MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

AND

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date**: September 11, 2002**
Revised: **November 22, 2002 and January 17, 2002**

PERMIT NUMBER: **ME0101397**
LICENSE NUMBER: **W000566-5M-C-R**

NAME AND ADDRESS OF APPLICANT*:*

Berwick Sewer District
Powderhouse Road, P.O. Box 15
Berwick, ME. 03901

COUNTY: **York County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Berwick Sewer District
Powderhouse Road
Berwick, Maine

RECEIVING WATER/CLASSIFICATION: **Salmon Falls River, Maine - Class C**
New Hampshire - Class B

COGNIZANT OFFICIAL AND TELEPHONE NUMBER*:* **Mr. Maurice Butler**
(207) 698-5740

1. APPLICATION SUMMARY:

The applicant has applied for renewal of Department Waste Discharge License (WDL) #W000566-47-A-R which was issued on October 21, 1985 and expired on October 21, 1990. The WDL authorized the discharge of up to a monthly average flow of 1.1 million gallons per day (MGD) of secondary treated sanitary waste waters and tannery process waste waters from a publicly owned treatment works to the Salmon Falls River, Class C, in Berwick, Maine. It is noted the Salmon Falls River is an interstate waterway and is classified as a Class B waterway in the State of New Hampshire.

2. PERMIT SUMMARY

a. Regulatory: On January 12, 2001, the Department received authorization from U.S. Environmental Protection Agency (EPA) to administer the National Pollutant Discharge Elimination System (NPDES) permitting program in Maine. From this point forward, the program will be referenced as the Maine Pollutant Discharge Elimination System (MEPDES) permit program and #ME0101397 (same as NPDES permit number) will be utilized as the primary reference number. Issuance of a final MEPDES permit for the BSD facility will replace the NPDES permit #ME0101397 last issued to the BSD by the U.S. EPA on September 25, 1991. Once replaced, all terms and conditions of the NPDES become null and void.

b. Terms and conditions: A summary of the limitations and monitoring requirements in this permitting action include:

Tier I

1. Carrying forward a monthly average flow limitation of 1.1 MGD.

2. Establishing monthly average and daily maximum mass and concentration limits for biochemical oxygen demand (BOD_5) and total suspended solids (TSS) based on a combination of production based best practicable treatment (BPT) limitations specified in National Effluent Guidelines (NEG) for the tannery industry and domestic sanitary waste waters generated by the 1,000 residential/commercial users within the District's boundaries.

3. Establishing year-round *E. coli* bacteria limitations based on the State of New Hampshire's water quality standards as the Salmon Falls River at the point of discharge is an interstate waterway. New Hampshire's bacteria standards are more stringent than Maine's given that New Hampshire classifies the river as a Class B waterway and Maine classifies it as a Class C waterway.

4. Establishing monthly average and daily maximum concentration limits for total residual chlorine (TRC) based on the Department's BPT determination for facilities that de-chlorinate their discharge to meet water quality based thresholds for TRC.

5. Establishing summertime monthly average mass and concentration limits for total phosphorus based on a Department best professional judgment of a cost effective level of treatment to reduce loadings of phosphorus to a water quality limited receiving water. The limits are considered to be an interim step until the BSD takes the necessary action(s) to achieve the more stringent Tier II limitations for total phosphorus.

6. Establishing daily maximum mass and concentration limits for total chromium based on anti-backsliding provisions in federal regulations as said limits in the previous licensing action are more stringent than those calculated using the applicable dilution factor and AWQC.

7. Establishing seasonal (winter and summer) monthly average and daily maximum water quality based mass and concentration limits for ammonia as chemical specific data indicates the discharge has a reasonable potential to exceed acute and chronic AWQC. Seasonal limits have been established as the AWQC is pH and temperature dependent.

8. Establishing monthly average water quality based mass and concentration limits for total copper based on chemical specific data indicating the discharge has a reasonable potential to exceed the chronic AWQC.

9. Establishing surveillance level (1/Year) whole effluent toxicity (WET) and chemical specific testing as required by Department rule, Chapter 530.5, *Surface Water Toxics Control Program*. A water quality based limit of 5.6% with a 2/Year surveillance level testing requirement have been established for the brook trout as several WET test results indicate the discharge has exceeded the critical chronic no observed effect level (C-NOEL) threshold of 5.6%.

Tier II

10. Establishing seasonal BOD_5 and TSS limits. Summertime mass limits are based on recommendations in the approved TMDL. Summertime concentration limits are based on secondary treatment requirements pursuant to Department rule Chapter 525(3)(III). The wintertime mass limits are being carried forward from Tier I (year-round) as the more stringent summertime BOD_5 and TSS limits are not necessary during colder temperatures. See item #2 of this section for the basis of the Tier I limits.

11. Carrying forward monthly average and or daily maximum mass and concentration limits for settleable solids, *E. coli* bacteria, TRC and pH from Tier I.

12. Establishing a seasonal (June 1 – September 30) daily minimum dissolved oxygen requirement on the effluent being discharged from BSD facility. The requirement is based on recommendation in the TMDL in an effort to improve dissolved oxygen levels in the receiving water.

2. PERMIT SUMMARY (cont'd)

13. Establishing a summertime only monthly average mass and concentration limits for total phosphorus based on recommendations in the TMDL.

14. Carrying forward the monthly average and daily maximum mass and concentration limits for total chromium. See item #6 of this section for the basis of the Tier I limits.

15. Establishing seasonal monthly average and weekly average mass and concentration limits for ammonia based on recommendations in the TMDL

16. Establishing an annual ambient river monitoring program to determine the effectiveness of the TMDL recommendations.

17. Establishing a schedule of compliance for the treatment upgrade to come into compliance with Tier II winter and summer limitations of this permit on or before September 30, 2005 and June 1, 2006 respectively with the exception of total phosphorus which becomes effective on May 1, 2004.

c. Licensing/permitting history:

October 21, 1985 - The Department issued a renewal of the Waste Discharge License (WDL) to the Berwick Sewer District for treatment and discharge of up to 1.1 MGD of combined municipal and tannery derived waste waters to the Salmon Falls River.

