STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

June 23, 2006

Ms. Mary Bowers
Superintendent
Great Salt Bay Sanitary District
P.O. Box 23
Damariscotta, ME 04543

RE: Maine Pollutant Discharge Elimination System Permit #ME0101516
Maine Waste Discharge License Application #W006048-5L-E-R
Final Permit/License

Dear Ms. Bowers:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL (permit hereinafter) which was approved by the Department of Environmental Protection. Please read the permit and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

If you have any questions regarding the matter, please feel free to call me at 287-7693.

Sincerely,

Gregg Wood
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.
cc: Beth DeHaas, DEP/CMRO
Sandy Lao, USEPA

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17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

GREAT SALT BAY SANITARY DISTRICT	)	MAINE POLLUTANT DISCHARGE
DAMARISCOTTA, LINCOLN COUNTY, MAINE	)	ELIMINATION SYSTEM PERMIT
PUBLICLY OWNED TREATMENT WORKS	)	AND
MAIN TREATMENT PLANT – DAMARISCOTTA	)	WASTE DISCHARGE LICENSE
ME0101516	)	
W006048-5L-E-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251 et. seq. and Maine Law 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection (Department hereinafter) has considered the application of the GREAT SALT BAY SANITARY DISTRICT (GSBSD hereinafter), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The GSBSD has submitted a timely and complete application to the Department to renew combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0101516/ Maine Waste Discharge License (WDL) #W006048-5L-D-R, which was issued on August 31, 2001 and is due to expire on August 31, 2006. The previous MEPDES permit/WDL (permit hereinafter) authorized the discharge of up to a monthly average flow of 0.268 million gallons per day (MGD) of secondary treated sanitary waste water from a municipal waste water treatment facility to the Damariscotta River, Class SB, in Damariscotta, Maine. The facility is the main treatment plant for the GSBSD, servicing the downtown areas of Damariscotta and Newcastle.

RENEWAL SUMMARY

This permit is carrying forward the terms and conditions of the previous permitting action except that this permit:

1. Establishes a requirement to maintain an up-to-date Operations and Maintenance Plan.

2. Establishes a requirement to maintain an up-to-date Wet Weather Management Plan.

3. Establishes a requirement to submit an annual certification to the Department to maintain a waiver from routine whole effluent toxicity (WET), priority pollutant and analytical chemistry testing as specified by Department rule Chapter 530, *Surface Water Toxics Control Program.*

4. Eliminating annual monitoring requirements for chemical oxygen demand and ammonia-nitrogen in four groundwater monitoring wells.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated May 22, 2006, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, 38 M.R.S.A., Section 464(4)(F), will be met, in that:

   a. Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   b. Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;

   c. The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

   d. Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

   e. The discharge will be subject to effluent limitations that require application of best practicable treatment.

4. The discharge will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of the GREAT SALT BAY SANITARY DISTRICT to discharge up to a monthly average flow of 0.268 million gallons per day (MGD) of secondary treated municipal waste waters to the Damariscotta River, Class SB, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations, including:

1. "*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*," revised July 1, 2002, copy attached.

2. The attached Special Conditions, including any effluent limitations and monitoring requirements.

3. This permit expires five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 26TH DAY OF JUNE, 2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
David P. Littell, Commissioner

PLEASE NOTE ATTACHED FACT SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: May 4, 2006.

Date of application acceptance: May 15, 2006.

Date filed with Board of Environmental Protection

FILED
JUN 27 2006
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

This order prepared by Gregg Wood, BUREAU OF LAND AND WATER QUALITY

W60485LE 6/23/06

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. **OUTFALL #001A – Final Effluent**
   The permittee is authorized to discharge secondary treated sanitary wastewater from **OUTFALL #001A** to the Damariscotta River. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow [50050]	0.268 MGD [03]	---	Report MGD [03]	---	---	---	Continuous [99/99]	Meter [MT]
Biochemical Oxygen Demand [00310] (BOD_5)	67 lb/day [26]	100 lb/day [26]	112 lb/day [26]	30 mg/L [19]	45 mg/L [19]	50 mg/L [19]	1/Week [01/07]	Composite [24]
BOD_5 Percent Removal(1) [81010]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]
Total Suspended Solids [00530] (TSS)	67 lb/day [26]	100 lb/day [26]	112 lb/day [26]	30 mg/L [19]	45 mg/L [19]	50 mg/L [19]	1/Week [01/07]	Composite [24]
TSS Percent Removal(1) [81011]	---	---	---	85% [23]	---	---	1/Month [01/30]	Calculate [CA]
Settleable Solids [00545]	---	---	---	---	---	0.3 ml/L [25]	1/Week [01/07]	Grab [GR]
Fecal Coliform Bacteria(2) [31616] (Year Round Basis)	---	---	---	15/100 ml(3) [13]	---	50/100 ml [13]	1/Week [01/07]	Grab [GR]
Total Residual Chlorine(2) [50060] (Year Round Basis)	---	---	---	---	---	1.0 mg/L(4) [19]	5/Week(5) [05/07]	Grab [GR]
pH (Std. Unit) [00400]	---	---	---	---	---	6.0 – 9.0 SU [12]	1/Week [01/07]	Grab [GR]

The italicized numeric values bracketed in the table above are code numbers that the Department personnel utilize to code the monthly Discharge Monitoring Reports.

