

**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§ 26-53)

**Massachusetts Bay  
Transportation Authority  
10 Park Plaza  
Boston, MA 02116-3974**

**Massachusetts Bay Commuter  
Railroad Company  
32 Cobble Hill Road, Suite 3  
Somerville, MA 02143-4431**

**Delaware North Corporation  
100 Legends Way  
Boston, MA 02114  
(SWPPP only)**

are authorized to discharge from the facility located at

**North Station Railroad Terminal  
135 Causeway Street  
Boston, MA 02116**

to receiving water named

**Charles River**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on the first day of the calendar month following 60 days after signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on January 23, 2004.

This permit consists of 12 pages in Part I including effluent limitations, monitoring requirements, Attachment 1 – Freshwater Acute Toxicity Test Procedure and Protocol, and 25 pages in Part II including General Conditions and Definitions.

Signed this 7<sup>th</sup> day of April, 2010

**/S/ SIGNATURE ON FILE**

\_\_\_\_\_  
Stephen S. Perkins, Director  
Office of Ecosystem Protection  
Environmental Protection Agency  
Region I  
Boston, MA

\_\_\_\_\_  
Glenn Haas, Director  
Division of Watershed Management  
Department of Environmental Protection  
Commonwealth of Massachusetts  
Boston, MA

**PART 1**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning on the effective date of the permit and lasting through expiration, the permittee is authorized to discharge treated storm water runoff (from the MBTA track area, the Garden Roof, and a Massachusetts Highway Dept Building), treated garage sump water (consisting of stormwater runoff from cars in the parking garage and groundwater), and treated non-storm water discharges (discharges from fire fighting activities, fire hydrant flushing, air conditioning condensate, routine external building wash down (no detergents), wash water from periodic platform wash-downs (no detergents), uncontaminated groundwater, wash water from track bay drain flushing, and foundation and footing drains where flows are not contaminated by contact with soils where spills or leaks of toxic or hazardous materials have occurred), through **Outfall Serial Number 001** to the Charles River. Such discharge shall: 1) be limited and monitored by the permittee as specified below; and 2) not cause a violation of the State Surface Water Quality Standards of the receiving water.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements <sup>1,2</sup>	
		Average Monthly	Maximum Daily	Measurement Frequency <sup>3</sup>	Sample Type
Flow	MGD	Report	16	1/Month	Estimate <sup>4</sup>
Oil and Grease (O&G)	mg/L	---	15	1/Month	Grab
pH <sup>5</sup>	SU	6.5 – 8.3		1/Month	Grab
E. coli (cfu/100mL)	mg/L	---	Report	1/Quarter	Grab
E. coli (cfu/100mL) <sup>7</sup>	mg/L	---	Report	1/Month	Grab
Total Suspended Solids (TSS)	mg/L	---	100	1/Month	Grab
Chemical Oxygen Demand (COD)	mg/L	---	Report	1/Quarter	Grab
Total Iron	mg/L	---	Report	1/Quarter	Grab
Total Magnesium	mg/L	---	Report	1/Quarter	Grab
Total Manganese	mg/L	---	Report	1/Quarter	Grab

Total Phosphorus	mg/L	---	Report	1/Quarter	Grab
Whole Effluent Toxicity (WET) <sup>8,9,10,11</sup>					
Acute LC <sub>50</sub>	%	---	Report	Annually	Composite <sup>6</sup>
Hardness	mg/L	---	Report	Annually	Composite <sup>6</sup>
Total Residual Chlorine	mg/L	---	Report	Annually	Grab
Alkalinity	mg/L	---	Report	Annually	Composite <sup>6</sup>
pH	SU	---	Report	Annually	Grab
Specific Conductance	µmhos/cm	---	Report	Annually	Composite <sup>6</sup>
Total Solids	mg/L	---	Report	Annually	Composite <sup>6</sup>
Total Dissolved Solids	mg/L	---	Report	Annually	Composite <sup>6</sup>
Ammonia	mg/L	---	Report	Annually	Composite <sup>6</sup>
Total Organic Carbon	mg/L	---	Report	Annually	Composite <sup>6</sup>
Total Cadmium	mg/L	---	Report	Annually	Composite <sup>6</sup>
Total Lead	mg/L	---	Report	Annually	Composite <sup>6</sup>
Total Copper	mg/L	---	Report	Annually	Composite <sup>6</sup>
Total Zinc	mg/L	---	Report	Annually	Composite <sup>6</sup>
Total Nickel	mg/L	---	Report	Annually	Composite <sup>6</sup>
Total Aluminum	mg/L	---	Report	Annually	Composite <sup>6</sup>

See pages 4-5 for explanation of footnotes.

**Footnotes:**

1. Samples taken in compliance with the monitoring requirements specified above shall be taken at a point representative of the discharge through the outfall, prior to mixing with the receiving waters. All samples shall be tested in accordance with the procedures in 40 CFR 136, unless specified elsewhere in the permit.
2. All samples (with the exception of dry weather bacteria samples and WET testing) shall be taken during wet weather, during the first thirty minutes of the discharge. Wet weather discharges are those resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measureable (greater than 0.1 inch rainfall) storm event. If collection of grab sample(s) during the first thirty minutes is impracticable, grab sample(s) shall be taken as soon after that as possible, and the permittee shall submit with the monitoring report a description of why the collection of the grab sample(s) during the first thirty minutes was impracticable. A “no discharge” report shall be submitted for those sampling periods in which there is no discharge.
3. Sampling frequency of 1/month is defined as the sampling of one (1) discharge event in each calendar month, when discharge occurs. Sampling frequency of quarterly is defined as the sampling of one (1) discharge event in each calendar quarter (January to March; April to June; July to September; and October to December), when discharge occurs. The permittee shall submit the results to EPA of any additional testing done to that required herein, if it is conducted in accordance with EPA approved methods consistent with the provisions of 40 CFR §122.41(l)(4)(ii).
4. Flow shall be estimated for each monitoring event using accepted engineering techniques.
5. The pH of the effluent shall not be less than 6.5 SU, nor greater than 8.3 SU at any time, unless these values are exceeded due to natural causes. The pH shall be no more than 0.5 units outside the natural background range. For effluent samples which fall outside the permitted pH range, the permittee may collect stormwater samples from the same storm event and record the pH. This will provide data documenting the pH of the stormwater, and potentially demonstrate pH exceedences due to natural causes. Documentation of such conditions must be submitted by the permittee with the discharge monitoring reports.
6. A composite sample is a sample consisting of equal volume grab samples (two minimum) collected at hourly intervals during a normal discharge.
7. E. coli shall be sampled once per month (1/Month) during dry weather conditions. Dry weather conditions are defined as any time when there is no precipitation and no snow melt, and that is at least 48 hours after a storm event that was greater than 0.1 inches in magnitude.

8. The permittee shall conduct annual acute toxicity tests during dry weather. Dry weather conditions are defined as any time when there is no precipitation and no snow melt, and that is at least 48 hours after a storm event that was greater than 0.1 inches in magnitude. The permittee shall test the daphnid, Ceriodaphnia dubia, and the fathead minnow, Pimephales promelas. Toxicity test samples shall be collected during the month of July, during dry weather. The test results shall be submitted by the last day of the month following the completion of the test, August 31<sup>st</sup>. In the event there is no dry weather discharge during the month of July, the permittee shall sample as soon as practicable thereafter, and submit the test results by the last day of the month following completion of the test. The tests must be performed in accordance with test procedures and protocols specified in Attachment 1 of the permit (Freshwater Acute Toxicity Test Procedure and Protocol). The permittee may request a reduction in the WET testing requirements at the time of permit reissuance.
9. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in Section IV (Dilution Water) of Attachment 1 in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in Attachment 1, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance Document is revoked, the permittee shall revert to obtaining approval as outlined in Attachment 1. This guidance is found in Attachment G of NPDES Program Instructions for Discharge Monitoring Report Forms (DMRs), which is sent to all permittees with their annual set of DMRs and may also be found online at <http://www.epa.gov/region1/enforcementandassistance/dmr2009.pdf>. Any modification or revocation to this “Guidance Document” will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in Attachment 1.
10. For each Whole Effluent Toxicity (WET) test the permittee shall report on the appropriate Discharge Monitoring Report (DMR), the concentrations of the Hardness, Total Residual Chlorine, Alkalinity, pH, Specific Conductance, Total Solids, Total Dissolved Solids, Ammonia, Total Organic Carbon, Total Cadmium, Total Lead, Total Copper, Total Zinc, Total Nickel, and Total Aluminum found in the 100 percent effluent sample. Metals shall be reported as total recoverable concentrations. The permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.
11. The permittee shall document, with the WET test results, the outfall sampling location and dilution water sampling location by providing either the USGS coordinates and/or a map of these locations.

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

2. The discharge shall not cause a violation of the water quality standards of the receiving waters.
3. The discharge shall not cause objectionable color, odor, or turbidity to the receiving waters.
4. The discharge shall not contain a visible oil sheen, foam, or floating solids at any time.
5. The effluent shall not contain materials in concentrations or in combinations which are hazardous or toxic to aquatic life or which would impair the uses designated by the classification of the receiving waters.
6. If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the CWA.
7. Discharge of stormwater runoff from the orange line MBTA track area is prohibited.
8. All existing manufacturing, commercial, mining and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
  - a. That any activity has occurred or will occur which would result in the discharge, on a routine basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
    - (1) One hundred micrograms per liter (100 µg/l);
    - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
    - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
    - (4) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f).
  - b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
    - (1) Five hundred micrograms per liter (500 µg/l);
    - (2) One milligram per liter (1 mg/l) for antimony;
    - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7);
    - (4) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f).

- c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.
9. Toxics Control
- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
  - b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

**B. STORM WATER POLLUTION PREVENTION PLAN (SWPPP)**

A joint Stormwater Pollution Prevention Plan (SWPPP) shall be developed by the MBTA and MBCR. A separate SWPPP shall also be developed by the Delaware North Corporation for property under their control which discharges to Outfall 001.

