

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I  
1 CONGRESS STREET  
SUITE 1100  
BOSTON, MASSACHUSETTS 02203

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES.

NPDES PERMIT NO.: **MA0100447**

PUBLIC NOTICE DATE:

NAME AND ADDRESS OF APPLICANT:

**Greater Lawrence Sanitary District  
24 Charles Street  
North Andover, Massachusetts 01845**

The Massachusetts Municipalities of Lawrence, Andover, North Andover, and Methuen, and Salem New Hampshire, are co-permittees for specific activities required the permit. See Sections VI and VII of this fact sheet and Sections I.D., I E., I.F. and, I.G. of the draft permit. The responsible Municipal Departments are:

**City of Lawrence  
Department of Public Works  
200 Common Street  
Lawrence, MA 01840**

**Town of Andover  
Department of Public Works  
397 Lowell Street  
Andover, MA 01810**

**Town of North Andover  
Department of Public Works  
384 Osgood Street  
North Andover, MA 01845**

**Town of Methuen  
41 Pleasant Street, Rm 205  
Methuen, MA 01844**

**and Town of Salem New Hampshire  
Public Works Department  
21 Cross Street  
Salem, New Hampshire 03079**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

**Greater Lawrence Sanitary District  
24 Charles Street  
North Andover, Massachusetts 01845  
and five combined sewer overflows (CSO)**

RECEIVING WATERS: **Merrimack River and Spicket River  
Merrimack Watershed (84)**

CLASSIFICATION: **Class B, Warm Water, Treated Water Supply**

**I. Proposed Action, Type of Facility, and Discharge Location**

The Greater Lawrence Sanitary District (GLSD) has requested that the U.S. Environmental Protection Agency reissue its NPDES permit to discharge into the designated receiving waters, the Merrimack River and Spicket River. The facility is a 52 million gallon per day (MGD) activated sludge secondary wastewater treatment facility engaged in the collection and treatment of domestic and industrial wastewater, which discharges through Outfall 001 to the Merrimack River. Five combined sewer overflows (CSO's) discharge from GLSD's interceptor sewers to the Merrimack River and the Spicket River. See Attachment A, list of outfalls and CSO's, and Figure 1, a map showing the location of facility.

**II. Description of Discharge**

A quantitative description of the discharge in terms of significant effluent parameters based on recent monitoring data is shown in Attachment B of the fact sheet. Figure 2 shows the flow process diagram of the facility.

**III. Limitations and Conditions**

The effluent limitations and monitoring requirements may be found in the draft NPDES permit.

**IV. Permit Basis and Explanation of Effluent Derivation**

Facility

The Greater Lawrence Sanitary District (GLSD) operates a 52 MGD activated sludge wastewater treatment facility, located in North Andover, Massachusetts. The facility serves approximately 168,000 residences and businesses, and provides septage disposal for communities throughout the Merrimack Valley and southern New Hampshire. Municipal contributions comprise approximately 80 percent of the influent wastewater (non I/I) flow; the remaining 20 percent is industrial flow, from approximately 40 significant industrial users.

The GLSD is comprised of the communities of Lawrence, Methuen, Andover, and North Andover in Massachusetts, and Salem, New Hampshire. Flow from the member communities is discharged to the GLSD interceptor system, which flows by gravity to the Riverside Pumping Station, and is pumped to the GLSD wastewater treatment plant. The City of Lawrence and a section of Methuen have combined sewer systems, but the five combined sewer overflows (CSOs) are from the GLSD interceptors, and are owned and operated by GLSD. Flows from the communities are monitored in the collection system at fourteen metering stations.

The GLSD wastewater treatment plant consists of primary settling, activated sludge treatment, secondary settling, chlorination, and dechlorination. Sludge treatment includes thickening, digestion, dewatering and, drying.

General Requirements

Under Section 301(b)(1)(c) of the Clean Water Act (CWA), discharges are subject to effluent limitations based on Water Quality Standards. The Massachusetts Surface Water Quality Standards include the requirements for the regulation and control of toxic constituents and also require that EPA criteria established pursuant to Section 304 (a) of the CWA shall be used unless site specific criteria are established. The State will limit or prohibit discharges of pollutants to surface water to assure that surface water quality standards of the receiving water are protected and maintained or attained.

