UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER: **MA0030066**

PUBLIC NOTICE START AND END DATES: June 28, 2011 – July 27, 2011

NAME AND MAILING ADDRESS OF APPLICANT:

Allied Waste Services of Massachusetts, LLC
18500 North Allied Way
Phoenix, AZ 85054

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Allied Waste Services
385 Dunstable Road
Tyngsboro, MA 01879

RECEIVING WATER(S): **Bridge Meadows wetland adjacent to the channel of Deep Brook (MA84A-21)**

RECEIVING WATER CLASSIFICATION(S): **Class B**

SIC CODE: **4212 (Trucking Facility)**

TABLE OF CONTENTS

1. PROPOSED ACTION, TYPE OF FACILITY, AND DISCHARGE LOCATION 4

2. PERMIT HISTORY 5

3. DESCRIPTION OF DISCHARGE 5

4. FACILITY INFORMATION 6

5. RECEIVING WATER DESCRIPTION 8

6. LIMITATIONS AND CONDITIONS 11

7. PERMIT BASIS: STATUTORY AND REGULATORY AUTHORITY 11

7.1 GENERAL REQUIREMENTS 11
7.2 TECHNOLOGY-BASED REQUIREMENTS 11
7.3 WATER QUALITY-BASED REQUIREMENTS 12
7.4 ANTI-BACKSLIDING 12
7.5 ANTIDEGRADATION 12

8. EXPLANATION OF THE PERMIT'S EFFLUENT LIMITATION(S) 13

8.1 DERIVATION OF EFFLUENT LIMITS UNDER THE FEDERAL CWA AND/OR THE COMMONWEALTH OF MASSACHUSETTS WATER QUALITY STANDARDS 13
8.1.1 Flow 13
8.1.2 Oil and Grease 14
8.1.3 Total Suspended Solids (TSS) 15
8.1.4 pH 16
8.1.5 Metals 18
8.1.6 Acute Whole Effluent Toxicity (WET) Tests 20
8.1.7 Pathogens (Fecal Coliform) 20
8.1.8 Nutrients 22

9. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) 23

10. ESSENTIAL FISH HABITAT (EFH) 24

11. ENDANGERED SPECIES ACT (ESA) 26

12. MONITORING AND REPORTING 28

13. STATE CERTIFICATION REQUIREMENTS 29

14. COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISIONS 29

15. EPA AND MASSDEP CONTACTS 30

16. ATTACHMENTS 31

ATTACHMENT A – SITE LOCUS 31
ATTACHMENT B – FACILITY SITE PLAN 32
ATTACHMENT C – DMR DATA SUMMARY – JUNE 1, 2003 THROUGH APRIL 30, 2010 33
Table C-1: Outfall 001 (Flow, O&G, TSS, and pH) 33
Table C-2: Outfall 003 (Flow, O&G, TSS, and pH) 35

Table C-3: Outfall 004 (Flow, O&G, TSS, and pH) *37*
Table C-4: Outfall 007 (Flow, O&G, TSS, and pH) *39*
Table C-5: Metals (Copper and Lead) *42*

1. PROPOSED ACTION, TYPE OF FACILITY, AND DISCHARGE LOCATION

Allied Waste Services of Massachusetts, LLC (Allied Waste) has applied to the U.S. Environmental Protection Agency (EPA) for the re-issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge stormwater from its Tyngsboro Facility (the "Facility") to a wetland system (locally referred to as "Bridge Meadows") that is connected to the channel of Deep Brook (Segment MA84A-21), both of which drain to the Merrimack River. The 2003 Permit was issued to Browning-Ferris Industries, Inc. (BFI) on March 7, 2003, became effective on May 7, 2003, and expired on May 7, 2008. EPA received a request to transfer the 2003 Permit from BFI to Allied Waste as well as a permit renewal application dated April 2, 2008. After receipt of additional requested documentation, the permit application was deemed both timely and complete by EPA and, therefore, the permit has been administratively continued pursuant to 40 CFR § 122.6.

The Facility operates as a regional solid waste collection and hauling division. Solid waste collection vehicles and containers are dispatched from this Facility on a daily basis. The collection vehicles are fueled and maintained, and the solid waste containers are maintained and stored at the Facility. The Facility does not serve as a solid waste transfer or disposal facility.

Attachment A includes the Site Locus Map and Attachment B includes the Facility Site Plan, which shows the layout of the Facility, drainage pathways, and locations of the oil/water (O/W) separators and the outfalls. Figure 1, below, is an aerial photograph showing the site layout, including locations of outfalls.

Figure 1: Site Layout

The Facility discharges stormwater runoff to the receiving water from four outfalls (Outfalls 001, 003, 004 and 007), as listed below in Table 1 and shown above on Figure 1. Outfall 001 is located at the west end of the site, and Outfalls 003, 004, and 007 are located on the east end of the site.

Table 1: Outfall Locations

Outfall Number	Latitude	Longitude
001	42° 39’ 18.93”	71° 25’ 48.05”
003	42° 39’ 16.08”	71° 25’ 39.65”
004	42° 39’ 13.35”	71° 25’ 38.99”
007	42° 39” 14.59”	71° 25’ 38.98”

2. PERMIT HISTORY

Table 2 presents the permit history, reporting, and relevant correspondence, in chronological order.

Table 2: Permit Chronology

Date	Action
September 26, 1987	Original issuance of NPDES permit MA0030066
September 26, 1997	NPDES permit reissued
October 1, 1997	NPDES permit effective
March 26, 2002	Permit re-application submitted by BFI
March 29, 2002	Permit re-application by BFI deemed complete by EPA
March 7, 2003	NPDES permit reissued to BFI
May 7, 2003	NPDES permit effective
April 2, 2008	Application for permit transfer and permit renewal submitted by Allied Waste
June 25, 2008	Letter from EPA to Allied Waste requesting additional information
July 22, 2008	Letter from Allied Waste to EPA providing additional information received
August 4, 2008	Application for permit renewal deemed complete
September 22, 2008	Transfer of ownership deemed complete

3. DESCRIPTION OF DISCHARGE

The Facility discharges stormwater, as defined in 40 CFR § 122.26(b)(13) to mean stormwater runoff, snow melt runoff and surface runoff and drainage, which may contain a wide range of contaminants. The concentrations of such contaminants are generally site specific and therefore may vary greatly from site to site. Based on the activities and operations at the Facility, for this Draft Permit, the pollutants of concern include oil and grease, total suspended solids (TSS), and metals (total copper and total lead).

Stormwater runoff from impervious areas utilized as truck refueling, cleaning, and container and truck storage areas is discharged to the receiving water from four outfalls, as further detailed below in Table 3.

Table 3: Outfall Drainage

Outfall Number	Impervious Surface Drained (acres)	Total Area Drained (acres)	% of Total Impervious Area Drained	Description of Impervious Area
001	5.5	5.5	74%	Large metal maintenance garage with office space, small metal garage, the 2-story office building, and the concrete loading pads.
003	0.8	0.8	11%	Bituminous parking areas and driveways, the fueling area surrounded by a concrete pad, and truck scale.
004	0.8	0.8	11%	Bituminous parking areas and driveways, a concrete loading pad, and a concrete block building.
007	0.3	0.3	4%	Bituminous parking areas and driveways, a portion of a concrete loading pad, and a truck scale.

A quantitative description of the effluent parameters based on recent discharge monitoring reports (DMRs) is presented in Attachment C of this Fact Sheet. These data were collected under the terms of the 2003 Permit.

4. FACILITY INFORMATION

Allied Waste Services of Massachusetts, LLC (Allied Waste) is located in Tyngsboro, Massachusetts and is bound by Dunstable Road to the south, Westford Road to the west, and U.S. Route 3 to the north and east (Attachment A). The site comprises a 25.5-acre parcel of industrial-zoned land (Attachment B). In general, the site slopes from the midpoint toward both the northwest and northeast.

The site is utilized as a maintenance and vehicle storage area for solid waste collection trucks and containers, including fueling and washing of vehicles. The Facility consists of a large two-story metal maintenance garage with office space, a fueling area, a concrete parking pad, a truck scale, a small metal garage, a two-story office building, and a concrete storage pad, as shown on Figure 1 in Section 1 of this Fact Sheet.

The only discharge from the site is stormwater runoff from roof and paved surfaces, with activities consisting of truck refueling, and container and truck storage areas. All maintenance activities are done inside, and therefore are not exposed to stormwater.

In general, stormwater runoff from buildings and impervious areas consisting of bituminous asphalt and concrete flows by gravity through Outfalls 001, 003, 004 and 007. See Table 3 for details. Prior to discharge through each outfall, the stormwater flows through catch basins and trench drains

and through an O/W separator. The catch basins contain silt socks which are replaced every two months, and the trench drains contain booms, which are replaced annually. No stormwater discharges offsite without treatment in one of three O/W separators onsite. Table 4 summarizes the capacity and design flows of the O/W separators. The separators are inspected monthly and cleaned once per year. Floating oil is removed on a regular basis.

Table 4: Summary of Oil Water Separators

O/W Separator Capacity (gallons)	O/W Design Flow Rate (gpm)	O/W Design Flow Rate (MGD)	Treats stormwater that discharges to:
6,000	600	0.864	Outfall 004
10,000	1,000	1.44	Outfalls 003 and 007
20,000	2,000	2.88	Outfall 001

Vehicle maintenance is performed inside the large metal maintenance garage, which is constructed of impervious concrete floors with floor drains that drain to a holding tank for offsite disposal. Recyclable solid waste materials are compacted and transferred within the northern portion of the large maintenance garage.

Motor oil, waste motor oil, hydraulic fluid, and transmission fluid are stored in aboveground storage tanks (ASTs) within the large metal maintenance garage, along with one parts washer. Therefore, the ASTs and parts washer are not exposed to stormwater. The parts washer is a self-contained system; the water is recycled and shipped offsite for disposal, as necessary.

The smaller metal garage near the office building is used for vehicle and container repair and maintenance (including welding), and for spray-painting solid waste containers in a spray booth. There is no discharge from the spray booth. The permittee noted that the paint currently used is low in VOCs. There are no floor drains in this building.

Diesel fuel is stored in two 10,000 gallon underground storage tanks (USTs) near the fueling area. The USTs are annually tested for leaks.

The Facility conducts truck washing near the entrance of the Facility, adjacent to Dunstable Road. Previously, the wash water was collected in an underground collection tank via a catch basin. However, as of September 2006, the underground collection tank was sealed. A private vehicle washing company, contracted by the Facility, places a tarp on the ground over the wash area and constructs a berm completely around the tarp (referred to at the site visit as a “balloon”). Trucks are then washed on the “balloon,” and the wash water is contained and pumped into a large plastic recovery tank on the wash truck for off-site disposal by the washing company. The Facility performs truck washing about once per week, or every other week, depending on weather conditions. The Draft Permit does not authorize discharge of wash water from vehicle washing to the receiving water.

During EPA’s site visit in March 2010, two containers covered by tarps were storing hazardous waste on the concrete storage pad, near Outfall 001. The hazardous waste was not exposed to stormwater.