September 25, 1991 – The EPA issued a renewal of NPDES permit #ME0101397 for the treatment and discharge of up to 1.1 MGD of combined municipal and tannery derived waste waters to the Salmon Falls River.

June 4, 1993 – The EPA issued a Findings of Violation and Order for Compliance to the BSD for exceedences of acute Whole Effluent Toxicity (WET) limits and ordered the completion of a Toxicity Identification Evaluation (TIE) and a Toxicity Reduction Evaluation (TRE).

1994 to 1995 - Berwick SD developed plans for the expansion of the waste water treatment facility to include a single stage nitrification process to reduce ammonia which was identified as being the cause of the toxicity problem. The nitrification process was implemented in the spring of calendar year 1997.

March 1996 – The BSD submitted an application to the EPA to renew NPDES permit #ME0101397.

January 1999 - The Maine Board on Environmental Protection held a public hearing regarding a phased Total Maximum Daily Load (TMDL) and Use Attainability Analysis (UAA) prepared by the Department for a 5.5 mile segment of the Salmon Falls River.

2. PERMIT SUMMARY (cont'd)

March 10, 1999 – The Maine Board of Environmental Protection (BEP) issued a recommendation to the Maine State Legislature to reclassify a 5.5 mile segment of the Salmon Falls River from a Class B to Class C waterway.

September 1999 – The 5.5 mile segment of the Salmon Falls River recommended for reclassification by the BEP was reclassified from a Class B to Class C waterway.

November 22, 1999 - In accordance with §303(d) of the Clean Water Act and 40 CFR Part 130, the EPA approved a Total Maximum Daily Load (TMDL) for ammonia, biochemical oxygen demand (BOD_5) and total phosphorus for the Salmon Falls River. The TMDL was prepared in cooperation with the New Hampshire Department of Environmental Services (NHDES).

January 25, 2001 – The EPA issued a renewal of NPDES permit #ME0101397 which implemented the recommendations of the 11/22/99 TMDL.

February 14, 2001 – The EPA modified the 1/25/01 NPDES permit by granting the BSD additional time to come into compliance with the final permit limits as recommended in the 11/22/99 TMDL. The compliance date was revised from June 1, 2003 to June 1, 2005.

February 26, 2001 – The BSD's largest industrial contributor of flow and pollutant loading (90%) to the waste water treatment facility, Prime Tanning Company, appealed the issuance of the 1/25/01 NPDES permit. The Prime Tanning Company's objections included; 1) that the EPA failed to consider public comments addressing water quality based effluent limits, 2) that the EPA failed to provide adequate justification for the phosphorus mass limitations, 3) that the EPA acted arbitrarily and capriciously when it imposed mass limitations and minimum dissolved oxygen limitations based on inadequate data, 4) that the NPDES permit improperly limited both pollutant mass and pollutant concentrations, 5) that the EPA did not provide a reasoned basis for the dissolved oxygen requirement, and 6) that the EPA did not justify the final limitations for TSS.

June 7, 2001 – The EPA withdrew NPDES permit #ME0101397 issued to the BSD on 1/25/01 which in turn nullified the 1/26/01 appeal of the permit by the Prime Tanning Company.

d. Source Description: The Berwick Sewer District collects and treats domestic waste water from approximately 1000 domestic users within the District's boundaries as well as pre-treated waste waters from Prime Tanning Company. Flows from Prime Tanning are currently approximately 150,000 gallons, only 20% on their allowable flow specified in a contractual agreement between Prime Tanning and the BSD. The District also receives and treats septage brought in by from private septage haulers. The collection system is a separated system with no combined sewer overflow (CSO) points.

2. PERMIT SUMMARY (cont'd)

e. Waste water treatment: The BSD facility is currently designed to treat up to 1.1 MGD on a monthly average basis. Treatment consists of two primary clarifiers, three aeration tanks with fine bubble aeration and three secondary sedimentation tanks. The Prime Tanning Company adds CaOH (pH adjust) and $AlCl_3$ (chromium precipitation) before the waste waters are pumped to BSD's treatment facility. A polymer and NaOH are added at the
headworks of the treatment facility as needed to aid in settling of chromium in the primary clarifiers. Phosphoric acid is added at the aeration tank as a nutrient for the biological process as about half of the flow received during weekdays is from the phosphorus deficient tannery waste waters. Treated waste waters are disinfected using sodium hypochlorite and then de-chlorinated using sodium bisulfite prior to being discharged the receiving water via an outfall pipe that is submerged and discharges a few feet beyond the river bank. See Attachment A of this Fact Sheet for a schematic treatment facility.

Sludge is sent to a holding tank and then centrifuged and hauled off site for disposal by private contract.

3. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges require application of best practicable treatment, be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., Section 420 and Department Regulation Chapter 530.5, *Surface Water Toxics Control Program*, requires the regulation of toxic substances at the levels set forth for Federal Water Quality Criteria as published by the U.S. Environmental Protection Agency pursuant to the Clean Water Act.

4. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A., Section 467(16)(a)(2) states that the Salmon Falls River at the point of discharge is classified as a Class C waterway. Maine Law, 38 M.R.S.A., Section 465(4) describes the standards for classification of Class C waters.

5. RECEIVING WATER CONDITIONS

The Salmon Falls River forms the boundary between Maine and New Hampshire for its entire length of more than 40 miles. The headwaters of the river are at Milton Pond. In the tidal estuary, its name changes to the Piscataqua River and similarly forms the state boundary for more than 10 miles. Flow for the entire river is highly regulated. There are four dams in the first 5 riverine miles which include South Berwick (RM 0.0), Rollinsford (RM 1.1), Lower Great Falls (RM 3.4) and Somersworth (RM 4.9). Two of these dams, South Berwick and Lower Great Falls, have historically generated peaking power and regulated river flow in

5. RECEIVING WATER CONDITIONS (cont'd)

a store and release mode. Both Berwick's and Somersworth's effluents discharge to the Rollinsford impoundment and Rollinsford's effluent discharges to the South Berwick impoundment. South Berwick's effluent discharges just below the South Berwick dam at head of tide and Dover's effluent discharges in the estuary about 5 miles below head of tide. The Town of Milton discharges to the river just below Spaulding Pond at about 20 miles above head of tide.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

In the mid to late 1980's, it became evident that a dissolved oxygen problem existed in the estuary since random sampling always indicated some non-attainment of Maine's Class SB standards of 85% of saturation. Dissolved oxygen levels as low as 35% of saturation have been measured. This also violates New Hampshire's Class B standard of 75% of saturation.