According to 40 CFR 122.41(l), when a permit is reissued effluent limitations, standards or

conditions must be at least as stringent as effluent limitations in the previous permit unless the circumstances on which the previous permit were based have materially and substantially changed since the time the permit was issued.

#### Waterbody Classification and Usage

The Merrimack River and the Spicket River at the points of discharge are classified as Class B waterbodies by the Massachusetts Department of Environmental Protection (MA DEP). Class B waters are designated as a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. These waters shall have consistently good aesthetic value.

Where designated, Class B waters shall be suitable as a source of public water supply with appropriate treatment. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses.

#### Dilution

Based on the facility's design flow of 52 MGD, a dilution factor was determined to be 13.76. The dilution factor was calculated using an estimate of the 7Q10 low flow in the Merrimack River at the point of discharge of 1026.68 cfs. The 7Q10 low flow figure was based on an estimated drainage area near the facility's outfall and data from the USGS Lowell gage station.

#### 7Q10 Calculation

$$7Q10_{@GLSD} = \frac{7Q10_{@Lowell\ gage\ station}}{\text{Drainage Area at Lowell gage station}} \times \text{Drainage Area at GLSD}$$

$$7Q10_{@GLSD} = \frac{901\ cfs}{4246.50\ sq\ mi} \times 4,839.83\ sq\ mi$$

$$7Q10_{@GLSD} = 1026.68\ cfs$$

#### Dilution Factor

$$\text{Design flow dilution} = \frac{7Q10\ cfs + \text{plant design flow cfs}}{\text{plant design flow cfs}} = \frac{1026.68\ cfs + 80.44}{80.44} = 13.76$$

In accordance with Region I policy, four toxicity tests are required when the dilution ratio is between 10 and 20. GLSD is required to conduct four chronic toxicity tests per year.

#### Conventional Pollutants

Under Section 301(b)(1)(B) of the CWA, POTWs must achieve effluent limitations based upon secondary treatment by July 1, 1977. The secondary treatment requirements are set forth at 40 CFR Part 133. Effluent limitations for monthly and weekly average and maximum daily biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS) are based on requirements under Section 301(b)(1)(B) of the CWA and 40 CFR 133.102.

#### BOD<sub>5</sub> and TSS

The BOD<sub>5</sub> and TSS, draft permit limits are based on secondary treatment requirements and the concentration limits are the same as those in the current permit. BOD<sub>5</sub> and TSS mass limits have been added to the draft permit. Expressing limitations in terms of concentration and mass encourages proper operation of a treatment facility. Concentration limits discourage the reduction in treatment efficiency during low discharge flow periods, and mass limits discourage higher

loads being discharged into the receiving water during periods of high discharge flow. Regulations found at 40 CFR Section 122.45 (f)(1) and (2) do not preclude mass limits, where appropriate, from being included in a NPDES permit. This condition is a state certification requirement.

There were no violations reported for BOD<sub>5</sub> or TSS in the reporting period between September 2001 through September 2003. The facility reported 1 violations for the secondary treatment requirement of 85% BOD<sub>5</sub> removal and no violation for 85% TSS removal during the same reporting period.

The numerical limitations for pH, fecal coliform, and dissolved oxygen (DO) are based on state certification requirements under Section 401(a)(1) of the CWA, as described in 40 CFR 124.53 and 124.55. The Massachusetts Surface Water Quality Standards contain specific numerical limits for pH, dissolved oxygen, and fecal coliform for Class B receiving waters.

#### pH

The upper and lower pH limit will remain the same as in the existing permit. There were no pH violations between September 2001 and September 2003.

#### Dissolved Oxygen

A seasonal dissolved oxygen limitation of not less than 5 mg/l has been added to the draft permit as a state certification requirement. The dilution factor is not used to calculate the dissolved oxygen limit in the draft permit because the potential for an instream excursion exists.

#### Fecal Coliform Limitation

The fecal coliform limits are based on Massachusetts Water Quality Standards, and shall remain the same as in the existing permit. However, the sampling frequency has been increased to 5 times per week because EPA and MA DEP believe that an increase in sampling is more appropriate given the large discharge flow quantity. There have been 4 fecal coliform exceedances during the reporting period of September 2001 through September 2003. In August 2002, the permittee reported exceeding the monthly, weekly and maximum daily limits for fecal coliform. The one other exceedance was the maximum daily limit in January 2002.