SPECIAL CONDITIONS

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

2. UNDERDRAIN POINTS 003A, 004A, AND 005A

During the period beginning the effective date of this permit and lasting through the permit expiration, the permittee is required to conduct sampling on three lagoon underdrains as specified below:

Effluent Characteristic	Minimum Monitoring Requirements		
Parameter	Daily Maximum (units specified)	Measurement Frequency	Sample Type
Flow Rate [00058]	Report GPM [78]	3/Year(6) [03/YR]	Measure [MS]
Conductivity [00094]	Report (umhos/cm) [11]	3/Year(6) [03/YR]	Grab [GR]
Temperature, °C [00010]	Report (°C) [04]	3/Year(6) [03/YR]	Grab [GR]
Fecal Coliform Bacteria [31616]	Report # / 100 ml [13]	3/Year(6) [03/YR]	Grab [GR]

3. GROUND WATER MONITORING WELLS TMW1, TMW2, TMW8, & BMW1

During the period beginning the effective date of this permit and lasting through the permit expiration, the permittee is required to conduct sampling on the ground water monitoring wells CMW1, CMW4, TMW8, and BMW1 (see Attachment B of the Fact Sheet of this permit for the approximate locations) as specified below:

Effluent Characteristic	Minimum Monitoring Requirements		
Parameter	Daily Maximum (units specified)	Measurement Frequency	Sample Type
Conductivity [00094]	Report (umhos/cm) [11]	1/Year(7) [01/YR]	Grab [GR]
Temperature, °C [00010]	Report (°C) [04]	1/Year(7) [01/YR]	Grab [GR]
pH (Std. Unit) [00400]	Report (SU) [12]	1/Year(7) [01/YR]	Grab [GR]
Chlorides [00940]	Report mg/L [19]	1/Year(7) [01/YR]	Grab [GR]
Total Sodium [00929]	Report mg/L [19]	1/Year(7) [01/YR]	Grab [GR]
Total Nitrate Nitrogen (as N) [00620]	Report mg/L [19]	1/Year(7) [01/YR]	Grab [GR]

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued) – Footnotes:

Sampling Locations:
Influent sampling for BOD_5 and TSS shall be sampled from the influent flow channel prior to the bar screens.

Effluent sampling- Samples for pH, fecal coliform bacteria, total residual chlorine and settleable solids shall be collected at the treatment plant's effluent pump station. Samples for BOD and TSS shall be collected at the outlet structure of the final treatment lagoon (currently Lagoon #3).

Any change in sampling location(s) must be reviewed and approved by the Department in writing.

Sampling –Sampling and analysis must be conducted in accordance with; a) methods approved in 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

1. **Percent Removal** - The facility shall maintain a minimum of 85 percent removal of both BOD_5 and TSS. Compliance with the limitation is based on a twelve-month rolling average. Calendar monthly average percent removal values shall be calculated based on influent and effluent concentrations. The percent removal is not applicable when the monthly average influent concentration is less than 200 mg/L and shall not be included in the rolling average calculations.

2. **Fecal Coliform bacteria and Total Residual Chlorine (TRC)** - Limits and monitoring requirements are in effect on a year round basis.

3. **Fecal coliform bacteria** - To be reported as a geometric mean.

4. **TRC** - Limitation applies at the treatment plant's effluent pump station.

5. **TRC** - Excepting holidays and other non-working days.

6. **Lagoon underdrains** - Shall be monitored during the months of April, July and October of each year.

7. **Ground water monitoring wells** - Shall be monitored during the month of April of each year. Ground water monitoring results that exceed 250 mg/L for chlorides, 120 mg/L for sodium, or 10 mg/L for total nitrate nitrogen shall be reported to the Department with five (5) working days.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated by the classification of the receiving waters.

2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated by the classification of the receiving waters.

3. The discharge shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by the classification of the receiving waters.

4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. DISINFECTION

If chlorination is used as the means of disinfection, an approved chlorine contact tank providing the proper detention time consistent with good engineering practice must be utilized followed by a dechlorination system if the imposed total residual chlorine (TRC) limit cannot be achieved by dissipation in the detention tank. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The dose of chlorine applied shall provide a TRC concentration that will effectively reduce fecal coliform bacteria levels to or below those specified in Special Condition A, *Effluent Limitation and Monitoring Requirements,* of this permit.

D. TREATMENT PLANT OPERATOR

The waste water treatment facility must be operated under the direction of a person holding a minimum of a **Grade III** certificate [or Maine Professional Engineer (PE) certificate] pursuant to Title 32 M.R.S.A., Section 4171 et seq. All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

E. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the waste water collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system.

SPECIAL CONDITIONS

F. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee shall notify the Department of the following:

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and

2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system.

3. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of waste water introduced to the waste water collection and treatment system; and

   b. Any anticipated impact of the change in the quality or quantity of the waste water to be discharged from the treatment system.

G. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfall cited in this permit. Discharges of waste water from any other point source are not authorized under this permit, but shall be reported in accordance with Standard Condition B(5) (*Bypass*) of this permit.

H. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall. The revised plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

The permittee shall review their plan annually and record any necessary changes to keep the plan up to date.

SPECIAL CONDITIONS

I. OPERATION & MAINTENANCE (O&M) PLAN

The permittee shall maintain a current written comprehensive Operation & Maintenance (O&M) Plan. The plan shall provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department and other regulattory personnel upon request.

Within 90 days of completion of new and or substantial upgrades of the wastewater treatment facility, the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

J. CHAPTER 530(2)(D)(4) CERTIFICATION

On or before December 31 of each year ***[PCS code 959799]*** the permittee is required to file a statement with the Department describing the following.

1. Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;

2. Changes in the operation of the treatment works that may increase the toxicity of the discharge; and

3. Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

Further, the Department may require that annual whole effluent toxicity (WET), priority pollutant and or analytical chemistry testing be incorporated into the permit if it determines that there have been changes in the character of the discharge that warrant said testing or if annual certifications described above are not submitted.