1. The permittee shall develop, implement, and maintain a (SWPPP) designed to reduce, or prevent, the discharge of pollutants in stormwater to the receiving waters identified in this permit. The SWPPP shall be a written document that is consistent with the terms of this permit. Additionally, the SWPPP shall serve as a tool to document the permittee's compliance with the terms of this permit. Development guidance and a recommended format for the SWPPP are available on the EPA website for the Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activities (<http://cfpub.epa.gov/npdes/stormwater/msgp.cfm>).
2. The SWPPP shall be completed or updated and certified by the permittee within 90 days after the effective date of this permit. The permittee shall certify that its SWPPP has been completed or updated and shall be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of this initial certification shall be sent to EPA and MassDEP within one hundred and twenty (120) days of the effective date of this permit.
3. The SWPPP shall be prepared in accordance with good engineering practices and shall be consistent with the general provisions for SWPPPs included in the most current version of the MSGP. In the current MSGP (effective May 27, 2009), the general SWPPP provisions are included in Part 5 and Part 8.P. Specifically, the SWPPP shall document the selection, design, and installation of control measures and contain the elements listed below:
  - a. A pollution prevention team with collective and individual responsibilities for developing, implementing, maintaining, revising and ensuring compliance with the SWPPP.
  - b. A site description which includes the activities at the facility; a general location map showing the facility, receiving waters, and outfall locations; and a site map showing the extent of significant structures and impervious surfaces, directions of stormwater flows, and locations of all existing structural control measures, stormwater conveyances, pollutant sources (identified in Part 3.c. below), stormwater monitoring points, stormwater

- inlets and outlets, and industrial activities exposed to precipitation such as, storage, disposal, material handling.
- c. A summary of all pollutant sources which includes a list of activities exposed to stormwater, the pollutants associated with these activities, a description of where spills have occurred or could occur, a description of non-stormwater discharges, and a summary of any existing stormwater discharge sampling data.
  - d. A description of all stormwater controls, both structural and non-structural.
  - e. A schedule and procedure for implementation and maintenance of the control measures described above and for the quarterly inspections and best management practices (BMPs) described below.
  - f. Sector specific SWPPP provisions included in Sector P- Land Transportation and Warehousing
4. The SWPPP shall document the appropriate best management practices (BMPs) implemented or to be implemented at the facility to minimize the discharge of pollutants in stormwater to waters of the United States and to satisfy the non-numeric technology-based effluent limitations included in this permit. At a minimum, these BMPs shall be consistent with the control measures described in the most current version of the MSGP. In the current MSGP (effective May 27, 2009), these control measures are described in Part 2.1.2. and Part 8.P. Specifically, BMPs must be selected and implemented to satisfy the following non-numeric technology-based effluent limitations:
- a. Minimizing exposure of manufacturing, processing, and material storage areas to stormwater discharges.
  - b. Good housekeeping measures designed to maintain areas that are potential sources of pollutants.
  - c. Preventative maintenance programs to avoid leaks, spills, and other releases of pollutants in stormwater discharged to receiving waters.
  - d. Spill prevention and response procedures to ensure effective response to spills and leaks if or when they occur.
  - e. Erosion and sediment controls designed to stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants.
  - f. Runoff management practices to divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff.
  - g. Proper handling procedures for salt or materials containing chlorides that are used for snow and ice control.
  - h. Sector specific BMPs included in Sector P – Land Transportation and Warehousing
5. All areas with industrial materials or activities exposed to stormwater and all structural control used to comply with effluent limits in this permit shall be inspected, at least once per quarter, by qualified personnel with one or more members of the stormwater pollution prevention team. Inspections shall begin during the 1<sup>st</sup> full quarter after the effective date of this permit. EPA considers quarters as follows: January to March; April to June; July to September; and October to December. Each inspection must include a visual assessment of stormwater samples (from each outfall), which shall be collected within the first 30 minutes of discharge

from a storm event, stored in a clean, clear glass or plastic container, and examined in a well-lit area for the following water quality characteristics: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of pollution. The permittee shall document the following information for each inspection and maintain the records along with the SWPPP:

- a. The date and time of the inspection and at which any samples were collected;
  - b. The name(s) and signature(s) of the inspector(s)/sample collector(s);
  - c. If applicable, why it was not possible to take samples within the first 30 minutes;
  - d. Weather information and a description of any discharges occurring at the time of the inspection;
  - e. Results of observations of stormwater discharges, including any observed discharges of pollutants and the probable sources of those pollutants;
  - f. Any control measures needing maintenance, repairs or replacement; and,
  - g. Any additional control measures needed to comply with the permit requirements.
6. The permittee shall amend and update the SWPPP within 14 days of any changes at the facility that result in a significant effect on the potential for the discharge of pollutants to the waters of the United States. Such changes may include, but are not limited to: a change in design, construction, operation, or maintenance, materials storage, or activities at the facility; a release of a reportable quantity of pollutants as described in 40 CFR §302; or a determination by the permittee or EPA that the BMPs included in the SWPPP appear to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with industrial activity.
7. Any amended, modified, or new versions of the SWPPP shall be re-certified and signed by the permittee in accordance with the requirements identified in 40 CFR §122.22. The permittee shall also certify, at least annually, that the previous year's inspections and maintenance activities were conducted, results recorded, records maintained, and that the facility is in compliance with this permit. If the facility is not in compliance with any aspect of this permit, the annual certification shall state the non-compliance and the remedies which are being undertaken. Such annual certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22. The permittee shall maintain at the facility a copy of its current SWPPP and all SWPPP certifications (the initial certification, re-certifications, and annual certifications) signed during the effective period of this permit, and shall make these available for inspection by EPA and MassDEP. In addition, the permittee shall document in the SWPPP any violation of numerical or non-numerical stormwater effluent limits with a date and description of the corrective actions taken.
8. The permittee shall develop and implement site specific BMPs, consistent with the sector specific BMPs in Sector P (Land Transportation and Warehousing) of the MSGP. At a minimum, the permittee shall inspect and maintain the absorbent pads for track areas where locomotives stop (to capture incidental drips of oil from the trains) and the oil/water separator, both on a monthly basis.
9. The permittee shall develop and implement a Source Identification and Reduction Plan (SIRP) for pollutants of iron, magnesium, manganese, phosphorus, bacteria and COD. The SIRP

shall attempt to eliminate, or reduce to the maximum extent possible, the discharge of these pollutants from the facility. In the event the source(s) of iron, magnesium, manganese, phosphorus, bacteria, and/or COD cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or eliminate the pollutant loading(s) to the receiving water. The following BMPs shall be included, at a minimum:

- a. The permittee shall minimize the exposure of significant materials to stormwater. To the extent practicable, the permittee shall store all material indoors or protect with weather resistant covers, to minimize exposure to rain and wind.
- b. The permittee shall clean all storm sewer lines and appurtenances discharging to Outfall 001 as soon as practicable. This includes pipes culverts, catch basins, or other structures located along the entire alignment of the storm sewer discharging to Outfall 001. The permittee shall utilize equipment and methods designed to capture all liquids and solids generated during the cleaning process and dispose of all accumulated wastewater and solid waste in accordance with Massachusetts solid waste regulations. The permittee shall notify EPA in writing when such work has been completed, and provide an accounting of the material removed from each alignment.
- c. The permittee shall identify and eliminate all illicit connections to the storm sewer lines discharging to Outfall 001 as soon as practicable.
- d. The permittee shall install silt sacks into catch basins discharging to Outfall 001 as soon as practicable, and shall notify EPA in writing when such work has been completed. By this date, the permittee shall modify its SWPPP to document the inspection, cleaning and replacement practices for installed silt sacks.
- e. The permittee shall use vacuum equipment to sweep all paved or impervious areas of its property draining to Outfall 001 where solids deposition may occur, including roads, driveways, parking areas, sidewalks, and loading areas. At a minimum, sweeping shall be completed monthly during spring, summer, and fall. During the winter months when weather conditions prevent fulfillment of the required minimum sweeping frequency, the permittee may adjust or lengthen its scheduled frequency to accommodate sweeping during available periods of acceptable thaw. The permittee shall ensure that sweepings collected at its facility are reused or disposed in a manner consistent with MassDEP's Policy #BWP-94-092: Reuse and Disposal of Street Sweepings.<sup>1</sup>
- f. The permittee shall use reasonable efforts to mitigate potential water quality impacts of deicing chemicals. This shall include, but not be limited to, reasonable adjustments to the type and application (i.e., materials, mode, and timing) of deicing chemicals, and the placement of snow piles in accordance with MassDEP's Snow Disposal Guidance No. BRPG01-01.<sup>2</sup> The permittee shall provide EPA with a brief technical memorandum on the results of such efforts. The memorandum shall include a description of the improvements to current deicing practices, and a date by which such improvements shall be implemented.

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<sup>1</sup> <http://www.mass.gov/dep/recycle/laws/stsweep.htm>

<sup>2</sup> <http://www.mass.gov/dep/water/laws/snowdisp.htm>

**C. REOPENER CLAUSES**

1. This permit shall be modified, or alternately, revoked and reissued, to comply with any applicable standard or limitation promulgated or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
  - a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
  - b. Controls any pollutants not limited in the permit.

**D. MONITORING AND REPORTING**

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate discharge monitoring report (DMR) forms postmarked no later than the 15th day of the month following the effective date of the permit.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

U.S. Environmental Protection Agency  
Water Technical Unit (SMR-04)  
5 Post Office Square - Suite 100  
Boston, MA 02109-3912

The State Agency is:

Massachusetts Department of Environmental Protection – Northeast Region  
Bureau of Waste Prevention  
205B Lowell Street  
Wilmington, MA 01887

In addition, copies of all Discharge Monitoring Reports and WET reports shall be submitted to the following address:

Massachusetts Department of Environmental Protection  
Division of Watershed Management  
Surface Water Discharge Permit Program  
627 Main Street, 2<sup>nd</sup> Floor  
Worcester, MA 01608

**E. STATE PERMIT CONDITIONS**

1. This discharge permit is issued jointly by the EPA and the MassDEP under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated

into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chap. 21, §43.

2. Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as a NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I  
5 POST OFFICE SQUARE, SUITE 100 (OEP06-4)  
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 # MA0028941

PUBLIC NOTICE DATES:

NAME AND ADDRESS OF PERMITTEES:

**Massachusetts Bay  
Transportation Authority  
10 Park Plaza  
Boston, MA 02116-3974**

**Massachusetts Bay  
Commuter Railroad  
Company  
32 Cobble Hill Road, Suite 3  
Somerville, MA 02143-4431**

**Garden Corporation  
1 Fleet Center Place, Suite 200  
Boston, MA 02114  
(SWPPP only)**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

**North Station Railroad Terminal  
135 Causeway Street  
Boston, MA 02116**

RECEIVING WATERS: Charles River (Segment MA72-38)

CLASSIFICATION: B (Warm water, CSO)

SIC CODES: 4011 (railroads, line haul operations)

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### I. PROPOSED ACTION

The above named applicants (Massachusetts Bay Transportation Authority and Massachusetts Bay Commuter Railroad Company) have applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for the re-issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge process water into the designated receiving water. The existing permit (current permit) was issued to the Massachusetts Bay Transportation Authority (MBTA), Massachusetts Bay Commuter Railroad Company (MBCR), and the Garden Corporation on January 23, 2004 and became effective on March 24, 2004. EPA received a permit renewal application from MBTA and MBCR dated September 8, 2008. Since the permit renewal application was deemed complete and timely by EPA, the permit has been administratively continued.

### II. TYPE OF FACILITY

North Station Railroad Terminal is a public transportation railroad station used exclusively for the loading and unloading of passengers. No maintenance, repair, or storage of trains occurs on site. Locomotive and passenger cars are serviced at a separate facility maintained by the MBTA. As the terminus for the north and west bound commuter lines, passenger trains are not typically allowed to idle at the facility beyond the time necessary to unload and pick up passengers.

### **III. SUMMARY OF MONITORING DATA**

Discharge Monitoring Reports (DMRs) received during the time period of April 2004 to March 2009 were reviewed and used in the development of the draft National Pollutant Discharge Elimination System (NPDES) permit (draft permit). A summary of the DMR data is provided in Attachment A to this Fact Sheet.

### **IV. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMIT DERIVATIONS**

The effluent limitations, monitoring requirements, and any implementation schedule, if required, may be found in Part 1 (Effluent Limitations and Monitoring Requirements) of the Draft Permit. The permit re-application is part of the administrative file (Permit No. MA0028941).

#### **A. General Requirements**

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a 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 permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. During development, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the current/existing permit. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. The general conditions of the draft permit are based on 40 CFR §122.41 and consist primarily of management requirements common to all permits. 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(i), and §122.48.

#### **1. Technology-Based Requirements**

Subpart A of 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 achievable (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must be 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 SIC code 4011 (railroads, line haul operations). However, the Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) contains requirements for SIC code 4011, in Sector P – Land Transportation and Warehousing, Subsector P1 - Railroad Transportation. In the absence of 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 Judgement (BPJ).

## 2. Water Quality-Based Requirements

Water quality-based criteria are required in NPDES permits when EPA and the State determine that effluent limits more stringent than technology-based limits are necessary to maintain or achieve state or federal water-quality standards (See Section 301(b) (1)(C) of the CWA). Water quality-based criteria consist of three (3) 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) of the water body; and 3) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts State Water Quality Standards, found at 314 CMR 4.00, include these elements. The State Water Quality Regulations limit or prohibit discharges of pollutants to surface waters and thereby assure that the surface water quality standards of the receiving water are protected, maintained, and/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, be used unless site-specific criteria are established. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d).

Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts. The Commonwealth of Massachusetts (State) has a similar narrative criterion in their water quality regulations that prohibits such discharges [See Massachusetts Title 314 CMR 4.05(5)(e)]. The effluent limits established in the Draft Permit assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained.

Section 303(d) of the Federal Clean Water Act (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 total maximum daily loads (TMDL).

The Charles River [segment MA72-38 – Boston University Bridge, Boston/Cambridge to the New Charles River Dam, Boston (formerly part of segment MA72-08)] is listed in the Massachusetts Year 2008 Integrated List of Waters (August 2007) under 303(d) List of Impaired Waters as a Category 5 water impaired for: chlorophyll-a, combined biota/habitat bioassessments, DDT, dissolved oxygen saturation, excess algal growth, oil and grease, other flow regime alterations, dissolved oxygen, salinity, secchi disk transparency, water temperature, nutrient/eutrophication biological indicators, taste and odor, phosphorus (total), sediment screening value (exceedence), and PCB in fish tissue.

There is a Final Phosphorus TMDL for the Lower Charles River Basin and a Final Pathogen TMDL for the Charles River Watershed. The drainage system discharges to the Lower Charles are grouped together into one allocation because there are presently very limited data available to characterize the sources that make up this group. Therefore, the Final Phosphorus TMDL recommends that owners of stormwater drainage system discharges to the Charles River undertake an iterative approach of managing their discharges. Briefly, this approach would involve adopting initial controls to reduce phosphorus while at the same time collecting information that will better characterize their sources so that subsequent control activities can be prioritized to achieve the greatest phosphorus load reductions in the most efficient and cost effective manner.

Although the TMDL does not provide a numerical WLA for this facility, it does provide a % reduction phosphorous goal for the facility's drainage area (other drainage area) of 62% and a % reduction phosphorous goal for the facility's Land Cover/Source Category (Commercial) of 65% as a basis for the waste load allocation. The development and implementation of a Source Identification and Reduction Plan (SIRP), along with other requirements of the SWPPP, aimed at these phosphorous reductions represent a phosphorous control plan (PCP) required to achieve the WLA of the TMDL.

The Final Pathogen TMDL reports that the Fleet Center Drainage contributes high fecal counts during wet weather, ranging from 60,000 to 100,000 cfu/100mL, with a possible bacterial source from gulls and pigeons. For Class B surface waters (1) the geometric mean of a representative set of fecal coliform samples shall not exceed 200 organisms per 100 mL; and (2) no more than 10% of the samples shall exceed 400 organisms per 100 mL.

### 3. Anti-Backsliding

EPA's anti-backsliding provision as identified in Section 402(o) of the Clean Water Act and at 40 CFR §122.44(l) prohibits the relaxation of permit limits, standards, and conditions unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued. Anti-backsliding provisions apply to effluent limits based on technology, water quality, BPJ and State Certification requirements. Relief from anti-

backsliding provisions can only be granted under one of the defined exceptions [See 40 CFR §122.44(l)(i)]. Since none of these exceptions apply to this facility, the effluent limits in the draft permit must be as stringent as those in the current permit.

#### 4. Anti-Degradation

The Massachusetts Anti-Degradation Policy is found at Title 314 CMR 4.04. All existing uses of the Charles River must be protected.

The Charles River Basin (Boston University Bridge, Boston/Cambridge to the New Charles River Dam, Boston) is listed as a Class B (warm water, CSO) under the Massachusetts Surface Water Quality Standards. Title 314 Code of Massachusetts Regulations (CMR) 4.05(3)(b) states that Class B waters “are 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...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.”

### **B. Description of the Facility**

The facility maintains an oil/water separator that captures oil and grease along with heavy sediment from the facility’s storm water discharge. The separator is inspected on a monthly basis; oil, grease, floating trash and debris are removed from the separator on a quarterly basis; and the unit is completely drained and cleaned once a year. Oil, grease, debris, and sediment removed from the oil/water separator are disposed of off-site as a solid waste.

In 1993, the MBTA entered into an agreement with the Garden Corporation (owner of the Fleet Center) granting the Fleet Center the right to discharge storm water to the North Station Railroad Terminal discharge. The source of flow is from the Fleet Center roof leaders and a sump pump located on the lower level of the Fleet Center/North Station underground parking garage. The discharge from the sump is storm water runoff from vehicles entering the garage and groundwater. These discharges are intermittent.

No significant materials are currently exposed to storm water, nor have any materials in the past three years been treated, stored, or disposed of in a manner to normally allow exposure to storm water. Any materials or byproducts that are unloaded, loaded, and/or transferred are done so in containers that prevent the contents from exposure to storm water. No surfactants/solvents, pesticides/herbicides, or fertilizers are used or stored at the facility. The following activities do take place within the drainage area:

- Calcium chloride and/or other deicing compounds (sodium chloride) are applied to the platform areas during freezing weather conditions where build-up of ice or snow as a result of storm events may pose a safety hazard to passengers and operating personnel;

- Gasoline in five-gallon containers may be stored on-site during the winter months for the operation of snow removal equipment;
- Graphite is applied as a dry lubricant to track switches;
- Platform areas are periodically washed-down with water. The discharge from this activity is directed to the storm drain system; and
- Storage and unloading of solid waste and refuse associated with food service activities at the Fleet Center takes place in the Center's northeast, ground-level loading/unloading area.
- Diesel fuel is stored in a 2,000-gallon double walled aboveground storage tank (AST) which is housed in a small building structure located near the drainage system along the entrance to the facility garage. The tank is equipped with secondary containment having a capacity greater than the volume of the tank. The diesel is used to fuel an electric generator owned and operated by the Mass Highway Department, servicing emergency power to the highway tunnels.

### **C. Description of Discharge**

The facility discharges (through Outfall 001) treated storm water runoff (from the MBTA track area, the Fleet Center Roof, a Massachusetts Highway Dept Building, and part of the orange line MBTA track area), treated garage sump water (consisting of stormwater runoff from cars in the parking garage and groundwater), and treated non-storm water discharges (discharges from fire fighting activities, fire hydrant flushing, air conditioning condensate, routine external building wash down (no detergents), wash water from periodic platform wash-downs (no detergents), uncontaminated groundwater, wash water from track bay drain flushing, and foundation and footing drains where flows are not contaminated by contact with soils where spills or leaks of toxic or hazardous materials have occurred).

The storm water discharges are shown in Attachment B, Site Drainage Map (as confirmed on a recent site visit, the Central Artery Stormwater Outfall listed on the drainage map is not a discharge associated with this facility<sup>1</sup>). A drainage analysis performed in 2002 determined that the drainage area contributing to the o/w separator is 8 acres, which includes the track area and the Fleet Center roof. Additional flow is contributed from the Fleet Center parking garage sump. The drainage system was analyzed for the 10 year, 24 hour storm event. The rainfall intensity was 4.60 inches per hour. During the 10-year storm event, the flow into the o/w separator is 20 MGD, although limited by the hydraulic capacity of the storm drain system to 16 MGD.