The permittee currently uses sand only for snow/ice management; no salt is used onsite. The permittee noted that the site is swept daily, ten months out of the year. The permittee noted that catch basins are cleaned once per year, usually in July or August.

All outfalls (001, 003, 004, and 007) discharge to a wetland system (locally referred to as "Bridge Meadows"). Outfalls 003, 004 and 007 are fitted with floating booms at the point of discharge into the receiving water, which are replaced approximately every two months. At the time of the site visit, slight oil sheen was noted at Outfall 007, the floating boom at Outfall 004 was out of place, and Outfall 001 was not fitted with a floating boom.

The Facility is connected to the municipal water supply. All sanitary sewage generated at the site is conveyed to the Lowell Regional Wastewater Utility for treatment.

The permittee noted that the Facility installed two new catch basins near the entrance of the site, which connect to the existing drainage system. These structures were installed because an increased volume of stormwater from Dunstable Road tends to flow onsite since completion of road construction activities.

Stormwater flow from an offsite development contributes to a culverted brook and together discharge from a culvert near the Facility entrance to a grass swale. After approximately 10 feet of traveling through the grass swale, the flow enters another culvert which travels under the site to discharge directly to the wetland between Outfalls 004 and 007.

The Facility stores snow on the west end of the site, south of Outfall 001, off of the impervious area, adjacent to the wetlands.

5. RECEIVING WATER DESCRIPTION

The Facility's stormwater runoff is discharged through Outfalls 001, 003, 004 and 007 to a wetland system (locally referred to as "Bridge Meadows"), as illustrated in Figure 2 below. Bridge Meadows is connected to the channel of Deep Brook (Segment MA84A-21), both of which are tributary to the Merrimack River.

Figure 2: Receiving Waters

Legend

- Permitted Outfalls
- MA Rivers and Streams

MADEP Wetlands

- Bog
- Deep Marsh
- Shallow Marsh, Meadow, or Fen
- Open water
- Shrub Swamp
- Wooded Swamp Deciduous
- Wooded Swamp Coniferous
- Wooded Swamp Mixed Trees

The wetland system and segment MA84A-21 of Deep Brook are classified as a Class B by the Massachusetts Department of Environmental Protection (MassDEP) under the Commonwealth of Massachusetts Water Quality Standards[1]. Class B waters are described in the Commonwealth of Massachusetts Water Quality Standards (314 CMR 4.06(3)(b)) as "designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. Where designated in 314 CMR 4.06, they shall be suitable as a source of public water supply with appropriate treatment ("Treated Water Supply"). Class B waters shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value."

Sections 305(b) and 303(d) of the CWA require that States complete a water quality inventory and develop a list of impaired waters. Specifically, Section 303(d) of the CWA requires States to identify those water bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls, and as such, require the development of a Total Maximum Daily Load (TMDL) for each pollutant that is prohibiting a designated use(s) from being attained. In Massachusetts, these two evaluations have been combined into an Integrated List of Waters. The integrated list format provides the status of all assessed waters in a single, multi-part list.

Segment MA84A-21 of Deep Brook is listed in the *Final Massachusetts Year 2008 Integrated List of Waters*[2] and on the *Proposed Massachusetts Year 2010 Integrated List of Waters*[3] as a Category 5 waterbody: "Waters requiring a TMDL." The pollutants needing TMDLs are:

- organic enrichment/low dissolved oxygen;
- pathogens;
- unknown toxicity;
- And siltation.

MassDEP is required under the CWA to develop a TMDL for a waterbody once it is identified as impaired. A TMDL is essentially a pollution budget designed to restore the health of a water body. A TMDL first identifies the source(s) of the pollutant from direct and indirect discharges in order to next determine the maximum amount of pollutant (including a margin of safety) that can be discharged to a specific water body while maintaining water quality standards for designated uses. It then outlines a plan to meet the goal.

The *Draft Pathogen TMDL for the Merrimack River Watershed* has been developed.[4] This Draft TMDL applies to Deep Brook. Because this TMDL is not yet final, EPA is developing the conditions for this permit based on a combination of water quality standards and Best Professional Judgment (BPJ). Upon finalization of the TMDL, the permit may be re-opened to include additional monitoring requirements to be consistent with the Waste Load Allocation and/or the Load Allocation. See Section 8.1.9 of the Fact Sheet for further discussion of pathogens.

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[1] http://www.mass.gov/dep/service/regulations/314cmr04.pdf
[2] http://www.mass.gov/dep/water/resources/08list2.pdf
[3] http://www.mass.gov/dep/water/resources/10list3.pdf
[4] http://www.mass.gov/dep/water/resources/merimac1.pdf

6. LIMITATIONS AND CONDITIONS

The effluent limitations of the Draft Permit and the monitoring requirements may be found in the Draft Permit.

7. PERMIT BASIS: STATUTORY AND REGULATORY AUTHORITY

7.1 General Requirements

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. The draft NPDES permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. In this permit EPA considered (a) technology-based requirements, (b) water quality-based requirements, and (c) all limitations and requirements in the current/existing permit, when developing the permit limits.

7.2 Technology-Based Requirements

Subpart A of the 40 CFR §125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and case-by-case determinations of effluent limitations under Section 402(a)(1) of the CWA.

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 CFR §125 Subpart A) to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically available (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must have been complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989 [See 40 CFR §125.3(a)(2)]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit.

EPA has not promulgated technology-based National Effluent Guidelines for stormwater or other non-sanitary discharges from local trucking facilities without storage (Standard Industrial Code 4212). Although the site stores vehicles that collect and haul solid waste, landfill point source effluent guidelines do not apply to trucking facilities (40 CFR §445). In the absence of applicable technology-based effluent guidelines, the permit writer is authorized under Section 402(a)(1)(B) of the CWA to establish effluent limitations on a case-by-case basis using Best Professional Judgment (BPJ). One source of information EPA used in this Draft Permit in making a case-by-case determination of effluent limits is EPA's Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP). The MSGP contains technology-based effluent limits for SIC Code 4212 under Part 8, Subpart P for Sector P - Land Transportation and Warehousing, in the form of Good Housekeeping Measures.

7.3 Water Quality-Based Requirements

Section 301(b)(1)(C) of the CWA requires that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water. This is necessary when technology-based limitations would interfere with the attainment or maintenance of water quality in the receiving water.

Under Section 301(b)(1)(C) of the CWA and EPA regulations, NPDES permits must contain effluent limits more stringent than technology-based limits where more stringent limits are necessary to maintain or achieve state or federal water quality standards.

Water quality standards consist of three parts: (1) beneficial designated uses for a water-body or a segment of a water-body; (2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s); and (3) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts Surface Water Quality Standards, found at 314 CMR 4.00, include these elements. The State will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, shall be used unless a site specific criterion is established.

The Draft Permit must limit any pollutant or pollutant parameter (conventional, non-conventional, and toxic) that is or may be discharged at a level that causes or has the "reasonable potential" to cause or contribute to an excursion above any water quality standard (40 CFR §122.44(d)). An excursion occurs if the projected or actual in-stream concentration exceeds an applicable water quality criterion. In determining “reasonable potential,” EPA considers: (1) existing controls on point and non-point sources of pollution; (2) pollutant concentration and variability in the effluent and receiving water as determined from the permit's re-issuance application, monthly discharge monitoring reports (DMRs), and State and Federal Water Quality Reports; (3) sensitivity of the indicator species used in toxicity testing; (4) known water quality impacts of processes on waste waters; and (5) where appropriate, dilution of the effluent in the receiving water.

7.4 Anti-backsliding

Federal anti-backsliding provisions are found in Section 402(o) of the Clean Water Act and at 40 CFR §122.44(l) and generally prohibit the relaxation of permit limits, standards, and conditions. Anti-backsliding provisions apply to effluent limits based on technology, water quality, BPJ and State Certification requirements. The effluent limits in the Draft Permit are as stringent as those in the 2003 Permit.

7.5 Antidegradation

The Commonwealth of Massachusetts’ Antidegradation Policy is found at in the state’s water quality standards (314 CMR 4.04). These provisions require that all existing uses in the receiving water, along with the level of water quality necessary to protect those existing uses, are maintained and protected. The effluent limits in the Draft Permit should ensure that provisions in 314 CMR 4.04 are met; this Draft Permit is being reissued with allowable effluent limits that are as stringent as, and for

many parameters, more stringent than, the 2003 Permit and accordingly will continue to protect the existing uses of the receiving water. EPA anticipates that the MassDEP shall make a determination that there will be no significant adverse impacts to the receiving waters and no loss of existing uses as a result of the discharge authorized by this permit. The State is also asked to certify that the anti-degradation provisions in State law are met.

8. EXPLANATION OF THE PERMIT'S EFFLUENT LIMITATION(S)

8.1 Derivation of Effluent Limits under the Federal CWA and/or the Commonwealth of Massachusetts Water Quality Standards

The Draft Permit authorizes the discharge of treated stormwater, subject to effluent limitations which are within applicable water quality standards, and requires development and implementation of a stormwater pollution prevention plan (SWPPP) for additional protection of the environment. The effluent parameters in the Draft Permit are discussed in more detail below. The sections are divided according to the effluent characteristic being regulated. A brief analysis (summary) and discharge monitoring report (DMR) data from June 1, 2003 through April 30, 2010 are included in Attachment C.

8.1.1 Flow

An O/W separator is a device that uses gravity to separate the lower-density oils from water; resulting in an oil phase above the oil/water interface and a heavier particulate phase (sludge) on the bottom of the separator. To ensure proper operation of installed O/W separators such that the oil and/or particulate phases are not entrained to the waterway, it is important that the flow through the separator be maintained at or below the maximum design flow rate of the separator. In order to ensure that these criteria are being met, the facility identified the maximum design flow rating of the O/W separators (See Table 4).

EPA and MADEP are using the design flow information submitted by Allied Waste to identify the effluent limits for the flow from Outfalls 001, 003, 004, and 007. The instantaneous flow rates, which are based upon the maximum design flow rating of the O/W separators, will become the maximum daily flow limits for Outfalls 001, 003, 004 and 007 in the Draft Permit.

In addition to reporting maximum daily flow, the Draft Permit is proposing the Facility report the average monthly flow. Because the measurement frequency is monthly, in most cases the Facility will report the same values for average monthly flow and maximum daily flow. However, in the event the Facility measured additional storm events (more than one in a month), this number would be an average of the flows measured.

The Draft Permit proposes to continue the requirement that the permittee report with each month's DMR (1) the date and duration (in hours) of the storm event from which the sample was collected; (2) the duration (in hours) since the last measureable storm event greater than 0.10 inches (the "antecedent dry period"); and (3) measurements or estimates (in inches) of the total precipitation accumulated prior to collecting the sample. The Draft Permit also proposes the permittee include this information in its SWPPP developed pursuant to Part I.C of the Draft Permit.

The Draft Permit is proposing to remove the requirement to report "an estimate of the total volume (in gallons) of the discharge sample," because this information is not relevant to future development

of permit conditions or limits; it merely reflects the volume of water from which samples were collected.