SPECIAL CONDITIONS

K. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and **returned such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the Department assigned compliance inspector (unless otherwise specified) at the following addresses:

Maine Department of Environmental Protection
Central Maine Regional Office
Bureau of Land & Water Quality
Division of Water Quality Management
State House Station #17
Augusta, Maine 04333

L. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time, and with notice to the permittee, modify this permit to: (1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded;
(2) require additional effluent or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

M. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remain in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: May 22, 2006

PERMIT NUMBER: **ME0101516**

LICENSE NUMBER: **W006048-5L-E-R**

NAME AND MAILING ADDRESS OF APPLICANT:

Great Salt Bay Sanitary District
Attn: Mary E. Bowers
P.O. Box 23
Damariscotta, ME. 04543

COUNTY: **Lincoln County**

NAME AND ADDRESS OF FACILITY:

121 Piper Mill Road
Damariscotta, ME.

RECEIVING WATER/ CLASSIFICATION: **Damariscotta River/Class SB**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mary E. Bowers, Superintendent**
(207) 563-5105
E-mail:willynme@lincoln.midcoast.com

1. APPLICATION SUMMARY

Application: The GSBSD has submitted a timely and complete application to the Department to renew combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0101516/ Maine Waste Discharge License (WDL) #W006048-5L-D-R, which was issued on August 31, 2001 and is due to expire on August 31, 2006. The previous MEPDES permit/WDL (permit hereinafter) authorized the discharge of up to a monthly average flow of 0.268 million gallons per day (MGD) of secondary treated sanitary waste water from a municipal waste water treatment facility to the Damariscotta River, Class SB, in Damariscotta, Maine. The facility is the main treatment plant for the GSBSD, servicing the downtown areas of Damariscotta and Newcastle (see Attachment A of this Fact Sheet).

1. APPLICATION SUMMARY

b. Source Description: The GSBSD's waste water treatment facility receives and treats sanitary waste waters generated by residential and commercial entities, including the Miles Memorial Hospital, located in the downtown areas of the towns of Damariscotta and Newcastle. The waste water treatment facility is located approximately one mile outside the center of Town of Damariscotta and is referred to as the District's main plant. It is noted the GSBSD owns and operates another much smaller sandfilter treatment system referred to as the Damariscotta Mills facility located in Nobleboro. The applicant anticipates modest growth within the District in the next five years. The collection system consists of approximately 5.0 miles of collection lines and six pump stations. One of the pump station has an on-site generator to provide back-up power in the event of a power failure and the remaining five have emergency generator receptacles and manual transfer switches such that back-up power via a portable generator can be supplied to the stations in the event of a power failure. There are no known combined sewer overflow (CSO) points on the system. The GSBSD does not receive and or treat septage waste from local septage contractors at the waste water treatment facility.

c. Waste Water Treatment: All wastewater received at the treatment plant enters via a force main. The GSBSD provides a secondary level of treatment via a grit chamber, three (3) aerated (diffused air system) lagoons operating in series and a chlorine contact chamber for disinfection. The total capacity of the lagoon system is 11.1 million gallons. (See Attachment B of this Fact Sheet). Dechlorination was abandoned in October of 1996 after a Department study showed that the detention time in the effluent discharge system is over two hours at the current permitted flow. The GSBSD staff performs annual surveys of sludge depths within the three lagoons.

The permitte reports current depths within the lagoon are typically less than 12 inches. The permittee also reports that when average sludge depths reach greater than 12 inches on average, sludge will be removed. It is noted that in calendar year 2003, approximately 1.75 million gallons (7,297 wet tons) of sludge was removed from the three lagoons. The GSBSD maintains a sludge reserve account to fund this activity.

The final effluent from the treatment facility is piped approximately 7500 feet back downtown and discharged to the Damariscotta River near the town landing which is off of Main Street. (See Attachment A of this Fact Sheet). The outfall pipe is a 10-inch diameter polyethylene pipe with a screen on the end. The original diffuser on the end of the pipe has been removed for functional reasons.

2. PERMIT SUMMARY

a. Terms and conditions – This permit is carrying forward the terms and conditions of the previous permitting action except that this permit:

1. Establishes a requirement to maintain an up-to-date Operations and Maintenance Plan.

2. Establishes a requirement to maintain an up-to-date Wet Weather Management Plan.

3. Establishes a requirement to submit an annual certification to the Department to maintain a waiver from routine whole effluent toxicity (WET), priority pollutant and analytical chemistry testing as specified by Department rule Chapter 530, *Surface Water Toxics Control Program.*

4. Eliminating annual monitoring requirements for chemical oxygen demand and ammonia-nitrogen in four groundwater monitoring wells.

b. History – The most recent relevant regulatory actions pertaining to the GSBSD facility include, but are not limited to, the following:

September 24, 1986 - The Department issued WDL #W006048-45-A-N for a five-year term. This action was the initial WDL issued by the Department for the new facility.

December 30, 1991 - The U.S. Environmental Protection Agency (EPA) issued National Pollutant Discharge Elimination System (NPDES) permit #ME0101516. The permit covered both the main plant discharge in Damariscotta (outfall 001) and the sand filter discharge in Damariscotta Mills (outfall 002). It is noted the Department has always regulated these two facilities via independent licenses/permits.

June 5, 1996 - The Department issued WDL renewal #W006048-58-C-R for a five-year term.

December 13, 1996 - The EPA modified NPDES permit #ME0101516 in accordance with the 6/5/96 WDL and State of Maine Section 401 water quality certification requirements.

May 23, 2000 – The Department administratively modified WDL #W006048-58-C-R by establishing interim average and maximum concentration limits for mercury.

