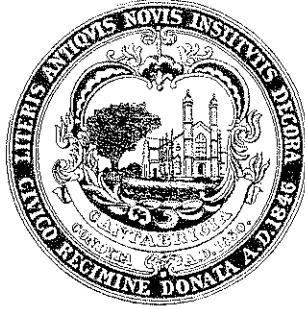




CITY OF CAMBRIDGE
Cambridge Water Department
250 Fresh Pond Parkway
Cambridge, MA 02138

December 21, 2009

US EPA Region 1
PWTF GP Processing
Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Mass DEP
Division of Watershed Management
627 Main Street, 2'nd floor
Worcester, MA 01608

Re: Potable Water Treatment Facility General Permit
Notice of Intent
Walter J. Sullivan Water Purification Plant
City of Cambridge

Dear Sirs:

Attached is the City of Cambridge Water Department Notice of Intent (NOI) to continue discharging wastewater under NPDES General Permit No. MAG640000.

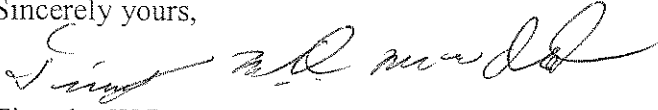
The following documents are also included as backup to the NOI:

- 1997 DEP Transmittal Form (#116280) for previous application.
- USGS location map.
- Process Flow Schematic.
- 2009 NOI data summary including required Aluminum data.
- 2001 Whole Effluent Toxicity summary.
- NOI section D. Endangered Species Act Eligibility work sheet.
- NOI section F. National Historic Properties Act Eligibility worksheet/map.

- Massachusetts Historical Commission "Project Notification Form" and cover letter.

If you have any questions about this Potable Water treatment Facility General Permit Notice of intent please call me at 617-349-4773 or email me at tmacdonald@cambridgema.gov. Thank you for your consideration.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Tim W.D. MacDonald", written in a cursive style.

Timothy W.D. MacDonald
Manager of Water Operations

**APPENDIX IV
NOTICE OF INTENT INSTRUCTIONS
AND SUGGESTED FORMS**

I. Notice of Intent (NOI) Instructions

A. Required Information

In order to be covered by the Potable Water Treatment Facility General Permit (PWTF GP) applicants must submit a written NOI to EPA and the appropriate state agency. The NOI consists of either the suggested NOI form included in this Appendix or another form of official correspondence that contains all of the required information listed in the General Permit and the suggested NOI form.

B. Signature Requirements

The Notice of Intent must be signed and dated in accordance with the signatory requirements of 40 CFR Section 122.22, including the certification statement shown on the suggested NOI form.

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively; or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

C. Submission of NOI to EPA

Signed and completed NOI forms and attachments must be submitted to EPA at the address included in Appendix VI. A copy of the NOI form and any additional state required forms must also be submitted to the appropriate state agency at the addresses included in Appendix VI. See Part 4.2 and Appendix VI of the PWTF GP for additional State requirements.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
ONE CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

Request for General Permit Authorization to Discharge Wastewater
(Notice of Intent to be covered by the General Permit (NOI))

Potable Water Treatment Facility (PWTF)
NPDES General Permit No. MAG640000 and NHG640000

A. Facility Information

1. Facility Owner:

Name City of Cambridge e-mail _____
Street/PO Box Cambridge City Hall, 795 Massachusetts Avenue City Cambridge
State MA Zip Code 02139
Contact Person Robert W. Healy, City Manager Telephone Number 617-349-4770

2. Facility Operator (if different from above):

Name Cambridge Water Department e-mail (optional) tmacdonald@cambridgema.gov
Street/PO Box 250 Fresh Pond Parkway City Cambridge
State MA Zip Code 02138
Contact Person Timothy MacDonald Telephone Number 617-349-4773

3. Facility Data (attach topographic map or other map showing facility and discharge location(s)):

Name Walter J. Sullivan Water Purification Facility e-mail (optional) tmacdonald@cambridgema.gov
Street/PO Box 250 Fresh Pond Parkway City Cambridge
State MA Zip Code 02138
Contact Person Timothy MacDonald Telephone Number 617-349-4773
Facility Latitude 42 22' 43" Facility Longitude 71 8' 40"

4. Standard Industrial Classification (SIC Codes) and Descriptions of Processes:

SIC Code(s) _____
Description(s) Dissolved Air Flotation Drinking Water Treatment Plant