#### Non-Conventional Pollutants

Total Residual Chlorine (TRC) - The draft permit includes total residual chlorine limitations which are based on state water quality standards. Chlorine compounds produced by the chlorination of wastewater can be extremely toxic to aquatic life. The water quality standards established for chlorine are 19 ug/l daily maximum and 11 ug/l monthly average in the receiving water. Given a dilution factor of 13.76:1, the total residual chlorine limitations have been set at 0.26 mg/l daily maximum and 0.15 mg/l monthly average. The TRC maximum daily limit has been exceeded once between September 2001 and September 2003.

Total Residual Chlorine Limits Calculation:

Acute chlorine water quality criteria is 19 ug/l.  
Chronic chlorine water quality criteria is 11 ug/l.

Design flow dilution factor is 13.76.

mg/l Average Monthly Total Residual Chlorine Limit =  $13.76 \times 0.011 \text{ mg/l} = 0.149 \text{ mg/l} = \underline{\underline{0.15}}$

mg/l Maximum Daily Total Residual Chlorine Limit =  $13.76 \times 0.019 \text{ mg/l} = 0.258 \text{ mg/l} = \underline{\underline{0.26}}$

The permit also specifies that end-of-pipe chlorine samples may be taken from a point just prior to discharge.

To verify consistent compliance with the TRC limit, continuous monitoring for TRC is required in the draft permit. The permittee shall monitor total residual chlorine concentration after dechlorination to assure that discharge concentrations do not exceed permit limits and cause toxic conditions in the receiving water.

#### Phosphorus

Average monthly reporting requirements for phosphorus are in the draft permit. The section of the Merrimack River at the facility's point of discharge is on the Massachusetts 303(d) list for nutrients. In 1990 instream phosphorus levels during low flow conditions upstream of the GLSD discharge were between 80 and 160 ug/l.

Phosphorus interferes with water uses and can reduce instream dissolved oxygen. MA Water Quality Standards found at 314CMR 4.04(5) requires that any existing point source discharge containing nutrients in concentrations which encourage eutrophication or growth of weeds or algae shall be provided with the highest and best practical treatment that removes such nutrients.

MADEP has not adopted numerical water quality criteria for phosphorus. EPA has developed several guidance documents regarding appropriate water quality criteria for phosphorus, including EPA's Quality Criteria for Water 1986 (the Gold Book), and the National Ambient Water Quality Criteria Recommendations published in December 2000. The Gold Book recommends that phosphorus should be less than 25 ug/l in a lake or reservoir and less than 100 ug/l in streams or other flowing waters not discharging directly to lakes or impoundments. The 2000 criteria indicate that receiving water total phosphorus concentrations for the subcoregions that includes Eastern Massachusetts should be less than 24 ug/l.

If, during the term of the permit, EPA or MADEP receives new information indicating the need for further reduction of the phosphorus limit, this permit may be reopened, and the limit modified using the appropriate modification procedures.

#### Metals

Certain metals in water can be toxic to aquatic life. There is a need to limit toxic metal concentrations in the effluent where aquatic life may be impacted. An evaluation of the reasonable potential of toxicity on the concentration of metals in the effluent shows there is not a reasonable potential of toxicity for copper.

EPA is required to limit any pollutant or pollutant parameter that is or may be discharged at a level that caused, has reasonable potential to cause, or contributes to an excursion above any water quality criterion.

**Calculation of reasonable potential for copper:**

A reasonable potential determination was made regarding the need for water quality based copper limits in the draft permit. This determination was made by first calculating the water quality effluent limits applicable to this discharge using the National Recommended Water Quality Criteria: 2002 and the dilution factor of 13.78, and then comparing these limits with effluent copper data from recent testing. If the recent data shows copper concentrations at or exceeding the applicable limit, then reasonable potential exists and the limit is included in the draft permit.