### **D. Discharge Location**

Outfall 001 discharges to the Charles River, segment MA72-38 – Boston University Bridge, Boston/Cambridge to the New Charles River Dam, Boston (formerly part of segment MA72-08). The discharge location is shown in Attachment C, Site Location Map.

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<sup>1</sup> EPA Memorandum. Trip Report, MBTA Commuter Rail (MA0028941). September 18, 2009.

## E. Proposed Permit Effluent Limitations and Conditions

### 1. Outfall 001

All samples are required to be taken during wet weather, with the exception of both dry and wet weather sampling for E.coli dry weather sampling for WET tests.

#### a. Flow

The current permit requires the permittee to estimate the flow on a monthly basis, along with a maximum daily flow limit of 16 MGD. The permittee reported on the revised permit renewal application (January 22, 2009) that the flow through Outfall 001 averages 0.133 cfs (0.086 MGD). Review of DMR data shows that flow through Outfall 001 has ranged from 0.01 to 0.38 MGD over the time period of April 2004 to March 2009. The draft permit shall continue to require a maximum daily flow limit of 16 MGD, estimated monthly.

#### b. Oil and Grease

The maximum daily effluent limit for oil and grease in the current permit of 15 mg/L is based on Massachusetts Water Quality Standards for a Class B inland water body. According to 314 CMR 4.05(3)(b)(7), these 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 (USEPA 1976).

Review of DMR data shows that O&G has ranged from 5.5 – 11 mg/L over the time period of April 2004 to March 2009. The draft permit maintains a maximum daily O&G limit of 15 mg/L, monitored at a frequency of 1/month, based on Massachusetts Water Quality Standards and anti-backsliding requirements found in 40 CFR §122.44(1).

Absorbent pads on the commuter rail tracks collect oil which drips from train engines. Under the current permit, the pads are replaced quarterly. However, on a recent site visit<sup>2</sup>, EPA staff observed oil stained absorbent pads which appeared to be loose from the anchoring system. In places, the pads appeared to not contain all of the oil or grease drips from the trains. Therefore, the permit shall require monthly inspection and maintenance of absorbent pads, as outlined in the site specific BMPs of the SWPPP. The permit shall also require monthly inspection and maintenance of the oil/water separator, as outlined in the SWPPP (see Part I.B.8 of the permit).

#### c. pH

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<sup>2</sup> EPA Memorandum. Trip Report, MBTA Commuter Rail (MA0028941). September 18, 2009.

The current permit requires a pH effluent limitation range of 6.5 – 8.3 SU, sampled monthly. Review of DMR data received during the time period of April 2004 to March 2009 shows that the low pH effluent limitation was exceeded on two occasions, with a minimum value of 6.17 SU.

The Massachusetts Surface Water Quality Standards, 314 Code of Massachusetts Regulations (“CMR”), Inland Water, Class B at 4.05 (3)(b)3 require that the pH of Class B waters be in the range of 6.5 to 8.3 standard units and no more than 0.5 units outside the background range. There shall no change from background conditions that would impair any use assigned to this Class.

Therefore, the draft permit maintains a pH effluent limitation range of 6.5 – 8.3 SU, monitored at a frequency of 1/month, based on Massachusetts Water Quality Standards and anti-backsliding requirements found in 40 CFR §122.44(l).

d. *Escherichia coli* (*E. coli*), previously fecal coliform

The current permit requires monitoring of total fecal coliform bacteria (colony forming units/100mL, or cfu/100mL), monthly during dry weather and quarterly during wet weather. Review of DMR data received during the time period of April 2004 to March 2009 shows that fecal coliform bacteria concentrations during wet weather have ranged from 8 – 110,000 cfu/100mL, and averaged 6554 cfu/100mL. Fecal coliform bacteria concentrations during dry weather have ranged from 2 – 4600 cfu/100mL, and averaged 433 cfu/100mL.

The Final Pathogen TMDL reports that the Fleet Center Drainage contributes high fecal counts during wet weather, ranging from 60,000 to 100,000 cfu/100mL, with a possible bacterial source from gulls and pigeons. Additionally, State Water Quality Standards require for Class B surface waters that the geometric mean of all *E. coli* samples taken within the most recent six months shall not exceed 126 colonies per 100 ml typically based on a minimum of five samples and no single sample shall exceed 409 colonies per 100 ml (based upon the recent updated water quality criteria for bacteria in Massachusetts and “light use” in the North River); alternatively, the geometric mean of all enterococci samples taken within the most recent six months shall not exceed 33 colonies per 100 ml typically based on a minimum of five samples and no single sample shall exceed 61 colonies per 100 ml. These criteria may be applied on a seasonal basis at the discretion of the Department.

Storm water runoff is a significant contributor of pathogen pollution. During rain events fecal matter from domestic animals and wildlife are readily transported to surface waters via the storm water drainage systems and/or overland flow. The natural filtering capacity provided by vegetative cover and soils is dramatically reduced as urbanization occurs because of the increase in impervious areas (i.e., streets, parking lots, etc.) and stream channelization in the watershed.<sup>3</sup>

Recommended TMDL implementation measures include identification and elimination of prohibited sources such as leaky or improperly connected sanitary sewer flows and best

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<sup>3</sup> Final Pathogen TMDL for the Charles River Watershed, January 2007.

management practices to mitigate storm water runoff volume. Therefore, the permit shall require the permittee to develop and implement a Source Identification and Plan (SIRP) to eliminate or reduce the discharge of bacteria through the facility's storm water system. The permit requires that in the event the source(s) of bacteria cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or eliminate the bacteria loading to the receiving water. Additionally, the draft permit shall require monitoring for E. coli, consistent with State Water Quality Standards. The permittee shall sample for E. coli on a monthly basis during dry weather and quarterly during wet weather.

e. Total Suspended Solids (TSS)

The current permit does contain a monitoring requirement for TSS. The permittee reported on the permit renewal application (September 2008) a TSS level of 10 mg/L.

Massachusetts has a narrative water quality standard for solids that states, "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom."

Additionally, a TSS concentration of 100 mg/l has been required in the past as a technology-based effluent limitation in individual NPDES permits in Massachusetts, based on BPJ and the treatment effectiveness of an oil/water separator. Therefore, the draft permit shall require a maximum daily TSS limit of 100 mg/L, monitored monthly.

f. Chemical Oxygen Demand (COD)

The current permit requires quarterly monitoring for COD. Review of DMR data received during the time period of April 2004 to March 2009 shows that COD has ranged from 55 – 510 mg/L, and averaged 228 mg/L. *The National Stormwater Quality Database (NSQD), Version 1.1.*<sup>4</sup>, Table 3, summarizes stormwater pollutant loads as derived from the extensive compilation of stormwater monitoring data. The table shows that the median concentration of COD in stormwater runoff from industrial land-use is 58.6 mg/L.

The current permit required implementation of a SWPPP to attempt to reduce the COD in the discharge. However, the concentration of COD in the discharge has not been reduced, as the previous permit application reported a COD level of 280 mg/L for Outfall 001.

Therefore, the permit shall require the permittee to develop and implement a Source Identification and Reduction Plan (SIRP) to eliminate or reduce the discharge of COD through the facility's storm water system. The permit requires that in the event the source(s) of COD cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or

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<sup>4</sup> Pitt, R., and A. Maestre and the Center for Watershed Protection. 2005. The National Stormwater Quality Database, Version 1.1: A Compilation and Analysis of NPDES Stormwater Monitoring Information. Prepared for the U.S. EPA Office of Water, September 4.

eliminate the COD loading to the receiving water.

g. Total Iron

The current permit requires quarterly monitoring of iron. Review of DMR data received during the time period of April 2004 to March 2009 shows that the concentration of iron in the discharge ranged from 1.4 – 3700 mg/L, and averaged 1162 mg/L. The National Recommended Water Quality Criteria for iron lists a freshwater chronic (CCC) concentration of 1,000 ug/L (1.0 mg/L).

The current permit required implementation of a SWPPP to attempt to reduce the concentration of iron in the discharge. However, this does not appear to have reduced iron levels, as the previous permit application reported an iron concentration of 9.9 mg/L in the discharge from the garage sump pump.

Therefore, the permit shall require the permittee to develop and implement a Source Identification and Reduction Plan (SIRP) to eliminate or reduce the discharge of iron through the facility's storm water system. The permit requires that in the event the source(s) of iron cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or eliminate the iron loading to the receiving water.

h. Total Magnesium

The current permit requires quarterly monitoring of total magnesium. Review of DMR data received during the time period of April 2004 to March 2009 shows that the concentration of magnesium ranged from 1.2 – 390,000 mg/L, and averaged 88,750 mg/L.

The current permit required implementation of a SWPPP to attempt to reduce the concentration of magnesium in the discharge. However, this does not appear to have reduced magnesium levels, as the previous permit application reported a total magnesium concentration of 330 mg/L in the discharge from the garage sump pump.

Therefore, the permit shall require the permittee to develop and implement a Source Identification and Reduction Plan (SIRP) to eliminate or reduce the discharge of magnesium through the facility's storm water system. The permit requires that in the event the source(s) of magnesium cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or eliminate the magnesium loading to the receiving water.

i. Total Manganese

The current permit requires quarterly monitoring of manganese. Review of DMR data received during the time period of April 2004 to March 2009 shows that the concentration of manganese ranged from 0.18 – 1400 mg/L, and averaged 340 mg/L. The National Recommended Water Quality Criteria for manganese does not list freshwater criteria, however, it lists a human health

consumption criteria (organism only) of 100 ug/L and a human health consumption criteria (organism and water) of 50 ug/L.

The current permit required implementation of a SWPPP to attempt to reduce the concentration of manganese in the discharge. However, this does not appear to have reduced manganese levels, as the previous permit application reported a manganese concentration of 2.0 mg/L in the discharge from the garage sump pump.