As shown in Attachment C, from June 1, 2003 through April 30, 2010, the Facility has discharged flows ranging from around 0.001 MGD to approximately 0.045 MGD, averaging around 0.005 MGD. During this time, there were eighteen (18) months in which the Facility reported that no discharge occurred at any outfall (typically in winter months). Table 5 below shows the minimum, maximum, and average flows during this time for Outfalls 001, 003, 004, and 007.

Table 5: Summary of Flows by Outfall

Outfall Number	Flow (MGD)		
	Minimum	Maximum	Average
001	0.002	0.008	0.004
003	0.002	0.041	0.005
004	<0.001	0.045	0.003
007	0.001	0.039	0.005

The Draft Permit proposes to continue the 2003 Permit's requirement of monthly reporting of estimated average monthly flow for Outfalls 001, 003, 004, and 007. However, review of DMR data shows that the Facility has been reporting flows in million gallons per day (MGD) to the thousandth decimal place. Therefore, in order to increase accuracy of reporting and better reflect stormwater runoff conditions at the Facility, the Draft Permit proposes to change the reporting units from million gallons per day (MGD) to gallons per minute (gpm).

8.1.2 Oil and Grease

In order to continue to address the Massachusetts Water Quality Standards and to comply with antibacksliding provisions (40 CFR §122.44(l)(1)), the Draft Permit proposes to continue the 2003 Permit's maximum daily limit for Oil and Grease of 15 mg/L and proposes to continue the monthly monitoring frequency.

According to Massachusetts Water Quality Standards found at 314 CMR 4.05(3)(b)(7), Class B inland waters shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portion of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life. A concentration of oil and grease of 15 mg/L is recognized as the level at which many oils produce a visible sheen and/or cause an undesirable taste in fish.[5]

The 2003 Permit specified EPA Method 1664 be used for the O&G testing. The Draft Permit proposes to continue this requirement.

As shown in Attachment C, between June 1, 2003 and April 30, 2010 there were three (3) exceedances of the maximum daily O&G limit of 15 mg/L (16 mg/L in February 2006 at Outfall

5 Quality Criteria for Water ("The Red Book"), U.S. EPA July 1976.
http://www.epa.gov/waterscience/criteria/library/redbook.pdf

001, 23 mg/L in August 2004 at Outfall 003, and 17 mg/L in December 2005 at Outfall 007). The Facility reported the high O&G value in August 2004 at Outfall 003 was due to a dry month. The Facility reported it increased sweeping and arranged for cleaning of the O/W separators in the following month. The reasons for the other exceedences were not documented in the letters attached to the DMRs. Since winter 2006, there have been no exceedances, which may be due to increased pollution prevention activities at the site. Approximately half of the O&G concentrations reported during this time were not detected above the laboratory detection limit (typically 5 mg/L). Table 6 below shows the minimum, maximum, and average O&G concentrations reported between June 1, 2003 through April 30, 2010 for Outfalls 001, 003, 004, and 007.

Table 6: Summary of O&G Results by Outfall

Outfall Number	Oil and Grease (mg/L)		
	Minimum	Maximum	Average
001	<5	16	8
003	<5	23	8.5
004	<5	14	7.9
007	<5	17	8.7

In addition, on its permit application form the Facility reported oil & grease test results from a sample of 19 storm events, as shown on Table 7.

Table 7: O&G Results from Permit Application

Outfall Number	Oil and Grease (mg/L)	
	Maximum	(Average)
001	16	2.4
003	12	2.4
004	12	4.0
007	9.8	3.1

8.1.3 Total Suspended Solids (TSS)

In order to continue to address the Massachusetts Water Quality Standards and to comply with antibacksliding provisions (40 CFR §122.44(l)(1)), the Draft Permit proposes to continue the 2003 Permit's requirement of maximum daily TSS effluent limits of 60 mg/L and the monthly monitoring frequency.

The 2003 Permit's effluent limit of 60 mg/L for TSS was continued from 1997 Permit to comply with antibacksliding provisions. Since there currently are no National Effluent Guidelines promulgated for discharges that apply to this facility, the permit writer is authorized under Section 402(a)(1) of the CWA to establish effluent limitations on a case-by-case basis using Best Professional Judgment (BPJ).

As shown in Attachment C, there were exceedances of TSS at Outfalls 001, 003, 004, and 007 in the months of March 2004, November 2005, December 2005, and February 2006. There were also exceedances of TSS at Outfalls 004 and 007 in January 2006.

The letter attached to the March 2004 DMR noted the high TSS results were likely due to an extremely cold winter, which necessitated placing an uncommon amount of salt and sand on the ground in order to keep the Facility safe for foot and vehicle traffic. This was the first discharge since December 2003, and therefore two months of no flow conditions likely caused the first flush to be very high in TSS. The Facility indicated it planned to maintain the daily winter sweeping schedule in an effort to combat continued high TSS levels. Currently, however, the Facility does not use salt onsite.

The letters attached to the November 2005, January 2006 and February 2006 DMRs did not include an explanation of the exceedences in those months.

In the letter attached to the December 2005 DMR, the Facility noted unusually high TSS that month, which were explained to be due to heavy sanding of the parking lots due to inclement freezing weather. They reported that, to return TSS to a normal level, they aggressively took steps to reduce solids in the water.

Table 8 below shows the minimum, maximum, and average TSS concentrations reported from June 1, 2003 through April 30, 2010 for Outfalls 001, 003, 004, and 007.

Table 8: Summary of Reported TSS Concentrations by Outfall

Outfall Number	TSS (mg/L)		
	Minimum	Maximum	Average
001	<4	220	27.5
003	<4	110	24.9
004	<4	130	24.5
007	<4	140	24.3

In addition, on its permit application form the Facility reported TSS test results from a sample of 19 storm events as shown in Table 9.

Table 9: TSS Results by Outfall from Permit Application

Outfall Number	TSS (mg/L)	
	(Maximum)	(Average)
001	110	24
003	110	26
004	98	25
007	98	25

8.1.4 pH

The 2003 Permit required the Facility to monitor the maximum daily pH values with report-only requirements. In response to a comment about low pH values (3.1, and several below 6.0 SU), Part I.A.2.k of the 2003 Permit also included a monthly monitoring requirement to measure pH of the rainfall and submit results with DMRs.

The Massachusetts Surface Water Quality Standards require that pH in a Class B water "shall be in the range of 6.5 through 8.3 standard units but not more than 0.5 units outside of the natural background range" (314 CMR 4.05(3)(b)3).

The Draft Permit proposes to continue monthly monitoring of pH at Outfalls 001, 003, 004, and 007. To address the Water Quality Standards, the Draft Permit proposes to add a discharge limitation range of 6.5 through 8.3 standard units for pH, and a requirement that the pH shall be no more than 0.5 units outside the natural background range.

In order to demonstrate that pH values of the effluent are outside the permitted pH range due to natural causes, the Draft Permit also proposes to continue the monthly monitoring requirement to measure pH of the rainfall. Footnote 6 of Part I.A.1 of the Draft Permit requires the Facility to report pH of the rainwater collected during the storm event in which sampling is conducted. The Draft Permit requires the permittee to submit documentation of the precipitation pH with the monthly DMR and record it in the SWPPP.

A summary of the discharge monitoring data submitted by the Facility during the time period of June 1, 2003 to April 30, 2010 is included as Attachment C to this Fact Sheet. pH of the discharge has ranged from 5.3 to 7.3, averaging around 6.3.

Table 10: Summary of Reported pH values by Outfall

Outfall Number	pH (SU)		
	Minimum	Maximum	Average
001	5.3	7.1	6.3
003	5.4	7.3	6.3
004	5.4	7.2	6.3
007	5.5	7.3	6.3

In addition, on its permit application form the Facility reported pH test results from samples of 19 storm events. These results were as follows:

Table 11: pH Results by Outfall from Permit Application

Outfall Number	pH (SU)	
	(Minimum)	(Maximum)
001	5.9	7.1
003	5.8	7.3
004	5.8	7.3
007	5.8	6.43

On average, pH of the discharges from the site has been lower than the lower end of the range required by the Water Quality Standards. DMR reports submitted to EPA do not document the reported cause of the low pH values observed at the outfalls. However, given the source of the discharge at the outfalls being entirely from stormwater runoff produced during a precipitation event, it is likely that pH exceedances (low pH) are due to acidic rainfall at the Facility. According to Facility employees, there were no known issues or atypical operating conditions at the Facility on

the dates of the lower pH limit violations.

8.1.5 Metals

Under the 2003 Permit, the permittee was required to conduct quarterly sampling for total copper and for total lead. Footnotes 3 and 4 of Part I.A.1 of the 2003 Permit specified EPA Method 220.2 for copper and EPA Method 235.2 for lead, both with minimum detection limits of 2.5 ug/L.

Quarterly monitoring results reported between July 1, 2003 and March 31, 2010 are shown in Attachment C. The 2003 Permit required reporting of copper and lead in ug/L; however, the DMR sheets sent to the permittee showed reporting in units of mg/L. Review of laboratory data and of DMRs between July 1, 2003 and October 1, 2007 showed that the permittee reported copper and lead results incorrectly; by dividing the values (ug/L) shown on the laboratory reports by 100, instead of 1,000, to convert to mg/L. Therefore, the monitoring results shown in Attachment C have been converted to correct the reporting error.

As documented in Attachment C, concentrations of copper and lead have been high during the previous permit term during isolated instances which have not been fully explained by the permittee. Containers stored onsite are metal, and during EPA's site visit, particulate metal was noted on the pavement in areas of the site.

A summary of the discharge monitoring data submitted by the Facility during the time period of September 30, 2003 to March 31, 2010 is included as Attachment C to this Fact Sheet. The results of the analysis of the discharge for copper and lead are as follows.

Table 12: Maximum Copper and Lead Results by Outfall

Outfall Number	Copper (ug/L)	Lead (ug/L)
001	50	22
003	46	26
004	45	32
007	46	27

In addition, on its permit application form the Facility reported copper and lead test results from samples of six storm events. These results were as follows:

Table 13: Copper and Lead Results by Outfall from Permit Application

Outfall Number	Copper (ug/L)	Lead (ug/L)	
		Maximum	Average
001	ND	ND	N/A
003	ND	14	4.3
004	ND	13	2.2
007	ND	15	2.5

The Massachusetts Water Quality Standards state that

for pollutants not otherwise listed in 314 CMR 4.00, the *National Recommended Water Quality*

> *Criteria: 2002, EPA 822R-02-047,November 2002* published by EPA pursuant to Section 304(a) of the Federal Water Pollution Control Act, are the allowable receiving water concentrations for the affected waters, unless the Department either establishes a site specific criterion or determines that naturally occurring background concentrations are higher. Where the Department determines that naturally occurring background concentrations are higher, those concentrations shall be the allowable receiving water concentrations [314 4.05 (5)(e)].

While MassDEP has established site-specific criteria for copper in some Massachusetts watersheds, no site-specific criteria for copper or lead have been established for the Bridge Meadows wetland system adjacent to Deep Brook.