Water Quality Criteria for hardness-dependent metals:

Acute criteria (dissolved) =  $\exp\{m_a [\ln(h)] + b_a\}$  (CF)

$m_a$  = pollutant specific coefficient

$b_a$  = pollutant specific coefficient

$h$  = hardness

$\ln$  = natural logarithm

CF = pollutant-specific conversion factor used to convert total recoverable to dissolved metal

Chronic criteria (dissolved) =  $\exp\{m_c [\ln(h)] + b_c\}$  (CF)

$m_c$  = pollutant specific coefficient

$b_c$  = pollutant specific coefficient

$h$  = hardness

$\ln$  = natural logarithm

CF = pollutant-specific conversion factor used to convert total recoverable to dissolved metal

**Calculation of acute limit for copper:**

$m_a = 0.9422$      $b_a = -1.7$     CF = 0.96

Acute criteria (dissolved) =  $\exp\{0.9422 [\ln(28)] + -1.7\}$  (0.96) = 4.05 ug/l

Acute criteria (total) =  $\exp\{0.9422 [\ln(28)] + -1.7\}$  = 4.22 ug/l

Dilution Factor = 13.78

Effluent limitation for total recoverable copper = 4.22 ug/l x 13.78 = 58.1 ug/l\*

**Calculation for chronic limit for copper:**

$m_a = 0.8545$      $b_a = -1.7$     CF = 0.96

Chronic criteria (dissolved) =  $\exp\{0.8545 [\ln(28)] + -1.7\}$  (0.96) = 3.02 ug/l

Chronic criteria (total) =  $\exp\{0.8545 [\ln(28)] + -1.7\}$  = 3.15 ug/l

Dilution Factor = 13.78

Effluent limitation for total recoverable copper = 3.14 x 13.78 ug/l = 43.3 ug/l\*

\*Effluent limitation if there is a reasonable potential to cause or contribute to an excursion above the allowable receiving water criteria.

\*\*The conversion factor is used to determine total recoverable metal. EPA Metal Translator Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion (EPA-823-B-96-007) is used as the basis for using the criteria conversion factor. National guidance

requires that permit limits be based on total recoverable metals and not dissolved metals. Consequently, it is necessary to apply a translator in order to develop a total recoverable permit limit from a dissolved criteria. The translator reflects how a discharge partitions between the particulate and dissolved phases after mixing with the receiving water. In the absence of site specific data on how a particular discharge partitions in the receiving water, a default assumption is equivalent to the criteria conversion factor used in accordance with the Translator Guidance.

### Reasonable Potential Determination

Copper: Acute Limit =  $4.22 \text{ ug/l} \times 13.76 = 58.13 \text{ ug/l}$  which is greater than the range of effluent concentrations for copper recorded in recent toxicity tests (4.4 ug/l-24.3 ug/l). There is not a reasonable potential that copper being discharged in the effluent will exceed the water quality criteria.

ChronicLimit =  $3.15 \text{ ug/l} \times 13.76 = 43.34 \text{ ug/l}$  which is greater than, the range of effluent concentrations for copper recorded in recent toxicity test (4.4 ug/l-24.3 ug/l). There is not a reasonable potential that copper being discharged in the effluent will exceed the water quality criteria

### Toxicity

Under Section 301(b)(1) of the CWA, discharges are subject to effluent limitations based on water quality standards. The State Surface Water Quality Standards, 314 CMR 4.05(5)e., includes the following narrative statements and requires that EPA criteria established pursuant to Section 304(a) of the CWA be used as guidance for interpretation of the following narrative criteria:

All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife. Where the State determines that a specific pollutant not otherwise listed in 3.14 CMR 4.00 could reasonably be expected to adversely effect existing or designated uses, the State shall use the recommended limit published by EPA pursuant to 33 U.S.C. 1251 §304(a) as the allowable receiving water concentrations for the affected waters unless a site-specific limit is established. Site specific limits, human health risk levels and permit limits will be established in accordance with 314 CMR 4.05(5)(e)(1)(2)(3)(4).

National studies conducted by the EPA have demonstrated that industrial and domestic sources contribute toxic constituents to POTWs. These constituents include metals, chlorinated solvents, aromatic hydrocarbons and others. Based on the potential for toxicity from domestic and industrial contributions, the state water quality criterion, the level of dilution at the discharge location and in accordance with EPA national and regional policy and 40 C.F.R.122.44(d), the draft permit includes a whole effluent acute toxicity limitation (LC50) and acute biomonitoring requirements. (See "Policy for the Development of Water Quality Based Permit Limitations for Toxic Pollutants", 50 Federal Register 30748, July 24, 1985, and EPA's Technical Support Document for Water Quality Based Toxics Control", September, 1985, and the MA Implementation Policy for the Control of Toxic Pollutants on Surface Waters", February 23, 1990.)