Therefore, the permit shall require the permittee to develop and implement a Source Identification and Reduction Plan (SIRP) to eliminate or reduce the discharge of manganese through the facility's storm water system. The permit requires that in the event the source(s) of manganese cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or eliminate the manganese loading to the receiving water.

#### j. Total Phosphorus

The current permit requires quarterly monitoring of total phosphorus. Review of DMR data received during the time period of April 2004 to March 2009 shows that the concentration of phosphorus ranged from 0.032 – 0.56 mg/L.

There is a Final Phosphorus TMDL for the Lower Charles River Basin and a Final Pathogen TMDL for the Charles River Watershed. The drainage system discharges to the Lower Charles are grouped together into one allocation because there are presently very limited data available to characterize the sources that make up this group. There is no numerical WLA for this facility in the TMDL. However the TMDL provides a % reduction phosphorous goal for the facility's drainage area (other drainage area) of 62% and a % reduction phosphorous goal for the facility's Land Cover/Source Category (Commercial) of 65% as a basis for the waste load allocation. The development and implementation of a SIRP, along with other requirements of the SWPPP, aimed at these phosphorous reductions represent a phosphorous control plan required to achieve the WLA of the TMDL.

Therefore, the draft permit shall require the permittee to develop and implement a Source Identification and Reduction Plan (SIRP) to eliminate or reduce the discharge of phosphorus through the facility's storm water system. The permit requires that in the event the source(s) of phosphorus cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or eliminate the phosphorus loading to the receiving water. The draft permit shall also require quarterly monitoring of phosphorus, consistent with the current permit, in order to track any reduction in phosphorus.

#### k. Whole Effluent Toxicity (WET) Testing

Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards include the following narrative statement and requires that EPA criteria established pursuant to Section

304(a)(1) 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.

The Region typically includes toxicity testing requirements where a combination of toxic constituents may be toxic to humans, aquatic life, or wildlife. Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts.

Due to the potential for toxicity resulting from the combination of pollutants in the facility's various dry weather discharges, in accordance with EPA national and regional policy, and in accordance with MassDEP policy, the draft permit shall include acute toxicity monitoring requirements. (See Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants, 50 Fed. Reg. 30,784 (July 24, 1985); EPA's Technical Support Document for "Water Quality-Based Toxics Control" on September, 1991; and MassDEP's Implementation Policy for the Control of Toxic Pollutants in Surface Waters (February 23, 1990).

The draft permit requires that the permittee conduct annual freshwater acute WET tests for the Outfall 001 effluent during dry weather. The permittee shall test the daphnid, Ceriodaphnia dubia, and fathead minnow, Pimephales promelas. Toxicity test samples shall be collected during the second week of July. The test results shall be submitted by the last day of the month following the completion of the test (August 31<sup>st</sup>). The tests must be performed in accordance with test procedures and protocols specified in Attachment 1 of the permit. The permittee may request a reduction in the WET testing requirements at the time of permit reissuance.

#### **F. Storm Water 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 storm water runoff. These operations include at least one of the following in an area potentially exposed to precipitation or storm water: material storage, in-facility transfer, material processing, material handling, or loading and unloading. Specifically, at this facility, storage of calcium chloride, gasoline, graphite, oil, grease, diesel fuel, and solid waste and refuse, as well as unloading associated with food service activities, are examples of material storage, processing, and handling operations that shall continue to be included in the SWPPP. 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 develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) containing 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)). Development guidance and a recommended format for the SWPPP are available on the EPA website for the Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activities (<http://cfpub.epa.gov/npdes/stormwater/msgp.cfm>).

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, 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. A joint Stormwater Pollution Prevention Plan (SWPPP) shall be developed by the MBTA and MBCR. A separate SWPPP shall also be developed by the Garden Corporation for property under their control which discharges to Outfall 001.

This process 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 storm water 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 storm water contamination and in complying with the various terms and conditions of the Draft Permit.

Additionally, the permittee shall develop and implement site specific BMPs, consistent with the sector specific BMPs in Sector P (Land Transportation and Warehousing) of the MSGP. At a minimum, the permittee shall inspect and maintain the absorbent pads for track areas where locomotives stop (to capture incidental drips of oil from the trains) and the oil/water separator, both on a monthly basis.

The permittee shall develop and implement a Source Identification and Reduction Plan (SIRP) for pollutants of iron, magnesium, manganese, phosphorus, bacteria and COD. The SIRP shall attempt to eliminate, or reduce to the maximum extent possible, the discharge of these pollutants from the facility. In the event the source(s) of iron, magnesium, manganese, phosphorus, bacteria, and/or COD cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or eliminate the pollutant loading(s) to the receiving water. The following BMPs shall be included, at a minimum:

1. The permittee shall minimize the exposure of significant materials to stormwater. To the extent practicable, the permittee shall store all material indoors or protect with weather resistant covers, to minimize exposure to rain and wind.
2. The permittee shall clean all storm sewer lines and appurtenances discharging to Outfall 001 as soon as practicable. This includes pipes culverts, catch basins, or other structures located along the entire alignment of the storm sewer discharging to Outfall 001. The permittee shall

utilize equipment and methods designed to capture all liquids and solids generated during the cleaning process and dispose of all accumulated wastewater and solid waste in accordance with Massachusetts solid waste regulations. The permittee shall notify EPA in writing when such work has been completed, and provide an accounting of the material removed from each alignment.

3. The permittee shall identify and eliminate all illicit connections to the storm sewer lines discharging to Outfall 001 as soon as practicable.
4. The permittee shall install silt sacks into catch basins discharging to Outfall 001 as soon as practicable, and shall notify EPA in writing when such work has been completed. By this date, the permittee shall modify its SWPPP to document the inspection, cleaning and replacement practices for installed silt sacks.
5. The permittee shall use vacuum equipment to sweep all paved or impervious areas of its property draining to Outfall 001 where solids deposition may occur, including roads, driveways, parking areas, sidewalks, and loading areas. At a minimum, sweeping shall be completed monthly during spring, summer, and fall. During the winter months when weather conditions prevent fulfillment of the required minimum sweeping frequency, the permittee may adjust or lengthen its scheduled frequency to accommodate sweeping during available periods of acceptable thaw. The permittee shall ensure that sweepings collected at its facility are reused or disposed in a manner consistent with MassDEP's Policy #BWP-94-092: Reuse and Disposal of Street Sweepings.<sup>5</sup>
6. The permittee shall use reasonable efforts to mitigate potential water quality impacts of deicing chemicals. This shall include, but not be limited to, reasonable adjustments to the type and application (i.e., materials, mode, and timing) of deicing chemicals, and the placement of snow piles in accordance with MassDEP's Snow Disposal Guidance No. BRPG01-01.6 The permittee shall provide EPA with a brief technical memorandum on the results of such efforts. The memorandum shall include a description of the improvements to current deicing practices, and a date by which such improvements shall be implemented.

## V. ENDANGERED SPECIES ACT

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) typically administer Section 7 consultations for bird, terrestrial, and freshwater aquatic species.

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<sup>5</sup> <http://www.mass.gov/dep/recycle/laws/stsweep.htm>

<sup>6</sup> <http://www.mass.gov/dep/water/laws/snowdisp.htm>

EPA has reviewed the federal endangered or threatened species of fish and wildlife to see if any such listed species might potentially be impacted by the re-issuance of this NPDES permit. The available ESA information indicates that there are no federally listed endangered species in the vicinity of the facility's discharge. Therefore, consultation under Section 7 of the ESA with NMFS and USFWS is not required. During the public comment period, EPA has provided a copy of the draft permit and fact sheet to NMFS and USFWS.

## **VI. ESSENTIAL FISH HABITAT**

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" (EFH). The Amendments define EFH as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," (16 U.S.C. § 1802(10)). "Adverse 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 of actions. Id.

Essential fish habitat is only designated for 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 available EFH information indicates that the Charles River is designated EFH for several federally managed species (see Attachment D). However, EPA has concluded that the limits and conditions in this draft permit minimize adverse effects to EFH since the flow of the discharge is intermittent and low (averages 0.06 MGD) and the permit requires the permittee to develop and implement a Source Identification and Reduction Plan (SIRP) for each pollutant of concern to eliminate, or reduce to the maximum extent possible, the discharge of these pollutants from the facility. In the event the source(s) cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or eliminate the pollutant loading(s) to the receiving water.

If adverse effects are detected as a result of this permit action, NMFS will be notified and an EFH consultation will promptly be initiated. During the public comment period, EPA has provided a copy of the draft permit and fact sheet to NMFS.

## **VII. STATE CERTIFICATION REQUIREMENTS**

EPA may not issue a permit unless the MassDEP certifies 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 Surface Water Quality Standards or unless state certification is waived. The staff of the MassDEP has reviewed the draft permit and advised EPA that the limitations are adequate

to protect water quality. EPA has requested permit certification by the State pursuant to 40 CFR §124.53 and expects that the draft permit will be certified.

### **VIII. ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION**

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 the U.S. EPA, Office of Ecosystem Protection Attn: Nicole Kowalski, 5 Post Office Square - Suite 100 (OEP06-4), Boston, Massachusetts 02109-3912 or via email to [kowalski.nicole@epa.gov](mailto:kowalski.nicole@epa.gov). The comments should reference the name and permit number of the facility for which they are being provided.

Any person, prior to such date, may submit a request in writing to EPA and the States Agency for a public hearing to consider the draft permit. 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 draft 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 final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of final permit decision, permits may be appealed to the Environmental Appeals Board in the manner described at 40 CFR § 124.19.