Comparing the 99th upper percentile values for lead in Table 14 below to the 2002 National Recommended Water Quality Criteria lead acute criterion of 65 ug/L indicates that previous lead discharges do not have reasonable potential to exceed water quality criteria. Therefore, the Draft Permit proposes to continue report-only monitoring at a quarterly frequency for total lead.

Table 14: 99th Upper Percentile Values for Copper and Lead from September 30, 2003 to March 31, 2010

Outfall Number	Copper (ug/L)	Lead (ug/L)
001	54.46	28.87
003	52.72	35.84
004	57.54	39.55
007	49.73	31.86

Given that the 99th upper percentile values for copper in Table 14 exceed the 2002 National Recommended Water Quality copper acute criterion of 13 ug/L and the absence of site-specific criteria for copper, the Draft Permit proposes to continue report-only monitoring for copper at an increased monitoring frequency of monthly instead of quarterly.

As effluent limitations, the Draft Permit proposes to manage total copper through the implementation of BMPs and modification of the SWPPP. To control the activities and operations, which could contribute copper to waters of the United States via stormwater discharges at this Facility, the Draft Permit requires the Facility to modify the existing SWPPP with site-specific BMPs as required under 40 CFR §122.44(k)(4) to control or abate stormwater contact with materials that could contribute to copper concentrations. Site-specific BMPs are permit conditions necessary to achieve effluent limitations and standards of the Draft Permit. At a minimum, the BMPs shall reduce the concentrations of copper in the stormwater runoff. The BMPs shall include measures to identify, isolate and remedy the source(s) of copper. The SWPPP is equally enforceable as numerical limits.

The Draft Permit requires that the permittee certify to EPA that site-specific BMPs to control copper and/or limit direct contact with copper sources are developed and implemented for this Facility in accordance with the permit's schedule and requirements. The Draft Permit Requires that the permittee maintain and update the SWPPP as changes occur at the Facility. In addition, the Draft Permit requires the permittee to provide annual certification to EPA and the MassDEP, documenting that the previous year's inspections and maintenance activities were conducted, results recorded,

records maintained, and that the Facility is in compliance with its SWPPP. A signed copy of the certification is required to be sent each year to EPA and MassDEP as well as appended to the SWPPP within thirty (30) days of the annual anniversary of the effective date of the Permit. This certification will be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of the most recent SWPPP must be kept at the Facility and be available for inspection by EPA and MassDEP.

Additionally, Footnote 9 of Part I.A.1 of the Draft Permit allows the permittee to submit a written request to EPA requesting a reduction in the frequency (to not less than quarterly) of required testing for copper after completion of a minimum of twelve (12) successive monitoring results of effluent, taken over a period of one (1) year, all of which demonstrate levels of copper below the method detection limit. Until written notice is received by certified mail from EPA indicating that the copper testing requirement has been changed, the permittee is required to continue testing at the frequency specified in the permit.

8.1.6 Acute Whole Effluent Toxicity (WET) Tests

To address a comment made by the Massachusetts Riverways Program, Part I.A.2.j of the 2003 Permit required the permittee to "perform one time acute toxicity test, LC50, within six months of the effective [date] of the permit." The Facility conducted the acute whole effluent toxicity tests for Outfall 001 in August 2004, and for Outfalls 003, 004, and 007 in September 2004.

Table 15: Summary of Acute WET Test Results

Outfall Number	LC-50	
	Ceriodaphnia dubia	Pimephales promelas
001	>100%	>100%
003	>100%	>100%
004	>100%	>100%
007	>100%	>100%

These data show there is minimal, if any, acute toxic effect on the organisms. The Draft Permit does not propose to include any further Whole Effluent Toxicity testing requirements.

8.1.7 Pathogens (Fecal Coliform)

Part I.A.2.i of the 2003 Permit required the permittee to "perform one time fecal coliform…tests for Outfalls 001 and 004 within six months of the effective [date] of the permit." The Facility conducted these tests in August (for Outfall 001) and September 2004 (for Outfalls 003 and 004), and the results were as follows:

Table 16: Summary of Fecal Coliform Results Reported

Outfall Number	Fecal Coliform (CTS/100 mL)
001	>2000

003	12,000
004	2,600

In addition, the Facility reported fecal coliform test results of two storm events sampled on their permit application form. These results were as follows:

Table 17: Fecal Coliform Results from Permit Application

Outfall Number	Fecal Coliform (CTS/100 mL)	
	Minimum	Average
001	>200,000	>200,000
003	>200,000	>200,000
004	>200,000	>200,000
007	>200,000	107,000

The Facility also had samples analyzed for fecal coliforms in August 2008 for all four outfalls. The results were counts of >2,000 CTS/100 mL.

Samples collected from Outfalls 001, 003, 004, and 007 indicate high concentrations of fecal coliform in the wet weather flow. Fecal contamination is often attributed to sources including improper management of human sanitary waste, animal wastes, agricultural application of manure, and large congregations of birds such as geese and gulls.

Dry weather flow investigations were completed by the permittee in October of 2007 to evaluate potential illicit sewage connections to the storm drain system. No flow was observed during the investigation. These visual results indicate no cross-connection between onsite sewage and stormwater drains at the Facility. Fecal contamination may be due to stormwater coming into direct contact with contamination sources, such as wildlife feces, at the Facility.

In addition, as mentioned in Section 5 of this Fact Sheet, a *Draft Pathogen TMDL for the Merrimack River Watershed* has been developed.[6] This Draft TMDL applies to Deep Brook. However, this TMDL is not yet final. This TMDL does not have Waste Load Allocations (WLAs) for storm water discharges from non-municipal sources. However, for stormwater runoff regulated by Phase I and Phase II NPDES permits to Class B waters, the Waste Load Allocation (WLA) is "not to exceed a geometric mean of 200 organisms in any set of representative samples, nor shall 10% of the samples exceed 400 organisms. The expectation for WLAs and LAs for storm water discharges is that they will be achieved through the implementation of BMPs and other controls." The Implementation Plan presented in the Draft TMDL states that "Improving storm water runoff quality is essential for restoring water quality and recreational uses. At a minimum, intensive application of non-structural BMPs is needed throughout the watershed to reduce pathogen loadings as well as loadings of other storm water pollutants (e.g., nutrients and sediments) contributing to use impairment in the Merrimack River watershed. Depending on the degree of success of the non-structural storm water BMP program, structural controls may become necessary."

[6] http://www.mass.gov/dep/water/resources/merimac1.pdf

In light of the recommendations of the TMDL, and the past investigation activities conducted by the Facility, as well as the operations and activities at the Facility, the Draft Permit proposes to manage pathogens through implementation of BMPs and modification of the Stormwater Pollution Prevention Plan. In addition, Part I.A.10 of the Draft Permit requires the permittee to perform a one-time *Escherichia coli* (E. coli) test for Outfalls 001, 003, 004 and 007 within six months of the implementation of the SWPPP in order evaluate the effectiveness of the BMPs. Please note that since the issuance of the 2003 Permit, EPA now recommends E. coli as the best indicator of health risk from water contact in recreational waters. Further, to control the activities and operations, which could contribute pollutants to waters of the United States via stormwater discharges at this Facility, the Draft Permit requires the Facility to modify the existing SWPPP with site-specific BMPs as required under 40 CFR §122.44(k)(4) to control or abate stormwater contact with materials that could contribute fecal contamination. Site-specific BMPs are permit conditions necessary to achieve effluent limitations and standards of the Draft Permit. At a minimum, the BMPs shall reduce the concentrations of fecal coliform in the stormwater runoff. The BMPs shall include measures to identify, isolate and remedy the source(s) of fecal coliform. The SWPPP is equally enforceable as numerical limits.

The Draft Permit requires that the permittee certify to EPA that site-specific BMPs to control fecal contamination and/or limit direct contact with fecal contamination sources are developed and implemented for this Facility in accordance with the permit's schedule and requirements. The Draft Permit requires that the permittee maintain and update the SWPPP as changes occur at the Facility. In addition, the Draft Permit requires the permittee to provide annual certification to EPA and the MassDEP, documenting that the previous year's inspections and maintenance activities were conducted, results recorded, records maintained, and that the Facility is in compliance with its SWPPP. A signed copy of the certification is required to be sent each year to EPA and MassDEP as well as appended to the SWPPP within thirty (30) days of the annual anniversary of the effective date of the Permit. This certification will be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of the most recent SWPPP must be kept at the Facility and be available for inspection by EPA and MassDEP.

8.1.8 Nutrients

Part I.A.2.i of the 2003 Permit required the permittee to "perform one time…total phosphorus and ammonia nitrogen tests for Outfalls 001 and 004 within six months of the effective [date] of the permit"

The Facility collected these samples in June 2004. The results are shown below:

Table 18: Summary of One-Time Nitrogen and Phosphorus Tests

Outfall	Nitrogen, as Ammonia (mg/L)	Phosphorus (mg/L)
001	9.8	4.8
003	9.9	4.9
004	9.5	5.0

007	10	6.2

In addition, on its permit application form, the Facility reported nitrogen and phosphorus test results from a sample of one storm event. These results were as follows:

Table 19: Nitrogen and Phosphorus Results from Permit Application

Outfall	Nitrogen, as Ammonia (mg/L)	Phosphorus (mg/L)
001	1.3	0.40
003	1.4	0.39
004	1.4	0.51
007	ND	0.36

Based on review of these results, the Draft Permit proposes to manage nutrients through implementation of BMPs and modification of the Stormwater Pollution Prevention Plan. In addition, Part I.A.10 of the Draft Permit requires the permittee to perform one-time total phosphorus and ammonia nitrogen tests for Outfalls 001, 003, 004 and 007 within six months of the implementation of the SWPPP in order evaluate the effectiveness of the BMPs. To control the activities and operations, which could contribute pollutants to waters of the United States via stormwater discharges at this Facility, the Draft Permit requires the Facility to modify the existing SWPPP with site-specific BMPs as required under 40 CFR §122.44(k)(4) to control or abate stormwater contact with materials that could contribute nutrients. Site-specific BMPs are permit conditions necessary to achieve effluent limitations and standards of the Draft Permit. At a minimum, the BMPs shall reduce the concentrations of nutrients in the stormwater runoff. The BMPs shall identify, isolate and remedy any source(s) of nutrients. The SWPPP is equally enforceable as numerical limits.

The Draft Permit requires that the permittee certify to EPA that site-specific BMPs to control nutrients are developed and implemented for this Facility in accordance with the permit's schedule and requirements. The Draft Permit requires that the permittee maintain and update the SWPPP as changes occur at the Facility. In addition, the Draft Permit requires the permittee to provide annual certification to EPA and the MassDEP, documenting that the previous year's inspections and maintenance activities were conducted, results recorded, records maintained, and that the Facility is in compliance with its SWPPP. A signed copy of the certification is required to be sent each year to EPA and MassDEP as well as appended to the SWPPP within thirty (30) days of the annual anniversary of the effective date of the Permit. This certification will be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of the most recent SWPPP must be kept at the Facility and be available for inspection by EPA and MassDEP.

9. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

This Facility engages in activities which could result in the discharge of pollutants to waters of the United States either directly or indirectly through stormwater runoff. These operations include one or more of the following items from which there is or could be site runoff: material storage, in-facility transfer, material processing, material handling, or loading and unloading.

