characterization, is used to prepare the proposed stormwater management program that is submitted in Part 2 of the permit application. The purpose of this component is to require permittees to continue the collection and maintenance of information used for program management and evaluation.

Maintenance of data bases regarding the physical characteristics and location of the separate storm sewer system and the areas it serves are necessary for proper management of the system. In addition, it is necessary to maintain an adequate information base concerning stormwater discharges and receiving waters to evaluate program effectiveness. This information base should include any available, pertinent information (including information not required to be collected by the permit) which may be used by the permittee in planning and evaluating their stormwater management program. As conditions change, an accessible data base is necessary to display those changes. Managers can then make changes to the stormwater management program to maintain or increase its effectiveness.

S5.B.7. - WATERSHED-WIDE COORDINATION

This permit condition is intended to establish an initial framework for watershed-wide management of stormwater quality. For this permit the watershed-wide requirements are very basic. This section will be expanded in future permits.

Permittees are to identify intergovernmental coordination mechanisms. The type of coordination mechanisms are not specified and may be determined by the permittee. Acceptable mechanisms could include a management committee process, interlocal agreements, or a regional stormwater management entity.

Through intergovernmental coordination the permittee must address shared waterbodies by developing coordinated stormwater management programs. What is intended here is that programs not be in conflict with respect to shared waterbodies. It is not necessary to have identical programs or priorities for shared waterbodies. The permittee is also to coordinate data management, mapping, monitoring, and modeling.

S5.B.8.A. - NEW DEVELOPMENT AND REDEVELOPMENT

The federal stormwater rules require applicants to have programs "to reduce the discharge of pollutants ... from areas of new development and significant redevelopment." (40 CFR Part 122.26(d)(2)(iv)(A)(2)). The rules also require a program "to reduce pollutants in storm water runoff from construction sites." (40 CFR Part 122.26(d)(2)(iv)(D)). The Puget Sound Water Quality Management Plan has similar requirements for municipalities within the Puget Sound Basin.

As required by the Puget Sound Water Quality Management Plan, Ecology has developed a Technical Manual that establishes stormwater control requirements for new development, redevelopment, and construction sites. Ecology has included these requirements as permit conditions.

To these pre-established requirements, Ecology has made one addition. We are attempting to utilize existing local government permitting procedures to notify as many people as possible of a federal requirement for some construction sites and industries to obtain an NPDES permit. NPDES stormwater rules require that construction sites of five acres or more (including sites less than five acres which are part of a larger common plan of development, or sale of five or more acres) obtain an NPDES permit if stormwater runoff discharges to a surface water. Where those construction projects involve establishing a new industrial facility, that facility may also need an NPDES permit to discharge stormwater. In Washington, such construction sites and industries must obtain coverage under Ecology's "Baseline General Permit for the Discharge of Stormwater from Industrial Activities." Coverage is obtained by completing the Notice of Intent forms referenced in this special condition.

This condition does not make the municipality responsible for determining which sites need such coverage, nor does it give them responsibility to assure that these sites obtain coverage under the Baseline General Permit. However, Ecology does consider it reasonable to expect the permittee to inform dischargers within their geographic boundaries of this permit requirement.

S5.B.8.C. - OPERATION AND MAINTENANCE PROGRAMS

The requirements for an operation and maintenance program and an ordinance for operation and maintenance of facilities owned by entities other than the permittee, which discharge to municipal separate storm sewers, are drawn from the federal stormwater rules and the Puget Sound Water Quality Management Plan.

Ecology has added a requirement for a strategy to address the disposal of street waste decant. Current maintenance practices for catch basins and other similar stormwater facilities involve using a vactor truck to collect accumulated sediments. This process uses water to free-up the sediments and frequently this water is decanted from the truck back into stormwater conveyances to allow more solids to be put in the vactor truck. Vactor truck decant water often contains high levels of suspended sediments, metals, and petroleum hydrocarbons, and may contain other unpredictable contaminants.

Under federal and state law, it is not appropriate to continue to reintroduce these pollutants into storm drains. However, adequate alternatives to this practice have not been identified. Therefore, Ecology is requiring the permittee to cooperate in identifying solutions to this problem and to develop strategies consistent with those solutions.

