

1080

City of Newton



David B. Cohen  
Mayor

## Department of Public Works, Utilities Division

LOUIS M. TAVERNA, P. E., DIRECTOR OF UTILITIES

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Newton Centre, MA 02459-1449

Telephone (617) 796-1040 • Fax (617) 796-1052

MAY 3

April 30, 2004

U.S. Environmental Protection Agency  
Water Technical Unit  
P.O. Box 8127  
Boston, MA 02114

Subject: CITY OF NEWTON, MA  
NPDES Phase II Small MS4 General Permit Annual Report, May 2004  
EPA NPDES Permit No: MAR 041080  
MaDEP Transmittal No: W-039247

Enclosed please find the NPDES Phase II Small MS4 General Permit Annual Report, May 2004, for the City of Newton, MA. The City has implemented and enforced a storm water management program designed to reduce discharge of pollutants from the municipal separate storm sewer system to the "maximum extent practicable" to protect water quality.

The City's storm water management plan consists of the six minimum control measures. Each control measure has associated Best Management Practices (BMPs) and measurable goals that have been implemented during the course of the permit term. It is through the implementation and evaluation of these BMPs that the City will insure that all the objectives of the Phase II NPDES program will be met.

Sincerely,

A handwritten signature in cursive script, reading "Louis M. Taverna".

Louis M. Taverna, P.E.  
Director of Utilities

Attachments:

NPDES Phase II Small MS4 General Permit Annual Report, May 2004

Annual Report MS4 2004 epa letter

**Municipality/Organization:** City of Newton, MA

**EPA NPDES Permit Number:** MAR 041080

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**MaDEP Transmittal Number:** W-039247

**Annual Report Number  
& Reporting Period:**

**No. 1: March 03-March 04**

## **NPDES Phase II Small MS4 General Permit Annual Report May 2004**

### **Part I. General Information**

**Contact Person:** Louis M. Taverna, P.E

**Title:** Director of Utilities

**Telephone #:** 617-796-1640

**Email:** ltaverna@ci.newton.ma.us

### **Certification:**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Signature:**

**Printed Name:** David B. Cohen

**Title:** Mayor

**Date:**

4/29/04

## **Part II. Self-Assessment**

The City of Newton, Massachusetts has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

Water quality monitoring of the Charles River is performed by Charles River Watershed Association. A summary of water quality test results is attached.

### Part III. Summary of Minimum Control Measures

#### 1. Public Education and Outreach

| BMP ID #       | BMP Description                      | Responsible Dept./Person Name | Measurable Goal(s)                                        | Progress on Goal(s) – Permit Year 1 (Reliance on non-municipal partners indicated, if any)                          | Planned Activities – Permit Year 2                                                                             |
|----------------|--------------------------------------|-------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 1.1<br>Revised | Develop Stormwater Press Release     | Utilities,<br>L. Taverna      | Submit annual press release to newspaper, CATV.           | Draft press release prepared. To be submitted to newspaper and CATV May 2004.                                       | Submit annual press release to newspaper, CATV.                                                                |
| 1.2<br>Revised | Develop Stormwater Web Site          | Utilities,<br>L. Taverna      | Prepare web site on stormwater issues.                    | City's Public Works web site developed, with a link to DEP stormwater web site. Will add press release to web site. | Annual update of web site on stormwater issues. Include e-mail address for comments and responses from public. |
| 1.3<br>Revised | Develop Stormwater Brochures         | Utilities,<br>L. Taverna      | Distribute annual brochures with water/sewer bills        | Brochures developed including "Scoop the Poop" and "Stormwater/Wastewater, Put it Where It Belongs"                 | Distribute annual brochures with water/sewer bills                                                             |
| 1.4<br>Revised | Develop Stormwater Newsletter/Report | Utilities,<br>L. Taverna      | Prepare/distribute annual newsletter/report.              | Draft newsletter prepared. To be distributed to Stormwater Committee in May 2004. To be added to web site.          | Distribute annual newsletter/ report.                                                                          |
| 1.5<br>Revised | Explore Volunteer Task Force         | Utilities,<br>L. Taverna      | Solicit volunteer educators to develop education program. | No action to date.                                                                                                  | Solicit volunteer educators to develop education program, in spring, summer 2004.                              |
| 1.6<br>Revised | Explore Partnering with Schools      | Utilities,<br>L. Taverna      | Explore education programs.                               | No action to date.                                                                                                  | Explore education programs, upcoming spring, summer 2004.                                                      |

|     |                           |                          |                                             |                    |                                                                           |
|-----|---------------------------|--------------------------|---------------------------------------------|--------------------|---------------------------------------------------------------------------|
| 1.7 | Explore Education Program | Utilities,<br>L. Taverna | Explore programs with high school students. | No action to date. | Explore programs with high school students, upcoming spring, summer 2004. |
|     |                           |                          |                                             |                    |                                                                           |

|     |                                                |                          |                                                                   |                                                                                                              |                                                                                                       |
|-----|------------------------------------------------|--------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 1.8 | Explore Partnering with Watershed Associations | Utilities,<br>L. Taverna | Promote meetings with Charles River Watershed Association (CRWA). | Attended CRWA Annual Meeting on Nov. 19, 2003. Attended Clean Charles 2005 Annual Meeting on March 23, 2004. | Continue meetings with Charles River Watershed Association. Coordinate Clean Charles 2005 activities. |
|     |                                                |                          |                                                                   |                                                                                                              |                                                                                                       |