The principal advantages of biological techniques are: (1) the effects of complex discharges of many known and unknown constituents can be measured only by biological analyses; (2) bioavailability of pollutants after discharge is measured by toxicity testing including any synergistic effects of pollutants; and (3) pollutants for which there are inadequate analytical methods or criteria can be addressed. Therefore, toxicity testing is being used in conjunction with pollutant specific control procedures to control the discharge of toxic pollutants.

Four toxicity tests shall be performed each year at the facility. Samples for the tests shall be collected during the second week in January, April, July and, October of each year.

EPA and MADEP have schedule toxicity tests sampling dates for most of the facilities discharging into the Merrimack River Watershed during the second week of the months designated above. This approach provides the Agencies with more comprehensive toxicity data and a better understanding of impacts in the receiving water.

**V. Pretreatment Process**

The permittee is required to administer a pretreatment program based on the authority granted under 40 CFR §122.44(j), 40 CFR Part 403 and section 307 of the Act. The Permittee's pretreatment program received EPA approval on September 24, 1984 and, as a result, appropriate pretreatment program requirements were incorporated into the previous permit which were consistent with that approval and federal pretreatment regulations in effect when the permit was issued.

The Federal Pretreatment Regulations in 40 CFR Part 403 were amended in October 1988, and again in July 1990. Those amendments established new requirements for implementation of pretreatment programs. Upon reissuance of this NPDES permit, the permittee is obligated to modify its pretreatment program, if applicable, to be consistent with current Federal Regulations.