Under Part I.B of the previous permit, the Facility was required to review and, if necessary, update its Stormwater Pollution Prevention Plan (SWPPP) that was developed and implemented with the

previous NPDES Permit, no later than 180 days after the permit's effective date. Since the issuance of the March 2003 permit, the Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) has been re-issued, which includes more detailed requirements related to stormwater pollution prevention.

To achieve consistency with the MSGP and to control the activities/operations, which could contribute pollutants to waters of the United States, potentially violating the State's Water Quality Standards, the Draft Permit requires the Facility to update, implement, and maintain a Stormwater Pollution Prevention Plan (SWPPP) documenting the application of best management practices (BMPs) appropriate for this specific Facility (See Sections 304(e) and 402(a)(1) of the CWA and 40 CFR §122.44(k)). Specifically, at this Facility, BMPs shall include routine inspection and maintenance of the oil/water separators, the sorbent booms around the outfalls, as well as BMPs to manage pathogens contamination, nutrients, fueling operations, and chemical storage.

The goal of the SWPPP is to reduce, or prevent, the discharge of pollutants through the stormwater system. The SWPPP serves to document the selection of, and if necessary, design and installation of, control measures, including BMPs. Additionally, the SWPPP requirements in the Draft Permit are intended to facilitate a systematic approach for the permittee to 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.

The SWPPP shall be prepared in accordance with good engineering practices and identify potential sources of pollutants, which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity from the Facility. The SWPPP documents the appropriate BMPs implemented or to be implemented at the Facility to satisfy the non-numeric technology-based effluent limitations included in the Draft Permit. These non-numeric effluent limitations support, and are equally enforceable as, the numeric effluent limitations included in the Draft Permit. Because this Facility's discharge is mainly stormwater runoff from a parking lot, sweeping, catch basin cleaning and spill prevention sections of the SWPPP are particularly important and should be closely followed.

SWPPP development and implementation generally involves the following four main steps:

1. Forming a team of qualified facility personnel who will be responsible for developing and updating the SWPPP and assisting the plant manager in its implementation;
2. Assessing the potential stormwater pollution sources;
3. Selecting and implementing appropriate management practices and controls for these potential pollution sources; and
4. Reevaluating, periodically, the effectiveness of the SWPPP in preventing stormwater contamination and in complying with the various terms and conditions of the Draft Permit.

10. 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 the National Marine Fisheries Service (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. Sect. 1855(b). The

Amendments broadly define "essential fish habitat" (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." 16 U.S.C. Sect 1802(10). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH, 50 C.F.R. Sect. 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 of actions. Id.Essential fish habitat is only designated for fish species for which federal Fisheries Management Plans exist. 16 U.S.C. Sect. 1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

Facility Outfall Description

As discussed fully in other sections of this document, Allied Waste discharges via four outfalls to a wetland system (locally referred to as "Bridge Meadows") that is connected to the channel of Deep Brook (Segment MA84A-21). Both of these channels drain approximately 2.4 kilometers through the wetland before reaching the Merrimack River. The point at which the wetland system enters the Merrimack River is approximately 27 kilometers upstream of the Essex Dam at Lawrence, Massachusetts.

The only discharge from the site is stormwater runoff from roof and paved surfaces, with activities consisting of truck refueling, cleaning, and container and truck storage areas. All maintenance activities are done inside, and therefore are not exposed to stormwater.

Stormwater, as defined in 40 CFR § 122.26(b)(13), means stormwater runoff, snow melt runoff and surface runoff and drainage, which may contain a wide range of contaminants. The concentrations of such contaminants are generally site specific and therefore may vary greatly from site to site. Based on the activities and operations at the Facility, for this Draft Permit, the pollutants of concern include oil and grease, total suspended solids (TSS), and metals (total copper and total lead.

The Facility has discharged flows ranging from around 0.001 MGD to approximately 0.045 MGD, averaging around 0.005 MGD. During the time period 2003 through 2010, there were eighteen (18) months in which the Facility reported that no discharge occurred at any outfall (typically in winter months). Prior to discharge through each outfall, the stormwater flows through catch basins and trench drains and through an O/W separator. No stormwater discharges offsite without treatment in one of three O/W separators onsite.

Finding

Only Atlantic salmon (*Salmo salar)* is believed to be present during one or more life stage within the EFH Area, which is near-by the existing discharge site. No "habitat area of particular concern" as defined under '600.815(a)(9) of the Magnuson-Stevens Act, has been designated for this site. Although EFH has been designated for this general location, EPA has concluded that this activity is not likely to affect EFH or its associated species for the following reasons:

- All intermittent stormwater must flow through an O/W separator before leaving the site;
- The intermittent discharge must drain through 2.4 kilometers of filtering wetlands before reaching the Merrimack River, therefore reducing any TSS impact on the river;
- The Facility withdraws no water from the Merrimack River, so no life stages of Atlantic

salmon are vulnerable to impingement or entrainment;

- The Draft Permit requires the facility to adhere to effluent limitations protective of the receiving water as well as to develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) in order to further reduce stormwater discharge impacts;
- The Essex Dam, located approximately 27 kilometers downstream, in Lawrence, Massachusetts, is a major impediment to upstream passage of Atlantic salmon in the Merrimack River. Any potential stormwater pollutant from the Facility would become greatly diluted with Merrimack River water well before contact with the fraction of Atlantic salmon that may successfully pass above the Essex Dam;
- Atlantic salmon that travel upstream of the Essex Dam are not expected to enter the 2.4 kilometers of wetlands that drain the stormwater discharge.

EPA believes that the conditions contained within the Draft Permit minimize impacts associated with stormwater discharge from this facility to the EFH species, its habitat and forage to the extent that no significant adverse impacts are expected. Also, the distance between the expected influence of the stormwater discharge and the likely location of Atlantic salmon will diminish any potential adverse impacts. Further mitigation is not warranted. Should adverse impacts to EFH be detected as a result of this permit action, or if new information is received that changes the basis for EPA's conclusions, NOAA Fisheries will be contacted.

11. ENDANGERED SPECIES ACT (ESA)

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Marine Fisheries Service (NOAA Fisheries) administers Section 7 consultations for marine species and anadromous fish.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, or plants to determine if any such listed species might potentially be impacted by the re-issuance of this NPDES permit. Two species were identified as having the potential to be influenced by the stormwater discharge from this Facility. A discussion of the species information is included below.

According to the USFWS listing of federally endangered and threatened species, dated July 31, 2008, there is one species listed as threatened (the Small Whorled Pogonia) or endangered within Middlesex County. However, the Small Whorled Pogonia is listed as living in "forests with somewhat poorly drained soils and/or a seasonally high water table" and occurring in the Town of Groton. There is no critical habitat within Middlesex County. According to the Massachusetts Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program list of rare species by Town (please refer to: http://www.mass.gov/dfwele/dfw/nhesp/species_info/town_lists/town_t.htm#tyngsborough) ,

there are no federally listed endangered or threatened species within Tyngsborough as of September 2009.

Based on the normal distribution of the Small Whorled Pogonia, it is highly unlikely that they would be present in the vicinity of this discharge or be influenced by the intermittent stormwater discharge. Therefore, consultation under Section 7 of the ESA with USFWS is not required.

The other endangered species that could be potentially influenced by the reissuance of this permit is the shortnose sturgeon (*Acipenser brevirostrum*). This species is under the jurisdiction of NOAA Fisheries.

Shortnose Sturgeon Information

The mainstem of the Merrimack River supports a population of shortnose sturgeon. Information on the location and behavior of shortnose sturgeon in the Merrimack River was provided by Jessica Pruden of NOAA Fisheries and Micah Kieffer of the U.S. Geological Survey. The upstream extent of the species in the Merrimack River is the Essex Dam at Lawrence, at River Kilometer (RKM) 46 (46). Tracking data indicated that the majority of the population resided between RKM 7 and 32 (Kieffer and Kynard 1993). Only a rare individual was observed outside of this range (one tagged individual made a brief movement upstream to RKM 35 in the summer of 1989)(J. Pruden, February 4, 2011, personal communication).

Spawning has been confirmed at Haverhill, MA (RKM 30–32). Spawning success was confirmed by the capture of two live embryos in 1990 at RKM 32 (Kieffer and Kynard 1996). Early life stages have also been collected, though no information exists on rearing habitat or success (J. Pruden, February 4, 2011, personal communication).

Some of the post-spawning and non-spawning adults move downstream to the salt/freshwater interface (RKM 7–12) to forage and remained for as long as six weeks (through mid-June). During the remainder of the year, shortnose sturgeon occupy an 11-km reach (RKM 13–23 between Haverhill and Amesbury) with reversing currents during flood tides and a maximum salinity penetration to RKM 16 (J. Pruden, February 4, 2011, personal communication).

Tagged adult shortnose sturgeon tracked between late November–March overwintered within an 11-km reach (RKM 12–23; Kieffer and Kynard 1993) (J. Pruden, February 4, 2011, personal communication).

According to Micah Kieffer of the U.S. Geological Survey (USGS):

> "There is no evidence shortnose sturgeon attempt to pass upstream of the Essex Dam. None have ever entered the fish elevator, although that is not conclusive as lift entrances are notoriously difficult for sturgeons. Sturgeons, however, are known to have moved as far upstream as the Amoskeag Falls in Manchester, NH, probably for spawning. Due to non-differentiation between shortnose and Atlantic sturgeon in any historical records, it is unknown if shortnose sturgeon inhabited the up-river reaches, although most life history models suggest it was likely. Regarding the historic use of the river up to Manchester, since the dams were constructed, there have been no sightings of sturgeon upstream of the Essex Dam, nor have any entered the fish lift at Essex." (Micah Kieffer USGS, February 3, 2011, personal communication).

> "Anything done upstream of the shortnose sturgeon spawning area must consider its affects on the spawning area. Siltation is a large issue as silt can accumulate on spawning substrate and render it unsuitable for successful spawning. Contaminants or poor water quality (DO, temperature) are issues that can potentially degrade the spawning areas and subsequent nursery areas. The spawning population in the Merrimack River is very small and therefore very sensitive to disturbances." (Micah Kieffer USGS, February 4, 2011, personal communication)

Facility Outfall Description

As discussed fully in other sections of this document, the Allied Waste Tyngsboro Facility discharges via four outfalls to a wetland system (locally referred to as "Bridge Meadows") that is connected to the channel of Deep Brook (Segment MA84A-21). Both of these channels drain approximately 2.4 kilometers through the wetland before reaching the Merrimack River. The point at which the wetland system enters the Merrimack River is approximately 27 kilometers upstream of the Essex Dam at Lawrence, Massachusetts.

Finding

Based on the distribution of shortnose sturgeon in the Merrimack River, it is highly unlikely that they would be present in the vicinity of this discharge (over 27 kilometers upstream). Therefore, consultation under Section 7 of the ESA with NOAA Fisheries is not required.

12. MONITORING AND REPORTING

The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308 (a) of the CWA in accordance with 40 CFR §§122.41 (j), 122.44 (l), and 122.48.