## 2. Public Involvement and Participation

| BMP ID #       | BMP Description                                 | Responsible Dept./Person Name | Measurable Goal(s)                                          | Progress on Goal(s) – Permit Year 1<br>(Reliance on non-municipal partners indicated, if any)                                                                                                    | Planned Activities – Permit Year 2                                                                                                                                                         |
|----------------|-------------------------------------------------|-------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.1<br>Revised | Establish Stormwater Citizen Advisory Committee | Utilities,<br>L. Taverna      | Committee to meet once per year, publish results            | Stormwater/wastewater citizen advisory committee has been established. Volunteers are being solicited. Committee to meet in May 2004.                                                            | Committee to meet once per year, and results to be published. Discussions to include stormwater issues, sewer Infiltration/Inflow issues, and impact of I/I removal on storm drain system. |
| 2.2<br>Revised | Implement Public Meetings for Citizen Input     | Utilities,<br>L. Taverna      | Hold meetings once per year, publish results.               | Public meeting on stormwater held November 2002. Public works presentation made. Citizens provided input on local stormwater issues, street flooding.                                            | Upcoming public meeting to be held summer 2004.                                                                                                                                            |
| 2.3<br>Revised | Encourage Citizen Communication and Reporting   | Utilities,<br>L. Taverna      | Establish stormwater hotline for illicit discharges.        | Customer service center and phone number established at City Hall. All stormwater questions and comments directed to Engineering or Utilities. Customer service calls logged on Hansen database. | Establish dedicated phone number for stormwater hotline. Establish dedicated e-mail address for stormwater.                                                                                |
| 2.4<br>Revised | Explore Volunteer Organizations, Watch Groups   | Utilities,<br>L. Taverna      | Observe outfalls, find illicit discharges, stream clean-up. | Friends of Hemlock Gorge clean up bank of Charles River at Hemlock Gorge on April 25, 2004, as part of Newton Serves Day. Boy Scout and Girl Scout volunteers performed storm drain marking.     | Continue annual Newton Serves Day. Explore possibility of expanding group to cover more stream banks.                                                                                      |
| 2.5<br>Revised | Implement Storm Drain Marking Program           | Utilities,<br>L. Taverna      | Volunteers mark catch basins with decals.                   | Boy Scout and Girl Scout volunteers marked approximately 5000 catch basins with "No Dumping, Drains to River" decals.                                                                            | Continue with decals, and storm drain stenciling. Expand volunteers to include High School students.                                                                                       |
| 2.6<br>Revised | Promote Community Clean-Up day                  | Utilities,<br>L. Taverna      | Promote annual community clean-up day                       | Newton Serves Day held April 25, 2004. Volunteer groups target specific areas of the City for clean-up.                                                                                          | Continue with annual community clean-up day.                                                                                                                                               |

### 3. Illicit Discharge Detection and Elimination

| BMP ID #       | BMP Description                                 | Responsible Dept./Person Name | Measurable Goal(s)                                                     | Progress on Goal(s) – Permit Year 1 (Reliance on non-municipal partners indicated, if any)                                                                                                       | Planned Activities – Permit Year 2                                                                                                                                                            |
|----------------|-------------------------------------------------|-------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.1<br>Revised | Establish Stormwater System Map                 | Engineering,<br>J. Daghlion   | Update GIS information, locate all outfalls.                           | Stormwater system map established on Geographic Information System (GIS). Outfalls last field verified in 1997.                                                                                  | Locate all outfalls in field, to verify GIS, upcoming spring, summer 2004.                                                                                                                    |
| 3.2<br>Revised | Establish Stormwater Database Management System | Utilities,<br>L. Taverna      | Add stormwater information to Hansen database.                         | Hansen database management system established. Stormwater system attributes now being input into database.                                                                                       | Continue input of stormwater system attributes into database.                                                                                                                                 |
| 3.3<br>Revised | Locate and Inspect all Outfalls                 | Utilities,<br>L. Taverna      | Collect outfall data for Hansen database.                              | Outfalls located on GIS. No action to date on field inspection. Outfalls last inspected June 1997.                                                                                               | Outfall inspections and data collection scheduled for summer 2004.                                                                                                                            |
| 3.4<br>Revised | Explore Prohibiting Non-Stormwater Discharges   | Utilities,<br>L. Taverna      | Explore adaptation of stormwater ordinance/regulations                 | No action to date.                                                                                                                                                                               | To be discussed at upcoming Stormwater Advisory Committee.                                                                                                                                    |
| 3.5<br>Revised | Identify Illicit Discharge Sources              | Utilities,<br>L. Taverna      | Explore dry and wet weather screening, CCTV inspections, public input. | Dry weather screening completed for basin 69. Report upcoming. CCTV truck purchased, CCTV inspections are ongoing. Smoke and dye testing completed for sewer areas A and C.                      | Continue with CCTV inspections for stormwater system. Continue sewer infiltration/inflow removal program. Solicit public input on illicit discharges.                                         |
| 3.6<br>Revised | Establish Illicit Discharge Hotline             | Utilities,<br>L. Taverna      | Receive and track citizen reports of illicit discharges.               | Customer service center and phone number established at City Hall. All stormwater questions and comments directed to Engineering or Utilities. Customer service calls logged on Hansen database. | Establish dedicated phone number for stormwater/illicit discharge hotline. Establish dedicated e-mail address for stormwater/illicit discharge. Establish Hansen database of citizen reports. |

|     |                 |                          |                                                      |                    |                                                    |
|-----|-----------------|--------------------------|------------------------------------------------------|--------------------|----------------------------------------------------|
| 3.7 | Train Employees | Utilities,<br>L. Taverna | Employees to help<br>identify illicit<br>discharges. | No action to date. | Employee training upcoming spring,<br>summer 2004. |
|     |                 |                          |                                                      |                    |                                                    |

|     |                                                   |                          |                                                         |                                                                                                   |                                                                                               |
|-----|---------------------------------------------------|--------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 3.8 | Implement Household<br>Hazardous Waste<br>Program | Utilities,<br>L. Taverna | Collect waste oil,<br>antifreeze, paint,<br>pesticides. | Household Hazardous Waste (HHW)<br>program is implemented. 6 HHW<br>collection days held in 2003. | City plans to implement a HHW<br>collection facility, continuous from<br>May through October. |
|     |                                                   |                          |                                                         |                                                                                                   |                                                                                               |

|     |                                              |                          |                                      |                    |                                                                          |
|-----|----------------------------------------------|--------------------------|--------------------------------------|--------------------|--------------------------------------------------------------------------|
| 3.9 | Explore Detection and<br>Elimination Efforts | Utilities,<br>L. Taverna | Observe major outfall<br>discharges. | No action to date. | Outfall inspections and data<br>collection scheduled for summer<br>2004. |
|     |                                              |                          |                                      |                    |                                                                          |

