

SUPPLEMENT TO PIERCE COUNTY SWMP

October 17, 1997

General Program Clarifications

1. Needs assessment subject to rate increase

Pierce County is committed to a level of effort in the area of needs assessment. It is widely recognized that the **Pierce County Storm Drainage and Surface Water Management Plan**, completed in 1991, is out of date and in need of revision. The question will remain, how much money is available for that effort. With no rate increase, the effort will likely remain internal. With a rate increase, we will be able to obtain help from consultants, and accomplish more in a shorter time frame. It is hoped that we will know what the extent of the rate increase will be, if any, by the end of October.

2. Permit coverage area

This item is a clarification to page 2 of the SWMP. Pierce County acknowledges that permit coverage area is established in the permit. County ordinances and programs do indeed apply within the boundaries of drainage districts, but the SWMP does not address drainage systems owned or operated by drainage districts, as they are listed as separate entities requiring permits under the CWA.

3. Strategy and schedule for street waste disposal

This item addresses clarification to the Transportation Services section of the SWMP, pages 74-84.

The issue of street waste decant is one on which our Road Maintenance Division was working diligently in trying to find a regional solution for decants and solids via a public/private venture with WSDOT and Northwest Cascade. The closure of one NW Cascade composting site and the sale of another has left us back at the beginning of this process once again. We will shortly begin discussions on this topic again, and will move forward with providing Ecology a strategy and a schedule after the **Street Waste Guidance** document has been finalized by Ecology, as agreed in the **Clarification of Permit Conditions** document.

4. How water quality considerations are integrated into the design and construction of flood control facilities.

As clarification to page 42 of the SWMP, when determining the level of water quality features to include in a regional storm drainage facility, the major considerations are the nature of the facility and the type of receiving body. The majority of these water quality features are included in the design to reduce the maintenance needs of the facility or as a result of comments received during the environmental review and permitting stage.

All projects that may impact waters of the state are reviewed on a site specific basis to determine the need for appropriate development and environmental permits, and those permits are obtained as required.

In an effort to reduce maintenance needs, infiltration systems are designed with pre-settling basins or bio-swales to minimize the amount of fine sediments entering the infiltration area. The infiltration pond area itself includes a sand blanket, which provides a final filtration stage prior to discharge into groundwater and is more easily maintained than the pond substrate. Oil/Water separators are only considered on systems with very low design flows and where other methods are not feasible due to space constraints.

Pre-settling basins are also included in most detention facilities, especially those with wetland areas incorporated into the facility. This focuses sediment removal maintenance activity outside of the more sensitive wetland areas. The majority of the County=s detention pond projects include a wetland mitigation component, which automatically imposes the full spectrum of water quality requirements. All stormwater entering the wetland mitigation area must first be treated to preserve the habitat values of the wetlands. By their very nature, detention ponds and wetland mitigation areas, provide a water quality benefit.

For purposes of bank stabilization, temperature control when discharging to fisheries streams and for aesthetics, vegetation is established on all cut and fill slopes and often within the pond area itself.

Although this process is not highly structured, it has resulted in the inclusion of effective water quality features in the majority of our projects. Inclusion of these features have very real benefits for the maintenance and effectiveness of the facilities.

5. Explanation of what is included in dollar cost estimates in each fiscal analysis. Show funding for lab analysis.

The following information is included to clarify the fiscal information which is distributed throughout Chapter 6 of the SWMP.

The dollar cost estimates provided in the SWMP include salaries, benefits, and an increment for equipment and overhead such as cars, computers, desks, and other necessary equipment. Each subsequent year also has a 3% cost of living/inflation estimate attached to it as well.

The costs for CIP projects were included in the summary table on page 43 of the SWMP. Please note that these amounts are based upon no (zero) rate increase for SWM rates for the remainder of the permit term. The CIP program will be much larger if a rate increase is obtained, and figures are included in the rate structure proposal, which will be forwarded to Ecology in October. As soon as feasible, after a decision is made on the rate structure proposal, we will submit a revised fiscal analysis to Ecology.

The revised total figures for each year, including CIP and laboratory analysis costs are indicated in the table attached to this response.

6. Provide annual overall stormwater management program budget amount.

The estimated stormwater management program budget for the permit term is provided in the attached table.

7. Standard road design drawings to be superseded upon approval of stormwater manual.

Pierce County Public Works and Utilities will utilize the **Pierce County Stormwater Management Manual** as approved by the County Council to take effect on November 1, 1997. There will be a phase-in period, since it will not be practicable for projects near design completion to do complete redesign once the ordinance takes effect. Classes to educate county employees on the Manual and its use are being scheduled, with November 1997 as a target date to begin those classes.