The Draft Permit includes new provisions related to Discharge Monitoring Report (DMR) submittals to EPA and the State. The Draft Permit requires that, no later than one year after the effective date of the permit, the permittee submit all monitoring data and other reports required by the permit to EPA using NetDMR, unless the permittee is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports ("opt-out request").

In the interim (until one year from the effective date of the permit), the permittee may either submit monitoring data and other reports to EPA in hard copy form, or report electronically using NetDMR.

NetDMR is a national web-based tool for regulated Clean Water Act permittees to submit discharge monitoring reports (DMRs) electronically via a secure Internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing in hard copy forms under 40 CFR § 122.41 and § 403.12. NetDMR is accessed from the following url: http://www.epa.gov/netdmr. Further information about NetDMR, including contacts for EPA Region 1, is provided on this website.

EPA currently conducts free training on the use of NetDMR, and anticipates that the availability of

this training will continue to assist permittees with the transition to use of NetDMR. To participate in upcoming trainings, visit http://www.epa.gov/netdmr for contact information for Massachusetts.

The Draft Permit requires the permittee to report monitoring results obtained during each calendar month using NetDMR, no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA and will no longer be required to submit hard copies of DMRs to MassDEP. However, permittees must continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP.

The Draft Permit also includes an "opt-out" request process. Permittees who believe they cannot use NetDMR due to technical or administrative infeasibilities, or other logical reasons, must demonstrate the reasonable basis that precludes the use of NetDMR. These permittees must submit the justification, in writing, to EPA at least sixty (60) days prior to the date the Facility would otherwise be required to begin using NetDMR. Opt-outs become effective upon the date of written approval by EPA and are valid for twelve (12) months from the date of EPA approval. The opt-outs expire at the end of this twelve (12) month period. Upon expiration, the permittee must submit DMRs and reports to EPA using NetDMR, unless the permittee submits a renewed opt-out request sixty (60) days prior to expiration of its opt-out, and such a request is approved by EPA.

Until electronic reporting using NetDMR begins, or for those permittees that receive written approval from EPA to continue to submit hard copies of DMRs, the Draft Permit requires that submittal of DMRs and other reports required by the permit continue in hard copy format. Hard copies of DMRs must be postmarked no later than the 15th day of the month following the completed reporting period.

13. STATE CERTIFICATION REQUIREMENTS

Under CWA section 401(a)(1), EPA may not issue a permit unless the MassDEP either certifies that the effluent limitations contained in this permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards or waives its right to such a certification. EPA has requested that MassDEP certify the permit. EPA expects that the permit will be certified. Regulations governing state certification are set forth in 40 CFR §§ 124.53 and 124.55

14. COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISIONS

All persons, including applicants, who believe any condition of the Draft 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 **Ms. Jessica Hing, U.S. Environmental Protection Agency, Region 1 (New England), 5 Post Office Square - Suite 100, Mail Code OEP06-4, Boston, MA 02109**. Any person, prior to such date, may submit a request in writing for a public hearing to consider the Draft 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 meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA 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 any public hearings, if such hearings are held, the EPA will issue a Final Permit decision and forward a copy of the final 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 petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 CFR § 124.19.

15. EPA AND MASSDEP CONTACTS

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

Jessica Hing
U.S. Environmental Protection Agency
Region 1 (New England)
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912
Telephone: (617) 918-1560
Email: hing.jessica@epa.gov

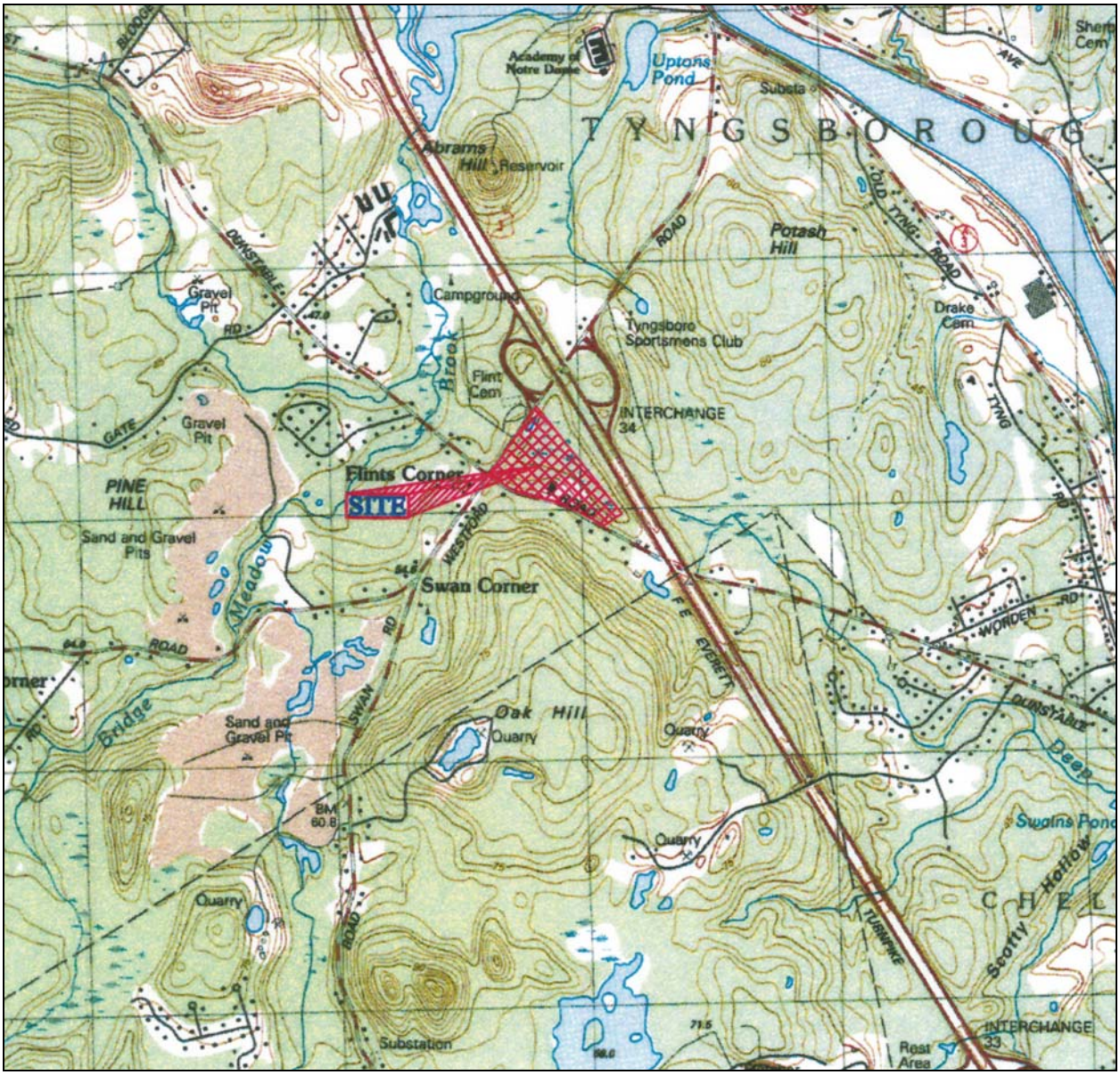
Kathleen Keohane
Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608
Telephone: (508) 767-2856
Email: kathleen.keohane@state.ma.us

_____

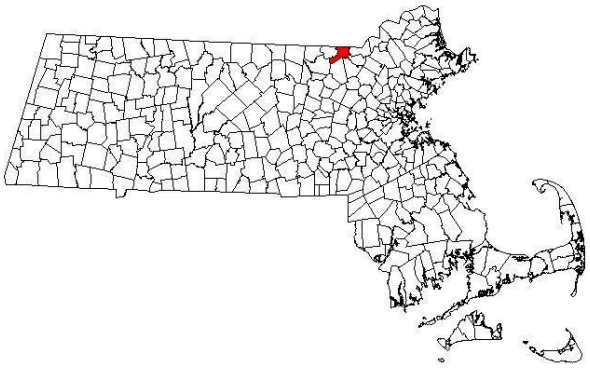
Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

16. ATTACHMENTS

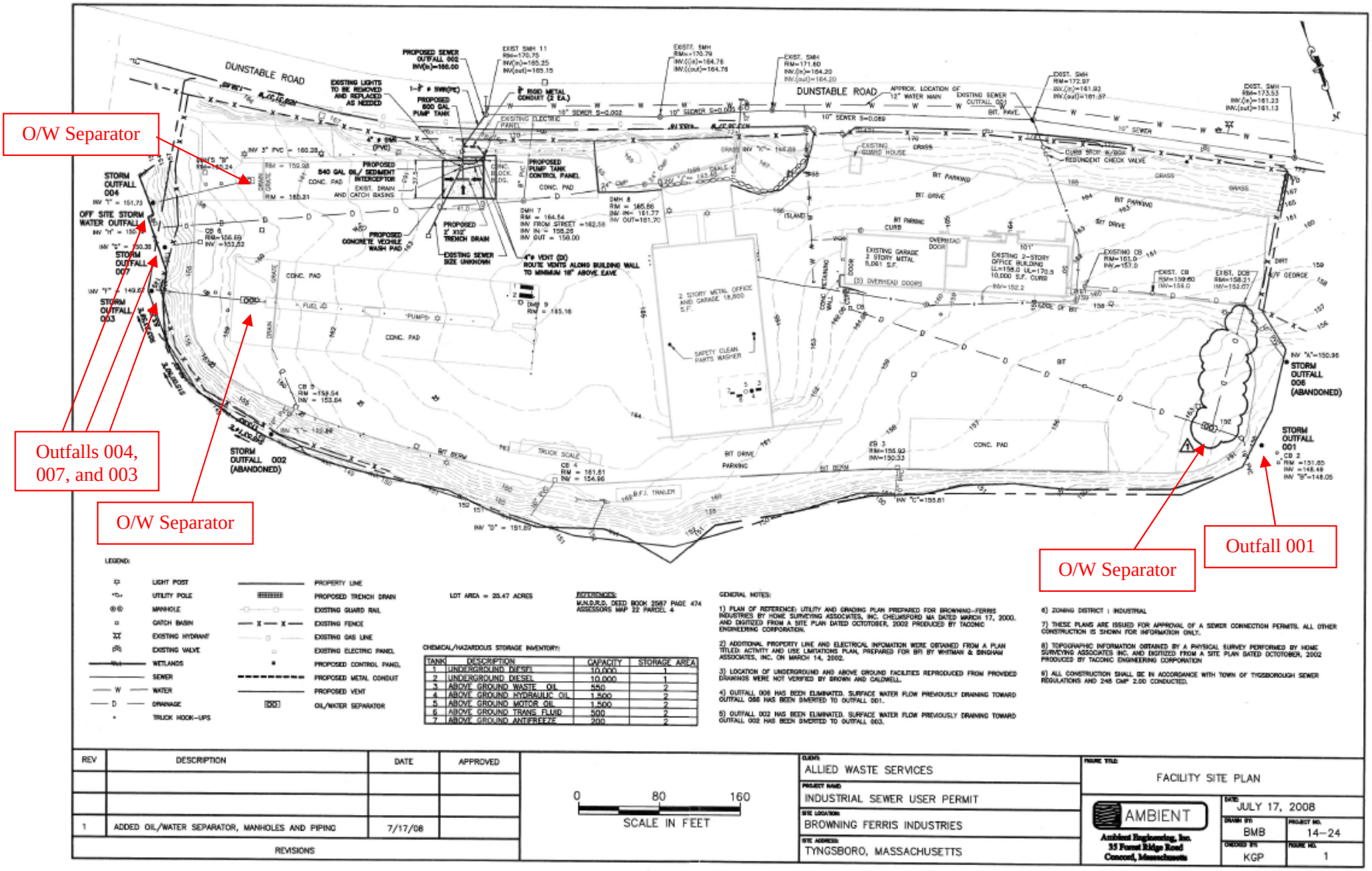
Attachment A – Site Locus



Source: Allied Waste Services Stormwater Permit Renewal Application, Ambient Engineering, Inc., November, 2007.