#### 4. Construction Site Stormwater Runoff Control

| BMP ID #       | BMP Description                                             | Responsible Dept./Person Name | Measurable Goal(s)                                                       | Progress on Goal(s) – Permit Year 1<br>(Reliance on non-municipal partners indicated, if any)                                                                                                   | Planned Activities – Permit Year 2                                                                         |
|----------------|-------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 4.1<br>Revised | Explore Regulations for Construction Site Stormwater Runoff | Engineering,<br>J. Daghlian   | Explore adaptation of construction site runoff ordinance/regulation.     | No action to date.                                                                                                                                                                              | To be discussed at upcoming Stormwater Advisory Committee.                                                 |
| 4.2<br>Revised | Implement Review of Construction Documents                  | Engineering,<br>J. Daghlian   | Explore policy for submittal of erosion control plans.                   | All construction documents now reviewed by Engineering for stormwater BMPs. Engineering now requires erosion control plans for all construction projects.                                       | Continue to review all construction documents for stormwater BMPs, erosion control plans.                  |
| 4.3<br>Revised | Implement Construction Inspection Program                   | Engineering,<br>J. Daghlian   | Develop guidelines, training, inspection of construction sites > 1 acre. | All construction sites > 1 acre inspected by Engineering. BMP guidelines followed. Engineering requires the use of stormwater BMPs for all construction > 1 acre.                               | Continue with inspection of all construction sites > 1 acre. Develop training for construction inspectors. |
| 4.4<br>Revised | Educate Developers on Proper Erosion Control Techniques     | Engineering,<br>J. Daghlian   | Distribute erosion control procedures to all applicants.                 | Engineering requires erosion control BMPs for all construction > 1 acre. BMPs given to all applicants > 1 acre.                                                                                 | Continue to distribute erosion control BMPs to all applicants.                                             |
| 4.5<br>Revised | Encourage Citizen Input on Construction Projects            | Engineering,<br>J. Daghlian   | Ensure citizen review procedures for construction projects > 1 acre.     | Citizen review of construction projects occurs during Conservation Commission hearings if required. Citizen review also occurs during draft and final environmental impact reports if required. | Explore citizen review procedures, to be discussed at upcoming Stormwater Advisory Committee.              |
| 4.6<br>Revised | Establish Information Management System                     | Engineering,<br>J. Daghlian   | Track construction reviews and construction inspections.                 | No action to date.                                                                                                                                                                              | Explore implementation of construction inspection information management system, on Hansen database.       |

|     |                                                          |                         |                                             |                                                                                                      |                                                                                                     |
|-----|----------------------------------------------------------|-------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 4.7 | Explore Standards for Erosion and Sedimentation Controls | Engineering, J. Daghlia | Explore adaptation of MADEP SWMP Standard 8 | Engineering requires implementation of MADEP SWMP Standard 8 for all construction projects > 1 acre. | Continue to require implementation of MADEP SWMP Standard 8 for all construction projects > 1 acre. |
|     |                                                          |                         |                                             |                                                                                                      |                                                                                                     |

## 5. Post-Construction Stormwater Management in New Development and Redevelopment

| BMP ID #       | BMP Description                                         | Responsible Dept./Person Name | Measurable Goal(s)                                                    | Progress on Goal(s) – Permit Year 1<br>(Reliance on non-municipal partners indicated, if any)                         | Planned Activities – Permit Year 2                                                                                                                                         |
|----------------|---------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.1<br>Revised | Explore Regulations for Post Construction Runoff        | Engineering,<br>J. Daghlion   | Explore adaptation of post construction runoff ordinance/regulation.  | No action to date.                                                                                                    | To be discussed at upcoming Stormwater Advisory Committee.                                                                                                                 |
| 5.2<br>Revised | Develop Stormwater Management Policy                    | Engineering,<br>J. Daghlion   | Explore policy to establish minimum BMPs for developers.              | Engineering requires the use of stormwater BMPs for all construction > 1 acre.                                        | Continue to require the use of stormwater BMPs for all construction > 1 acre.                                                                                              |
| 5.3<br>Revised | Develop Operations and Maintenance Policy               | Engineering,<br>J. Daghlion   | Explore policy to establish minimum operations and maintenance plans. | Engineering requires the submittal of stormwater operations and maintenance plans for all construction > 1 acre.      | Continue to require the submittal of stormwater operations and maintenance plans for all construction > 1 acre.                                                            |
| 5.4<br>Revised | Explore Controls to Minimize Impacts to Water Quality   | Engineering,<br>J. Daghlion   | Explore use of structural and non-structural BMPs.                    | Engineering requires the use of stormwater BMPs for all construction > 1 acre.                                        | Continue to require the use of stormwater BMPs for all construction > 1 acre.                                                                                              |
| 5.5<br>Revised | Explore Reducing Directly Connected Impervious Surfaces | Engineering,<br>J. Daghlion   | Explore the use of grass swales and filter strips.                    | No action to date.                                                                                                    | To be discussed at upcoming Stormwater Advisory Committee.                                                                                                                 |
| 5.6<br>Revised | Determine Capacity of Stormwater System Elements        | Engineering,<br>J. Daghlion   | Perform capacity analysis for wet weather events.                     | No action to date. Saw Mill Brook drainage system submitted to DEM and Army Corps for consideration of project study. | Perform capacity analysis for wet weather events, at certain “hot spots” where flooding is known to occur. Upcoming evaluation of Deborah Rd - Sevlard Rd drainage system. |

|      |                                                        |                         |                                                                        |                                                                                                          |                                                                                                         |
|------|--------------------------------------------------------|-------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 5.7  | Explore use of Regulations for Recharge to Groundwater | Engineering, J. Daghlia | Explore adaptation of ordinance/regulation for recharge to groundwater | No action to date.                                                                                       | To be discussed at upcoming Stormwater Advisory Committee.                                              |
| 5.8  | Explore Use of Groundwater Recharge Rates              | Engineering, J. Daghlia | Explore adaptation of MADEP SWMP Standard 3                            | Engineering requires implementation of MADEP SWMP Standard 3 for all construction projects > 1 acre.     | Continue to require implementation of MADEP SWMP Standard 3 for all construction projects > 1 acre.     |
| 5.9  | Explore Post Development Peak Discharge Rates          | Engineering, J. Daghlia | Explore adaptation of MADEP SWMP Standard 2                            | Engineering requires implementation of MADEP SWMP Standard 2 for all construction projects > 1 acre.     | Continue to require implementation of MADEP SWMP Standard 2 for all construction projects > 1 acre.     |
| 5.10 | Explore Requirements for Removal of 80% TSS            | Engineering, J. Daghlia | Explore adaptation of MADEP SWMP Standard 4 & 7                        | Engineering requires implementation of MADEP SWMP Standard 4 & 7 for all construction projects > 1 acre. | Continue to require implementation of MADEP SWMP Standard 4 & 7 for all construction projects > 1 acre. |

## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

| BMP ID #       | BMP Description                              | Responsible Dept./Person Name | Measurable Goal(s)                                                       | Progress on Goal(s) – Permit Year 1<br>(Reliance on non-municipal partners indicated, if any)                                                                                              | Planned Activities – Permit Year 2                                                                                    |
|----------------|----------------------------------------------|-------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 6.1<br>Revised | Develop Staff Training Program               | Utilities,<br>L. Taverna      | Train staff on spill prevention control, vehicle maintenance, lawn care. | Fire Department has staff trained in spill prevention control and response<br>Vehicle maintenance staff trained in handling waste fluids. Parks and Recreation staff trained in lawn care. | Train Public Works staff on spill prevention and control.                                                             |
| 6.2<br>Revised | Develop Stormwater Pollution Prevention Plan | Utilities,<br>L. Taverna      | Develop spill prevention control procedures, pollution reduction plan.   | Fire Department has a stormwater pollution prevention plan and a hazardous material spill response plan.                                                                                   | Environmental Affairs to develop pollution reduction plan.                                                            |
| 6.3<br>Revised | Develop Flood Mitigation Plan                | Utilities,<br>L. Taverna      | Develop plan, perform tabletop exercises.                                | Stormwater Management Program has been developed. Flood Mitigation Plan has been developed. Plan used during flooding event of March 31-April 1, 2004.                                     | Continue field exercises and update the stormwater and flood mitigation plan. Conduct tabletop exercise if necessary. |
| 6.4<br>Revised | Establish Inspection Procedures              | Utilities,<br>L. Taverna      | Inspect storm drain system using visual inspection and CCTV.             | CCTV truck purchased. Inspected and cleaned 10,000 linear feet of storm drain system.                                                                                                      | Continue to inspect and clean 10,000 linear feet of storm drain system per year.                                      |
| 6.5<br>Revised | Incorporate BMPs into Standard Procedures    | Utilities,<br>L. Taverna      | Establish BMPs for municipal operations and maintenance.                 | Erosion control procedures used for municipal construction.                                                                                                                                | Establish BMPs for municipal operations and maintenance, upcoming winter 2005.                                        |
| 6.6<br>Revised | Establish Maintenance Procedures             | Utilities,<br>L. Taverna      | Vactor/flush storm drains to remove sedimentation.                       | Vactor/flush 10,000 linear feet of storm drains to remove sedimentation.                                                                                                                   | Continue vactor/flush 10,000 linear feet of storm drains to remove sedimentation.                                     |

|     |                                  |                          |                                                |                                               |                                                         |
|-----|----------------------------------|--------------------------|------------------------------------------------|-----------------------------------------------|---------------------------------------------------------|
| 6.7 | Establish Maintenance Procedures | Utilities,<br>L. Taverna | Clean drainage brooks to remove sedimentation. | Cleaned 5,000 linear feet of drainage brooks. | Continue to clean 5,000 linear feet of drainage brooks. |
|     |                                  |                          |                                                |                                               |                                                         |

|     |                                  |                          |                                   |                                    |                                          |
|-----|----------------------------------|--------------------------|-----------------------------------|------------------------------------|------------------------------------------|
| 6.8 | Establish Maintenance Procedures | Utilities,<br>L. Taverna | Clean catch basins every 2 years. | 6000 catch basins cleaned in 2003. | 6500 catch basins to be cleaned in 2004. |
|     |                                  |                          |                                   |                                    |                                          |

|     |                                  |                          |                                 |                                     |                                                      |
|-----|----------------------------------|--------------------------|---------------------------------|-------------------------------------|------------------------------------------------------|
| 6.9 | Establish Maintenance Procedures | Utilities,<br>L. Taverna | Sweep streets 2 times per year. | Streets were swept 5 times in 2003. | Continue to sweep streets at least 2 times per year. |
|     |                                  |                          |                                 |                                     |                                                      |

|      |                                  |                          |                                    |                                      |                                     |
|------|----------------------------------|--------------------------|------------------------------------|--------------------------------------|-------------------------------------|
| 6.10 | Establish Maintenance Procedures | Utilities,<br>L. Taverna | Calibrate salt spreaders annually. | Salt spreaders calibrated fall 2002. | Calibrate salt spreaders fall 2004. |
|      |                                  |                          |                                    |                                      |                                     |

**7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>**

| BMP ID #       | BMP Description                 | Responsible Dept./Person Name | Measurable Goal(s)              | Progress on Goal(s) – Permit Year 1<br>(Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year 2 |
|----------------|---------------------------------|-------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------|
| 7.1<br>Revised | Check Criteria for Meeting TMDL | Utilities,<br>L. Taverna      | EPA criteria for TMDLs checked. | No action to date.                                                                            | No action planned.                 |
| Revised        |                                 |                               |                                 |                                                                                               |                                    |
| Revised        |                                 |                               |                                 |                                                                                               |                                    |
| Revised        |                                 |                               |                                 |                                                                                               |                                    |
| Revised        |                                 |                               |                                 |                                                                                               |                                    |
| Revised        |                                 |                               |                                 |                                                                                               |                                    |
| Revised        |                                 |                               |                                 |                                                                                               |                                    |

**7a. Additions –N/A**

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**7b. WLA Assessment – N/A**

#### Part IV. Summary of Information Collected and Analyzed

Charles River Watershed Association monitors the water quality of the Charles River, and reports water quality results on a monthly basis. Data is available at [www.crwa.org](http://www.crwa.org). Data summary for calendar year 2003 is attached, and includes Fecal Coliform Bacteria (#/100 mL) and Escherichia Coli (E. Coli) Bacteria (#/100 mL), for sampling sites along the Charles River.