A Waste Load Allocation Study was developed in 1994 to determine the source of the problem and possible solutions to correct the problem. As a result of recommendations of the Waste Load Allocation, additional field work was undertaken in 1995 with the intention of fine tuning model results for an eventual Total Maximum Daily Load (TMDL) for this waterway. Further water quality studies were done in 1998 which confirmed the continued violation of Maine and New Hampshire water quality standards.

a. Total Maximum Daily Load (TMDL) - On November 22, 1999, in accordance with § 303(d) of the Clean Water Act and 40 CFR Part 130, EPA approved a TMDL for ammonia, biochemical oxygen demand and total phosphorus for the Salmon Falls River. The TMDL was prepared by the Maine Department of Environmental Protection. As a result of that action, the NPDES permits issued by the EPA in early calendar year 2001 to waste water treatment facilities in Milton, NH, Berwick ME. (subsequently withdrawn), Somersworth, NH, Rollinsford, NH, and South Berwick, ME. were limited to the load allocations recommended in the TMDL, specifically Table 12 (as revised) and Table 13 (as revised) which are reproduced on the pages that follow.

Table 12. Revised: Phased TMDL for the Salmon Falls River – Applies in Summer

Phase 1 of TMDL	Design Flow (MGD)	NH3 (lb/day)	Ultimate CBOD (lb/day)	BOD5 (lb/day)	Total Phosphorus (TP) (lb/day)
Natural Background NPS (upstream of Milton)	16.4	3	424	N/A	1.2
Milton, NH	0.1	See note 1.	See note 1.	See note 1.	2 (2)
Tributary NPS (from Milton to Lower Great Falls dam)	2.1	0.2	56	N/A	0.4
Allowable Loads at Lower Great Falls (LGF) Dam (3,4)	18.6	3.2	480	---	3
Berwick, ME	1.1	65	429	131	4.4
Somersworth, NH	2.4	143	225	285	9.5
Rollinsford, NH	0.15	18	38	24	1.2
Tributary NPS (Lower Great Falls Dam to the S. Berwick Dam)	0.3	0.1	1	N/A	0.1
South Berwick, ME	0.6	71	228	95	4.8
Great Works River	9.8	N/A	N/A	N/A	2.4
Reserve Capacity (~ 5% of Point Source Loads)	---	16	50	28	1.3
Total = TMDL (4)	---	316	1451	---	26.7

Table 12 – Footnotes:

(1) Milton loadings for NH3 and Ultimate CBOD (UCBOD) are not shown because data suggest that Milton's impact for these pollutants at the LGF dam is relatively insignificant. This is due to the high dilution at Milton (165:1), its distance from the LGF dam (over 15 miles) and the assimilation of NH3 and UCBOD, which are non-conservative substances.

(2) The TP loading for Milton is primarily based on holding current loadings to prevent possible localized excursions of DO water quality standards just downstream of the WWTF. Including a future reserve of 0.2 lb/day, the total TP load at this location is approximately 2.2 lb/day.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Table 12 – Footnotes:

(3) Loadings are based on the average of measured values in the LGF impoundment. To prevent possible excursions of DO downstream of the LGF dam (which was the primary focus of modeling efforts for this study) it is important to maintain loadings at or below those shown during summer low flow conditions. For NH3 and UCBOD, measured concentrations were fairly consistent from upstream of Milton to the LGF dam and are believed to be primarily due to natural sources. However, for reasons stated in footnote a above, the river can actually handle higher loadings of NH3 and UCBOD than shown in the upper portions of the river as long as they do not cause violations of local DO standards or significantly impact the loadings shown at the LGF impoundment. The loading shown for TP accounts for losses of upstream TP due to uptake and settling.

(4) The primary focus of modeling for this study was from the LGF dam downstream. Consequently the TMDL shown is equal to the sum of the allowable loads at the LGF dam (which does not include upstream loads which do not reach the LGF dam due to assimilation or settlement) and all loads downstream of the dam. If the upstream assimilated or settled loads were included, the TMDL would be higher.

Table 13. Revised: Recommended Permit Limits for Phase 1 of TMDL

A. Mass Limits	Summer					Winter
	Total Phosphorus* (lb/day) Mo. Ave.	BOD5/TSS (lb/day) Mo. Ave.	BOD5/TSS (lb/day) Wk. Ave.	BOD5/TSS (lb/day) Daily Max	Ammonia (lb/day) Wk. Ave.	Ammonia (lb/day) Mo. Ave.
Milton, NH	2.0	25	37.6	41.7	none	none
Berwick, ME	4.4	87	131	146	65	147**
Somersworth, NH	9.5	190	285	317	143	321**
Rollinsford, NH	1.2	16	24	27	none	none
S. Berwick, ME	4.8	63	95	106	none	none
Limits Apply	5/1 - 9/30	6/1 - 9/30				10/1 - 5/31

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Table 13. Revised: Recommended Permit Limits for Phase 1 of TMDL

B. Concentration Limits	Summer					Winter
	Total Phosphorus (ppm) Mo. Ave.	DO (ppm) Daily Min.	BOD5 / TSS (ppm) Mo. Ave.	BOD5 / TSS (ppm) Wk. Ave.	BOD5 / TSS(ppm) Daily Max	Ammonia (ppm) Mo. Ave.
Milton, NH	none	None	30	45	50	none
Berwick, ME	0.5	$\geq$ 6.5	10	15	17	16**
Somersworth, NH	0.5	$\geq$ 6.5	10	15	17	16**
Rollinsford, NH	1.0	None	14	20	22	none
S. Berwick, ME	1.0	None	14	20	22	none
Limits Apply	5/1 - 9/30	6/1 - 9/30				10/1 - 5/31

** These winter limits are based on the most stringent state standard currently in effect in ME and NH: ME's use of the 1992 EPA chronic AWQC of 2.7 ppm NH3 @ pH 7 and a temperature of 10ºC.

Other TMDL Recommendations

1. Include performance based TSS in point source limits. Require effluent DO limits of no less than 6.5 ppm for the Berwick and Somersworth WWTFs.

