TOTAL MAXIMUM DAILY LOAD
FACT SHEET

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

September 11, 1998

Developed pursuant to Chapter 90.48 RCW, Chapter 173-200 WAC, Chapter 173-220 WAC and the Federal Clean Water Act.

FACILITY NAME AND LOCATION:
Quincy Industrial Waste Treatment Facility
201 12th Avenue S.W.
Quincy, WA 98848

INDUSTRY TYPE:
Combined Food Processing Wastewater Treatment

RECEIVING WATER:
WBID WA-41-9280
Approximately two miles southwest of the city of Quincy and immediately adjacent to the Columbia Basin's Project West Canal. Discharge is directly to irrigation drain DW237, which flows into wasteway W645W, then into W645, then into the Frenchmen Hills Wasteway and finally into the Potholes Reservoir.

TMDL PARAMETERS:	**APPLICABLE RULES:**
Biochemical Oxygen Demand	WAC 173-201A WAC 173-201A-070
Ammonia	WAC 173-201A WAC 173-201A-100
Fecal Coliform	WAC 173-201A-070

SOURCE ALLOCATIONS AND LOADING CAPACITIES:
5-day BOD

	Monthly Average	Daily Maximum
Winter (Nov-Mar)	65 mg/L, 2168 lbs/day	130 mg/L, 4337 lbs/day
Summer (Apr-Oct)	51.1 mg/L, 1705 lbs/day	95.2 mg/L, 3176 lbs/day

Ammonia

	Monthly Average	Daily Maximum
Winter (Nov-Mar)	1.45 mg/L, 48.2 lbs/day	2.90 mg/L, 96.7 lbs/day
Summer (Apr-Oct)	1.19 mg/L, 39.8 lbs/day	2.39 mg/L, 79.8 lbs/day

Source Allocations and Loading Capacities continued:

Fecal Coliform	The permit will require compliance with the Class AA criteria for fecal coliforms; 50 organisms/100 mL.

The TMDLs for BOD and ammonia applies seasonally. The TMDL for fecal coliform applies year-round. Compliance with these limits is delayed until December 1, 1998 to allow the city time to evaluate the results of it's solids plan to meet these limits.

Margin of Safety	Margin of safety is addressed in the documentation of critical conditions in the receiving water for WLA modeling, modeling coefficients used in modeling calculations, consideration of effluent flow rates under extreme conditions, procedures in EPA's Technical Support Document for Water Quality-based Toxics Control (EPA, 1991b) and in the documentation for mixing zones.

SUMMARY

The city of Quincy owns and operates an industrial wastewater treatment facility, which collects and treats process wastewater from a potato processor (Lamb-Weston) and a vegetable processor (J.R. Simplot). Approximately 3.9 mgd of wastewater enters the facility from a potato and a vegetable processor. Treatment consists of primary settling, followed by aeration and settling ponds. Discharge is to an irrigation wasteway, which is part of the Columbia Irrigation Project. Final discharge is to the Potholes Reservoir. Solids from primary settling are sold as cattle feed. Biosolids from the settling lagoons are continuously dredged and pumped to common reed beds for treatment and dewatering.

A NPDES discharge permit was issued to the city on January 16, 1996. The new discharge permit has seasonal (summer and winter) water quality-based discharge limitations for BOD. These are based on dissolved oxygen modeling using data collected during a receiving water study by the Permittee. Dissolved oxygen discharge limits were also determined as a result of the modeling. Seasonal water quality-based limits for ammonia nitrogen limits were derived using critical conditions determined from the receiving water study.

The permit contains water quality-based discharge limitations for ammonia nitrogen, fecal coliforms and dissolved oxygen. Compliance with these limits was postponed until December 1, 1998 to allow the city sufficient time to evaluate a continuous lagoon dredging system that removes sludge from the faculative lagoons. Sludge accumulated in the lagoons was determined to be the primary cause for not meeting the discharge limits, especially for ammonia nitrogen.

Section S8.A of the permit required the submittal of a report that assessed the effectiveness of the dredging on meeting the water quality-based limits. If the report showed that the dredging could not improve treatment to meet the ammonial limits, an engineering report was to be submitted that would determine what changes would be needed to meet the discharge limits for ammonia, fecal coliforms, and dissolved oxygen

by December 1, 1998. The sludge dredging report was submitted in December 1996. The report concluded that the current lagoon system can not meet the ammonia limits, and that it is unclear whether the dredging and other measures will be adequate to meet the ammonia discharge limits by December 1, 1998. The report made a recommendation to investigate alternatives to meeting the ammonia limits. One such alternative is an engineered natural systems/wetlands treatment system. The report indicated that the city was initiating a pilot wetland treatment system in 1997.

PERMIT MODIFICATION

Based on the reported results of dredging operations to meet the ammonia limits and discussions with Ecology, the city submitted a letter, dated February 7, 1997, that requested a three year extension of the December 1, 1998 date for compliance with water quality-based limits for ammonia, dissolved oxygen and fecal coliform. This extension would allow sufficient time for the city to evaluate a pilot engineered wetland system that would allow them to meet water quality standards. The extension would also allow Ecology to complete its review of the state's water quality standards and possibly change them from being based on beneficial use to use-based criteria. This could result in less stringent ammonia criteria for the drainage canal to which the city discharges it's effluent. It would also allow Ecology and the U.S. Bureau of Reclamation to settle jurisdictional and water quality disagreements on dischargers to waterways in the Columbia Basin Irrigation Project.

PUBLIC PARTICIPATION

Public notice of proposed industrial wastewater discharge permit was published on November 30, 1995, in the Columbia Basin Herald to inform the public that an application had been submitted and to invite comments. Comments were received and appropriate responses made. Responses to comments are found in the NPDES permit factsheet, appendix C, Page 27.

MONITORING AND REPORTING

Effluent monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and that the effluent limitations are being achieved. The monitoring and testing schedule is detailed in the permit under condition S.2 and in fact sheet amendments 1 and 2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and the cost of monitoring.

The new discharge permit will have seasonal (summer and winter) water quality-based discharge limitations for BOD. These are based on dissolved oxygen modeling using data collected during a receiving water study by the permitee. Dissolved oxygen discharge limits were also determined as a result of the modeling. Seasonal water quality based limits for ammonial nitrogen limits were derived using critical conditions determined from the receiving water study. Discharge limitations for TSS are performance based. Actual compliance with the ammonia limits has been delayed until December 1, 1998 to allow time for the design, construction and implementation of technology control measures.

Monitoring and Reporting continued:

A compliance schedule in the permit requires the permittee to assess the effectiveness of the recent implementation of a reed bed Biosolids Management Plan, and to determine if the permittee can meet the water quality based ammonia limit. If not, specific dates are included for the submittal of an engineering report, design and construct, and full compliance.