Attachment B – Facility Site Plan



Attachment C – DMR Data Summary – June 1, 2003 through April 30, 2010

Table C-1: Outfall 001 (Flow, O&G, TSS, and pH)

DMR Reporting Date	001A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
6/30/2003	0.003	0.0	12.0	6.2
7/31/2003	0.003	7.0	13.0	6.5
8/31/2003	0.002	0.0	8.0	6.1
9/30/2003	0.004	6.0	26.0	5.6
10/31/2003	0.004	0.0	9.0	6.0
11/30/2003	0.003	0.0	11.0	6.4
12/31/2003	0.005	0.0	35.0	6.2
1/31/2004	No discharge			
2/29/2004	No discharge			
3/31/2004	0.005	8.0	**170.0**	5.7
4/30/2004	0.005	0.0	0.0	6.0
5/31/2004	0.004	6.0	12.0	6.7
6/30/2004	0.004	9.5	31.0	6.1
7/31/2004	0.004	0.0	20.0	6.7
8/31/2004	0.004	14.0	35.0	6.3
9/30/2004	0.003	0.0	19.0	5.9
10/31/2004	No discharge			
11/30/2004	No discharge			
12/31/2004	0.003	6.3	9.0	6.8
1/31/2005	No discharge			
2/28/2005	No discharge			
3/31/2005	0.002	7.3	23.0	5.8
4/30/2005	0.002	0.0	13.0	6.0
5/31/2005	0.004	0.0	0.0	5.6
6/30/2005	No discharge			
7/31/2005	No discharge			
8/31/2005	0.004	6.9	42.0	5.4
9/30/2005	0.004	0.0	18.0	6.0
10/31/2005	0.004	5.8	50.0	6.0
11/30/2005	0.004	9.0	**69.0**	6.3
12/31/2005	0.004	13.0	**220.0**	6.0
1/31/2006	0.004	8.0	60.0	5.9
2/28/2006	0.004	**16.0**	**110.0**	6.1
3/31/2006	No discharge			
4/30/2006	0.004	6.1	17.0	6.1
5/31/2006	0.004	6.6	25.0	6.4
6/30/2006	0.004	0.0	13.0	6.1
7/31/2006	0.004	0.0	0.0	6.3
8/31/2006	0.004	0.0	24.0	6.1
9/30/2006	0.004	0.0	23.0	7.0
10/31/2006	0.004	0.0	25.0	6.4
11/30/2006	0.004	0.0	26.0	7.0

DMR Reporting Date	001A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
12/31/2006	0.004	0.0	23.0	7.0
1/31/2007	0.004	0.0	10.0	6.3
2/28/2007	No discharge			
3/31/2007	No discharge			
4/30/2007		0.0	5.5	7.1
5/31/2007	0.003	0.0	22.0	6.0
6/30/2007	No discharge			
7/31/2007	0.005	0.0	8.0	6.1
8/31/2007	0.004	0.0	15.0	6.1
9/30/2007	0.004	0.0	18.0	7.1
10/31/2007	0.005	8.1	25.0	6.8
11/30/2007	0.004	0.0	5.0	6.1
12/31/2007	No discharge			
1/31/2008	0.005	0.0	38.0	6.6
2/29/2008	0.006	0.0	29.0	6.9
3/31/2008	0.008	0.0	17.0	6.7
4/30/2008	0.005	0.0	22.0	6.3
5/31/2008	0.004	0.0	8.0	6.5
6/30/2008	0.007	0.0	23.0	6.8
7/31/2008	0.008	0.0	7.0	6.3
8/31/2008	0.004	5.6	8.0	6.4
9/30/2008		0.0	10.0	6.5
10/31/2008	0.004	0.0	7.0	6.6
11/30/2008	0.004	0.0	25.0	6.6
12/31/2008	0.006	0.0	15.0	7.0
1/31/2009	No discharge			
2/28/2009	No discharge			
3/31/2009	0.004	5.6	8.0	6.6
4/30/2009	0.004	0.0	5.0	6.7
5/31/2009	0.004	0.0	16.0	6.7
6/30/2009	0.004	0.0	0.0	6.9
7/31/2009	0.003	0.0	41.0	6.3
8/31/2009	No discharge			
9/30/2009	No discharge			
10/31/2009	0.003	0.0	8.0	6.6
11/30/2009	0.004	5.7	16.0	5.3
12/31/2009	0.004	0.0	7.0	6.2
1/31/2010	No discharge			
2/28/2010	No discharge			
3/31/2010	0.003	0.0	0.0	6.3
4/30/2010	0.002	0.0	15.0	6.2
2003 Permit Limits	**Report**	**15.0**	**60.0**	**Report**
Minimum	0.002	0.0	0.0	5.3
Maximum	0.008	16.0	220.0	7.1
Average of reported values	0.004	8.0	27.5	6.3

DMR Reporting Date	001A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
# Measurements	62	64	64	64
# Exceeds Limits	n/a	1	4	n/a
# zeros	0	44	5	0

Table C-2: Outfall 003 (Flow, O&G, TSS, and pH)

DMR Reporting Date	003A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
6/30/2003	0.004	0.0	12.0	6.2
7/31/2003	0.006	6.8	14.0	6.4
8/31/2003	0.003	0.0	6.0	6.1
9/30/2003	0.005	10.0	24.0	5.6
10/31/2003	0.005	0.0	0.0	5.8
11/30/2003	0.004	0.0	11.0	6.3
12/31/2003	0.005	0.0	40.0	6.0
1/31/2004	No discharge			
2/29/2004	No discharge			
3/31/2004	0.004	7.9	**110.0**	5.7
4/30/2004	0.004	0.0	4.0	5.9
5/31/2004	0.004	6.5	23.0	6.4
6/30/2004	0.003	8.6	29.0	6.2
7/31/2004	0.004	0.0	30.0	6.6
8/31/2004	0.004	**23.0**	36.0	6.2
9/30/2004	0.003	0.0	20.0	5.8
10/31/2004	No discharge			
11/30/2004	No discharge			
12/31/2004	0.002	5.5	12.0	7.0
1/31/2005	No discharge			
2/28/2005	No discharge			
3/31/2005	0.003	C	22.0	5.8
4/30/2005	0.003	7.3	12.0	5.9
5/31/2005	0.004	0.0	0.0	5.8
6/30/2005	No discharge			
7/31/2005	No discharge			
8/31/2005	0.004	8.1	41.0	5.5
9/30/2005	0.004	0.0	18.0	5.8
10/31/2005	0.004	6.6	53.0	5.9
11/30/2005	0.004	9.8	**92.0**	6.0
12/31/2005	0.004	15.0	**110.0**	5.9
1/31/2006	0.004	8.3	58.0	6.0
2/28/2006	0.004	12.0	**110.0**	6.0
3/31/2006	No discharge			
4/30/2006	0.004	6.4	16.0	6.2

DMR Reporting Date	003A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
5/31/2006	0.004	5.0	27.0	6.3
6/30/2006	0.004	0.0	13.0	6.1
7/31/2006	0.004	0.0	14.0	5.8
8/31/2006	0.004	7.3	24.0	5.9
9/30/2006	0.004	0.0	22.0	7.3
10/31/2006	0.004	0.0	30.0	6.3
11/30/2006	0.004	6.3	36.0	7.1
12/31/2006	0.004	0.0	25.0	7.1
1/31/2007	0.004	0.0	7.0	6.6
2/28/2007	No discharge			
3/31/2007	0.004	0.0	7.5	6.8
4/30/2007		6.0	20.0	7.1
5/31/2007	0.004	0.0	26.0	5.8
6/30/2007	No discharge			
7/31/2007	0.004	0.0	10.0	6.0
8/31/2007	0.041	0.0	18.0	6.2
9/30/2007	0.005	0.0	16.0	6.9
10/31/2007	0.006	0.0	20.0	6.9
11/30/2007	0.005	0.0	6.5	5.9
12/31/2007	No discharge			
1/31/2008	0.005	6.0	26.0	6.2
2/29/2008	0.005	0.0	19.0	6.8
3/31/2008	0.007	0.0	38.0	6.7
4/30/2008	0.006	0.0	22.0	6.4
5/31/2008	0.005	0.0	8.0	6.6
6/30/2008	0.005	0.0	32.0	6.8
7/31/2008	0.007	0.0	5.0	6.4
8/31/2008	0.006	0.0	8.0	6.4
9/30/2008		0.0	9.0	6.6
10/31/2008	0.005	0.0	8.0	6.7
11/30/2008	0.005	0.0	20.0	6.8
12/31/2008		0.0	9.0	6.9
1/31/2009	No discharge			
2/28/2009	No discharge			
3/31/2009	0.005	7.9	4.0	6.6
4/30/2009	0.004	0.0	9.0	6.8
5/31/2009	0.003	5.8	17.0	6.8
6/30/2009	0.002	0.0	4.0	6.7
7/31/2009	0.003	0.0	29.0	6.3
8/31/2009	No discharge			
9/30/2009	No discharge			
10/31/2009	0.002	0.0	5.0	6.7
11/30/2009	0.003	0.0	17.0	5.4
12/31/2009	0.003	0.0	8.0	6.2
1/31/2010	No discharge			
2/28/2010	No discharge			

DMR Reporting Date	003A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
3/31/2010	0.004	0.0	0.0	6.3
4/30/2010	0.003	0.0	20.0	6.0
2003 Permit Limits	**Report**	**15.0**	**60.0**	**Report**
Minimum	0.002	0.0	0.0	5.4
Maximum	0.041	23.0	110.0	7.3
Average of reported values	0.005	8.5	24.9	6.3
# Measurements	62	64	65	65
# Exceeds Limits	n/a	1	4	n/a
# zeros	0	42	3	0

Table C-3: Outfall 004 (Flow, O&G, TSS, and pH)