2. Non-Point sources – Implement BMPs on Great Works River Watershed as a priority. Implement BMPs throughout Salmon Falls Watershed, where feasible.

3. Implement simultaneous top and bottom releases from dams, where feasible, during low flow periods to minimize stratification of the bottom layers with emphasis on the Lower Great Falls, Rollinsford, and South Berwick Dams.

4. Ensure dams are operated at run-of-river during low flow periods.

5. Where possible, minimize water withdrawals during low flow conditions.

6. Re-evaluate TMDL after five years. If non-compliance of water quality standards continues to occur, modify the TMDL.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

b. Flow: (Tier I and Tier II) - The previous licensing action established a monthly average limit of 1.1 MGD that is being carried forward in this permitting action and is representative of the design flow of the existing waste water treatment facility. A review of the Discharge Monitoring Report (DMR) data for the period January 1, 1998 through

December 31, 2001 indicates the mean monthly average flows have been approximately 0.65 MGD.

c. Dilution Factors: (Tier I and Tier II) - Dilution factors associated with the discharge from the BSD's waste water treatment facility were derived in accordance with freshwater protocols established in Department Rule Chapter 530.5, *Surface Water Toxics Control Program*, October of 1994. Chapter 530.5 (D)(4)(a) states that analyses using numeric acute criteria for aquatic life must be based on ¼ of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone. The 1Q10 is lowest one day flow over a ten year recurrence interval. The regulation goes on to say that where it can be demonstrated that a discharge achieves rapid and complete mixing with the receiving water by way of an efficient diffuser or other effective method, analyses may use a greater proportion of the stream design, up to including all of it. Based on Department information as to the mixing characteristics of the discharge with the receiving water, the Department has made the determination that the discharge receives rapid and complete mixing with the receiving water. Therefore, the full the 1Q10 is applicable in acute statistical evaluations pursuant to Department Rule Chapter 530.5. With a permitted treatment plant flow of 1.1 MGD, dilution calculations are:

$$\text{Dilution Factor} = \Rightarrow \frac{\text{River Flow (cfs)(Conv. Factor)} + \text{Plant Flow (MGD)}}{\text{Plant Flow (MGD)}}$$

$$\text{Acute: 1Q10} = 28.7 \text{ cfs} \Rightarrow \frac{(28.7 \text{ cfs})(0.6464) + 1.1 \text{ MGD}}{1.1 \text{ MGD}} = 17.9{:}1$$

$$\text{Chronic: 7Q10} = 28.7 \text{ cfs} \Rightarrow \frac{(28.7 \text{ cfs})(0.6464) + (1.1 \text{ MGD})}{1.1 \text{ MGD}} = 17.9{:}1$$

$$\text{Harmonic Mean:} = 86.1 \text{ cfs} \Rightarrow \frac{(86.1 \text{ cfs})(0.6464) + (1.1 \text{ MGD})}{1.1 \text{ MGD}} = 51.6{:}1$$

The 7Q10 and 1Q10 receiving water low flow value of 28.7 cfs was derived as part of the 11/22/99 TMDL. The value was derived using the Lamrey River gage (with 60 years of record) to prorate the unregulated incremental drainage between Milton and Berwick and then added this value to the 7Q10 flow at the USGS gage at Milton of 25.4 cfs (derived by the New Hampshire USGS using a Log Pearson type three statistical distribution).

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

d. Biochemical Oxygen Demand (BOD_5) & Total suspended solids (TSS) – The Tier I year-round BOD_5 and TSS limits are being carried forward from the previous State WDL and federal NPDES permit. Those limits were derived from a combination of tannery effluent guidelines found in federal regulation 40 CFR 425.41 Subpart D – Retan-Wet Finish –Sides for a production of 121,000 lbs per day of Retan-Wet Finish-Sides plus a

domestic flow of 0.35 MGD. Although due to current market conditions, production is significantly lower (25% of full production and down from 1998 production of 117,500 #/day), the previous license limits are equal to or more stringent than the technology based limits calculated in the table on the following page.

Calculation of Berwick Sewer District Effluent Guidelines				
1999 Prime Tanning Production	EPA Guidelines expressed in (lbs/1000 lbs) of Production 40 CFR 425.41 Subpart D – Retan-Wet Finish –Sides		Guidelines Mass Based Permit Limits expressed in lbs/day	
Production 117,500 #/day	Daily Maximum lbs/1000 lbs	Monthly Average lbs/1000 lbs	Daily Maximum lb/day	Monthly Average lb/day
BOD_5	8.9	4.0	**1,046 lbs/day**	**470 lbs/day**
TSS	12.8	5.8	**1,504 lbs/day**	**682 lbs/day**
Oil & Grease	3.7	1.7	435 lbs/day	200 lbs/day
T. Chromium	0.23	0.08	27 lbs/day	9.4 lbs/day

Domestic Waste Water Only				
Flow 0.35 MGD	Daily Maximum mg/l	Monthly Average mg/l	Daily Maximum lb/day	Monthly Average lb/day
BOD_5	50 mg/L	30 mg/L	**146 lbs/day**	**88 lbs/day**
TSS	50 mg/L	30 mg/L	**146 lbs/day**	**88 lbs/day**

Total Tannery + Domestic Effluent Guidelines Limits				
Parameter	Daily Maximum mg/l	Monthly Average mg/l	Daily Maximum lb/day	Monthly Average lb/day
BOD_5	130 mg/L	61 mg/L	**1,192 lbs/day**	**558 lbs/day**
TSS	180 mg/L	84 mg/L	**1,650 lbs/day**	**770 lbs/day**

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

The daily maximum and monthly average concentration limits for BOD and TSS in Tier I were back-calculated from the mass limits based on a permit flow limit of 1.1 MGD.

Seasonal mass and concentration limits for BOD are being established in this permitting action for Tier II based on the 11/22/99 TMDL that are deemed necessary to achieve dissolved oxygen standards in the receiving waters. The Tier II winter limits are being carried forward from Tier I and summer BOD mass limits of 87 lbs/day, 131 lbs/day and 146 lbs/day (monthly average, weekly average and daily maximum respectively) are being established based on recommendations in the TMDL.