5. Current Permitting Status (please check yes or no):

1. Has a prior NPDES permit been granted for the discharge? Yes ☒ (Permit Number: MAG640040)
No _____
2. Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes _____ No ☒
3. Is the facility covered by an individual NPDES permit? Yes _____ (Permit Number _____) No ☒
4. Is there a pending application on file with EPA for this discharge? Yes _____ (Date of submittal: _____)
No ☒

B. Discharge Information

1. Name of Receiving Waterbody Fresh Pond Reservoir
2. Type of Receiving Waterbody (e.g. stream, lake, reservoir, estuary etc) Terminal Reservoir, no natural outlet
3. State Water Quality Classification: Class A Freshwater: _____ Marine Water: _____
4. Describe the discharge activities for which the owner/applicant is seeking coverage, including process discharges not specifically authorized in the PWTF GP which need to be authorized for discharge (and which attain the

effluent limits and other conditions of the general permit). This description should include all treatment methods used on the wastewater prior to discharge including lagoons, baffles, filter presses etc. If lagoons are used at the facility, please include the number and size of lagoons; the size and elevation of the entry pipe; the time of travel from the entry point of the discharge into the lagoon to the entry point to the receiving water; and the length of backwash cycle for any combination of number of filters. (attach extra sheets if necessary):

Discharge of clarified backwash water, two backwashes a day discharge to a holding tank, backwash water pumped in two 6-7 hour cycles to Percson plate settlers treated with a polymer.

Solids discharge to local sewer system (regulated by MWRA sewer use permit), clarified effluent (the regulated NPDES flow) discharged by gravity to Fresh Pond.

Each backwash typically uses 200,000 gallons of water (maximum total NPDES discharge per day: 600,000 gallons).

Overall plant process diagram, facility layout, aerial photo graph, and discharge piping diagram attached.

5. Please provide a diagram depicting the treatment methods, outfalls, and receiving water.

6. Number of outfalls: 1 Latitude and Longitude for each outfall (attach additional pages if necessary)

OUTFALL # Latitude 42 23' 00" Longitude 71 08 40

OUTFALL # Latitude Longitude

For each outfall:

7. What is the proposed sampling location(s) and proposed consistent times of the month for collecting samples:

Sample location, either grab or composite as required by permit, is from the plate settler effluent/overflow channel.

C. Effluent Characteristics

1. List here and attach information on any water additives used at the facility (Including chemicals for pH adjustment, dechlorination, control of biological growth, and control of corrosion and scale in water pipes): Alum, ozone, sodium hypochlorite, aqua ammonia, hydrofluosilicic acid, NaOH (or KOH) are used routinely. Sodium Bisulfate used occasionally for dechlorination.

2. Please report here any known remediation activities or water-quality issues in the vicinity of the discharge.

NA

3. Are aluminum-containing coagulants used at this facility? Yes ☒ No ☐

4. Does the discharge contain residual chlorine? Yes ☒ No ☐

5. Does the facility provide treatment to remove arsenic from the raw water source? Yes ☐ No ☒

6. Are phosphorus-containing chemicals added to the treated water at this facility? Yes ☐ No ☒

7. All applicants must attach a separate sheet listing all laboratory results (minimum of five) for total recoverable aluminum (in micrograms per liter) taken within the last six months. Do not include dilution when recording your results. See Section 4.4.5 of General Permit for more information.

8. Please include the following effluent data for each outfall:

Characteristic (report if measured)	Average Monthly	Maximum Daily
Discharge Flow (gpd)	550000	680000
TSS (mg/l)	5.75	17
pH (s.u.)	(min) 6.2	(max) 6.8
Total Recoverable Aluminum (ug/l)	1410	1800
Total Residual Chlorine (ug/l)	40	90

(continued on next page) Data summary attached including Al data (item 7 above).

8. Continued

Characteristic (report if measured)

Whole Effluent Toxicity (%)

LC50 2001 data attached and/or C-NOEC _____

9. If the discharge contains aluminum and/or residual chlorine, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water, the dilution factor, and attach any calculations used to support stream flow and dilution calculations (See Appendix VII for dilution calculations and additional information):

7Q10 _____ cfs

Dilution Factor 10/1 pending USGS study & CWD review cfs

D. Endangered Species Act Eligibility

1. Using the instructions in Appendix I of the PWTF GP, under which criterion listed in Part II are you eligible for coverage under this general permit?