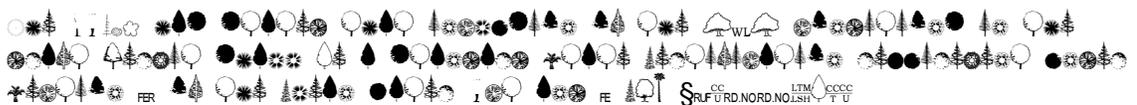
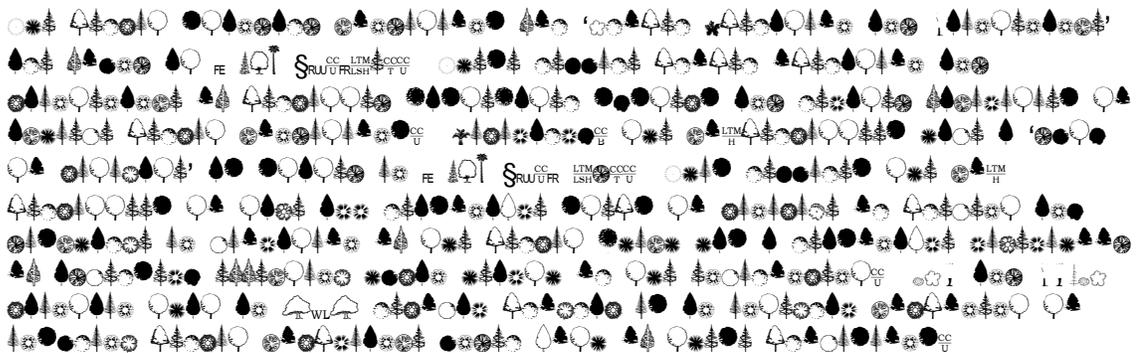
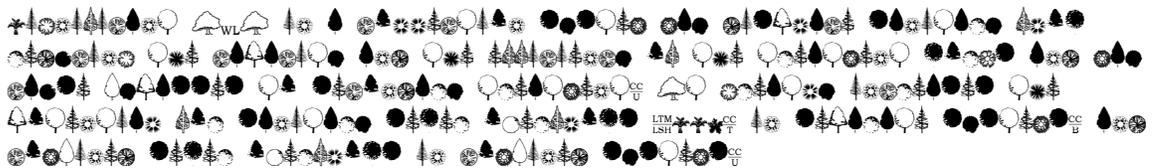
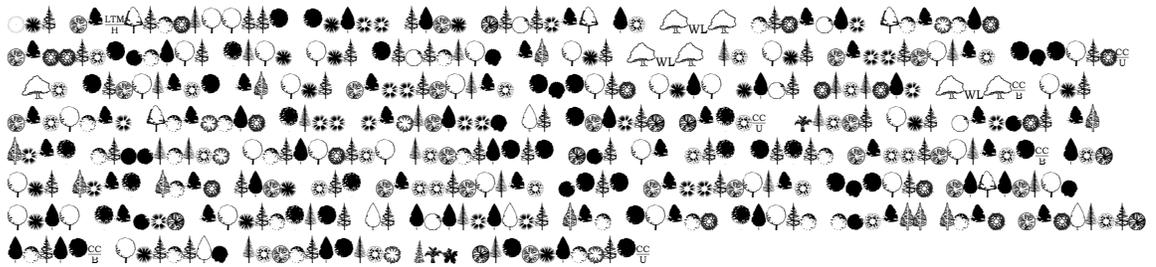
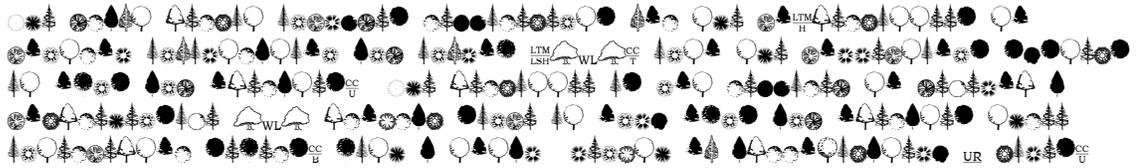
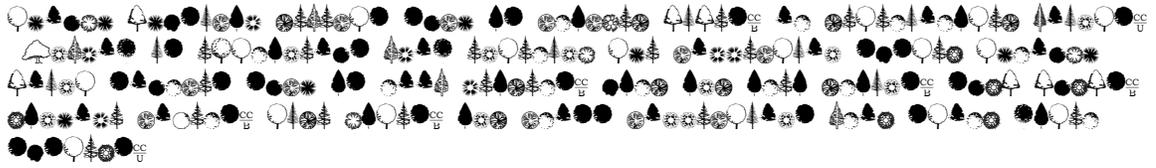
Those activities that the permittee must address include, but are not limited to, the following: (1) develop and enforce EPA approved specific effluent limits (technically-based local limits); (2) revise the local sewer-use ordinance or regulation, as appropriate, to be consistent with Federal Regulations; (3) develop an enforcement response plan; (4) implement a slug control evaluation program; (5) track significant noncompliance 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 NPDES permit and its sludge use or disposal practices.

In addition to the requirements described above, the draft permit requires the permittee to submit to EPA in writing, within 180 days of the permit's effective date, a description of proposed changes to the permittee's pretreatment program deemed necessary to assure conformity with current federal pretreatment regulations. These requirements are included in the draft permit to ensure that the pretreatment program is consistent and up-to-date with all pretreatment requirements in effect. Lastly, the permittee must continue to submit, annually on September 1, a pretreatment report detailing the activities of the program for the twelve month period ending 60 days prior to the due date.

**VI.**





## VII. Combined Sewer Overflows (CSOs)

### Background

Combined Sewer Overflows (CSOs) are overflows from a combined sewer system that are discharged into a receiving water without going to the headworks of a publicly owned treatment works (POTWs). CSOs occur when the flow in the combined sewer system exceeds interceptor or regulator capacity. CSOs are distinguished from bypasses which are "intentional diversions of waste streams from any portion of a treatment facility" (40 CFR §122.41(m)).

Flows in combined sewers can be classified into two categories: wet weather flow and dry weather flow. Wet weather flow is a combination of domestic and industrial sewage, infiltration from groundwater, and storm water flow including snow melt. Dry weather flow is the flow in a combined sewer that results from domestic sewage, groundwater infiltration and industrial wastes with no contribution from storm water runoff or storm water induced infiltration.