As for TSS, the Federal Water Pollution Control Act (Clean Water Act) of 1977 §301(b)(1)(B), federal regulation found at 40 CFR Part 133.102 and Department rule Chapter 525 (3)(III) establish the same limitations for BOD and TSS as a reduction in one generally results in an equal reduction in the other. However, given the substantial pollutant loading from a categorical industry such as Prime Tanning, other criteria must be taken into consideration in establishing TSS limits. Federal regulation 40 CFR 425.41 Subpart D – Retan-Wet Finish establishes BPT for BOD and TSS. The regulation establishes TSS production based criteria as being approximately 1.45 times higher than BOD_5 criteria. Therefore, in keeping with the BPT methodology of establishing TSS limits in federal regulation, this permitting action is establishing summer (June 1 – September 30) TSS limits 1.45 times higher than the BOD_5 and are protective of water quality standards. The Tier II summer TSS mass limits have been calculated to be 126 lbs/day, 190 lbs/day and 212 lbs/day (monthly average, weekly average and daily maximum). For the winter (October 1 – May 31) TSS mass limits are being established equivalent to winter BOD limits as a best professional judgment of the treatment technology that will be used to achieve the BOD limits will also achieve similar TSS limits as is the practice for municipal dischargers. During the 1998-99 period (full production at the Prime Tanning Company), the Berwick POTW discharged about 115 lbs/day of BOD and 180 lbs/day of TSS as a monthly average.

All BOD and TSS concentration limits were derived by back calculating a concentration from the applicable mass limits and a permitted flow of 1.1 MGD. Average effluent concentrations for the period 1998 - 1999 for the BSD have been in the 20 to 30 mg/l range for BOD and in the 30 to 40 mg/l range for TSS. The Tier II winter period BOD and TSS limits are the same as the Tier I technology based winter limits.

e. Settleable Solids - The previous licensing action established monthly average and daily maximum concentration limits of 0.1 ml/L and 0.3 ml/L respectively, for settleable solids. The Department has reconsidered its position on regulating settleable solids and has made the determination that a daily maximum limit of 0.3 ml/L is considered best practicable treatment (BPT) and as a result, established a limitation as such in this permitting action. The monthly average concentration reporting requirement in the previous licensing action is not being incorporated into this permit as it is unnecessary given the establishment of the daily maximum limit.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

f. *E. coli* Bacteria The previous licensing action established monthly average and daily maximum fecal coliform bacteria limits of 60 colonies/100 ml and 60 colonies/100 ml respectively. The origin of the limits is unknown. Maine law, 38 MRSA, §465(4) establishes monthly average (geometric mean) and daily maximum *E. coli*. bacteria

standards for Class C waters of 142 colonies/100 ml and 949 colonies/100 ml. The State of NH establishes monthly average (geometric mean) and daily maximum *E. coli*. bacteria standards for Class B waters of 126 colonies/100 ml and 406 colonies/100 ml.

Being that the Salmon Falls River is an interstate waters, the more stringent of the two State's water quality standard (NH's) is being incorporated into this permit. Therefore, the monthly average and daily maximum *E. coli* bacteria limits of 126 colonies/100 ml and 406 colonies/100 ml respectively are being established in this permit.

g. Total Residual Chlorine - Limits on total residual chlorine (TRC) are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. The previous licensing action established a daily maximum BPT limit of 1.0 mg/L for the discharge. Water quality based thresholds for TRC can be calculated as follows:

Parameter	Acute Criteria	Chronic Criteria	Acute Dilution	Chronic Dilution	Acute Limit	Chronic Limit
Chlorine	19 ug/L	11 ug/L	17.9:1	17.9:1	0.34 mg/L	0.20 mg/L

Example calculation: Acute – 0.019 mg/L (17.9) = 0.34 mg/L

To meet the acute and chronic water quality based thresholds calculated above, the permittee must dechlorinate the effluent prior to discharge. In April of 1999, the Department established new monthly average and daily maximum BPT limitations of 0.1 mg/L and 0.3 mg/L respectively, for facilities that need to dechlorinate their effluent unless calculated water quality based thresholds are lower than 0.1 mg/L and 0.3 mg/L.

In the case of the BSD facility, the calculated acute water quality based threshold is higher than 0.3 mg/l, thus the BPT limit of 0.3 mg/L is imposed as a daily maximum limit. As for the monthly average limitation, the Department's BPT limitation is 0.1 mg/L. Being that the calculated chronic water quality based limit is higher than the BPT limit of 0.1 mg/L, the BPT limit is imposed as a monthly average in this permitting action.

h. pH Range- The previous licensing action established a pH range limitation of 6.0 - 8.5 standard units. The limits were based on Maine Board of Environmental Protection Policy regarding the certification of NPDES permits and were considered best practicable treatment limitations. This permitting action is expanding the range limit from 6.0 – 8.5 to 6.0 –9.0 standard units pursuant to a new Department rule found at Chapter 525(3)(III)(c). The new limits are considered BPT.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

i. Oil and Grease – The previous licensing action established a year-round daily maximum limit of 100 lbs/day that is being carried forward in this permitting action based on anti-backsliding provisions in federal regulation given the limit is more stringent than what would be permitted by 40 CFR Part 425.41 Subpart D as calculated in the table in Section 6(d) of this Fact Sheet. This permit is also establishing a daily maximum concentration limit of 15 mg/L that is a Department best practicable treatment limit for oil and grease and is considered the threshold at which oil/grease creates an oil sheen on the surface of a waterbody.

j. Total Phosphorus – Text in the 11/22/99 TMDL states that 1995 data indicates that 89.9% of the total phosphorus loading to the 5.5 mile segment of the Salmon Falls River addressed in the TMDL is due to point sources while the balance of 9.1% is from non-point sources. For point source discharges, the percentage are as follows:

Milton – 3.9% Berwick – 38.5% Somersworth – 34.8%
Rollingsford – 3.7% South Berwick – 9%

The previous licensing action did not establish limitations or monitoring requirements for total phosphorus. Due to the water quality concerns associated with receiving water, Tier I is establishing a seasonal (May 1 – September 30) monthly average mass and concentration limitations and monitoring requirements for phosphorus. The concentration limit of 1.0 mg/l was established based on Department best professional judgment of a cost effective level of treatment (chemical addition) to reduce phosphorus loadings to the receiving water. The monthly average mass limit of 9.2 lbs/day was calculated based on the flow limit of 1.1 MGD and the concentration limit of 1.0 mg/L. The BSD currently adds phosphoric acid to the phosphorus deficient waste waters to provide nutrients for biological treatment.

