UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Publication # 93-10-210

Reply to
Attn of: WD-139

MAR 23 1993

MEMORANDUM

SUBJECT: Recommendation for TMDL Approval
Pipers Creek - (WA-08-1000) - Fecal Coliform

FROM: Amber Wong, Standards to Permits Specialist
Water Quality Section

TO: File

- **WA-08-1000 is not on Washington's section 303(d) list, nor is it on the water quality limited list.**
- TMDL submitted August 25, 1992
- TMDL package completed March 16, 1993

  - EPA Approval Checklist
  - Document 1: Transmittal letter
  - Document 2: TMDL document
  - Document 3: Shapiro and Associates, Inc. 1989. Pipers Creek Watershed Action Plan for Nonpoint Source Pollution - Watershed Characterization and Water Quality Assessment, prepared for City of Seattle Engineering Department, Drainage and Wastewater Utility, Seattle, Washington
  - Document 4: Pipers Creek Watershed Committee. 1990. Pipers Creek Watershed Action Plan for the Control of Nonpoint Source Pollution, final action plan, under the direction of the City of Seattle Engineering Department, Drainage and Wastewater Utility, Seattle, Washington

Transmittal letter - Complete (see Document 1)

- states that TMDL has been established in accordance

with Section 303(d)(1) of the Clean Water Act.

- **Review note: meets requirements**

Problem Assessment - Complete (see Document 3)

- This is an Early Action Watershed. The Watershed Action Plan for Pipers Creek was developed under this program. The purpose of the Action Plan was to formulate a coordinated program of effective actions to prevent and decrease nonpoint source pollution in the watershed. Although Early Action Watersheds were not required to follow the detailed provisions of Chapter 400-12 WAC, the planning processes were required to be consistent with the purposes and goals of the 1987 Puget Sound Water Quality Management Plan and its amendments, as consistent as practicable with the Chapter. Therefore, major sources of nonpoint pollution were identified, in accordance with the instructions of WAC 400-12-600.

- Identifies applicable water quality standards and beneficial uses. Pipers Creek is Class AA, so it is protected for all uses. Relevant standards are: fecal coliform bacteria, 50/100 ml; DO>9.5 mg/l; temperature not to exceed 16 degrees C due to human activities; pH within 6.5 to 8.5; turbidity shall not exceed 5 NTU over background; and narrative aesthetics and "no toxics in toxic amounts" standards.

- Identifies nonpoint source pollution as typical of urban watershed throughout the area. Water quality during non-storm periods is generally good. Water quality declines during storm events. Pollutants that were identified, and their potential major sources, are as follows:

  Fecal coliform - improper disposal of domestic pet waste, sewage from leaking sanitary sewer lines and failing septic tanks.

  Sediment - erosion of hillslopes, stream banks, construction sites, and dirt, gravel, and tire residue on roadways.

  Heavy metals - vehicle exhaust and tire residue, metal fixtures.

  Oxygen demanding materials - decomposition of organic materials such as yard waste, or chemicals, like solvents.

- Recognizes that an integrated plan will best solve the nonpoint pollution problem.

TMDL document - Complete (see Document 2)

- Indicates that no loading capacity for fecal coliform has been established and the load allocations for the TMDL have not been set. However, the documentation in the plan indicates that the goal is to meet water quality standards, which, for Pipers Creek, are 50/100 ml for fecal coliform. The action plan contains details on activities aimed at public education, improving the regulatory program, the operations and maintenance program, and the public works program. Some of these actions will specifically help identify sources of fecal coliform and result in corrective action. A good monitoring program is outlined to measure progress toward the goal of meeting water quality standards.

- **Review note: Does not have components of a typical numeric TMDL. However, the Action Plan is quite detailed about the activities that are planned, and the implementation strategy. These activities, taken together, are expected to improve water quality. The strong feedback loop (consisting of routine monitoring and bi-yearly reports to Ecology by the Pipers Creek Watershed Action Plan Implementation Committee) allows for adjustments in the program if monitoring shows that the goals are not being met.**

Supporting Studies - Complete (see Documents 3 and 4)

- Goals and objectives are spelled out in Document 4. Goals 1, 2, and 3 clearly indicated that the plan is aimed at meeting water quality standards to meet the beneficial uses: water supply, fish/shellfish rearing and habitat, wildlife habitat, and recreation. Although the numeric criteria were not delineated, they are part of the standards. In this way, success in meeting water quality standards is a clear measure of success in achieving some of the plan's goals.