A ☒ B _____ C _____ D _____ E _____ F _____

2. If you selected criteria D or F, has consultation with the federal services been completed? Yes _____ No _____

3. If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received? Yes _____ No _____

4. Attach documentation of ESA eligibility as described below and required at Part 3.4.1 and Appendix I, Part III, Step 4, of the General Permit.

Criterion A - *No federally-listed threatened or endangered species or federally-designated critical habitat are present:* A copy of the most current county species list pages for the county(ies) where your site or facility and discharges are located. You must also include a statement on how you determined that no listed species or critical habitat are in proximity to your site or facility or discharge locations.

Criterion B - *Section 7 consultation completed with the Service(s) on a prior project:* A copy of the USFWS's and/or NMFS's, as appropriate, biological opinion or concurrence on a finding of "unlikely to adversely effect" regarding the ESA Section 7 consultation.

Criterion C - *Activities are covered by a Section 10 Permit:* A copy of the USFWS's and/or the NMFS's, as appropriate, letter transmitting the ESA Section 10 authorization.

Criterion D - *Concurrence from the Service(s) that the discharge is "not likely to adversely affect" federally-listed species or federally-designated critical habitat (not including the four species of concern identified in Section I of Appendix I):* A copy of the USFWS's and/or the NMFS's, as appropriate, letter or memorandum concluding that the discharge is consistent with the general permit's "not likely to adversely affect" determination.

Criterion E - *Activities are covered by certification of eligibility:* A copy of the documents originally used by the other operator of your site or facility (or area including your site) to satisfy the documentation requirement of Criteria A, B, C or D.

Criterion F - *Concurrence from the Service(s) that the discharge is "not likely to adversely affect" species of concern, as identified in Section I of Appendix I:* A copy of the USFWS and/or the NMFS, as appropriate, concurrence with the applicant's determination that the discharge is "not likely to adversely affect" listed species.

E. National Historic Properties Act Eligibility

1. Using the instructions in Appendix III of the PWTF GP, under which criterion listed in Part III are you eligible for coverage under this general permit?

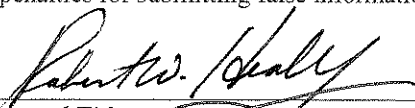
1 ☒ 2 _____ 3 _____

2. Have any State or Tribal historic preservation officers been consulted in this determination? Yes ☒ No _____
If yes, attach the results of the consultation(s).

F. Certification

I certify that the discharge for which I am seeking coverage under the general permit consists solely of a surface water discharge from a potable water treatment facility. 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 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



Date

12/21/09

Printed Name and Title Robert W. Healy, City Manager

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

Note: Permits No. MAG640000 and NHG640000 may be found at www.epa.gov/region1/npdes/pwtfgp.html

Transmittal Form for Application
and Payment

For DEP Use Only

Permit No. _____

Received Date _____

Reviewer _____

Permit ☐ Appr. ☐ Denied

Decision Date _____

116280

Transmittal #

Facility ID (if known)

A Application Information

B R P W M 1 3

Permit, Approval or Other Category (seven character code from the from the first page of the directions on How to Apply). Examples: BWPAQ01, BRPWP01, etc.

Request for General Permit Coverage - Surface Water Discharge from a Water Treatment Facility

Category Name

Cambridge Water Purification Plant

Brief Project Description

B Applicant or Legally Responsible Official

Cambridge Water Department

Last Name

First Name

Middle Initial

250 Fresh Pond Parkway

Address

Cambridge

MA

02138

(617) 349 - 4770 ext.

City/Town

State

Zip Code

Telephone Number (including area code and extension)

Michael Nicoloso

Contact

C Facility, Site or Individual Requiring Approval

Cambridge Water Purification Plant

Name of Facility, Site or Individual

250 Fresh Pond Parkway

Address

Cambridge

MA

02138

(617) 349 - 4770 ext.

City/Town

State

Zip Code

Telephone Number (including area code and extension)

D Application Prepared By (if different from section B)

Camp Gresser and McKee Inc.

Last Name

First Name

Middle Initial

Ten Cambridge Center

Address

Cambridge

MA

02142

(617) 252 - 8000 ext.

City/Town

State

Zip Code

Telephone Number (including area code and extension)

Jane W. Wheeler

Contact

LSP Number (for 21E only)

E Other Related Permits: If you are applying for other permits related to this application, please list them below.