#### Part V. Program Outputs & Accomplishments (OPTIONAL)

##### Programmatic

|                                                                      |       |           |
|----------------------------------------------------------------------|-------|-----------|
| Stormwater management position created/staffed                       | (y/n) | N         |
| Annual program budget/expenditures (catch basin cleaning + material) | (\$)  | \$100,000 |
|                                                                      |       |           |
|                                                                      |       |           |

##### Education, Involvement, and Training

|                                                                         |                          |           |
|-------------------------------------------------------------------------|--------------------------|-----------|
| Estimated number of residents reached by education program(s)           | (# or %)                 | unknown   |
| Stormwater management committee established                             | (y/n)                    | Y         |
| Stream teams established or supported                                   | (# or y/n)               | N         |
| Shoreline clean-up participation or quantity of shoreline miles cleaned | (y/n or mi.)             | Y, 1 mile |
| Household Hazardous Waste Collection Days                               |                          |           |
| ▪ days sponsored                                                        | (#)                      | 6         |
| ▪ community participation                                               | (%)                      | 5%        |
| ▪ material collected                                                    | (tons <del>or</del> gal) | 875       |
| School curricula implemented                                            | (y/n)                    | N         |
|                                                                         |                          |           |
|                                                                         |                          |           |

## Legal/Regulatory

| Regulatory Mechanism Status (indicate with "X")    | In Place<br>Prior to<br>Phase II | Under<br>Review | Drafted | Adopted |
|----------------------------------------------------|----------------------------------|-----------------|---------|---------|
|                                                    |                                  |                 |         |         |
| ▪ Illicit Discharge Detection & Elimination        |                                  | X               |         |         |
| ▪ Erosion & Sediment Control                       |                                  | X               |         |         |
| ▪ Post-Development Stormwater Management           |                                  | X               |         |         |
| Accompanying Regulation Status (indicate with "X") |                                  |                 |         |         |
| ▪ Illicit Discharge Detection & Elimination        |                                  | X               |         |         |
| ▪ Erosion & Sediment Control                       |                                  | X               |         |         |
| ▪ Post-Development Stormwater Management           |                                  | X               |         |         |

## Mapping and Illicit Discharges

|                                                                               |            |       |
|-------------------------------------------------------------------------------|------------|-------|
| Outfall mapping complete (last completed in 1997, to be verified summer 2004) | (%)        | 0     |
| Estimated or actual number of outfalls (Charles River)                        | (#)        | 86    |
| System-Wide mapping complete                                                  | (%)        | 100%  |
| Mapping method(s)                                                             |            |       |
| ▪ Paper/Mylar                                                                 | (%)        | 0     |
| ▪ CADD                                                                        | (%)        | 0     |
| ▪ GIS                                                                         | (%)        | 100%  |
| Outfalls inspected/screened (summer 2004)                                     | (# or %)   | 0     |
| Illicit discharges identified                                                 | (#)        | 0     |
| Illicit connections removed                                                   | (#)        | 0     |
|                                                                               | (est. gpd) |       |
| % of population on sewer                                                      | (%)        | 98.5% |
| % of population on septic systems                                             | (%)        | 1.5%  |
|                                                                               |            |       |
|                                                                               |            |       |

## Construction

|                                                                                                   |            |      |
|---------------------------------------------------------------------------------------------------|------------|------|
| Number of construction starts (>1-acre)                                                           | (#)        | 5    |
| Estimated percentage of construction starts adequately regulated for erosion and sediment control | (%)        | 100% |
| Site inspections completed                                                                        | (# or %)   | 100% |
| Tickets/Stop work orders issued                                                                   | (# or %)   | 0    |
| Fines collected                                                                                   | (# and \$) | 0    |
| Complaints/concerns received from public                                                          | (#)        | 30   |
|                                                                                                   |            |      |
|                                                                                                   |            |      |

## Post-Development Stormwater Management

|                                                                                                                          |          |         |
|--------------------------------------------------------------------------------------------------------------------------|----------|---------|
| Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control | (%)      | 100%    |
| Site inspections completed                                                                                               | (# or %) | 100%    |
| Estimated volume of stormwater recharged                                                                                 | (gpy)    | unknown |
|                                                                                                                          |          |         |
|                                                                                                                          |          |         |

## Operations and Maintenance

|                                                                                                |                |                    |
|------------------------------------------------------------------------------------------------|----------------|--------------------|
| Average frequency of catch basin cleaning (non-commercial/non-arterial streets)                | (times/yr)     | once per two years |
| Average frequency of catch basin cleaning (commercial/arterial or other critical streets)      | (times/yr)     | once per two years |
| Total number of structures cleaned                                                             | (#)            | 6,000              |
| Storm drain cleaned                                                                            | (LF or mi.)    | 10,000 lf          |
| Qty. of screenings/debris removed from storm sewer infrastructure                              | (lbs. or tons) | 1,900 cy           |
| Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.) |                | offsite            |
| Cost of screenings disposal (catch basin cleaning, included in cost)                           | (\$)           | \$71,000           |
|                                                                                                |                |                    |
|                                                                                                |                |                    |

|                                                                                      |                |         |
|--------------------------------------------------------------------------------------|----------------|---------|
| Average frequency of street sweeping (non-commercial/non-arterial streets)           | (times/yr)     | 5       |
| Average frequency of street sweeping (commercial/arterial or other critical streets) | (times/yr)     | 5       |
| Qty. of sand/debris collected by sweeping                                            | (lbs. or tons) | unknown |
| Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)                | (location)     | offsite |
| Cost of sweepings disposal                                                           | (\$)           | 0       |
| Vacuum street sweepers purchased/leased                                              | (#)            | 6       |
| Vacuum street sweepers specified in contracts                                        | (y/n)          | 0       |
|                                                                                      |                |         |
|                                                                                      |                |         |

|                                                                                        |             |   |
|----------------------------------------------------------------------------------------|-------------|---|
| Reduction in application on public land of: ("N/A" = never used; "100%" = elimination) |             |   |
| ▪ Fertilizers                                                                          | (lbs. or %) | * |
| ▪ Herbicides                                                                           | (lbs. or %) | * |
| ▪ Pesticides                                                                           | (lbs. or %) | * |
| * See attached Table of application rates.                                             |             |   |
|                                                                                        |             |   |

|                                                          |             |                     |         |
|----------------------------------------------------------|-------------|---------------------|---------|
| Anti-/De-Icing products and ratios                       |             | % NaCl              | 97%     |
|                                                          |             | % CaCl <sub>2</sub> | 1%      |
|                                                          |             | % MgCl <sub>2</sub> | 0       |
|                                                          |             | % CMA               | 0       |
|                                                          |             | % Kac               | 0       |
|                                                          |             | % KCl               | 0       |
|                                                          |             | % Sand              | 2%      |
| Pre-wetting techniques utilized                          | (y/n)       |                     | N       |
| Manual control spreaders used                            | (y/n)       |                     | N       |
| Automatic or Zero-velocity spreaders used                | (y/n)       |                     | Y       |
| Estimated net reduction in typical year salt application | (lbs. or %) |                     | unknown |
| Salt pile(s) covered in storage shed(s)                  | (y/n)       |                     | Y       |
| Storage shed(s) in design or under construction          | (y/n)       |                     | N       |
|                                                          |             |                     |         |