The requirement for a strategy to address street waste decant is consistent with state policy prohibiting the reintroduction of pollutants into the waste stream. This policy has been applied by Ecology to traditional wastewater treatment systems and supported by the Pollution Control Hearings Board and the courts. This policy is expressed in General Condition G10 in this permit, which is based on a standard condition that is applied to all NPDES permits. This condition states that, except for decant from street waste vehicles, the permittee shall not allow removed substances to be resuspended or reintroduced to the storm sewer system. Decant from street waste vehicles may be reintroduced only when other practical means are not available and only to catch basins remote from the discharge point. The exception for decant will end as municipalities implement the solutions identified in response to Special Condition S.5.B.8.c.

S5.B.8.G. - ILLICIT DISCHARGES

The requirement for a program to control illicit discharges and improper disposal is drawn from the U.S. EPA stormwater regulations in 40 CFR 122.26(d)(2). The U.S. EPA requirements are based on the provision in the Clean Water Act that municipal stormwater NPDES permits include a requirement to effectively prohibit non-stormwater discharges into the storm sewers.

In acknowledgement of the diverse contributions to storm drains, U.S. EPA included a list of discharges to storm sewers that must be addressed where they are identified by the permittees as sources of pollution to waters of the United States. This list is referenced in Special Condition S5.B.8.g., consists of the following: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water

infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl spaced pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash water, and flows from fire fighting. Because this permit also covers stormwater discharges to all waters of the state, Ecology expects these sources to be addressed where they are sources of pollution to any receiving water, including ground water.

In special Condition S5.B.8.g., Ecology has allowed the use of alternative field screening methods for detecting illicit discharges. Use of alternative methods requires Ecology approval. Several other permittees have reported problems with the colorimetric field test kits that were specified by U.S. EPA for this purpose. Some communities have developed effective ways of detecting illicit discharges that include visual inspections of storm drains using television cameras and site inspections. Ecology agrees that there should be flexibility on field screening methods.

In addition, the permit specifies that urbanized areas should be the focus of the field screening program. This is intended to provide some clarification for the permittee, where rural areas are not as likely to have illicit connections to storm sewers.

S5.B.8.H. - INDUSTRIAL FACILITIES

The federal stormwater regulations envision that Ecology and the municipal permittees will cooperate to develop programs to monitor and control pollutants in stormwater discharges to municipal storm sewers from industrial facilities. A wide range of industrial facilities listed at 40 CFR 122.26(b)(14) must obtain an NPDES permit from Ecology if they discharge to surface waters or to municipal separate storm sewers which drain to surface waters. Under 40 CFR 122.26(d)(2)(iv)(C), municipal permittees are to establish a program to monitor and control discharges from industrial facilities that the permittee determines is contributing a substantial pollutant loading to municipal separate storm sewers. In the preamble to the federal stormwater regulations U.S. EPA clearly states its position on the dual responsibility for controlling stormwater discharges associated with industrial activity:

"Although today's rule will require industrial discharges through municipal separate storm sewers to be covered by separate permit, EPA still believes that municipal operators of large and medium municipal systems have an important role in source identification, and the development of pollution controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA (Clean Water Act), large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because stormwater from industrial facilities may be a major contributor of

pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for stormwater discharges associated with industrial activity through their system in their stormwater management program."

This program component includes requirements from federal rules and the Puget Sound Water Quality Management Plan. The permittee must have a program to reduce pollutants from industrial stormwater. Subsection (i) requires the permittee to identify industries tributary to their storm sewer system. It does not require the permittee to identify, within a specific time frame, all industrial discharges to their system. But eventual identification of all industrial discharges to municipal storm sewers is the goal to be achieved. Subsection (ii) is drawn from the Puget Sound Water Quality Management Plan. Subsection (iii) is derived from the federal rules. In subsection iii, we added the last statement concerning coordination of monitoring and controlling pollutants from certain industries, because those same industries may have monitoring and control requirements mandated under their NPDES permit from Ecology.

It can be argued that industrial facilities which require NPDES permits, though they drain through the municipal storm sewer system, should be regulated solely by Ecology and not by the municipality. Ecology does not concur with this view. Municipalities are ultimately responsible for discharges from their storm sewer system. Therefore, they need to have a role in controlling what goes into that system.