January 12, 2001 - The Department received authorization from EPA to administer the NPDES program in Maine. From that point forward the program has been referred to as the MEPDES permit program. The MEPDES permit replaced the NPDES permit #ME0101516 issued by EPA on December 30, 1991 and modified on December 13, 1996.

2. PERMIT SUMMARY (cont'd)

August 31, 2001 – The Department issued combination MEPDES permit #ME0101516/ WDL #W006048-5L-D-R for the GSBSD's main plant for a five year term.

May 4, 2006 – The GSBSD submitted a timely and complete application to renew the MEPDES permit for the District's main plant facility.

3. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), 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 rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program,* require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A § 469 classifies the Damariscotta River as a Class SB waterway at the point of discharge. Maine law, 38 M.R.S.A., §465 (2) establishes the classification standards for Class SB waters.

5. RECEIVING WATER CONDITIONS

A document entitled, The State of Maine, Department of Environmental Protection, 2004 Integrated Water Quality Monitoring and Assessment Report published by the Department pursuant to Section 305b of the Federal Water Pollution Control Act, indicates the Damariscotta River is attaining the standards of its assigned classifications.

6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

a. Flow: The previous licensing action established a monthly average flow limitation of 0.268 MGD that is being carried forward in this permitting action. This limit reflects the current monthly average design flow capacity of the facility. A review of the monthly average flow data as reported on the Discharge Monitoring Reports submitted to the Department for the period January 2002 – December 2005 indicate the mean monthly flow has ranged from 0.0928 MGD to 0.241 MGD with an arithmetic mean of 0.158 MGD.

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

b. Dilution Factors: Department Regulation Chapter 530 *Surface Water Toxics Control Program*, §4(A)(2) states:

> *(2) For estuaries where tidal flow is dominant and marine discharges, dilution factors are calculated as follows. These methods may be supplemented with additional information such as current studies or dye studies.*
>
> *(a) For discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water level and slack tide for the acute exposure analysis, and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE, CORMIX or another predictive model.*
>
> *(b) For discharges to estuaries, dilution must be calculated using a method such as MERGE, CORMIX or another predictive model determined by the Department to be appropriate for the site conditions.*
>
> *(c) In the case of discharges to estuaries where tidal flow is dominant and marine waters, the human health criteria must be analyzed using a dilution equal to three times the chronic dilution factor.*

In September 1995, the U.S. Environmental Protection Agency (EPA) conducted a dye study to determine the dilution associated with the effluent from the Damariscotta main plant and the receiving water. After reviewing their February 1996 report entitled "Great Salt Bay Sanitary District, Effluent Dye Study, in the Damariscotta River" and its dilution factor isograms, the Department concluded that the discharge would be diluted by a factor of greater than 1000:1 at both low and high tide.

A review by the Department Water Quality staff at the time noted certain deficiencies in the study and recommended establishing new dilution factors. The recommended dilution factors are Chronic Dilution = 500:1 (1000 ÷ 2 to account for the fact that the study was made at an effluent flow less than 50 percent of licensed flow) and Acute Dilution = 200:1 (judgement based on dye study and experience with modeling other sites). However, it may be possible to increase these dilution estimates, but additional data (which may already be available) and analysis are required.

For the purposes of this permitting action the Department is carrying forward the dilution factors from the previous permitting actions as follows:

Acute: 200:1 Chronic: 500:1 Harmonic mean[(1)]: 1,500:1

Footnote:
(1) See Chapter 530 §4(A)(2)(c) above.

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

c. Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS): - The previous permitting action established monthly and weekly average BOD5 and TSS best practicable treatment (BPT) concentration limits of 30 mg/L and 45 mg/L respectively, that are based on secondary treatment requirements of the Clean Water Act of 1977 §301(b)(1)(B) as defined in 40 CFR Part 133.102 and Department rule Chapter 525(3)(III). The maximum daily BOD5 and TSS concentration limits of 50 mg/L were based on a Department best professional judgment of BPT. All three concentration limits are being carried forward in this permitting action.

As for mass limitations, the previous permitting action established monthly average, weekly average and daily maximum limitations based on a monthly average flow limit of 0.268 MGD that are being carried forward in this permitting action. The limitations were derived as follows:

Monthly average: (0.268 MGD)(8.34)(30 mg/L) = 67 lbs/day
Weekly average: (0.268 MGD)(8.34)(45 mg/L) = 100 lbs/day
Daily maximum: (0.268 MGD)(8.34)(50 mg/L) = 112 lbs/day

This permitting action carries forward the requirement for 85% removal for BOD and TSS pursuant to Department rule Chapter 525(3)(III)(a&b)(3).

Monitoring frequencies for BOD and TSS of 1/Week are being carried forward from the previous permitting action and are based on long standing Department guidance for facilities with a monthly average flow limitation between 0.10 MGD and 0.5 MGD.

A review of the DMR data for the period January 2002 to the December 2005 indicates the discharge from the waste water treatment facility is consistently below 50% of the mass and concentration limits in this permitting action with the exception of violations (predominately BOD) reported in the months of July and August of 2003, May and June of 2004 and May, June and October of 2005.

d. Settleable Solids - The previous permit established a daily maximum concentration BPT limit of 0.3 ml/L that is being carried forward in this permitting action. A review of the monthly DMR data for the period January 2002 to December 2005 indicates the daily maximum settleable solids concentration has been reported as 0.0 ml/L 100% of the time in said period.

e. Fecal Coliform Bacteria - The previous permitting action established monthly average and daily maximum limits of 15 colonies/100 ml and 50 colonies/100 ml and are based on the Maine Water Classification Program criteria for the receiving waters (including standards in the National Shellfish Sanitation Program) and requires application of the BPT technology. The limitations apply on a year-round basis (self imposed) to protect open shellfish harvesting areas and other aquaculture activities.