### **IX. EPA & 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 the EPA and MassDEP contacts below:

Nicole Kowalski, EPA New England – Region 1  
5 Post Office Square - Suite 100 (OEP06-4)  
Boston, MA 02109-3912  
Telephone: (617) 918-1746 FAX: (617) 918-0746  
email: [kowalski.nicole@epa.gov](mailto:kowalski.nicole@epa.gov)

Kathleen Keohane, Massachusetts Department of Environmental Protection  
Division of Watershed Management, Surface Water Discharge Permit Program  
627 Main Street, 2<sup>nd</sup> Floor  
Worcester, Massachusetts 01608  
Telephone: (508) 767-2856 FAX: (508) 791-4131  
email: [kathleen.keohane@state.ma.us](mailto:kathleen.keohane@state.ma.us)

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Date

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

## **X. ATTACHMENTS**

- A. DMR Data Summary**
- B. Site Drainage Map**
- C. Site Location Map**
- D. EFH Designation**

**Response to Comments on Draft National Pollutant Discharge Elimination System (NPDES) Permit No. MA0028941 – Massachusetts Bay Transportation Authority (MBTA), Massachusetts Bay Commuter Railroad Company (MBCR), and Delaware North Corporation – North Station Railroad Terminal – Boston, MA.**

**Introduction:**

In accordance with the provisions of 40 C.F.R. §124.17, this document presents EPA's responses to comments received on the draft NPDES permit for North Station Railroad Terminal (MA0028941). The responses to comments explain and support the EPA determinations that form the basis of the final permit. The North Station Railroad Terminal draft permit public comment period began December 22, 2009 and ended January 20, 2010. Comments were received on the draft permit from Malcolm Pirnie, Inc., on behalf of Massachusetts Bay Transportation Authority (MBTA) and Massachusetts Bay Commuter Railroad Company (MBCR).

The final permit is substantially identical to the draft permit that was available for public comment. Although EPA's knowledge of the facility has benefited from the various comments and additional information submitted, the information and arguments presented did not raise any substantial new questions concerning the permit. EPA did, however, make certain clarifications in response to comments. These improvements and changes are detailed in this document and reflected in the final permit. A summary of the changes made in the final permit are listed below. The analyses underlying these changes are explained in the responses to individual comments that follow.

**Changes in Final Permit:**

1. All occurrences of the "Garden Corporation" in the permit have been replaced with "Delaware North Corporation."
2. Page 1 of the permit, the mailing address for Delaware North Corporation has been updated.
3. All occurrences of the "fleet center" in the permit have been replaced with the "Garden," to correctly reference the currently named TD Banknorth Garden.
4. The permit has been revised at Part I.A.1, footnote 6, to define composite samples as "a sample consisting of equal volume grab samples (two minimum) collected at hourly intervals during a normal discharge."
5. The permit has been revised at Part I.A.1 to require grab samples for TSS in place of composite samples.
6. Part I.A.1, footnote 8, of the permit has been changed from "in the event there is no discharge" to "in the event there is no dry weather discharge," to clarify this requirement.
7. Part I.A.1 of the permit has been revised to remove stormwater runoff from "part of the orange line MBTA track area" as an authorized flow through Outfall 001.

8. The following requirement has been added at Part I.A.7 of the permit, “Discharge of stormwater runoff from the orange line MBTA track area is prohibited.”
9. The permit has been changed at Part I.A.1, in the table, to require grab samples for pH and total residual chlorine (TRC) in place of composite samples, in accordance with Freshwater Acute Toxicity Test Procedure and Protocol.
10. Part I.A.1, footnote 3, of the permit has been modified to remove the definition of annual sampling.
11. Part I.A.1 of the permit, footnote 5, has been revised to state:  
The pH of the effluent shall not be less than 6.5 SU, nor greater than 8.3 SU at any time, unless these values are exceeded due to natural causes. The pH shall be no more than 0.5 units outside the natural background range. For effluent samples which fall outside the permitted pH range, the permittee may collect stormwater samples from the same storm event and record the pH. This will provide data documenting the pH of the stormwater, and potentially demonstrate pH exceedences due to natural causes. Documentation of such conditions must be submitted by the permittee with the discharge monitoring reports.
12. Page 1 of the permit, the phrase, “This permit shall become effective on the first day of the calendar month following 60 days after signature if comments are received. If no comments are received, this permit shall become effective following signature” has been revised to “This permit shall become effective on the first day of the calendar month following 60 days after signature.”

## **SUMMARY OF COMMENTS:**

### **COMMENT 1:**

The Draft Permit identifies responsibilities of the MBTA and MBCR, as well as the “Garden Corporation.” The entity responsible for the management and operations of the Boston Garden is “Delaware North Corporation.” We ask that the permit identify the correct entity. Additionally, the MBTA and MBCR believe that some clarification should be provided for the case where one permittee is dependent on another for compliance. For example, under the Stormwater Pollution Prevention Plan (SWPPP) Section, the Garden Corporation (should be Delaware North Corporation) is required to develop a SWPPP, Best Management Practices (BMPs) and a Source Identification and Reduction Plan (SIRP) for the property under their control that discharges to Outfall 001. These items will define their activities and obligations that will affect compliance at the outfall, but for which the MBTA and MBCR have no ability to influence. The permit should identify how failure by one co-permittee to comply with the permit requirements will affect the other two permittees, particularly in the case where a permit condition can only be addressed by one.

### **RESPONSE TO COMMENT 1:**

The comment indicates that the “Delaware North Corporation” is the entity responsible for the management and operation of the Boston Garden. Notification

of the public notice issuance, along with a copy of the draft permit and fact sheet, were sent to the correct entity, the “Delaware North Corporation – Boston,” however, the draft permit and fact sheet were not updated to reflect the change from the current permit. Therefore, the permit has been updated to replace all occurrences of the “Garden Corporation” with the “Delaware North Corporation.” Additionally, the mailing address for Delaware North Corporation has been updated on the first page of the permit. The fact sheet is a final document and cannot be changed; however this response to comment serves to document this inconsistency.

With respect to the SWPPP requirements in the draft permit, each permittee is responsible for its own activities, and MBTA and MBCR have the overall responsibility for coordination and oversight of the permit. Requiring coordination and oversight by MBTA and MBCR is legally justified since MBTA is the owner and MBCR is the operator of North Station Railroad Terminal and the storm water system, and thus are ultimately responsible for the discharges from the storm water sewer system to the waters of the United States. See, e.g., 40 C.F.R. § 122.21(a) (responsibility of any person who discharges or proposes to discharge pollutants to waters of the United States to obtain a permit). The Region’s approach is consistent with that specified nationally for stormwater permits.

As indicated in the SWPPP (Part 4.4.7, page 10) submitted by MBTA and MBCR, in 1993 the MBTA entered into an agreement with the Garden Corporation (now the Delaware North Corporation) granting the Garden the right to discharge storm water to the North Station Railroad Terminal discharge. Therefore, the Delaware North Corporation shall continue to maintain a SWPPP, as specified in the permit, based on their contribution to the North Station Railroad Terminal storm water drainage system.

**COMMENT 2:**

Total Suspended Solids (TSS): The Draft Permit requires monthly, composite sampling, combined proportionally to flow when testing for Total Suspended Solids (TSS). The MBTA and MBCR note that the flow is an estimate for each monitoring event as required by the permit (page 4 of 12, footnote 4). This is appropriate as there is no means for determining flow directly. An estimate for each event is determined after based on the amount of precipitation recorded, the duration, the area of impervious surface, and run-off coefficients. MBTA and MBCR request that the monthly TSS sample be a grab sample, consistent with the other monthly and quarterly parameters to be sampled. Additionally, MBTA and MBCR request that the annual Whole Effluent Toxicity (WET) sample be a grab sample as well.

**RESPONSE TO COMMENT 2:**

Permit Part I.A.1, footnote 6, defines a composite sample as “a sample consisting of grab samples (two minimum) collected at hourly intervals during a normal discharge, combined proportionally to flow.”

EPA understands the concern of the permittee at collecting composite samples based upon flow volume, with no flow measuring device in place. An alternative to flow-proportional composites are time composites. Time composite samples collect a fixed volume at equal time intervals and are acceptable when flow variability is not excessive.<sup>1</sup>

Since sampling for TSS is required during wet weather, the flow variability is expected to be excessive. Therefore, the requirement for composite samples for TSS has been replaced with grab samples, to attempt to capture the first flush of pollutants in the discharge. The permit specifies that wet weather grab samples shall be taken during the first thirty minutes of the discharge.

Composite samples shall continue to be utilized for WET testing (which is required during dry weather); however, based on the above explanation, flow-proportional composites shall be replaced by time composites. The permit has been revised at Part I.A.1, footnote 6, to define composite samples as “a sample consisting of equal volume grab samples (two minimum) collected at hourly intervals during a normal discharge.”

**COMMENT 3:**

Annual Whole Effluent Toxicity (WET) Sampling: The WET sampling is required to be performed during the month of July during dry weather (page 4 of 12 of the permit, footnote 8). The Fact Sheet (page 13 of 18) states that the sampling must be performed during the second week of July. MBTA and MBCR request that this sampling be allowed any time during the month of July, and not be limited to the second week. Also, this is a costly test that requires extensive laboratory preparation and coordination prior to and during the analyses. Therefore, MBTA and MBCR request that once this testing is initiated, that it be allowed to continue even if an unexpected rain event takes place during that 7 day test period. Any precipitation could be noted when the results are reported.

**RESPONSE TO COMMENT 3:**

The permit requires acute toxicity testing, which is a static, non-renewal test, not a 7-day test as the commenter suggests.

WET testing shall be performed during the month of July, and not be limited to the second week. In the event there is no dry weather discharge in the month of July, the permittee shall sample as soon as practicable thereafter, and submit the test results by the last day of the month following completion of the test. The Fact Sheet is a final document, and thus cannot be revised; however, this response to comment serves to document this clarification. The permit shall not be changed, since it already specifies that sampling shall occur during the month of July.

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<sup>1</sup> EPA-833-B-96-003, USEPA NPDES Permit Writers' Manual, p. 124.

The permit also specifies in Part I.A.1, footnote 8, that in the event there is no discharge in the month of July, the permittee shall sample as soon as practicable thereafter, and submit the test results by the last day of the month following completion of the test. Therefore, in the event that an unexpected rain event takes place during sampling, the permittee shall repeat the test the following month in order to obtain results representative of a dry-weather discharge. Part I.A.1, footnote 8, of the permit has been changed from “in the event there is no discharge” to “in the event there is no dry weather discharge,” to clarify this requirement.