2003 Fertilizer and Pesticide Amounts  
Department of Parks and Recreation  
City of Newton

There have been 6 fertilizer applications made in the 2004 FY. The fertilizer analysis, application rate, bags/acre, tonage, acreage, and dates are as follows:

| FERTILIZER         | APPLICATION RATE                 | BAGS/ACRE | TONS         | ACRES | DATE          |
|--------------------|----------------------------------|-----------|--------------|-------|---------------|
| 1. 10-2-8          | 1 lbs. Nitrogen/1000 sq. ft.     | 10        | 21.25 tons   | 85    | June 2003     |
| 2. 10-2-8          | .75 lbs. Nitrogen/1000 sq. ft.   | 7.5       | 15.9375 tons | 85    | August 2003   |
| 3. 8-5-5           | 1 lbs. Nitrogen/1000 sq. ft.     | 12.5      | 26.5625 tons | 85    | November 2003 |
| 4. 0-0-50          | 1.15 lbs. Potassium/1000 sq. ft. | 2         | 4.25 tons    | 85    | November 2003 |
| 5. Pelletized lime | 1000 lbs./acre                   | 20        | 4.5 tons     | 9     | November 2003 |
| 6. 15-2-8          | 1 lbs. Nitrogen/1000 sq. ft.     | 6.67      | 14.5 tons    | 87    | April 2004    |

Each fertilizer is all natural and organic. All bags are 50 pounds.

One pesticide application occurred at two locations: Newton South High School Football Field (1 acre) and the Russ Halloran Sports Complex (4 acres).

| HERBICIDE                         | APPLICATION RATE     | AMOUNT USED      | ACRES | DATE    |
|-----------------------------------|----------------------|------------------|-------|---------|
| 1. Drive 75DF Herbicide           | 1 lb./acre           | 5 lbs.           | 5     | 7/31/03 |
| 2. Power Zone Broadleaf Herbicide | 80 fluid ounces/acre | 400 fluid ounces | 5     | 7/31/03 |

This pesticide application occurred with the approval of the City of Newton Integrated Pest Management Commission and was in non regulated area for the Conservation Commission.

## Charles River Monthly Water Quality Sampling Data 2003 and 2004

## Fecal Coliform Bacteria (#/100 mL)

For years 1995-2001 in a Microsoft Excel Spreadsheet click here.

| Site # | Description                     | Town            | River mile | 1/21/03* | 02/11/03* | 3/18/03 | 4/15/03 | 5/20/03 | 6/10/03 | 7/15/03 | 8/19/03* | 9/16/03* | 10/21/03* | 11/11/03* |
|--------|---------------------------------|-----------------|------------|----------|-----------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|
| 35CS   | Central Street Bridge           | Milford         | 3.5        |          |           | <10     | 20      | 200     | 110     | 1100    |          |          |           |           |
| 35CD   | Discharge Pipe @ Central St     | Milford         | 3.5        |          |           | 1800    | 1800    | 290     | 540     | 2000    |          |          |           |           |
| 35C2   | 2nd Discharge Pipe @ Central St | Milford         | 3.5        |          |           |         |         | <10     |         |         |          |          |           |           |
| 59CS   | Mellen St. Bridge               | Bellingham      | 5.9        |          |           | 225 (a) | 70      |         | 120     | 170     |          |          |           |           |
| 90CS   | Rt. 126, N. Main St.            | Bellingham      | 9.0        |          |           | 10 (a)  | 10      | 20      | 220     | 280     |          |          |           |           |
| 13CS   | Maple St. Bridge                | Bellingham      | 12.9       |          |           | 10      | 8 (a)   | 20      | 50      | 30      |          |          |           |           |
| 165S   | Shaw St. Bridge                 | Franklin        | 16.5       |          |           |         |         |         |         |         |          |          |           |           |
| 199S   | Populatic Pond Boat Launch      | Norfolk         | 19.9       |          |           |         |         | 20      | 90      |         |          |          |           |           |
| 229S   | Rt. 115, Baltimore St.          | Norfolk/Milllis | 22.9       |          |           | 60      | 40      | 60      | 130 (a) | 80      |          |          |           |           |
| 267S   | Dwight St. Bridge               | Millis          | 26.7       |          |           |         |         |         |         |         |          |          |           |           |
| 269T   | Causeway St. Stop River         | Medfield        | 26.9       |          |           |         |         |         |         |         |          |          |           |           |
| 290S   | Old Bridge St.                  | Medfield        | 29.0       |          |           | 10      | <10     | 50      | 70      | 20      |          |          |           |           |
| 318S   | Rt. 27 Bridge                   | Medfield        | 31.8       |          |           | 50      | <10     | <10     | 50      | 50      |          |          |           |           |
| 343S   | Farm Rd./Bridge St.             | Sherborn/Dover  | 34.3       |          |           |         |         |         |         |         |          |          |           |           |