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

A review of the monthly DMR data for the period calendar year January 2002 to the December 2005 indicates the monthly average (geometric mean) bacteria levels have ranged from 0 colonies/100 ml to 8 colonies/100 ml with an arithmetic mean of 1.0 colonies/100 ml. As for the daily maximum, the DMR data indicates the bacteria levels range from 0 colonies/100 ml to >60 colonies/100 ml with an arithmetic mean of 8 colonies/100 mL. The DMR data indicates the permittee is in compliance with the monthly average limit 100% of the and in compliance with the daily maximum limit 91% of the months evaluated in said timeframe.

The monitoring frequency of 1/Week in the previous permitting action is being carried forward in the permitting action and is based on a long standing Department guidance for facilities permitted to discharge between 0.1 MGD and 0.5 MGD.

f. Total Residual Chlorine - Limits on total residual chlorine (TRC) are specified to ensure attainment of the in-stream water quality criteria for levels of chlorine and that BPT technology is utilized to abate the discharge of chlorine. Permits issued by this Department impose the more stringent of the calculated water quality based or BPT based limits. The previous permitting action established a daily maximum limit of 1.0 mg/L. With dilution factors as determined above, water quality based thresholds for TRC may be calculated as follows:

Parameter	Acute Criteria	Chronic Criteria	Acute Dilution	Chronic Dilution	Acute Threshold	Chronic Threshold
Chlorine	13 ug/L	7.5 ug/L	200:1	500:1	2.6 mg/L	7.5 mg/L

Example calculation: Acute – 0.013 mg/L (200) = 2.6 mg/L

The Department's BPT limitation of 1.0 mg/l is more stringent than the calculated water quality based threshold calculated above. Therefore, the BPT limitation of 1.0 mg/l is being carried forward from the previous permitting action along with the 5/Week monitoring requirement.

The DMR data for the period calendar year January 2002 to the December 2005 indicates the daily maximum concentration levels of TRC range from 0.23 mg/L to 1.0 mg/L with an arithmetic mean of 0.73 mg/L. The DMR data indicates the permittee is in compliance with the daily maximum limit 100% of the months in said timeframe. It is noted TRC is currently measured at the effluent pump station and it is anticipated that substantial reduction in TRC values occurs prior to the actual discharge at the end of outfall pipe.

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

g. pH – The previous licensing action established a pH range limitation of 6.0 –9.0 standard units pursuant to Department regulation, Chapter 525(3)(III)(c). The limits are considered BPT by the Department. The DMR data for the period calendar year January 2002 to the December 2005 indicates the permittee has been in compliance with the pH range limit 90% of the time. The pH tends to be outside the range (high end) during the summer months due to algal growth in the lagoons.

The monitoring frequency of 1/Week in the previous permitting action is being carried forward in the permitting action and is based on a long standing Department guidance for facilities permitted to discharge between 1.5 MGD and 5.0 MGD.

h. Mercury: Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL # W006048-58-C-R by establishing interim monthly average and daily maximum effluent concentration limits of 20.9 parts per trillion (ppt) and 31.3 ppt, respectively, and a minimum monitoring frequency requirement of two (2) tests per year for mercury. The interim mercury limits were scheduled to expire on October 1, 2001. However, effective June 15, 2001, the Maine Legislature enacted Maine law, 38 M.R.S.A. §413, sub-§11 specifying that interim mercury limits and monitoring requirements remain in effect. It is noted that the mercury effluent limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as the limits and monitoring frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. The interim mercury limits remain in effect and enforceable and modifications to the limits and/or monitoring frequencies will be formalized outside of this permitting document pursuant to Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519.

i. Whole Effluent Toxicity (WET) and priority pollutant testing - Maine law, 38 M.R.S.A., Sections 414-A and 420, prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. Department Rules, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants* set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate and vertebrate species. Priority pollutant and analytical chemistry testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria as established in Chapter 584.

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

Chapter 530 establishes four categories of testing requirements based predominately on the chronic dilution factor. The categories are as follows:

Level I – chronic dilution factor of <20:1.
Level II – chronic dilution factor of ≥20:1 but <100:1.
Level III – chronic dilution factor ≥100:1 but <500:1 or >500:1 and Q ≥1.0 MGD
Level IV – chronic dilution >500:1 and Q ≤1.0 MGD

Department rule Chapter 530 (2)(D) specifies the criteria to be used in determining the minimum monitoring frequency requirements for WET, priority pollutant and analytical chemistry testing. Based on the Chapter 530 criteria, the permittee's facility falls into the Level IV frequency category as the facility has a chronic dilution factor ≥500:1 and discharges ≤1.0 MGD. Chapter 530(2)(D)(1) specifies that surveillance and screening level testing requirements are as follows:

Screening level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
IV	1 per year*	1 per year*	4 per year*

Surveillance level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
IV	1 per year*	None required*	1 per year*

Chapter 530(2)(D)(1) states:

*These routine testing requirements for Level IV are waived, except that the Department shall require an individual discharger to conduct testing under the following conditions.

(a) The discharger's permit application or information available to the Department indicate that toxic compounds may be present in toxic amounts; or
(b) Previous testing conducted by the discharger or similar dischargers indicates that toxic compounds may be present in toxic amounts.