**COMMENT 4:**

Source Identification and Reduction Plan: The SIRP would require that the permittee clean all storm sewer lines and appurtenances discharging to Outfall 001 as soon as practical. This includes pipes, culverts, catch basins, or other structures located along the entire alignment of the storm sewer discharging to Outfall 001. MBTA and MBCR note that the current “Best Management Practice” is to jet wash the lines and/or clean other appurtenances, as necessary. This approach is working well. Stormwater consistently flows freely to the oil/water separator from all directions without issue. MBTA and MBCR request that the requirement to clean the entire storm sewer system as a condition of the permit be eliminated as there is no apparent reason for the requirement.

**RESPONSE TO COMMENT 4:**

The Best Management Practice (BMP) to clean all storm sewer lines and appurtenances discharging to Outfall 001 as soon as practicable, including pipes, culverts, catch basins, or other structures located along the entire alignment of the storm sewer discharging to Outfall 001, was included in the permit as a minimum requirement in the event that the source(s) of iron, magnesium, manganese, phosphorus, bacteria, and/or COD cannot be eliminated by the Source Identification Reduction Plan (SIRP).

This BMP was not intended to assure that “stormwater consistently flows freely to the oil/water separator,” as the commenter suggests. Cleaning of the storm water drainage system is a good housekeeping practice that has been shown to reduce TSS loading in the discharge.

Studies have shown that there is a clear positive correlation between TSS and total metal concentrations. Since the discharge through Outfall 001 has been shown to contain elevated metals levels, cleaning of the storm water drainage system is an appropriate BMP to reduce TSS loading, which may in turn reduce total metal loading to the receiving water.

**COMMENT 5:**

Source Identification and Reduction Plan: The SIRP would require that the permittee survey the infrastructure to identify all illicit connections to the storm sewer lines discharging to Outfall 001. A survey of the infrastructure was completed in July 2002 for the MBTA. The results of that survey found that the stormwater system did not appear to

be compromised, none of the pipes appeared to have cracks or leakage, and no illicit connections were discovered. Therefore, MBTA and MBCR request that the requirement to survey the stormwater infrastructure as a condition of the permit be eliminated.

**RESPONSE TO COMMENT 5:**

The permittee states that during a survey of the infrastructure in July 2002, no illicit connections were discovered. However, review of DMR data received during the time period of April 2004 to March 2009 shows that fecal coliform bacteria concentrations during wet weather have ranged from 8 – 110,000 cfu/100mL, and averaged 6554 cfu/100mL. Fecal coliform bacteria concentrations during dry weather have ranged from 2 – 4600 cfu/100mL, and averaged 433 cfu/100mL.

Recommended TMDL implementation measures include identification and elimination of prohibited sources such as leaky or improperly connected sanitary sewer flows and best management practices to mitigate storm water runoff volume. Therefore, the permit requires the permittee to develop and implement a Source Identification and Reduction Plan (SIRP) to eliminate or reduce the discharge of bacteria through the facility's storm water system.

The permit requires that in the event the source(s) of bacteria cannot be eliminated, Best Management Practices (BMPs) shall be developed to significantly reduce or eliminate the bacteria loading to the receiving water. Specifically, Part I.B.9.c of the permit requires development of the following BMP, at a minimum: "The permittee shall identify and eliminate all illicit connections to the storm sewer lines discharging to Outfall 001 as soon as practicable."

Therefore, in the event the permittee certifies that all illicit connections have been eliminated, but that the source(s) of bacteria still cannot be eliminated, then the permittee must develop and implement alternative BMPs to eliminate or reduce the discharge of bacteria through the facility's storm water system.

**COMMENT 6:**

Source Identification and Reduction Plan: The SIRP would require that the permittee install silt sacks in catch basins, notify EPA upon completion, and conduct monthly inspection, cleaning, and/or replacement. The catch basins are currently being inspected monthly and bi-annual cleaning is appropriate based on our observations during the inspections. MBTA and MBCR request that catch basin inspections be conducted monthly, and that the catch basins be cleaned twice per year in lieu of installing and maintaining silt sacks. This cleaning and inspection schedule will be sufficient to facilitate compliance at the outfall.

**RESPONSE TO COMMENT 6:**

EPA is not convinced that the current monthly catch basin cleaning and bi-annual cleaning, without installation of silt sacks, are adequate to ensure compliance at

the outfall, specifically since metal concentrations in the discharge are routinely elevated.

Silt sacks are a storm water management device that effectively trap or remove sediment. Since studies have shown that there is a clear positive correlation between TSS and total metal concentrations, reduction in TSS loading is expected to effectively reduce total metal loading. Therefore, no change has been made to the permit in response to this comment.

**COMMENT 7:**

Source Identification and Reduction Plan: The SIRP would require that the permittee sweep the impervious surfaces on a monthly basis during the spring, summer and fall and when possible in the winter. MBTA and MBCR note that the North Station track platforms are swept more frequently to maintain a clean, safe access for the ridership. MBTA and MBCR request that all other impervious areas be swept twice per year as a condition of the permit.

**RESPONSE TO COMMENT 7:**

Stormwater has the potential to wash off sediments from impervious areas and feed this sediment load to the receiving water. However, good housekeeping practices, such as sweeping, have been shown to reduce TSS concentrations in stormwater. EPA's Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP) includes sweeping at regular intervals as an example of good housekeeping.

The discharge through Outfall 001 has been shown to contain elevated metal concentrations. Studies have shown that there is a clear positive correlation between TSS and total metal concentrations. Therefore, frequent sweeping to reduce TSS loading is expected to effectively reduce total metal loading to the receiving water. Therefore, no change has been made to the permit in response to this comment.

**COMMENT 8:**

Source Identification and Reduction Plan: The SIRP would require that the permittee provide EPA with a technical memorandum describing efforts to reduce water quality impact from deicing and the placement of snow piles in accordance with MassDEP's Snow Disposal Guidance No. BRPG01-01. MBTA and MBCR note that the application of deicing compounds is predicated on public safety insofar as providing safe walking surfaces to the public who are boarding and departing along the platforms and access ways. The policy is to apply deicing compounds in amounts adequate to achieve and maintain safe conditions. Therefore, the amounts and frequency of deicing compound applications are to ensure the safety of the public. MBTA and MBCR snow removal and placement procedures already comply with MassDEP's Snow Disposal Guidance No. BRPG01-01. Therefore, MBTA and MBCR respectfully request that EPA remove the requirement to submit a technical memorandum as a condition of the permit.

**RESPONSE TO COMMENT 8:**

The permit includes the following Best Management Practice (BMP), to be included in the SWPPP, in the event the source(s) of iron, magnesium, manganese, phosphorus, bacteria, and/or COD cannot be eliminated:

The permittee shall use reasonable efforts to mitigate potential water quality impacts of deicing chemicals. This shall include, but not be limited to, reasonable adjustments to the type and application (i.e., materials, mode, and timing) of deicing chemicals, and the placement of snow piles in accordance with MassDEP's Snow Disposal Guidance No. BRPG01-01.<sup>2</sup> The permittee shall provide EPA with a brief technical memorandum on the results of such efforts. The memorandum shall include a description of the improvements to current deicing practices, and a date by which such improvements shall be implemented.

EPA is not convinced that application of deicing compounds solely to ensure safe walking surfaces is an adequate control measure to ensure minimal application of deicing compounds (and thus minimize water quality impacts). Therefore, in the event that the source(s) of iron, magnesium, manganese, phosphorus, bacteria, and/or COD cannot be eliminated, the permittee shall include the BMP outlined above, at a minimum.

In the brief technical memorandum, the permittee shall describe the efforts taken to reduce, to the maximum extent possible, the application of deicer compounds, in order to minimize water quality impacts from deicing. Since MBTA and MBCR already comply with MassDEP's Snow Disposal Guidance No. BRPG01-01, the task of describing the placement of snow piles in accordance with this guidance should not be burdensome.

**COMMENT 9:**

Absorbent Pads Beneath Locomotives: The Draft Permit would require the permittee to inspect and maintain absorbent pads on a monthly basis, in the areas where locomotives stop. MBTA and MBCR note that the current "Best Management Practice" schedule for a complete track mat change-out is every quarter. Experience indicates that this inspection and maintenance schedule is more than adequate. MBTA and MBCR request the EPA eliminate the requirement for monthly inspections and maintenance of the absorbent track pads as the utility of the more frequent pad replacement is not justified and potentially wasteful.

**RESPONSE TO COMMENT 9:**

EPA is not convinced that the current quarterly inspection and maintenance schedule is adequate. EPA believes a requirement for monthly inspection and maintenance is justified, since at the time of the site visit, the absorbent pads appeared oil stained and looked as if they had become loose from the anchoring system. In places, the absorbent pads did not contain all of the oil or grease drips

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<sup>2</sup> <http://www.mass.gov/dep/water/laws/snowdisp.htm>

from the trains.<sup>3</sup> Therefore, the requirement to inspect and maintain absorbent pads on a monthly basis has been retained in the permit.

**COMMENT 10:**

Permit Page 2 of 12: Use of the word “treated” to describe storm water runoff, garage sump water and non-stormwater discharges. EPA does not define OWS as treatment. Use of phrase “fleet center”; this should be changed to reflect the renamed facility. Also, this mentions a section of the orange line MBTA track area as contributing to the stormwater runoff, which is not accurate. The Orange Line as indicated on the site drawing is below grade.

**RESPONSE TO COMMENT 10:**

Oil/water separators are stormwater management devices that are listed among chemical systems, physical systems, and artificial wetlands as potential treatment for stormwater in EPA’s Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP). Therefore, discharges which flow through the oil/water separator prior to discharge through Outfall 001 shall continue to be referred to as “treated” under this permit.

The phrase “fleet center” has been replaced with “Garden” throughout the permit, to reflect the renamed facility.

Concerning the flow from the orange line MBTA track area, Attachment B, Site Drainage Map, which was provided in the permit re-application by the MBTA and MBCR, shows a distinct flow from the orange line tracks. This flow contribution was confirmed at the site visit of September 17, 2009 by EPA.<sup>4</sup> The fact that the orange line MBTA track area does not contribute stormwater runoff to the drainage system for eventual discharge through Outfall 001 is new information to EPA. Therefore, Part I.A.1 of the permit has been revised to remove this flow from the list of authorized flows through Outfall 001. Additionally, a prohibition of discharging stormwater runoff from the orange line MBTA track area has been added to the permit at Part I.A.7.