Beginning May 1, 2004, Tier II monthly average concentration and mass limits of 4.4 lb/day and 0.75 mg/L respectively, become effective. The mass limit is based on recommendations in the TMDL and the concentration limit is a limit that was negotiated between the Department and Prime Tanning with the BSD acknowledging the change**.** See the discussion in the section #11, Response to Comments of this Fact Sheet. No phosphorous limits or monitoring are established in the winter months (October 1 – April 30) as the algal growth in the receiving waters (contributing to dissolved oxygen depletion) that is promoted by the introduction of phosphorus is limited to the summer months.

k. Total Chromium – The previous licensing action established monthly average and daily mass limits of 9.7 lbs/day and 13 lbs/day respectively, with a daily maximum concentration limit of 2.0 mg/L. The derivation of the limits is unknown. The calculated technology based limits based on 40 CFR Part 425.41 (Subpart D) yields allowable mass

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

loadings of 9.4 lbs/day as a monthly average and 27 lbs/day as a daily maximum [see section 6(d) of this Fact Sheet]. Water quality based limits (utilizing EPA's 1986 ambient water quality criteria) may be calculated as 9.1 lbs/day and 76 lbs/day respectively utilizing an acute and chronic dilution factor of 17.9:1 and 1.1 MGD. For Tier I and

Tier II, this permitting action is establishing the most stringent limitations of those cited above. Therefore, a monthly average water quality based mass limit of 9.1 lbs/day is being established and a daily maximum mass limit of 13 lbs/day is being established based on anti-backsliding provisions of federal regulations. A monthly average concentration limit of 1.5 mg/L was derived by back-calculating from the applicable mass limit and the permitted flow of 1.1 MGD and then multiplied the result by a factor of 1.5. See the discussion in section 6(n) of this Fact Sheet. As for the daily maximum concentration of 2.0 mg/L, it is being carried forward from the previous licensing action based on anti-backsliding provisions in federal regulations.

l. Ammonia-Total- The previous licensing action did not establish mass or concentration limits for ammonia-nitrogen. This permitting action is establishing seasonal limitations and monitoring and reporting requirements for total ammonia for Tier I and Tier II. For Tier I, a statistical evaluation conducted by the Department pursuant to Department Rule Chapter 530.5, *Surface Water Toxics Control Program*, indicates the discharge from the BSD has a reasonable potential to exceed the chronic ambient water quality criteria (AWQC) for total ammonia on a year-round basis. For the derivation of the seasonal mass and concentration limits for Tier I, see the discussion under section 6(n) of this Fact Sheet. It is noted the BSD already conducts ammonia-nitrogen monitoring as part of its process control.

For Tier II, the summer weekly average limit (June 1 – September 30) of 65 lb/day beginning June 1, 2006 is based upon the BOD modeling component of the TMDL. The Tier II monthly average winter limit of 147 lbs/day beginning September 30, 2005 is based upon the TMDL using a chronic AWQC of 2.7 mg/l (pH 7 and temperature of 10^{o} C) taking into consideration the discharges from Somersworth and Berwick facilities, including background concentrations. The Tier II winter total ammonia concentration limit of 16 mg/l is back-calculated from the mass limit and a permit flow limit of 1.1 MGD.

m. Dissolved Oxygen – Beginning June 1, 2006, this permitting action is requiring the BSD to maintain a seasonal (June 1 – September 30) dissolved oxygen level in the effluent that is greater than or equal to 6.5 mg/L (ppm). The limit is being based on recommendation in the 11/22/99 TMDL. No wintertime minimum dissolved oxygen limit is imposed.

n. Whole Effluent Toxicity (WET) and Chemical Specific Testing – The BSD's waste water treatment facility is categorically subject to Department rule Chapter 530.5, *Surface Water Toxics Control Program.* A recent review of the data indicates that BSD has fulfilled the WET and chemical specific testing requirements to date. See Attachment B of this Fact Sheet for the WET and chemical specific test results submitted to date.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Department Regulation Chapter 530.5 and Protocol E(1) of a document entitled Maine Department of Environmental Protection, Toxicity Program Implementation Protocols, dated July 1998, states that statistical evaluations shall be periodically performed on the most recent 60 months of WET and chemical specific data for a given facility to determine if water quality based limitations must be included in the permit for a facility.

On November 21, 2002, the Department conducted an evaluation on the aforementioned tests results in accordance with the statistical approach outlined in EPA's March 1991 document entitled Technical Support Document (TSD) for Water Quality Based Toxics Control, Chapter 3.3.2 and Maine Department of Environmental Protection Guidance, July 1998, entitled Toxicity Program Implementation Protocols.

Chapter 530.5 §C(2) states when a discharge "...contains pollutants at levels that have a reasonable potential to cause or contribute to an ambient excursion in excess of a numeric or narrative water quality criterion, appropriate water quality based limits must be established in the license upon issuance."

Chapter 530.5 §C(3) states that if data indicates that a discharge is causing an exceedence of applicable AWQC, then:"(1) the Department must notify the permittee of the exceedence; (2) the permittee must submit a toxicity reduction evaluation (TRE) plan for review and approval within 30 days of receipt of notice and implement the TRE after Department approval; (3) the Department must modify the waste discharge permit to specify effluent limits and monitoring requirements necessary to control the level of pollutant and meet receiving water classification standards within 180 days of the Department's approval of the TRE.