Based on the information available to date, the Department has made a best professional judgment determination to waive surveillance and screening level testing for the GSBSD. Special Condition J, *Chapter 530(D)(2)(4) Certification*, of this permit requires the permittee to submit an annual certification indicating the discharge from the facility has not changed substantially since the previous

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

permitting action. However, should there be a substantial change in the characteristics of the discharge in the future, the Department may reopen this permit pursuant to Special Condition K, *Reopening Of Permit For Modifications*, to incorporate the applicable WET, priority pollutant and or analytical testing requirements cited in Chapter 530.

j. Monitoring of Lagoon Underdrains and Ground Water Monitoring Wells:

The previous permitting action established underdrain and ground water monitoring program to include sampling from three underdrains and four monitoring wells. The parameters chosen for each monitoring program were selected as indicators parameters to detect possible leakage of the lagoon system. The parameters and monitoring frequencies are being carried forward in this permitting action with the exception of chemical oxygen demand and ammonia-nitrogen associated with ground water monitoring. A review of the DMR data for the period January 2002 through December 2005 indicates there are no trends upwards or downwards indicating the lagoons remain secure.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

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 water body to meet standards for Class SB classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the Lincoln County News newspaper on or about May 4, 2006. 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.

9. 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, ME 04333-0017
(207) 287-7693
E-mail: gregg.wood@maine.gov

10. RESPONSE TO COMMENTS

During the period May 22, 2006 through the date of permit issuance, the Department solicited comments from the permittee, state and federal agencies and other interested parties on the draft permit for the discharge from the GSSD facility. The Department received one comment from the permittee that resulted in a change to the draft permit. The comment and response to the comment are as follows:

Comment #1: The permittee strongly objects to the Department placing discrete numerical limits for chlorides (250 mg/L), nitrate nitrogen (10 mg/L) and sodium (20 mg/L) as it relates to sampling of on-site ground water monitoring wells. The permittee questioned the Department's derivation of the 20 mg/L value for sodium and stated "The purpose of the monitoring wells is not to provide potable water for consumption by any living organism. It is grossly unjustified to place these limits on monitoring well water."

Response #1: The numeric values listed above for chlorides and nitrate nitrogen are Maine's (and national) primary drinking water standards and the value of 20 mg/L for sodium is an EPA Health Advisory value for those people who are on a sodium restricted diet of 500 mg/day. The values as presented in this permit (Special Condition A(3)(footnote #7) are not permit limitations. These values are thresholds the Department has established in this permit and the previous permitting action (dated 8/31/01) in which the Department is to be notified if permittee detects values greater than these thresholds. An exceedence of these values does not constitute a violation of the permit.

The numeric values for each parameter were originally established in the 8/31/01 permit. In June of 2003, the Department proposed the same limitations for another permittee in which the sodium value of 20 mg/L was challenged. The Department reviewed the applicability of the limit and determined a more appropriate value for sodium is 120 mg/L not 20 mg/L. The

10. RESPONSE TO COMMENTS (cont'd)

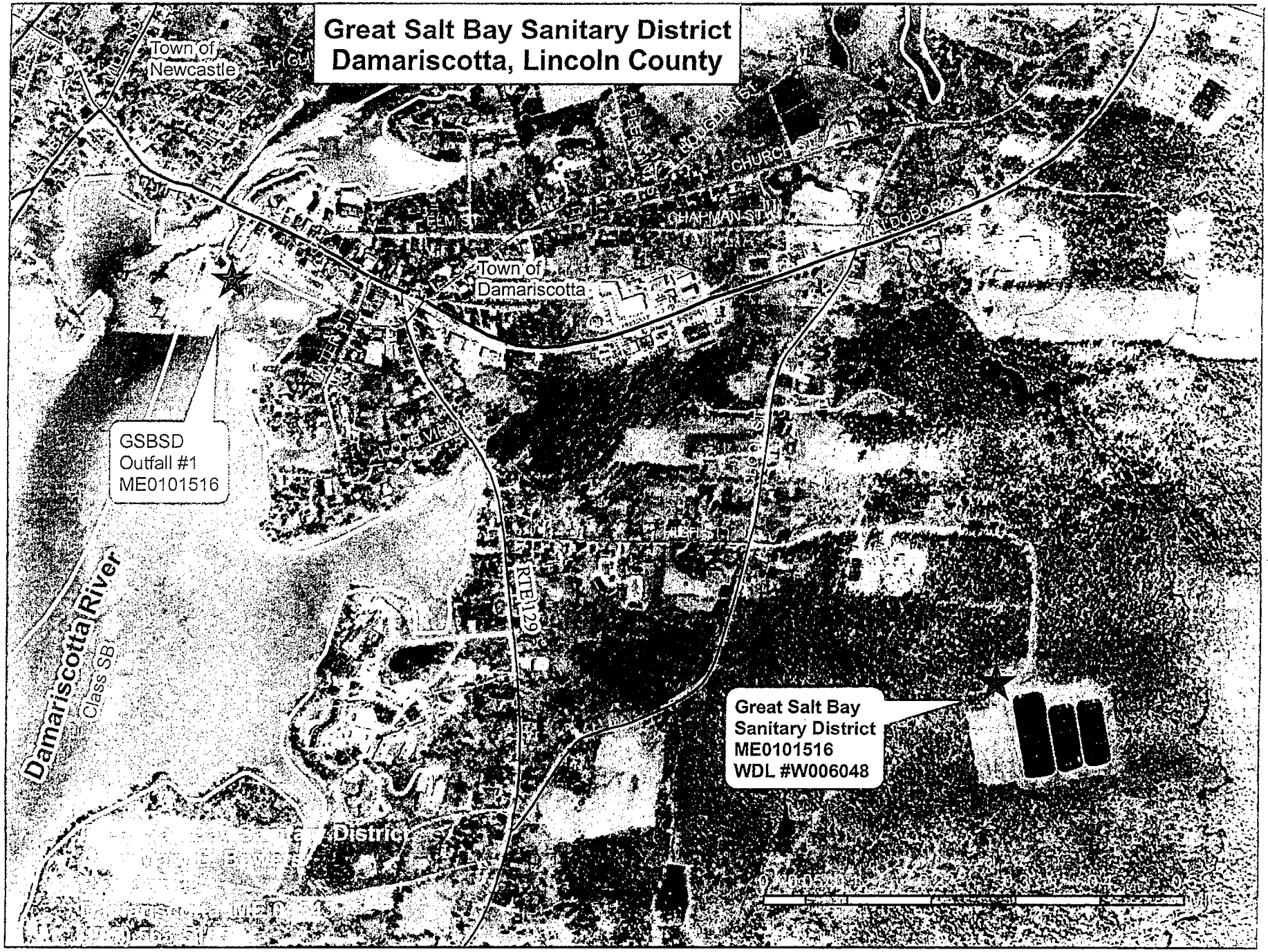
permit Fact Sheet contained the following text "*There are currently no primary or secondary drinking water standards for sodium. Maine law (38 M.R.S.A., §465-C) states that groundwaters "shall be of such quality that they can be used for public drinking water supplies...and shall be free of...any matter that imparts color, turbidity, taste or odor which would impair usages of these waters". In* Drinking Water Advisory: Consumer Acceptability Advice and Health Effects Analysis on Sodium *(External Review Draft, April 2002), USEPA concluded that data from studies on taste and odor of sodium suggests a taste threshold of 30 to 60 mg/L of sodium in water. The current 20 mg/L Maximum Exposure Guideline for sodium is under review by USEPA. In the June 3, 2002 Federal Register (vol. 67, no. 106, page 38,240), USEPA utilizes National Research Council recommended daily intake values for sodium to develop a proposed health based benchmark value of 120 mg/L. The Department recognizes a relationship between detection and health based standards in determining the level of a contaminant in groundwater that will likely impair usage by consumers and therefore is utilizing 120 mg/L of sodium in groundwater as an action level."*