**COMMENT 11:**

Permit page 3 of 12 for the pH and total residual chlorine parameters required for the WET analysis it states “composite” where as Attachment 1, page 1 of the “Freshwater Acute Toxicity Test Procedure and Protocol” Section III it states “grab” samples must be used for pH, temperature, and total residual chlorine. Additionally, MBTA and MBCR are requesting that the WET sampling be a grab sample and not a flow proportional composite sample (see aforementioned Total Suspended Solids comment).

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<sup>3</sup> Memorandum to File - NPDES Permit No. MA0028941, Trip Report, September 18, 2009.

<sup>4</sup> Memorandum to File - NPDES Permit No. MA0028941, Trip Report, September 18, 2009.

**RESPONSE TO COMMENT 11:**

See Response to Comment 2, above, concerning changes in WET sampling requirements from flow-proportional composite samples to time composite samples.

In regards to samples for pH and total residual chlorine, the permit has been changed at Part I.A.1 to require grab samples for pH and total residual chlorine (TRC) in place of composite samples, in accordance with the Freshwater Acute Toxicity Test Procedure and Protocol. Neither the current permit nor draft permit require temperature reporting.

**COMMENT 12:**

Permit page 4 of 12, footnote 3 states “Sampling frequency of annual is defined as the sampling of one (1) discharge event in each calendar year when discharge occurs.” This statement contradicts footnotes 2 and 8 as the only annual sampling event is the WET parameter which is specifically stated to be a dry weather event as indicated in footnotes 2 and 8.

**RESPONSE TO COMMENT 12:**

Part I.A.1, footnote 3, of the permit has been modified to remove the definition of annual sampling. Annual sampling is required only for WET tests, which are required to be sampled during dry weather events, as outlined in Part I.A.1, footnote 8.

**COMMENT 13:**

Permit page 4 of 12, footnote 5, third sentence “To demonstrate that the pH values of the effluent are outside the permitted pH range due to natural causes the permittee must show that the pH measurements of the source water and the effluent are the **same**.” MBTA and MBCR requests that in lieu of the word “same” it should state “are both outside the permitted pH range.”

**RESPONSE TO COMMENT 13:**

MassDEP Water Quality Standards for Class B waters require that pH shall be in the range of 6.5 through 8.3 standard units and not more than 0.5 units outside of the natural background range. There shall be no change from natural background conditions that would impair any use assigned to this Class.

For discharge samples through Outfall 001 which fall outside the permitted pH range, EPA suggests the permittee collect stormwater samples from the same storm event and record the pH. This will provide data documenting the pH of the stormwater, and potentially demonstrate pH exceedences due to natural causes.

Therefore, Part I.A.1 of the permit, footnote 5, has been revised to state:

The pH of the effluent shall not be less than 6.5 SU, nor greater than 8.3 SU at any time, unless these values are exceeded due to natural causes.  
The pH shall be no more than 0.5 units outside the natural background

range. For effluent samples which fall outside the permitted pH range, the permittee may collect stormwater samples from the same storm event and record the pH. This will provide data documenting the pH of the stormwater, and potentially demonstrate pH exceedences due to natural causes. Documentation of such conditions must be submitted by the permittee with the discharge monitoring reports.

**COMMENT 14:**

Fact Sheet page 2 of 18: Use of the words “process water” – Discharges are stormwater and groundwater; there is no process water at the facility.

**RESPONSE TO COMMENT 14:**

As identified in Part I.A.1 of the permit, authorized discharges from the facility through Outfall 001 are the following:

Treated storm water runoff (from the MBTA track area, the Garden Roof, and a Massachusetts Highway Dept Building), treated garage sump water (consisting of stormwater runoff from cars in the parking garage and groundwater), and treated non-storm water discharges (discharges from fire fighting activities, fire hydrant flushing, air conditioning condensate, routine external building wash down (no detergents), wash water from periodic platform wash-downs (no detergents), uncontaminated groundwater, wash water from track bay drain flushing, and foundation and footing drains where flows are not contaminated by contact with soils where spills or leaks of toxic or hazardous materials have occurred).

The flows of various wash waters are considered process water. Therefore, the permit allows the discharge of process water, storm water, and uncontaminated groundwater.

**COMMENT 15:**

Fact Sheet page 6 of 18: use of the phrase “fleet center.”

**RESPONSE TO COMMENT 15:**

The Fact Sheet is a final document and therefore cannot be revised; however, this response to comment serves to document this inconsistency. The permit has been changed to replace “fleet center” with “Garden” (see Response to Comment 10)

**COMMENT 16:**

Fact Sheet page 7 of 18: Use of the word “treated” (3 times). Use of phrase “fleet center”

**RESPONSE TO COMMENT 16:**

The Fact Sheet is a final document and therefore cannot be revised; however, this response to comment serves to document any inconsistency. Refer to Response to Comment 10 concerning the use of the word “treated” and replacement of the phrase “fleet center” with “Garden.”

**COMMENT 17:**

Fact Sheet page 8 of 18: “Flow” this section is incorrect. The flow is reported on a frequency once per month as an estimate at the time of the wet weather discharge per the permit conditions as stated in the Permit Part 1-A page 2 of 12.

**RESPONSE TO COMMENT 17:**

The commenter states that flow is currently reported on a frequency once per month as an estimate at the time of the wet weather discharge. The Fact Sheet is a final document and therefore cannot be revised. However, this response to comment serves to document that, as stated in Part I.A, footnote 4 of the permit, “flow shall be estimated for each monitoring event using accepted engineering techniques.”

It should be noted that the previous permit only required reporting of maximum daily flow (with a limit). The final permit requires reporting of both daily maximum flow (with a limit) and monthly average flow.

**COMMENT 18:**

Fact Sheet page 11 of 18 discusses the concentration ranges for Total Iron, Total Magnesium and Total Manganese as reported on DMRs for the time period of April 2004 to March of 2009. The maximum concentrations and the average concentration for these parameters are not correct. A review of the Quarterly DMR reports submitted for the time period between 6/30/2004 and 3/31/2007 indicates that the concentrations for these parameters were reported in micrograms per liter (ug/L) as indicated on the DMR and not in milligrams per liter (mg/L) as stated in the Fact Sheet for that time frame. Taking this fact into account the correct range and averages are as follows:

- Total Iron ranged from 0.8 – 220 mg/L and averaged 12.99 mg/L
- Total Magnesium ranged from 1.2 – 400 mg/L and averaged 193.1 mg/L
- Total Manganese ranged from 0.13 – 1.5 mg/L and averaged 0.79 mg/L

**RESPONSE TO COMMENT 18:**

The Fact Sheet incorrectly states the DMR data for iron, magnesium, and manganese. The current permit (and therefore the DMR forms) requires reporting of these metals in mg/L, however, during the time period of June 30, 2004 through March 31, 2007, the permittee reported metal concentrations in ug/L. Therefore, the data recorded in EPA’s Integrated Compliance Information System (ICIS) during this time period was incorrectly labeled as mg/L (since the DMRs were coded in the system based on the requirements of the permit), not the actual concentration measurement units of ug/L. Since the fact sheet is a final document and cannot be revised, this response to comment serves to document this inconsistency in data reporting.

Correction of the iron measurements from mg/L to ug/L, during the time period from June 30, 2004 through March 31, 2007, shows that total iron actually ranged from 0.8 – 220 mg/L and averaged 12.99 mg/L.

Correction of the magnesium measurements from mg/L to ug/L, during the time period from June 30, 2004 through March 31, 2007, shows that total magnesium actually ranged from 1.2 – 400 mg/L and averaged 193.6 mg/L.

Correction of the manganese measurements from mg/L to ug/L, during the time period from June 30, 2004 through March 31, 2007, shows that total manganese actually ranged from 0.067-1.5 mg/L and averaged 0.76 mg/L.

The permit (and corresponding DMR forms) shall continue to require reporting of iron, magnesium, and manganese concentrations in mg/L, not ug/L, consistent with the current permit requirements and the most recent reporting in mg/L over the past two years (since after March 2007).

**COMMENT 19:**

The Permit and Fact Sheet mention the discharge of groundwater from the parking garage sump pump. During EPA's review of the permit application, it was not clear if there was an actual groundwater discharge from the sump. It was our understanding that EPA was going to contact personnel at Delaware North Corporation for clarification. MBTA and MBCR are wondering whether the EPA was able to confirm that groundwater is, in fact, being discharged into the stormwater conveyance system.

**RESPONSE TO COMMENT 19:**

EPA contacted the Senior Manager of Facilities and Operations at the Garden, Thomas Demanche, and asked for clarification of the make-up of discharge from the garage sump pump, specifically, if groundwater was still a component.<sup>5</sup> EPA received a reply on November 4, 2009, that groundwater is believed to be a component of the discharge, but that further confirmation may be necessary. To this date, no follow-up communication has been received.

The SWPPP (Part 4.4.7, page 10) submitted by MBTA and MBCR indicates that the Garden discharges to the North Station Railroad Terminal storm water system from a sump pump located on the lower level of the Garden/North Station underground parking garage. The SWPPP states, "The discharge from the sump is storm water runoff from vehicles entering the garage and groundwater."

Therefore, the discharge of groundwater, which is included in the current permit and the current SWPPP submitted by MBTA and MBCR, was included in the draft permit since EPA has no reason to believe it is no longer a component of the sump pump discharge. EPA may modify the permit in the event that the presence of groundwater in the garage sump pump discharge can be disproved. However, at this time, groundwater shall remain in the final permit as a component of the discharge since EPA has no reason to believe otherwise.

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<sup>5</sup> Email correspondence between Nicole Kowalski, EPA, and Thomas Demanche, Senior Manager of Facilities and Operations at TD Garden, October 28, 2009.

**ADMINISTRATIVE CHANGE:**

Page 1 of the permit: Since comments were received on the draft permit, the phrase, “This permit shall become effective on the first day of the calendar month following 60 days after signature if comments are received. If no comments are received, this permit shall become effective following signature” has been revised to “This permit shall become effective on the first day of the calendar month following 60 days after signature.”