|      |                                    |           |      |
|------|------------------------------------|-----------|------|
| 387S | Cheney Bridge                      | Wellesley | 38.7 |
| 400S | Charles River Road Bridge          | Dover     | 40.0 |
| 447S | Dover Gage                         | Dover     | 44.7 |
| 484S | Dedham Medical Center              | Dedham    | 48.4 |
| 521S | Ames St. Bridge                    | Dedham    | 52.1 |
| 534S | Rt. 109 Bridge                     | Dedham    | 53.4 |
| 567S | Nahanton Park                      | Newton    | 56.7 |
| 591S | Rt. 9 Gaging Station               | Newton    | 59.1 |
| 609S | Washington St. Hunnewell Bridge    | Wellesley | 60.9 |
| 621S | Leo J. Martin Golf Course/Park Rd. | Weston    | 62.1 |
| 635S | 2391 Commonwealth Ave.             | Newton    | 63.5 |
| 648S | Lakes Region                       | Waltham   | 64.8 |
| 662S | Moody St. Bridge                   | Waltham   | 66.2 |
| 675S | North St.                          | Waltham   | 67.6 |
| 012S | Watertown Dam Footbridge           | Watertown | 69.3 |
| 700S | N. Beacon St.                      | Newton    | 70.9 |
| 715S | Arsenal St.                        | Brighton  | 71.5 |
| 729S | Eliot Bridge                       | Cambridge | 72.9 |
| 743S | Western Ave                        | Cambridge | 74.3 |

|     |     |        |     |        |
|-----|-----|--------|-----|--------|
| 10  | 30  | 85 (a) | 40  | 120    |
|     |     |        |     |        |
|     |     | 10     | 80  | 55 (a) |
| 40  | 10  | 40     | 50  | 40     |
|     |     |        |     |        |
| <10 | 30  | 30     | 50  | 100    |
|     |     | 20     |     |        |
|     |     |        |     |        |
| 50  | 20  | 130    | 100 |        |
|     |     |        |     |        |
|     | <10 | 60     | 170 | 270    |
|     |     |        |     |        |
| <10 | 10  | 20     | 100 | 280    |
|     |     |        |     |        |
| 70  | 10  | 260    | 210 | 840    |
|     |     |        |     |        |
| 130 | 90  |        | 280 | 670    |
|     |     |        |     |        |
| 160 | 50  | 30     | 360 | 250    |

|      |                              |        |      |
|------|------------------------------|--------|------|
| 760S | Muddy River at Comm. Ave.    | Boston | 76.0 |
| 763S | Mass. Ave. at Harvard Bridge | Boston | 76.3 |
| 773S | Longfellow Bridge            | Boston | 77.3 |
| 784S | New Charles River Dam        | Boston | 78.4 |

**QA/QC Samples**

|                 |
|-----------------|
| Equipment Blank |
| Site No.        |
| Equipment Blank |
| Site No.        |

**Rainfall At Logan International Airport (inches)**

|                          |
|--------------------------|
| 3 Days Prior to Sampling |
| 2 Days Prior to Sampling |
| 1 Day Prior to Sampling  |
| Day of Sampling          |

\* January and February sampling was cancelled due to harsh, frozen temperatures, frozen river, and inaccessible sampling sites. August, September, and October samples were cancelled due to laboratory shutdown.

(a) Average of duplicates

(b) No sampling was conducted during these months because the river was frozen.

|      |      |     |     |     |
|------|------|-----|-----|-----|
| 1300 | 1000 | 130 | 190 | 180 |
| 200  | 100  | 30  | 260 | 140 |

|     |     |    |     |     |
|-----|-----|----|-----|-----|
| 160 | 200 | 10 | 160 | 100 |
|-----|-----|----|-----|-----|

|      |      |      |      |      |
|------|------|------|------|------|
| <1   | <1   | <1   | <1   | <1   |
| 229S | 715S | 567S | 763S | 387S |

&lt;1

743S

|   |      |   |   |       |
|---|------|---|---|-------|
| 0 | 0.45 | 0 | 0 | trace |
| 0 | 0    | 0 | 0 | 0     |
| 0 | 0    | 0 | 0 | 0     |
| 0 | 0    | 0 | 0 | 0     |

## Charles River Monthly Water Quality Sampling Data 2003

## Escherichia Coli (E. coli) Bacteria (#/100 mL)

| Site # | Description                     | Town           | River mile | 1/21/03* | 2/11/03* | 3/18/03 | 4/15/03 | 5/20/03 | 6/10/03 | 7/15/03 | 8/19/03 | 9/16/03 | 10/21/03 | 11/18/03 | 12/16/03 |
|--------|---------------------------------|----------------|------------|----------|----------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|
| 35CS   | Central Street Bridge           | Milford        | 3.5        |          |          | 10      | 40      | 180     | 30      | 1200    |         | 13900   | 690      | 160      | 70       |
| 35CD   | Discharge Pipe @ Central St     | Milford        | 3.5        |          |          | 1300    | 2400    | 220     | 360     | 1400    |         | 1280    | 580      | 2000     | 2700     |
| 35C2   | 2nd Discharge Pipe @ Central St | Milford        | 3.5        |          |          |         |         | <10     | 230     |         |         |         | 630      | 1670     |          |
| 59CS   | Mellen St. Bridge               | Bellingham     | 5.9        |          |          | 355 (a) | 130     |         | 50      | 120     | 2180    |         | 310      | 1790     | 270      |
| 90CS   | Rt. 126, N. Main St.            | Bellingham     | 9.0        |          |          | 12 (a)  | 10      | 30      | 120     | 200     | 190     | 12000   | 30       | 60       | 480      |
| 13CS   | Maple St. Bridge                | Bellingham     | 12.9       |          |          | 10      | <10 (a) | <10     | 40      | 60      | 20      | 1440    | 10       | 10       | 100      |
| 165S   | Shaw St. Bridge                 | Franklin       | 16.5       |          |          |         | 20      | 90      |         | 470     | 1440    | 6280    | 10       | 50       | 90       |
| 199S   | Populatic Pond Boat Launch      | Norfolk        | 19.9       |          |          |         |         | 10      | 90      |         | 180     | 240     |          |          |          |
| 229S   | Rt. 115, Baltimore St.          | Norfolk/Millis | 22.9       |          |          | 40      | 10      | 50      | 145 (a) | 30      | 220     |         | 100      | 10       |          |
| 267S   | Dwight St. Bridge               | Millis         | 26.7       |          |          |         |         | 30      | 130     | 60      |         | 375 (a) | 20       | 30       |          |
| 269T   | Causeway St. Stop River         | Medfield       | 26.9       |          |          | <10     | <10     | 40      | 20      | 40      | 40      | 1020    |          |          |          |
| 290S   | Old Bridge St.                  | Medfield       | 29.0       |          |          | <10     | 10      | 20      | 10      | 10      | 50      | 60      | 15 (a)   | 30       | 220      |
| 318S   | Rt. 27 Bridge                   | Medfield       | 31.8       |          |          | 10      | <10     | 20      | 40      | 30      | 55 (a)  | 90      |          | 20       |          |
| 343S   | Farm Rd./Bridge St.             | Sherborn/Dover | 34.3       |          |          | 20      | <10     | 20      | 20      |         |         | 110     |          |          | 240      |
| 387S   | Cheney Bridge                   | Wellesley      | 38.7       |          |          | 40      | <10     | 130 (a) | 50      | 50      | 40      | 250     | 20       |          |          |