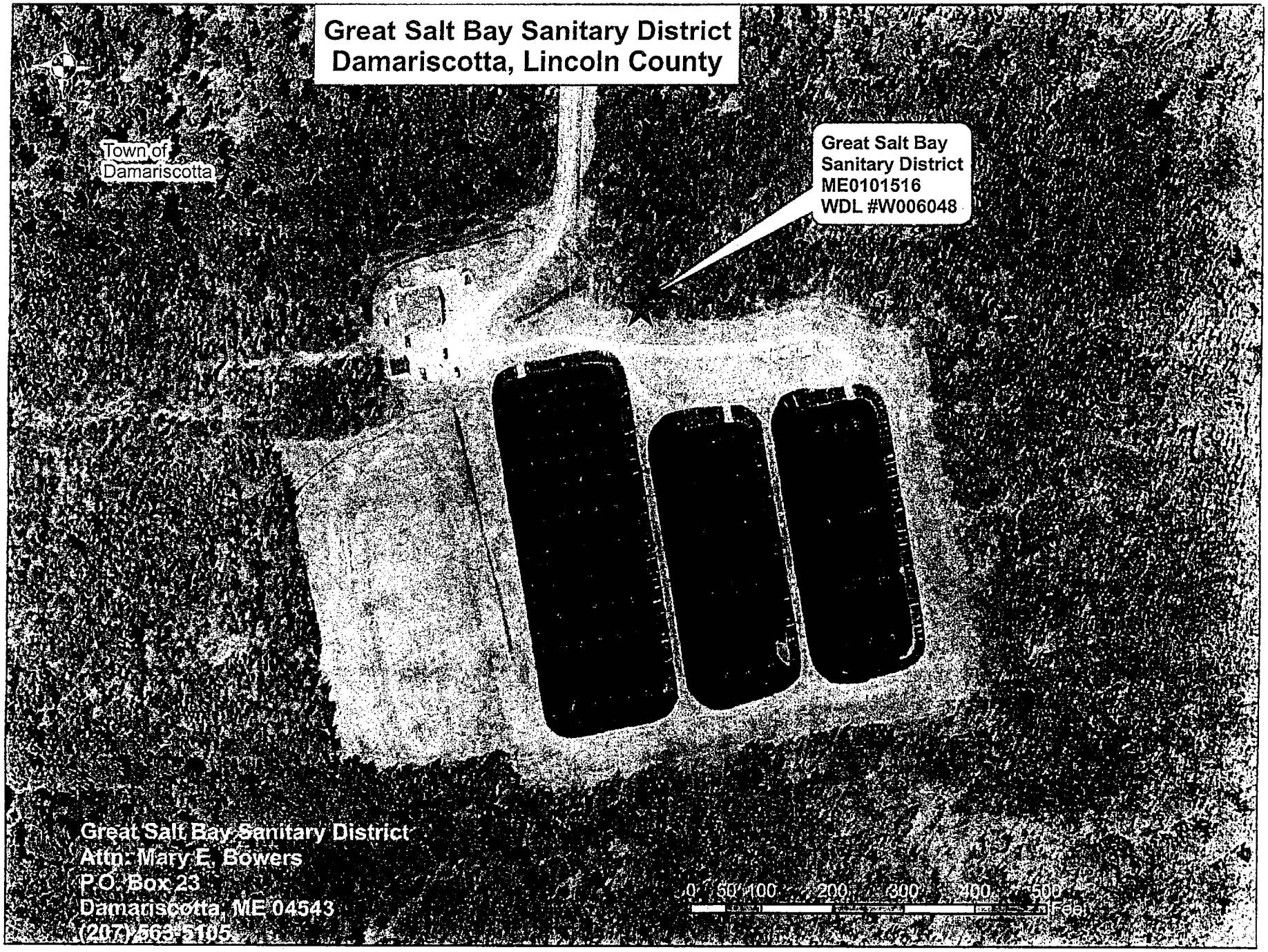
To be consistent, the Department is revising the threshold reporting value for sodium in this permitting action from 20 mg/L to 120 mg/L.