Ecology acknowledges that the federal stormwater rules establish overlapping responsibilities for the control of industrial stormwater. Ecology and the permittee need to negotiate agreements that make the most efficient use of limited regulatory resources. Ecology expects to play the lead role in gaining compliance from industries covered under NPDES permits for their stormwater discharges. The permittee is not expected to enforce the requirements of NPDES permits issued to industries. However, nothing in the federal regulations would prohibit the municipalities from requiring additional stormwater controls beyond those required in an industry's NPDES permit from Ecology. Municipalities may consider such actions necessary in order to meet their own NPDES permit obligations. Where such additional controls are required by a municipality, the municipality is responsible, and required by this permit, for gaining compliance with those controls.

S5.B.8.I. - PUBLIC EDUCATION

The public education program described in special condition S5.B.8.i is derived from the U.S. EPA stormwater regulations and the Puget Sound Water Quality Management Plan. Ecology has broadened the public education program to include permittees' staff whose job functions may impact stormwater quality. We feel it is appropriate to also direct education efforts internally.

As a means of reducing overall costs to the public, the education program requirement has been modified to allow the permittee to develop education programs on a regional basis. For example, permittees in the Puget Sound Basin could develop an education campaign for the entire region. In addition, Ecology provides guidance materials and conducts workshops to provide training on BMP selection and the use of Ecology's Stormwater Management Manual for the Puget Sound Basin (the technical manual). There may be some overlap between Ecology's and the permittees' education efforts. However, Ecology's focus has been to educate local government staff (not just staff of NPDES permittees), to enable local governments to transfer information to the public.

S6 - Total Maximum Daily Load Allocations

Under some circumstances, when the water quality of a waterbody is impaired, the federal Clean Water Act requires states to set limits on the amount of pollutants that the waterbody receives from all sources. States may also set limits on pollutant loads when waterbodies are threatened. These limits are known as Total Maximum Daily Loads (TMDLs). TMDLs differ from commonly used technology-based or water quality-based numeric limits for individual discharges. A TMDL is developed through a defined process. Through this process, the maximum amount of a pollutant that may be discharged from all sources to a waterbody without causing violations of water quality standards is identified. Then pollutant control strategies are developed to keep the pollutant loading below that level. The strategies may be numerical wasteload allocations to NPDES permitted dischargers or management strategies to control the loads from nonpoint sources.

When controls for stormwater discharges are necessary to implement a TMDL, stormwater management programs must be modified appropriately. Ecology considers a four-month timeframe reasonable for making these modifications because the strategies for the TMDL will have already been identified in the approved TMDL. They will have been developed and discussed at length with all the affected dischargers.

S7 - Program Modification

This section is included in the permit because Ecology recognizes the need for permittees to modify their stormwater management programs in response to changing conditions and unplanned occurrences. However, Ecology also recognizes that it is the state's responsibility to make sure programs are not modified to the extent they undermine compliance with the terms of the permit. Therefore, we have identified certain types of modifications that must have prior approval from Ecology, and an opportunity for public comment.

The list of modifications requiring prior approval addresses several potential concerns:

> A change in the level of effort of program implementation (i.e., a greater than 5 percent reallocation, increase, or reduction in resources).

A change in implementation of program components, as defined in Special Condition S5 and Special Condition S9, that could negatively influence the effectiveness of the approved stormwater management program (i.e., significantly delaying, completely changing, or eliminating program components).

Changing the geographic area of coverage by adding a co-permittee or accepting permit responsibility for another entity.

All other program modifications are to be described in the annual report required in Special Condition S8.

If, based on information in the annual report, Ecology finds that the basis for the stormwater management program priorities have significantly changed, parts of the program are proving to be ineffective, or there are other problems with program implementation, Ecology may require permittees to make program modifications.

S8 - Program Annual Report

A. The federal stormwater rules at 40 CFR 122.42 require municipal stormwater permittees to submit an annual report. Ecology included the annual reporting requirement in this permit, and modifications were made to clarify what is requested from permittees and to make the reporting requirements consistent with other provisions in the permit.

Ecology does not want the annual reporting requirement to unnecessarily take resources away from program implementation. However, it is necessary to have information to prepare the next permit.