Transmittal No.	Category	Description
106265	BRP WP 39	Water Quality Certification

F Amount DueSpecial Provisions: ☒ Fee Exempt* (city, town, district, or municipal housing authority) (state agency if permit fee is \$100 or less)☐ Hardship Request (payment extension according to 310 CMR 4.04(3)(c))☐ Alternative Schedule Project Request (according to 310 CMR 4.05 and 4.10)

* There are no fee exemptions for 21E sites, regardless of the applicant's status.

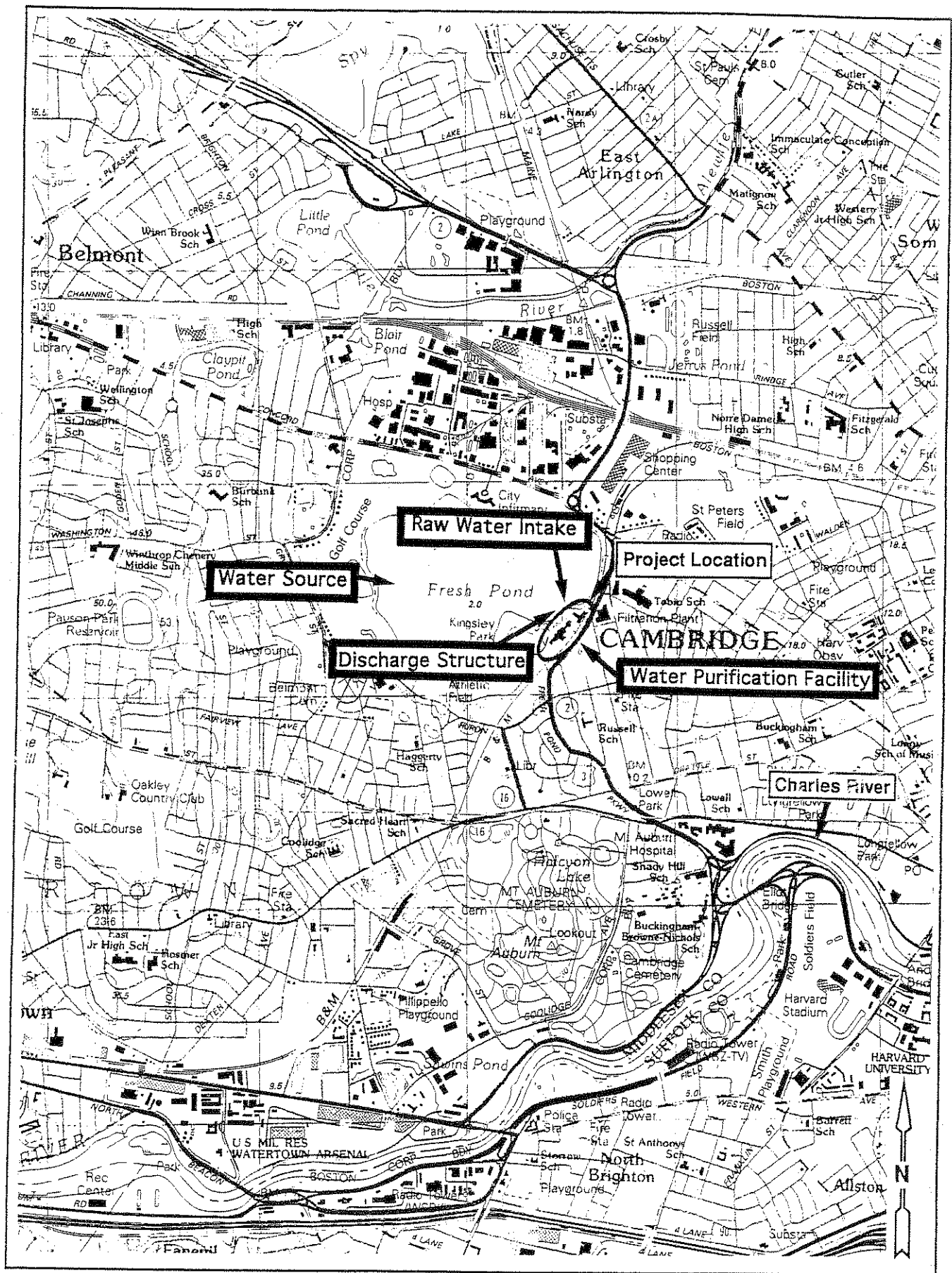
Check No. _____ Dollar Amount \$ _____ Date _____

Make check payable to **Commonwealth of Massachusetts**. Please mail check and **yellow** copy of Transmittal Form to:
Department of Environmental Protection, P.O. Box 4062, Boston, MA, 02211.