The Department disagrees with the permittee's comment stating that "The purpose of the monitoring wells is not to provide potable water for consumption by any living organism. It is grossly unjustified to place these limits on monitoring well water." Maine law, 38 M.R.S.A § 470 states the groundwater at the point of discharge is classified as Class GW-A receiving waters. Maine law, 38 M.R.S.A., §465-C describes the standards for Class GW-A waters as the highest classification of groundwater and shall be of such quality that it can be used for public water supplies. These waters shall be free of radioactive matter or any matter that imparts color, turbidity, taste or odor which would impair the usage of these waters, other than occurring from natural phenomena.

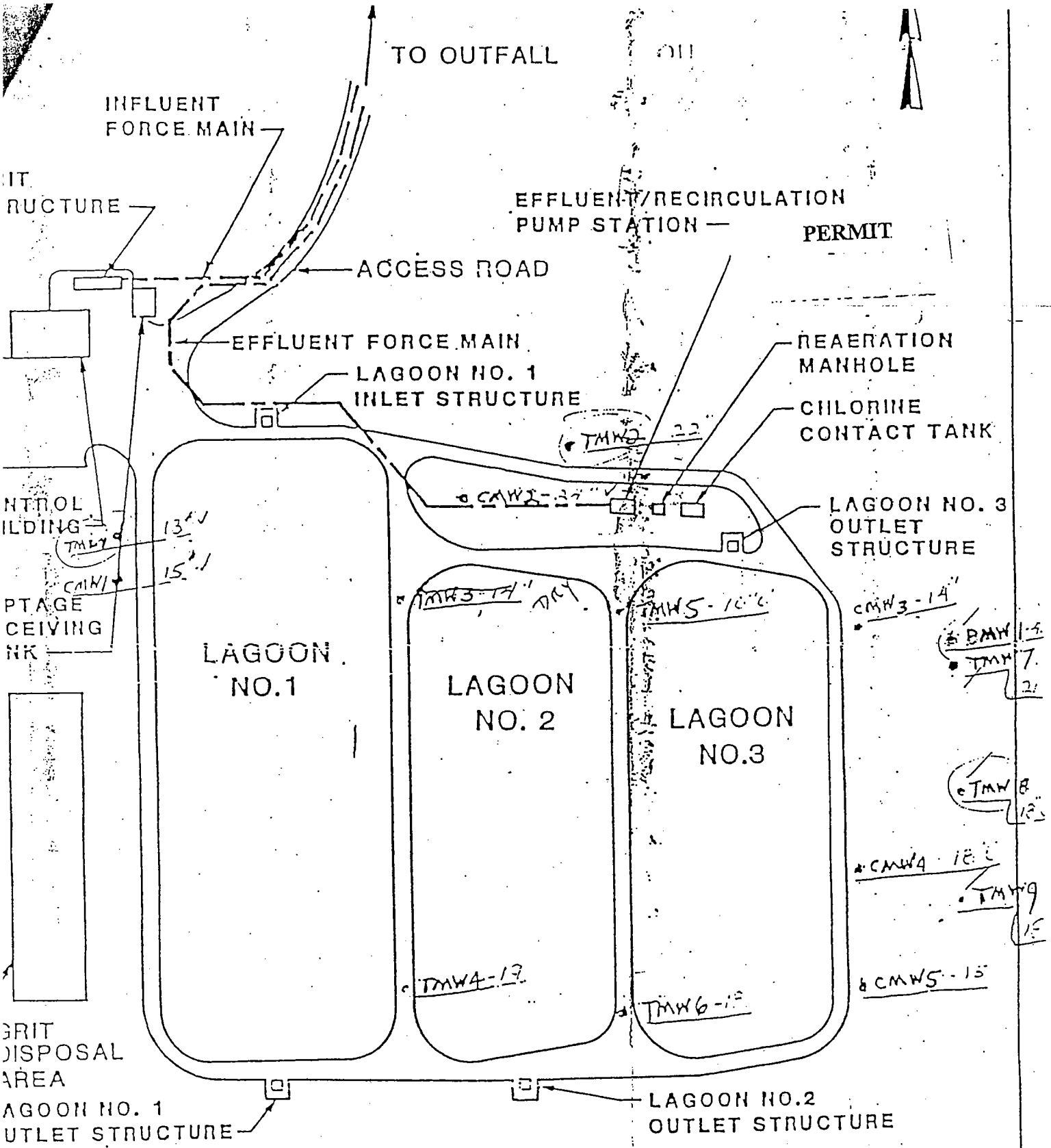
Therefore, the purpose of monitoring the ground water is to determine whether the ground water under the GSSD facility is of such quality that it can be used for a public water supply.

ATTACHMENT A


Great Salt Bay Sanitary District
Damariscotta, Lincoln County
Town of Newcastle
Town of Damariscotta
GSBSD
Outfall #1
ME0101516
Damariscotta River
Class SB
RTE 129
Great Salt Bay
Sanitary District
ME0101516
WDL #W006048


Great Salt Bay Sanitary District
Damariscotta, Lincoln County
Town of Damariscotta
Great Salt Bay Sanitary District
ME0101516
WDL #W006048
Great Salt Bay Sanitary District
Attn: Mary E. Bowers
P.O. Box 23
Damariscotta, ME 04543
(207) 563-5105
0 50 100 200 300 400 500 Feet

ATTACHMENT B



TREATMENT PLANT LAYOUT
DAMARISCOTTA - NEWCASTLE
FIGURE 3-2