B. The items for inclusion in the annual report have been modified from the federal requirements for the following reasons:

- Additional clarification is provided on what is to be included in the portion of the report on the status of implementing the components of the stormwater management program. Compliance with the approved implementation schedule is to be addressed. Also, program modifications that were made during the reporting year are to be described.

- The federal requirement to describe proposed changes to the stormwater management program has been deleted since this requirement is addressed by special condition S7 - Program Modifications.

- The portion of the report on annexations and incorporation has been added by Ecology. Major annexations and incorporation could have a negative impact on stormwater management program implementation if large areas are taken out of the municipal stormwater permit program. Ecology believes it is reasonable to be

notified of these types of changes in the permit coverage area so that decisions can be made about designating new or newly enlarged municipalities under the permit program.

- Ecology has provided clarification on what kind of information is required in the portion of the report on annual expenditures. Ecology needs to assess differences between planned and actual expenditures for components of the stormwater management program to evaluate the level of effort each permittee is expending on their program. We recognize that permittees do not currently have budget tracking systems that reflect the stormwater management program required under this permit, and that it is difficult to create these systems. Therefore, we have clarified our expectations on this requirement, narrative descriptions are acceptable, but over the term of the permit, reports shall evolve to show numeric expenditures.

- The federal requirement for information on revisions to the assessment of controls has been deleted from the annual report. The purpose of the federal requirement is to estimate the effectiveness of Stormwater Management Plans in reducing pollutants discharged. Except for qualitative observations, it would not be possible to estimate pollutant reductions annually without extensive monitoring of discharges. Ecology prefers the broader monitoring program outlined in S5.B.4. for assessing success. These objectives include monitoring for overall program effectiveness. However, with multiple objectives for these programs, Ecology does not want to mandate a monitoring program which exclusively accomplishes one objective at the exclusion of the others.

  In addition, changes in program effectiveness will probably not be measurable on an annual basis. A longer time period in which trends may become observable seems more appropriate.

- Ecology has eliminated the requirement to provide a summary of monitoring data in each annual report, and replaced it with a requirement for a summary and analysis of cumulative data for the year four report. We did not feel it was necessary to look at the data annually, but do want to be able to judge trends, and make decisions about requirements for the next permit. In addition, Ecology has requested a description of any other stormwater monitoring programs to be provided in the annual reports. We need this information to stay aware of all available information about stormwater in the watershed.

- The requirements for a summary of enforcement actions and identification of water quality improvements or degradation are drawn from the federal rules.

- Ecology has added a requirement for a report on the status of watershed-wide coordination activities.

S9 - Schedules for Compliance with Permit Conditions

This section requires the permittee to continue current activities at their current level and provides a schedule to begin implementation of proposed activities described in their stormwater management plan. The intention is to prevent stormwater program implementation from dragging on too long during the term of this permit and to bring Clark County inline with other municipal stormwater permittees.

S10 - Termination of Coverage Upon Issuance of a Statewide General Permit

Ecology intends to cover Clark County under a general statewide municipal stormwater permit scheduled for issuance in July 2000. Upon notification by Ecology, Clark County shall have 30 days to apply for coverage under Ecology's statewide municipal stormwater general permit.

GENERAL CONDITIONS

The General Conditions of this permit are requirements based on federal or state laws which must be included in all NPDES permits, either expressly or by reference. Ecology has decided to expressly incorporate the requirements of federal and state law that can be applied to municipal stormwater discharges. Where necessary, the requirements have been modified to make sense when applied to municipal stormwater discharges. The significant modifications are summarized below.

As previously explained in the discussion of Special Condition S5.B.8.c., G10, Removed Substances, is changed to allow for the reintroduction of street waste vehicle decant water until a more appropriate strategy can be developed and implemented.

G4, Bypass Prohibited, is changed to allow for bypasses of stormwater treatment facilities when the design capacity is exceeded. Ecology has set a minimum technology-based requirement that stormwater treatment BMPs should be designed to treat the six-month, 24-hour storm event. Roughly, this should provided capacity for treatment of 90 percent of the annual stormwater runoff. However, higher flows generated by larger storm events are allowed to bypass. The incremental costs and the space needed to provide additional capacity to treat flows generated by larger storms become prohibitive quickly beyond the six-month, 24-hour storm event.