INSTRUCTIONS

1. Please type or print. Use a separate Transmittal Form for each application.

2. Use an **original**, 3-part Transmittal Form for each application. Photocopies **will not** be accepted for any application or payment. (You may use photocopies for reserve location, where applicable.)3. Make check payable to **Commonwealth of Massachusetts**. Please mail check and **yellow** copy of Transmittal Form to: Department of Environmental Protection, P.O. Box 4062, Boston, MA, 02211.4. Both fee exempt and non-exempt applicants **must mail yellow copy** of Transmittal Form to: Department of Environmental Protection, P.O. Box 4062, Boston, MA, 02211.

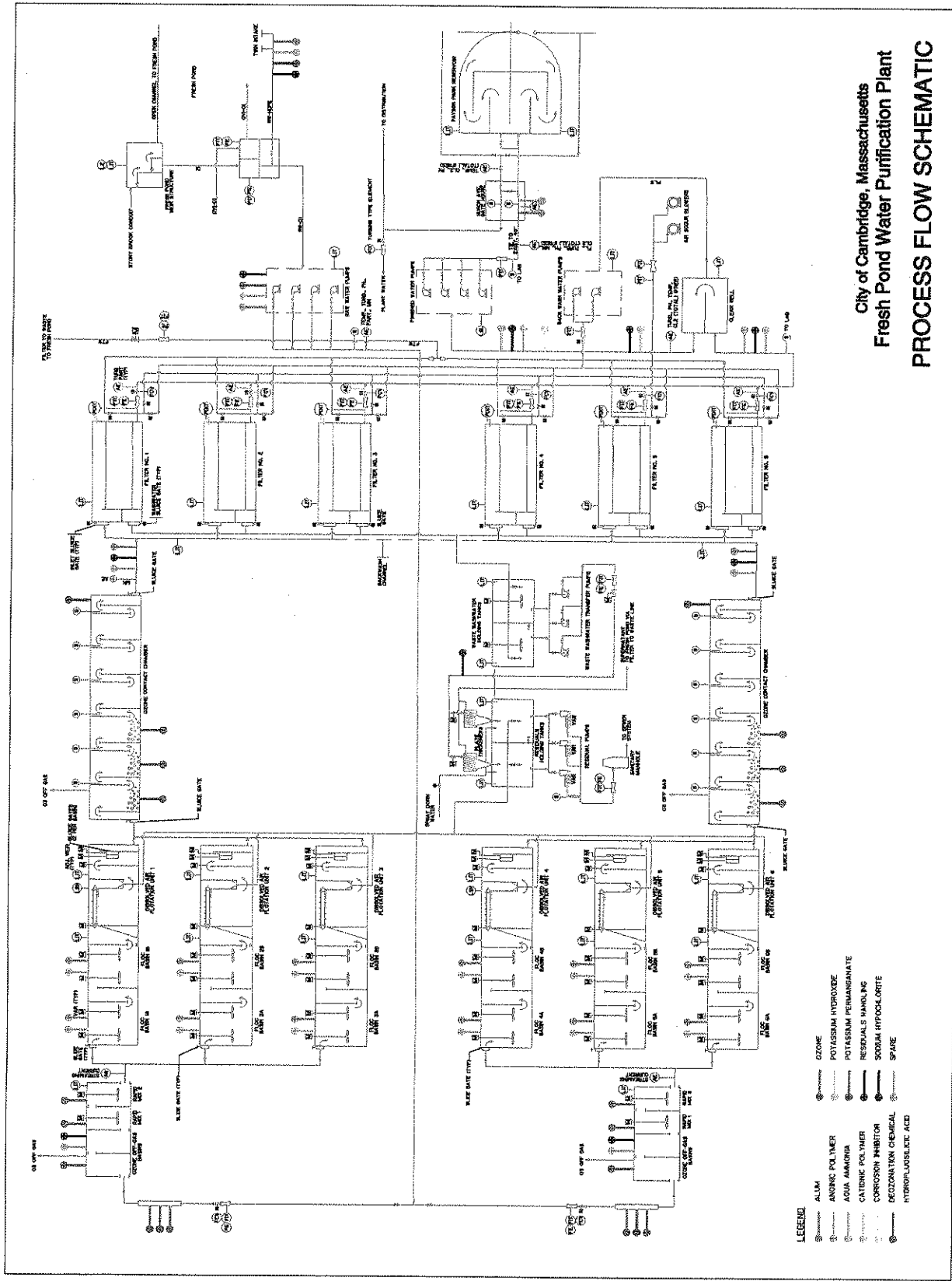


Source: U.S.G.S. Maps Boston North and Boston South (MA) Quadrangles
SCALE 1:25000