|      |                                    |           |      |
|------|------------------------------------|-----------|------|
| 400S | Charles River Road Bridge          | Dover     | 40.0 |
| 447S | Dover Gage                         | Dover     | 44.7 |
| 484S | Dedham Medical Center              | Dedham    | 48.4 |
| 521S | Ames St. Bridge                    | Dedham    | 52.1 |
| 534S | Rt. 109 Bridge                     | Dedham    | 53.4 |
| 567S | Nahanton Park                      | Newton    | 56.7 |
| 591S | Rt. 9 Gaging Station               | Newton    | 59.1 |
| 609S | Washington St. Hunnewell Bridge    | Wellesley | 60.9 |
| 621S | Leo J. Martin Golf Course/Park Rd. | Weston    | 62.1 |
| 635S | 2391 Commonwealth Ave.             | Newton    | 63.5 |
| 648S | Lakes Region                       | Waltham   | 64.8 |
| 662S | Moody St. Bridge                   | Waltham   | 66.2 |
| 675S | North St.                          | Waltham   | 67.6 |
| 012S | Watertown Dam Footbridge           | Watertown | 69.3 |
| 700S | N. Beacon St.                      | Newton    | 70.9 |
| 715S | Arsenal St.                        | Brighton  | 71.5 |
| 729S | Eliot Bridge                       | Cambridge | 72.9 |
| 743S | Western Ave                        | Cambridge | 74.3 |

|     |       |        |        |        |        |      |         |      |
|-----|-------|--------|--------|--------|--------|------|---------|------|
| 40  | 8 (a) | 40     | 60     | 210    | 110    | 160  |         | 20   |
|     |       | <10    | 70     | 40 (a) | 30     | 260  | 20      | 30   |
| 10  | 10    | 70     | 10     | 50     | 140    | 280  | 30      | 10   |
| <10 | 20    | 35 (a) | 30     | 50     | 380    | 20   | 10      | <10  |
| 20  | 10    | 30     | 30 (a) | 30     | 50     | 30   |         | <10  |
| 20  | 20    | <10    | 50     | 15 (a) | 50     | 10   | 10      |      |
|     |       | 10     | 80     | 210    | 40 (a) | 290  | <10     | 40   |
|     | 50    | 120    | 90     | 150    | 110    | 1180 | 20      | 40   |
| 10  | 30    | 60     |        | 150    | 130    | 360  | <10 (a) | 60   |
|     | 20    | 60     | 170    | 180    | 940    |      | <10     | 50   |
|     |       | <10    | 50     | 80     |        |      | <10     | 80   |
| <10 | 30    | 50     | 50     | 240    | 50     | 80   | 30      | 60   |
| 20  | 30    | 40     | 110    | 250    | 220    | 1480 | 110     | 50   |
| 40  | 20    | 300    | 210    | 250    | 280    | 1240 | 60      | 120  |
| 80  | 40    | 180    |        | 380    | 790    | 310  | 330     | 230  |
| 20  | 80    |        | 350    | 530    | 3170   |      | 220     | 1860 |
| 130 | 20    | 50     | 240    | 190    | 220    | 90   | 250     |      |
| 100 | 40    | 20     | 210    | 130    | 100    | 60   | 70      | 280  |
|     |       |        |        |        |        |      |         | 650  |

|                      |                              |        |      |
|----------------------|------------------------------|--------|------|
| 760S                 | Muddy River at Comm. Ave.    | Boston | 76.0 |
| 763S                 | Mass. Ave. at Harvard Bridge | Boston | 76.3 |
| 773S                 | Longfellow Bridge            | Boston | 77.3 |
| 784S                 | New Charles River Dam        | Boston | 78.4 |
| <b>QA/QC Samples</b> |                              |        |      |

Equipment Blank

Site No.

Equipment Blank

Site No.

### Rainfall At Logan International Airport (inches)

3 Days Prior to Sampling

2 Days Prior to Sampling

1 Day Prior to Sampling

Day of Sampling

Samples are analyzed at MWRA Central Laboratory.

\* Sampling was cancelled due to harsh, freezing temperatures, frozen river and inaccessible sampling sites.

(a) Average of duplicates

|      |      |     |     |     |     |      |     |     |      |
|------|------|-----|-----|-----|-----|------|-----|-----|------|
| 1300 | 1140 | 110 | 150 | 100 | 200 | 5200 | 340 | 100 | 3500 |
| 140  | 160  | 10  | 180 | 30  | 70  | 30   | 400 | 250 |      |
| 70   | 120  | 170 | 120 | 50  | <10 | 10   | 350 | 150 | 970  |
| 110  | 140  | 10  | 60  | 60  | <10 | 30   | 20  | 120 |      |

|      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|
| <1   | <1   | <1   | <1   | <1   | <1   | 3    | <1   | <1   | <10  |
| 229S | 269T | 567S | 343S | 387S | 784S | 447S | 59CS | 90CS | 130C |
| <1   | <1   | <1   | <1   | <1   |      | 30   | <1   | <1   | <10  |
| 743S | 715S | 700S | 763S | 773S |      | 35CS | 484S |      | 534S |

|   |      |   |   |       |       |      |       |      |      |
|---|------|---|---|-------|-------|------|-------|------|------|
| 0 | 0.45 | 0 | 0 | trace | trace | 0.53 | 0.05  | 0.03 | 0    |
| 0 | 0    | 0 | 0 | 0     | 0.03  | 0    | trace | 0    | 0.66 |
| 0 | 0    | 0 | 0 | 0     | trace | 0    | 0     | 0    | 0.82 |
| 0 | 0    | 0 | 0 | 0     | 0     | 0.2  | 0.02  | 0    | 0    |