8. Approval of SWMP will not include approval of new stormwater manual.

As clarification to page 46 of the SWMP, we are aware that approval of the SWMP does not include approval of the **Pierce County Stormwater Management Manual** or the **Pierce County Pollution Prevention Manual**. Both manuals will be submitted separately with the documentation required for equivalency review.

Monitoring Clarifications

The following information is added to supplement the Monitoring section of the SWMP, beginning on page 102.

Stream Team monitoring commitments

Pierce County supports Stream Team in cooperation with 4 other municipalities to provide 1 FTE and materials. We derive very tangible benefits in terms of education, stream rehabilitation, observation, and water quality monitoring from Stream Team. However, Pierce County is not prepared to make commitments on level of effort, output and provide extensive QA/QC plans as it relates to Stream Team. Stream Team functions as a citizen-action and education organization, and we do not want to negate its effectiveness by placing too many expectations on volunteers. We do, however, recognize the value of their work relating to stream assessment and water quality. With over 3 years of data collected on some stream reaches, trends can be seen, even though testing methods are not approved under 40 CFR 136. This information will be utilized by Water Quality staff as a starting point for further investigation and source identification.

Receiving water monitoring

Please refer to **Wetlands Monitoring** later in this section for a description of what we will be doing to accomplish this aspect of the monitoring requirements.

Regarding the questions on continued monitoring on Clover Creek after the completion of the joint USGS-Pierce County study, a decision was made to end data collection at all sites but 1, at Golden Given Road. The decision was based on financial and staffing level limits. However, refer to the item immediately below for an explanation of our direction with regard to hydrologic modeling.

Continuation of flow monitoring to refine HSPF model

Pierce County SWM has a continued commitment to stream gauging, especially in the areas of proposed projects or known problems. Establishment of long-term gauging sites to collect continuous stream flow for 10 or more years is planned.

Selection of the hydrologic models used by Pierce County to design our facilities will continue to be based on the type of information needed, the scope of the project, time and data available and other factors. Large regional facilities will continue to be sized using HSPF. However, the large time and resource requirements for establishing an HSPF model preclude its use on smaller projects. The minimum modeling standard, a unit hydrograph-based methodology, is set by the newly adopted **Stormwater Management Manual**. Pierce County is also looking closely at the Run-off Time Series methodology being developed by King County.

At this time, the methodology to be used for the CIP update has not been determined. It is highly likely that HSPF models will be developed for each watershed within the county as part of that process.

Rocky Bay Monitoring

The number of samples was established as the maximum Water Quality personnel would be able to add to their workload in a year. Please note that this is 8 samples associated with runoff events in 7 locations for a total of 56 samples per year in the same small drainage basin, which we believe is a sufficient number of samples, particularly considering the main goal of this project, which was not well-stated in our earlier submittal. The main goal of this program is to determine if inputs of fecal coliform are coming from stormwater conveyances and streams during storm events, and thus contributing to the closure of the bay. This effort complements monthly sampling, by the Washington State Department of Health, of major freshwater inputs and the waters of the bay once per month during storm events. It is not known how long the stormwater sampling effort needs to continue, since samples collected to date do not indicate a problem with these inputs. The main problem continues to be the failure of near shore septic systems, some of which are exacerbated by stormwater running across the septic system.

As for identifying the amount of change that could be expected assuming various confidence levels, this is not something that is not easily done with fecal coliform numbers because of the inherently high variability. We would also question the necessity of doing this based on sample results to date, and the main goal of the project. Please recall that all the NPDES stormwater permittees in Washington were exempted from fecal coliform sampling for Part 2 of our applications, because DOE personnel recognized that when it rains, you see increases in fecals, particularly in the urbanized areas. In the instance of this study, WADOH so far has reported most of their samplings as discrete numbers, with the ultimate goal of getting the bay below the alert level of 14 colony forming units per 100 ml.

The first project objective should be deleted in light of the discussion above.

Laboratory costs for this project will be less than \$2,000 per year for fecal coliform analysis.

Wetland monitoring

Pierce County will commit to monitoring a natural wetland subject to increasing stormflows and pollutants. At this time we can give Ecology a cursory proposal, and when we refine the proposal, we will submit it to Ecology for review.