Cambridge Water Department
Water Treatment Plant Project

Figure 1
Project Location Map

City of Cambridge, Massachusetts
Fresh Pond Water Purification Plant
PROCESS FLOW SCHEMATIC



Six months of reporting data including six Aluminum samples, methods per NPDES permit requirements.
 April through September 2009 Cambridge NPDES MAG640040

Collection Date	TSS - mg/L	Al - mg/L	pH	Chlor - mg/L	Res.
2nd QTR 2009					
4/1/2009	7.8	1.8	6.29	0.07	
4/6/2009	7.8		6.64	0.02	
4/13/2009	7.5		6.29	0.07	
4/22/2009	6.5		6.4	0.09	
4/27/2009	6.9		6.5	0.08	
5/4/2009	6.1	1.44	6.4	0.04	
5/11/2009	5		6.62	0.04	
5/18/2009	0		6.58	0.03	
5/26/2009	6.3		6.4	0.06	
6/1/2009	6	1.43	6.4	0.03	
6/9/2009	5.2		6.4	0.05	
6/16/2009	0		6.6	0.01	
6/23/2009	0		6.8	0.05	
average	5.99	1.556667	6.486154	0.052727	

TSS - mg/L	Al - mg/L	pH	Chlor - mg/L	Res.
April				
Average	7.3	1.8	6.4	0.07
Min	6.5	1.8	6.3	0.02
Max	7.8	1.8	6.6	0.09
Max Flow	0.46			
May				
Average	4.4	1.4	6.5	0.04
Min	0.0	1.4	6.4	0.03
Max	6.3	1.4	6.6	0.06
Max Flow	0.68			
June				
Average	2.8	1.4	6.6	0.04
Min	0.0	1.4	6.4	0.01
Max	6.0	1.4	6.8	0.05
Max Flow	0.46			

3rd QTR 2009	TSS - mg/L	Al - mg/L	pH	Chlor - mg/L	Res.
7/6/2009	5.2		6.3	0.06	
7/13/2009	0	1.32	6.4	0.03	
7/20/2009	6		6.4	0.03	
7/27/2009	5		6.5	0.02	
8/3/2009	0	1.48	6.2	0.03	
8/10/2009	6		6.4	0.04	
8/17/2009	0		6.59	0.04	
8/24/2009	17		6.4	0.03	
9/2/2009	4	0.98	6.32	0.02	
9/8/2009	7		6.29	0.04	
9/14/2009	9		6.28	0.04	
9/21/2009	7		6.4	0.04	
average	5.516666667	1.26	6.373333	0.035	

TSS - mg/L	Al - mg/L	pH	Chlor - mg/L	Res.
July				
Average	4.1	1.3	6.4	0.04
Min	0.0	1.3	6.3	0.02
Max	6.0	1.3	6.5	0.06
Max Flow	0.50			
August				
Average	5.8	1.5	6.4	0.04
Min	0.0	1.5	6.2	0.03
Max	17.0	1.5	6.6	0.04
Max Flow	0.68			
September				
Average	6.8	1.0	6.3	0.04
Min	4.0	1.0	6.3	0.02
Max	9.0	1.0	6.4	0.04
Max Flow	0.5			
Ave Flow	0.55			

Average Six Month Data	TSS - mg/L	Al - mg/L	pH	Chlor - mg/L	Flow (MGD)
	5.75	1.41	6.43	0.04	0.55

SUMMARY SHEET

Client: Alpha Analytical Laboratories

Project Name: Cambridge Water Department
(Cambridge Water Purification)

NPDES Number: MAG 640040

Job Number: 201-017

Test Number: 21-2247

Test Material: Discharge OO1-T
(NEB Sample ID No. C21-2046)

Sample Dates: 6 August 2001 (0100 h to 2340 h)