- The plan and implementation strategy are detailed enough to make a determination that the activities outlined in the plan will reduce fecal coliform levels in the creek. In addition, a strong feedback loop ensures continued progress to improving water quality.

- **Review note: Documentation supports the determination that storm event-driven nonpoint sources are the cause of the problem. Actions to be taken are aimed at**

reducing the potential load, with confirmatory storm event monitoring.

Public participation - Complete (see Document 4)

- Public involvement was carried out according to the public involvement provisions specified in Chapter 400-12-220 WAC.

- **Review notes: Adequate public participation.**

Enforceability - Complete (see Document 4)

- The plan was approved by Ecology under the Chapter 400-12 WAC provisions. The city of Seattle passed Resolution No. 28252, thereby adopting the Pipers Creek Watershed Action Plan. Although not strictly enforceable, these approvals give the plan a significant amount of weight to assure its implementation.

  Other participating agencies and community organizations who are responsible for implementing the plan are as follows:

  Seattle Engineering Department, Drainage and Wastewater Utility (lead agency and will coordinate implementation):

  Carkeek Watershed Community Action Project
  Greenwood Community Council
  Seattle Department of Parks and Recreation
  Municipality of Metropolitan Seattle
  Seattle Department of Construction and Land Use
  Seattle-King County Department of Public Health
  Seattle Office for Long-range Planning

- **Review notes: Valid supporting documentation with applicable conditions**

TMDL effectiveness plan - Complete (see Document 4)

- An integral part of the plan is to measure its success in meeting its goals. The following indicators were chosen to measure success:

  - implementation of the source control recommendations
  - water quality monitoring
  - opinion surveys
  - recycling participation
  - yard waste collection

- results of the Department of Human Resources' annual neighborhood clean up project
- Earth Day participation
- salmon returning to Pipers and Venema Creeks
- Participation in educational events held in Carkeek Park
- attention from the local media.

o A long term water quality assessment program was developed according to Ecology guidance. Major components include: a significant routine monitoring program (coordinated under Metro's Freshwater Assessment Program), storm event monitoring, a QA/QC program, visual monitoring, land use monitoring, and status reports.

■ **Review notes: Adequate monitoring to assess compliance with the plan.**

Recommendation, approve TMDL.

ALW, 3/16/93

TOTAL MAXIMUM DAILY LOAD

Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Developed pursuant to 40 CFR 130.7 and the Federal Clean Water Act

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WATERBODY SEGMENT: WA-08-1000

Pipers Creek

(tributary to Puget Sound, north of Ballard Locks, includes Venema Creek)

RECEIVING SYSTEM INFORMATION:

Basin: Cedar-Sammamish
Counties: King

TMDL PARAMETER:

Fecal Coliform

APPLICABLE RULES:

WAC 173-201-045(2)(c)(i)
WAC 173-201-070(6)
WAC 173-201-035(5)
WAC 400-12
Seattle Grading and Drainage Ordinance

SOURCES COVERED BY THIS TMDL:

Allocation Type	Source Description
LA	Urban Runoff
LA	Other Nonsignificant Nonpoint Sources

TMDL:

No loading capacity for fecal coliform has been established. The LA's for this TMDL have not been set. Quantification of these loads could not be made at this time with available data, but could be completed after longer-term monitoring data is collected through implementation of the watershed management plan.

Technical Documents:

Pipers Creek Watershed Management Committee. 1990. Pipers Creek Watershed Action Plan for the Control of Nonpoint Source Pollution. Report to Seattle Drainage and Wastewater Utility.

Seattle Drainage and Wastewater Utility. 1989. Pipers Creek Watershed Characterization and Water Quality Assessment Report.

Public Participation:

The Watershed Action Plan was prepared by a committee comprised of representatives of agencies and public interest groups acting under the guidance of the Seattle Engineering Department. Public involvement in both the development and implementation of the Watershed Action Plan are conducted according to the public involvement provisions specified in Chapter 400-12-220 Washington Administrative Code (WAC).

Implementation:

The Watershed Action Plan was adopted by the City of Seattle on October 15, 1990 and approved by Ecology on November 15, 1990. An implementation strategy is presented in the Watershed Action Plan describing how the actions planned are to be executed. An implementation committee has been created to oversee implementation of the Watershed Action Plan.

Monitoring:

Samples for fecal coliform are collected monthly on an ongoing basis by Seattle METRO from three stations on Pipers and Venema Creeks. In addition, at least two storm events will be sampled for fecal coliform at three stations each year, one during the winter season and one during the summer season.