Dry weather overflows from CSOs are illegal. They must be reported immediately to EPA and the MADEP and eliminated as expeditiously as possible. The objectives of the National CSO Control Policy are:

- 1) to ensure that if the CSO discharges occur, they are only as a result of wet weather,
- 2) to bring all wet weather CSO discharge points into compliance with the technology based requirements of the CWA and applicable federal and state water quality standards and,
- 3) to minimize water quality, aquatic biota, and human health impacts from wet weather flows.

#### Effluent Standards

CSOs are point sources subject to NPDES permit requirements for both water quality based, and technology based requirements but are not subject to secondary treatment regulations applicable to publicly owned treatment works.

Section 301(b)(1)(C) of the Clean Water Act (CWA) of 1977 mandates compliance with water quality standards by July 1, 1977. Technology based permit limits must be established for best conventional pollutant control technology (BCT) and best available technology economically achievable (BAT) based on best professional judgment (BPJ) in accordance with Section 301(b) and Section 402(a) of the Water Quality Act Amendments of 1987 (WQA).

#### Conditions for Discharge

The draft permit prohibits dry weather discharges from CSO outfalls. During wet weather, the discharges must not cause any exceedance of water quality standards. Dry weather discharges must be reported immediately to EPA and the MADEP. Wet weather discharges must be monitored and reported as specified in the permit.

#### Nine Minimum Controls (NMC)

The permittee must comply with BPJ derived BCT/BAT controls, which at a minimum include the following: (1) proper operation and maintenance of the sewer system and outfalls; (2) maximum use of the collection systems for storage; (3) review pretreatment programs to assure CSO impacts are minimized; (4) maximization of flow to the POTW for treatment; (5) prohibition of dry weather overflows; (6) control of solid and floatable materials in the discharge; (7) pollution prevention programs which focus on contaminant reduction activities; (8) public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts; and (9) monitoring to effectively characterize CSO impacts and the efficacy of CSO controls. Because GLSD does not own or operate any combined sewers, the owners of the combined sewers in the collection system, The Cities of Lawrence and Methuen, have been made co-permittees. They are responsible for NMCs pertaining to operation and maintenance of their

collection systems, specifically NMCs # 1 proper operation and maintenance of the sewer system and outfalls; #2. maximum use of the collection systems for storage; and # 7 pollution prevention programs which focus on contaminant reduction activities.

#### Nine Minimum Controls Documentation

In December 1998, GLSD submitted a report to EPA describing implementation of their NMCs. The permittee is now in the process of undergoing long term CSO planning, and implementing Phase 1 of the LTCP as required by an Administrative Order issued by the EPA in June of 1999.

#### Reopener/Additional CSO Control Measures

The permit is conditioned to require an annual certification, no later than March 31st of each year, that states that all discharges from combined sewer outfalls were recorded, and other appropriate records and reports maintained for the previous calendar year.

The permit may be modified or reissued upon the completion of a long-term CSO control plan. Such modification may include performance standards for the selected controls, a post construction water quality assessment program, monitoring for compliance with water quality standards, and a reopener clause to be used in the event that the selected CSO controls fail to meet water quality standards. Section 301(b)(1)(C) requires that a permit include limits that may be necessary to protect water quality standards.

### **VII. Sludge**

The permit prohibits any discharge of sludge. Section 405(d) of the Clean Water Act (CWA) requires that sludge conditions be included in all POTW permits. Technical sludge standards required by Section 405 of the CWA were finalized on November 25, 1992 and published on February 19, 1993. The regulations went into effect on March 21, 1993.

The GLSD generates approximately 6,000 dry metric tons of sludge per year. This is a reduction from the sludge data reported on the NPDES application. The reduction reflects the closure of GLSD's largest contributor of solids and BOD and the addition of anaerobic digestion to the facility's sludge processing train. The GLSD has revamped the entire sludge processing operation at the facility. The upgrades have eliminate odors emanating from the facility which were a primary complaint from the community. The first set of upgrades were completed in February 2002 and included two gravity belt thickeners, three anaerobic digesters, two centrifuges, and an odor control biofilter, all of which are now operating.

Construction of the biosolids drying facility, was completed at the end of 2002. The dewatered sludge is transferred to the biosolids drying facility for pellet production and storage. The drying process provides further treatment of the dewatered sludge cake. The drying facility uses a heater to promote evaporation and create a granular pellet product with a solid concentration of 95%. The final product is transported off-site and marketed as a component of fertilizer product or for land application by agricultural and/or horticultural uses.