WET testing (Tier's I & II)

The 11/21/02 statistical evaluation indicates the discharge from the BSD has three data points in the 60 month evaluation period that exceeds the chronic ambient water quality threshold of 5.6% (based on the mathematical inverse of the chronic dilution factor of 17.9:1) for the brook trout (*Salvelinus fontinalis*). Therefore, this permitting action is establishing a testing frequency of 2/Year for the brook trout based on the frequency, severity and timing of the exceedences. This permitting action is not requiring the BSD to prepare a TRE at this time as a letter of July 18, 2002 from the BSD to the Department indicates the BSD is already conducting a phased TRE. The BSD has investigated and believes the cause of the exceedence was related to elevated levels of ammonia and has taken corrective actions to treat ammonia to eliminate the toxicity. The BSD proposes to continue to conduct WET testing on the brook trout in accordance with the schedule (surveillance level – 2/Year) established in Special Condition A of this permit and will re-evaluate the need to expand the TRE if additional exceedences are realized in the future.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

As for the remaining WET test species tested to date, the discharge does not exceed or have a reasonable potential to exceed the acute and chronic ambient water quality threshold of 5.6%. Therefore, the surveillance testing frequency of 1/Year has been established for the water flea. Twelve months prior to the expiration date of the permit, the permittee shall conduct a screening level of testing of 1/Quarter for four consecutive calendar quarters. For the vertebrate test species, two of the four tests shall be conducted on the brook trout and the remaining two of the four tests shall be conducted on the fathead minnow.

Chemical Specific testing

The 11/21/02 statistical evaluation indicates the most recent 60 months of data indicates the discharge from the BSD has a reasonable potential to exceed the Department's chronic AWQC for ammonia (3 test results), chromium (3 test results) and copper (1 test result).

In accordance with Chapter 530.5 §C(2) and §C(3), monthly average mass and concentration limits for the chemical specific parameters of concern may be calculated as follows:

Parameter	Chronic[(1)] Criterion	Chronic Dilution Factor	Calculated EOP[(2)] Chronic Concentration	Mon. Avg. Mass Limit
Chromium	55.4 ug/L	17.9:1	992 ug/L	9.1 lbs/day
Copper	2.99 ug/L	17.9:1	53.5 ug/L	0.49 lbs/day

Example calculation: Chromium – $\frac{(55.4 \text{ ug/L})(17.9)(8.34)(1.1 \text{ MGD})}{1000 \text{ ug/mg}} = 9.1$ lbs/day

Footnotes:

(1) Criteria based on EPA's 1986 AWQC.
(2) End-of-pipe.

Department rule Chapter 523, §6(f)(2) states pollutants limited in terms of mass additionally may be limited in terms of other units of measurement and the permit shall require the permittee to comply with both limitations**.** *EPA's Technical Support Document For Water Quality Based Toxics Control*, March 1991, Chapter 5, Section 5.7, recommends that permit limits for both mass and concentration be specified for effluents discharging into waters with less than 100 fold dilution to ensure attainment of water quality standards. As not to penalize facilities for operating at flows less than permitted design flow of the waste water plant, the Department has increased the calculated concentration limit by a factor of 1.5. This represents an effluent concentration that is achievable through proper operation and maintenance of the treatment plant. Therefore, end-of-pipe concentration limits may be calculated as follows:

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Parameter	Calculated EOP Concentration	Monthly Avg. Concentration Limit
Chromium	992 ug/L	1,488 ug/L
Copper	53.5 ug/L	80 ug/L

As for total ammonia, the Department is taking into consideration the discharge from the Somersworth, N.H. facility when establishing limits in this permitting action as ammonia is a toxic pollutant and there are existing water quality concerns associated with the discharge of ammonia. The Somersworth facility has a permitted flow of 2.4 MGD and the proposed flow limit in this permit is 1.1 MGD for a total of 3.5 MGD. With a 1Q10 and 7Q10 low flow of 28.7 cfs (18.6 MGD) in the Salmon Falls River and a combined effluent flow of 3.5 MGD, the acute and chronic dilution factor is 6.3:1.

$$\text{Dilution Factor} = \Rightarrow \frac{\text{River Flow (cfs)(Conv. Factor)} + \text{Plant flow}}{\text{Plant Flow}}$$

$$\text{Dilution factor} = \Rightarrow \frac{(28.7 \text{ cfs})(0.6464) + 3.5 \text{ MGD}}{3.5 \text{ MGD}} = 6.3{:}1$$

For total ammonia, EPA's AWQC is pH and temperature dependent. For the summer season (June 1 – September 30) an AWQC of 1.23 mg/L is based on a pH of 7.0 standard units and a temperature of 25ºC. For the winter season, an AWQC of 2.7 mg/L is based on a pH of 7.0 standard units and a temperature of 10ºC. Therefore, the seasonal assimilative capacity of the Salmon Falls River may be calculated as follows:

Winter: (2.7 mg/L)(6.3)(8.34)(3.5 MGD) = 496 lbs/day

Summer: (1.23 mg/L)(6.3)(8.34)(3.5 MGD) = 226 lbs/day

Since Berwick's flow limit of 1.1 MGD is 32% of the total (3.5 MGD) discharged between the two treatment facilities, 32% of the ammonia is being allocated to Berwick seasonally. Therefore, for Tier I, the monthly average winter mass limit for total ammonia is 159 lbs/day and the monthly average summer mass limit is 72 lbs/day.

As for concentration, monthly average seasonal limits are being established in accordance with the methodology that was used to derive concentrations limits for chromium and copper.

Winter: (2.7 mg/L)(6.3)(1.5) = 26 mg/L

Summer: (1.23 mg/L)(6.3)(1.5) = 12 mg/L

Tier II mass and concentration limits for total ammonia are based on recommendations in the TMDL.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

The testing frequencies established in Special Condition A of this permit are based on a

Department best professional judgment taking into consideration the frequency, severity and timing of the exceedence(s) and or reasonable potential to exceed AWQC**.**

As for the remaining chemical specific elements/compounds, the 11/22/02 statistical evaluation indicates there are no exceedences or RP to exceed AWQC. Therefore, this permitting action is establishing a surveillance level monitoring frequency of 1/Year until twelve months prior to the expiration date of the permit at which time the frequency reverts back to a screening level testing of 1/Quarter. See Special Condition A.

o. Ambient River Monitoring : This permit requires summertime ambient river monitoring for dissolved oxygen, temperature, chlorophyl a, total phosphorus and ortho-phosphate. Berwick SD is responsible for monitoring twice per month just above (0.1 miles) the Lower Great Falls Dam. BSD would also split monitoring with Somersworth (2 months each) for DO and temperature monitoring at the Bridge above the Somersworth WWTP. The ambient monitoring condition is derived from recommendations in the TMDL. Although the TMDL concluded that water quality conditions would be met after some changes in dam operational controls and after the dischargers achieve the TMDLs, there remains some uncertainty. Ambient monitoring at critical locations during prior water quality monitoring studies is needed to verify that the standards are being achieved. The monitoring plan has been incorporated into the State and federal permits for each of the four other direct dischargers to the Salmon Falls River. Each of the four other dischargers is required to monitor one nearby site. (See Attachment B of this permit for the monitoring station locations). The ambient river monitoring is not required to begin until the permittee receives written notification from the Department and at such time when all dischargers have completed the necessary treatment plant upgrades.