We propose to examine at least one wetland or lake within the proposed Cascadia Employment Based Planned Community on the Orting Plateau. This is a 4,720 acre area with a phased build out of 30 years and approximately 15,000 residents. The proponents have agreed to utilize the newly adopted **Pierce County Stormwater Management Manual** as the basis for stormwater design, even though they would have been grandfathered in under earlier, less stringent, County requirements. Preliminary assessment of soil types, surface water flows, springs, and groundwater location and amounts has been done by the proponents in order to prepare their EIS. The opportunity to assess the lakes, wetlands and possibly creeks before, during, and after development presents an opportunity to look not only at possible changes in water bodies as the area urbanizes, but also to examine the effectiveness of BMPs required in the new Manual. Our ability to do this project will be contingent upon permission from the proponents. If we are unable to secure permission, we will choose an alternate wetland site for examination of potential changes in hydroperiod, vegetation, wildlife utilization, and water quality. We will begin this project in 1998.

Costs for this project will mostly be labor, which is already included in the monitoring estimates in the SWMP.

Clarks Creek

The County will continue to contract with USGS to maintain 1 flow gauging station on Clarks Creek. No other monitoring is planned at this time.

Flow monitoring

The County's current locations for flow monitoring were all chosen to support our CIP efforts. This definitely aligns with our priorities in the SWMP (Water Quantity is our number one priority). The flow data collected and logged on a continuous basis will assist us in the design phase of projects, and help calibrate models. Please see **Continuing of flow monitoring for HSPF modeling** above for a further discussion.

Pertaining to the question on American Lake, establishing pollutant loading into the lake is not the responsibility of the County. The lake is now under the jurisdiction of Lakewood for all flows formerly from the County. The Phase 2 restoration project is currently in draft form, and indicates that very little phosphorus is entering the lake via stormwater. When the project action plan is completed, it will be referred to Lakewood for implementation.

CIP Monitoring:

Heritage Glen Retention Facility

A revised copy of the QA/QC plan for Heritage Glen is included with this response which addresses the questions and additional information needs of Ecology. Sampling for this project will begin in early 1998.

Compost filters

In reference to the proposed Quail Run compost filter project, the area that would be served by this facility was annexed to the City of Gig Harbor this summer. Current plans consist of completing the design of the facility, and then turning the design over to the City for implementation. The County has no plans to participate in construction or monitoring of this facility.

Squally Creek Detention Facility

A revised copy of the QA/QC plan for Squally Creek is included with this response. Monitoring downstream of the facility will be compared to pre-project modeled flows, and will also serve to confirm that discharge flow rates from the facility match design release rates.

The geological reconnaissance will be performed using criteria of the Washington Department of Fish and Wildlife for stream assessment. We have arranged for DOFW personnel to present a seminar on the proper use of their criteria for stream assessment. This training will take place in October 1997. Monitoring for the Squally Creek project will begin in early 1998.

Costs for this project will be mostly labor, which was already included in the monitoring estimates in the SWMP.

Two-stage drywell

A revised copy of the QA/QC plan for the two-stage drywell is included with this response. We have responded to your requests for more information and better justification by increasing the sample numbers, designing methods to use automated samplers, changing storm event criteria, and allowing for some monitoring of common organics.

We believe you misread the original submittal, as we did not propose taking twice as many samples in the dry period.

We also agree that, with all monitoring projects, the sampling strategy should be reevaluated periodically to ensure conformance with assumptions made in the original sampling plan.

Source Control

Air Quality

We will start this project at the end of 1997. We propose to first contact the Puget Sound Air Quality Authority to determine what data exists particularly pertaining to transmission of airborne pollutants to stormwater via rainfall. A literature search for such information in other urbanized areas will also be conducted. From this information gathering phase, a report will be assembled to evaluate the potential need for further monitoring efforts relating to this source of stormwater pollution. The findings will be made available to Ecology, and will open further discussion on the potential scope of such a project if it is deemed necessary.

Pollution Source Tracing

Source tracing will be conducted when visual inspection, industrial inspection, Stream Team data and observation, or citizen complaints indicate there is a potential pollutant problem. The approach we take will depend largely on what the pollutant is or is suspected to be. For instance, if a large amount of bark products is plugging a culvert or entering a wetland, we would consult our maps to trace the system, and head upstream looking for landscape supply stockpiling, or eroded landscaping. If we suspected that a foul smell in a system was coming from a sewer cross connection or failing septic system, we would find out which type of system is in the area, and use fecal testing and observation to try and elucidate the source. We intend to look at what other municipalities have done and are doing for this type of investigation to give us ideas and help minimize costs.

Last paragraph of page 108

These statements refer to the entire monitoring program. The chart of FTEs refers to all monitoring except the Industrial Inspections effort, which is listed separately earlier in the program (page 49).