DMR Reporting Date	004A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
6/30/2003	0.001	0.0	11.0	6.1
7/31/2003	0.001	6.4	9.0	6.3
8/31/2003	0.000	0.0	5.0	6.0
9/30/2003	0.001	7.6	24.0	5.6
10/31/2003	0.001	5.0	8.0	5.7
11/30/2003	0.002	7.5	13.0	6.3
12/31/2003	0.001	5.8	40.0	6.1
1/31/2004	No discharge			
2/29/2004	No discharge			
3/31/2004	0.001	10.0	**130.0**	5.7
4/30/2004	0.001	0.0	4.0	5.8
5/31/2004	0.002	6.3	21.0	6.5
6/30/2004	0.001	7.4	25.0	6.3
7/31/2004	0.001	0.0	18.0	6.7
8/31/2004	0.002	14.0	38.0	6.1
9/30/2004	0.001	0.0	19.0	5.8
10/31/2004	No discharge			
11/30/2004	No discharge			
12/31/2004	0.001	7.4	9.0	6.9
1/31/2005	No discharge			
2/28/2005	No discharge			
3/31/2005	0.000	7.9	22.0	5.7
4/30/2005	0.000	0.0	14.0	5.9
5/31/2005	0.001	0.0	0.0	5.8
6/30/2005	No discharge			
7/31/2005	No discharge			

DMR Reporting Date	004A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
8/31/2005	0.001	7.0	44.0	5.5
9/30/2005	0.001	5.1	17.0	5.9
10/31/2005	0.001	5.6	51.0	6.0
11/30/2005	0.001	11.0	**94.0**	5.9
12/31/2005	0.001	14.0	**120.0**	5.8
1/31/2006	0.001	8.6	**62.0**	5.9
2/28/2006	0.001	12.0	**98.0**	5.9
3/31/2006	No discharge			
4/30/2006	0.001	7.5	17.0	6.3
5/31/2006	0.001	6.0	28.0	6.3
6/30/2006	0.001	0.0	13.0	6.0
7/31/2006	0.001	0.0	10.0	5.8
8/31/2006	0.001	6.9	24.0	6.0
9/30/2006	No discharge			
10/31/2006	0.001	0.0	26.0	6.4
11/30/2006	0.001	0.0	41.0	7.0
12/31/2006	0.001	0.0	15.0	7.2
1/31/2007	0.001	11.0	4.0	6.7
2/28/2007	No discharge			
3/31/2007	0.004	0.0	7.0	6.6
4/30/2007		7.6	34.0	6.9
5/31/2007	0.004	0.0	26.0	6.1
6/30/2007	No discharge			
7/31/2007	0.004	8.9	12.0	6.1
8/31/2007	0.045	0.0	13.0	6.4
9/30/2007	0.006	0.0	6.5	6.9
10/31/2007	0.004	8.0	12.0	6.9
11/30/2007	0.004	0.0	9.0	5.8
12/31/2007	No discharge			
1/31/2008	0.005	7.1	25.0	6.1
2/29/2008	0.005	0.0	13.0	6.8
3/31/2008	0.007	5.6	50.0	6.7
4/30/2008	0.004	0.0	17.0	6.4
5/31/2008	0.007	0.0	5.0	6.9
6/30/2008	0.004	5.2	24.0	6.8
7/31/2008	0.007	0.0	5.0	6.4
8/31/2008	0.007	0.0	17.0	6.4
9/30/2008		0.0	29.0	6.6
10/31/2008	0.004	0.0	6.0	6.8
11/30/2008	0.006	0.0	16.0	6.8
12/31/2008		0.0	10.0	7.0
1/31/2009	No discharge			
2/28/2009	No discharge			
3/31/2009	0.003	7.1	8.0	6.5
4/30/2009	0.002	0.0	8.0	6.7
5/31/2009	0.001	0.0	18.0	6.8

DMR Reporting Date	004A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
6/30/2009	0.001	0.0	6.0	6.6
7/31/2009	0.001	0.0	20.0	6.1
8/31/2009	No discharge			
9/30/2009	No discharge			
10/31/2009	0.002	0.0	8.0	6.7
11/30/2009	0.002	0.0	16.0	5.4
12/31/2009	0.002	6.0	8.0	6.2
1/31/2010	No discharge			
2/28/2010	No discharge			
3/31/2010	0.001	0.0	0.0	6.4
4/30/2010	0.002	0.0	15.0	6.2
2003 Permit Limits	**Report**	**15.000**	**60.000**	**Report**
Minimum	0.000	0.0	0.0	5.4
Maximum	0.045	14.0	130.0	7.2
Average of Reported Values	0.003	7.9	24.5	6.3
# Measurements	61	64	64	64
# Exceeds Limits	n/a	0	5	n/a
# zeros	0	34	2	0

Table C-4: Outfall 007 (Flow, O&G, TSS, and pH)

DMR Reporting Date	007A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
6/30/2003				
7/31/2003	0.005	10.0	9.0	6.0
8/31/2003	0.004	0.0	7.0	6.0
9/30/2003	0.004	7.1	26.0	5.6
10/31/2003	0.004	0.0	14.0	5.6
11/30/2003	0.003	7.2	11.0	6.3
12/31/2003	0.004	6.0	36.0	6.0
1/31/2004	No discharge			
2/29/2004	No discharge			
3/31/2004	0.003	14.0	**100.0**	5.7
4/30/2004	0.003	0.0	6.0	5.8
5/31/2004	0.004	7.6	18.0	6.6
6/30/2004	0.004	8.8	33.0	6.2
7/31/2004	0.002	0.0	16.0	6.7
8/31/2004	0.004	14.0	44.0	6.1
9/30/2004	0.004	0.0	22.0	5.8
10/31/2004	No discharge			
11/30/2004	No discharge			

DMR Reporting Date	007A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
12/31/2004	0.002	0.0	11.0	6.6
1/31/2005	No discharge			
2/28/2005	No discharge			
3/31/2005	0.002	8.4	22.0	5.7
4/30/2005	0.002	8.4	12.0	5.9
5/31/2005	0.004	0.0	0.0	5.8
6/30/2005	No discharge			
7/31/2005	No discharge			
8/31/2005	0.004	6.1	35.0	5.5
9/30/2005	0.004	9.3	16.0	5.8
10/31/2005	0.004	5.8	50.0	5.9
11/30/2005	0.004	8.9	**80.0**	5.8
12/31/2005	0.004	**17.0**	**140.0**	5.7
1/31/2006	0.004	9.0	**64.0**	6.0
2/28/2006	0.004	13.0	**98.0**	5.9
3/31/2006	No discharge			
4/30/2006	0.004	7.6	14.0	6.4
5/31/2006	0.004	9.8	29.0	6.4
6/30/2006	0.004	9.0	9.0	
7/31/2006	0.004	0.0	7.0	5.8
8/31/2006	0.004	8.1	28.0	5.8
9/30/2006	0.004	0.0	20.0	7.3
10/31/2006	0.004	0.0	9.0	6.4
11/30/2006	0.004	5.5	39.0	7.1
12/31/2006	0.004	0.0	32.0	7.0
1/31/2007	0.004	0.0	5.0	6.7
2/28/2007	No discharge			
3/31/2007	0.004	5.1	7.0	6.6
4/30/2007		8.3	37.0	6.9
5/31/2007	0.005	0.0	20.0	6.3
6/30/2007	No discharge			
7/31/2007	No discharge			
8/31/2007	0.039	0.0	12.0	6.4
9/30/2007	0.005	0.0	8.0	6.8
10/31/2007	0.004	0.0	16.0	6.5
11/30/2007	0.004	0.0	8.5	5.8
12/31/2007	No discharge			
1/31/2008	0.006	5.8	23.0	6.1
2/29/2008	0.007	5.8	15.0	6.7
3/31/2008	0.009	15.0	44.0	6.7
4/30/2008	0.005	0.0	13.0	6.5
5/31/2008	No discharge			
6/30/2008		7.2	30.0	6.9
7/31/2008	0.007	0.0	8.0	6.5
8/31/2008	0.006	0.0	4.0	6.4
9/30/2008		6.4	25.0	6.6

DMR Reporting Date	007A			
	Flow (MGD)	Oil and Grease (mg/L)	TSS (mg/L)	pH (SU)
	Daily Max	Daily Max	Daily Max	Maximum
10/31/2008	0.005	0.0	7.0	6.8
11/30/2008	0.006	0.0	15.0	6.9
12/31/2008		0.0	9.0	6.9
1/31/2009	No discharge			
2/28/2009	No discharge			
3/31/2009	0.006	9.9	6.0	6.3
4/30/2009	0.003	0.0	7.0	6.7
5/31/2009	0.003	6.0	4.0	6.9
6/30/2009	0.003	0.0	5.0	6.5
7/31/2009	0.003	0.0	16.0	5.9
8/31/2009	No discharge			
9/30/2009	No discharge			
10/31/2009	0.001	0.0	8.0	6.5
11/30/2009	0.002	0.0	19.0	5.5
12/31/2009	0.003	0.0	10.0	6.1
1/31/2010	No discharge			
2/28/2010	No discharge			
3/31/2010	0.003	0.0	0.0	6.4
4/30/2010	0.003	0.0	17.0	6.2
2003 Permit Limits	**Report**	**15.0**	**60.0**	**Report**
Minimum	0.001	0.0	0.0	5.5
Maximum	0.039	17.0	140.0	7.3
Average of Reported Values	0.005	8.7	24.3	6.3
# Measurements	58	62	62	61
# Exceeds Limits	n/a	1	5	n/a
# zeros	0	31	2	0

Table C-5: Metals (Copper and Lead)

DMR Date	001A		003A		004A		007A	
	Copper	Lead	Copper	Lead	Copper	Lead	Copper	Lead
	DAILY MAX (ug/L)	DAILY MAX (ug/L)	DAILY MAX (ug/L)	DAILY MAX (ug/L)	DAILY MAX (ug/L)	DAILY MAX (ug/L)	DAILY MAX (ug/L)	DAILY MAX (ug/L)
9/30/2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/31/2003	No discharge							
3/31/2004	36.00	20.00	32.00	23.00	30.00	21.00	29.00	18.00
6/30/2004	50.00	22.00	46.00	21.00	45.00	21.00	46.00	23.00
9/30/2004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/31/2004	No discharge							
3/31/2005	No discharge							
6/30/2005	No discharge							
9/30/2005	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/31/2005	28.00	19.00	33.00	26.00	42.00	32.00	34.00	27.00
3/31/2006	No discharge							
6/30/2006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/30/2006	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00
12/31/2006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/31/2007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/30/2007	No discharge							
9/30/2007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12/31/2007	0.00	0.00	0.00	1.40	0.00	1.30	0.00	1.50
3/31/2008	31.00	12.00	34.00	0.00	35.00	13.00	35.00	0.00
6/30/2008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/30/2008	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00
12/31/2008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/31/2009	27.00	0.00	25.00	12.00	0.00	0.00	25.00	0.00
6/30/2009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/30/2009	No discharge							
12/31/2009	0.00	0.00	0.00	0.00	25.00	12.00	25.00	12.00
3/31/2010	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00
2003 Permit Limits	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	50.00	22.00	46.00	26.00	45.00	32.00	46.00	27.00
Average of Reported Values	32.83	14.60	34.00	16.68	35.40	16.72	31.29	13.58
# Measurements	20	20	20	20	20	20	20	20
# zeros	14	15	15	14	15	14	13	15