7. PRETREATMENT

The permittee is required to administer a pretreatment program based on the authority granted under Federal regulations 40 CFR §122.44(j), 40 CFR Part 403 and section 307 of the Federal Water Pollution Control Act (Clean Water Act) and Department rule Chapter 528, Pretreatment Program. The permittee's pretreatment program received EPA approval on July 19, 1985 and as a result, appropriate pretreatment program requirements were incorporated into the previous National Pollutant Discharge Elimination System (NPDES) permit which were consistent with that approval and federal pretreatment regulations in effect when the permit was issued.

Since issuance of the previous NPDES permit, the State of Maine has been authorized by the EPA to administer the federal pretreatment program as part of receiving authorization to administer the NPDES program. Upon issuance of this MEPDES permit, the permittee is obligated to modify (if applicable) its pretreatment program to be consistent with current

7. PRETREATMENT (cont'd)

federal regulations and State rules. Those activities that the permittee must address include, but are not limited to, the following: (1) develop and enforce Department approved specific

effluent limits (technically-based local limits - last approved by the EPA on February 21, 1995; (2) revise the local sewer-use ordinance or regulation, as appropriate, to be consistent with federal regulations and State rules; (3) develop an enforcement response plan; (4) implement a slug control evaluation program; (5) track significant non-compliance for industrial users; and (6) establish a definition of and track significant industrial users.

These requirements are necessary to ensure continued compliance with the POTW's MEPDES permit and its sludge use or disposal practices.

In addition to the requirements described above, this permit requires that within 180 days of the permit's effective date, the permittee shall submit to the Department in writing, a description of proposed changes to permittee's pretreatment program deemed necessary to assure conformity with current federal and State pretreatment regulations and rules respectively. These requirements are included in the permit (Special Condition O)) to ensure that the pretreatment program is consistent and up-to-date with all pretreatment requirements in effect. Lastly, by December 1 of each calendar year, the permittee must submit a pretreatment report detailing the activities of the program for the twelve month period ending 60 days prior to the due date.

8. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

After full implementation of the TMDL for the five municipal treatment facilities and changes in dam operational controls to improve water quality, the EPA, MEDEP and the NHDHS anticipate water quality standards for ME and NH will be attained. Should future instream sampling data indicate that more stringent limitations are necessary to attain standards, this permit will reopened per Special Condition K of this permit to incorporate appropriate limitations and monitoring requirements. As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the waterbody to meet standards for Maine's Class C or New Hampshire's Class B classification.

9. PUBLIC COMMENTS

Public notice of this application was made in the local newspaper on or about October 15, 1990. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

10. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7693

11. RESPONSE TO COMMENTS

During the period of September 11, 2002, through the issuance date of the license, the Department solicited comments on the proposed draft MEPDES permit/WDL to be issued to Berwick Sewer District for the proposed discharge. The Department received written comments from the Prime Tanning Company (Prime) in a letter dated October 8, 2002. A response those comments are as follows.

Comment #1: Prime objects to the monthly average mass and concentration limits for total phosphorus of 4.4 lbs/day and 0.5 mg/L respectively, given the relative uncertainty of the modeling assumptions, predictions of the TMDL report and the cost associated with meeting such a stringent concentration limit. The mass limit is a water quality based limit and the concentration limit is a technology based limit. Prime has requested an increase in the aforementioned to 0.75 mg/L and 6.9 lbs/day. The 6.9 lbs/day is based on a permitted flow of 1.10 MGD and a concentration of 0.75 mg/L.

Response #1: The mass limit of 4.4 lbs/day is a water quality based limit that the Department determined in the EPA approved TMDL, and maintains as of the date of this permitting action, is necessary to meet water quality standards of its assigned classification, Class C. The Department is denying Prime's request to increase the total phosphorus mass limit from 4.4 lbs/day to 6.9 lbs/day.

As for the technology based monthly average concentration limit of 0.5 mg/L, the Department is amenable to increasing the limit to 0.75 mg/L as the estimated cost to achieve such a limit may be as high as $1.0 million dollars in infrastructure costs to the BSD and Prime Tanning Company. Given the significant down-sizing of production at the Prime facility since the approval of the TMDL (approximately 2/3 reduction), the cost/benefit evaluation conducted as part of the Use Attainability Analysis is no longer representative of the financial capabilities of the BSD and Prime Tanning Company to implement the

11. RESPONSE TO COMMENTS (cont'd)

treatment alternatives deemed to be affordable in 1999. In addition, the downsizing at Prime has significantly reduced the potential of the BSD's contribution to adverse water quality impacts from those that were evaluated during the development of the TMDL. The BSD should be able to consistently meet the monthly average water quality based mass limit of

4.4 lbs/day. In addition, the Department is sensitive to the District and Prime spending upwards of $1.0 million dollars when the future of the Prime Tanning Company as a full production facility is uncertain. Therefore, the Department is establishing the monthly average total phosphorus concentration limit at 0.75 mg/L.

A review of monitoring data submitted to the Department by the BSD for total phosphorus indicates the monthly average mass and concentration limits of 4.4 lbs/day and 0.75 mg/L respectively, were achieved during the summers of calendar year 2001 and 2002. The data indicates some variability in successfully treating to 0.75 mg/L. Therefore, the Department is modifying the schedule of compliance for achieving said limits from June 1, 2006 to June 1, 2004. This will enable the BSD to experiment with chemical addition for one more summer (calendar year 2003) prior to the limits becoming effective and reduce the loading of phosphorus to the river two years earlier than originally proposed.