### **VIII. Essential Fish Habitat (EFH)**

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and

Management Act (16 U.S.C. § 1801 *et seq.* (1998)), EPA is required to consult with NMFS if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat.", 16 U.S.C. § 1855(b). The Amendments broadly define "essential fish habitat" as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.", 16 U.S.C. § 1802(10). Adversely impact means any impact which reduces the quality and/or quantity of EFH, 50 C.F.R. § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences or actions. Id.

Essential fish habitat is only designated for fish species for which Federal Fisheries Management Plans exist. 16 U.S.C. § 1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

A review of the relevant essential fish habitat information provided by NMFS indicates that EFH has been designated for 21 species within the boundaries of Area 10, which encompasses the discharge site. Although EFH has been designated for this general location, EPA has concluded that this activity is not likely to adversely affect EFH or its associated species because, the effluent limitations are based on state water quality standards, the authorized discharge will not increase with the renewal of this permit. If adverse impacts to EFH are detected as a result of this permit action, NMFS will be notified and an EFH consultation will be promptly initiated.

EPA has determined that a formal EFH consultation with NMFS is not required because the proposed discharge will not adversely impact EFH.

**IX. State Certification Requirements**

EPA may not issue a permit unless the Massachusetts Department of Environmental Protection with jurisdiction over the receiving waters certify that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. The staff of the MADEP has reviewed the permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State and expects that the permit will be certified.

**X. Public Comment Period, Public Hearing, and Procedures for Final Decision**

All person, including applicants, who believe any condition of the permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, 1 Congress Street, Suite 1100 (CMA), Boston, Massachusetts 02114-2023. Any person, prior to such date, may submit a request in writing for a public hearing to consider the permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever, the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after a public hearing, if such hearing is

held, the Regional Administrator will issue a final permit decision and forward a copy of the decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final permit decision, any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of 40 C.F.R. §124.74, 48 Fed. Reg. 14279-14280 (April 1, 1983).

**XI. EPA Contact**

Additional information concerning the permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

Betsy Davis  
US Environmental Protection Agency  
1 Congress Street  
Suite 1100 (CP)  
Boston, Massachusetts 02114-2023  
Telephone: (617) 918-1576

\_\_\_\_\_  
DATE

Linda M. Murphy, Director  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency

Attachment B  
Greater Lawrence Sanitary District  
NPDES 0100447  
Discharge Monitoring Data Summary  
North Andover, Massachusetts

Range between September 2001 and September 2003

Flow, MGD	20.1- 42.1
Average monthly BOD <sub>5</sub> , mg/l	5.0 - 17.0
Average monthly TSS, mg/l	2.0 - 11.0
pH, S.U.	7.0 - 8.2
Average monthly fecal coliform, CFR's	0 - too many to count
Maximum daily total residual chlorine, mg/l	0 - 0.88

**Attachment C of the Fact Sheet  
Greater Lawrence Sanitary District  
Summary of NPDES Permit Reporting Requirements Dates**

<b>Permit Page</b>	<b>Requirement and Dates</b>	<b>Submit to:</b>
5.	Whole Effluent Toxicity Tests results are due February 28, May 31, August 31 and November 30 of each year	EPA/MA DEP
7.	Local limits needs report within 120 days of the effective date of the permit	EPA
8.	Annual Industrial Pretreatment Report	EPA/MA DEP
9.	The co-permittees shall develop and implement a plan to control I/I to the separate sewer system. The plan shall be available to EPA and submitted to MA DEP within six months of the effective date of the permit.	EPA/MA DEP
10.	A summary report of all actions taken to minimize I/I during the previous calendar year shall be submitted to EPA and the MA DEP annually, by the anniversary date of the effective date of the permit.	EPA/MA DEP
12.	CSO Monitoring Plan within 3 months of the effective date of the permit	EPA/MA DEP
13.	CSO Annual Report, by April 30, 2005 and April 30 each year thereafter	EPA/MA DEP
14.	The permittee shall submit an annual report containing the information specified in the sludge section of the permit by February 19.	EPA/MA DEP
15	Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15 <sup>th</sup> day of the month following the effective date of the permit.	EPA/MA DEP