Test Dates: 7-9 August 2001

Test Duration: 48-h Static Acute

Test Methods: U.S. Environmental Protection Agency (EPA)
Region I Modified Methods and U.S. EPA,
Methods for Measuring the Acute Toxicity of
Effluents to Freshwater and Marine Organisms
(EPA/600/4-90/027F)

Test Species: Daphnids (Ceriodaphnia dubia)

Lot No.: CD-01-S092 D & MH090 A-D
Age: < 24 h old

Dilution Water: Receiving water

Results: 48-h LC₅₀ and A-NOEC

Daphnids: Ceriodaphnia dubia

LC₅₀: > 100% sample
A-NOEC: 50% sample

INTRODUCTION

This report contains results of a static-acute toxicity test performed with Ceriodaphnia dubia on a composite Discharge 001 sample collected from the Cambridge Water Department on 6 August 2001 (0100 - 2340 h; NEB Sample ID No. C21-2046). The C. dubia static acute toxicity test (NEB Test ID No. 21-2247) was conducted by exposing the daphnid, Ceriodaphnia dubia, to the Cambridge Water Department sample for 48 h. All toxicity test work reported here was performed at New England Bioassay (NEB) in Manchester, CT for Alpha Analytical Laboratories (Westborough, MA).

METHODS

A general summary of the methods used for acute toxicity testing, physical and chemical measurements during testing, and statistical analysis of test results is given in Appendix A.

Sample Collection and Handling

A composite Discharge 001 sample was collected on 6 August 2001 (0100-2340 h; NEB Sample ID No. C21-2046) by Cambridge personnel. The discharge sample was picked up by Alpha personnel and split for chemical analysis and toxicity testing. The sample for toxicity testing was delivered to NEB at 1415 h on 7 August 2001. Copies of chain of custody (COC) forms are found in Appendix B. Chemical analysis was performed by Alpha Analytical Laboratories. Standard wet chemistry analyses [pH, dissolved oxygen, specific conductivity, total residual chlorine (TRC), hardness, and alkalinity] were performed by NEB on the discharge sample upon receipt. Wet chemistry data are provided in Table 1.

TABLE 1. WET CHEMISTRY RESULTS FOR A DISCHARGE 001
SAMPLE COLLECTED ON 6 AUGUST 2001
FROM THE CAMBRIDGE WATER DEPARTMENT

Analysis Performed	Cambridge Water Discharge 001
pH (SU)	6.8
Dissolved oxygen (mg/L)	11.3
Sp. Conductivity (μ mhos/cm)	471
TRC (mg/L)	0.02
Hardness (mg/L as CaCO_3)	70
Alkalinity (mg/L as CaCO_3)	10

The discharge sample from the Cambridge Water Department was tested as is upon receipt. Values for dissolved oxygen, temperature, pH, and specific conductivity measured during testing are given on raw data sheets in Appendix B.

Testing Methods

Test procedures were performed in accordance with the EPA guidance document titled "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" (4th edition, 1993; 600/4-90/027F) as modified by EPA Region I in their Biomonitoring Protocols. The 48-h static-acute toxicity test was initiated on 7 August 2001. The test species was Ceriodaphnia dubia (age: < 24 h old at test initiation). Test organisms were obtained from NEB in-house cultures. Mean and individual test temperatures were $25^\circ \pm 1^\circ\text{C}$ for the C. dubia acute test. The daphnid test contained five animals per replicate with four replicates per concentration; test volume per replicate was 30 mL. To verify sensitivity of laboratory-cultured C. dubia, a sodium chloride reference toxicant test was performed with NEB in-house cultures during the August sample period.

Statistical Analysis

Test data were analyzed for acute effects by determining a 48-h median lethal concentration (LC_{50}) and an acute no-observed-effect concentration (A-NOEC). The LC_{50} is the statistically-estimated effluent concentration at which 50% of the test organisms are killed during the test period; the A-NOEC is the highest effluent concentration at which no statistically-significant ($P > 0.05$) reduction in survival of test organisms is measured when compared with diluent control survival. The LC_{50} was determined by using a computer package provided by the State of Connecticut Department of Environmental Protection (CTDEP). The A-NOEC value was determined by using Fisher's exact test if mortalities occurred during the test in any of the effluent concentrations.

RESULTS

Acute Effluent Toxicity Test

Acute toxicity test results are summarized in Tables 2 and 3. The Cambridge Water Department sample collected on 6 August 2001 demonstrated no measurable acute toxicity to C. dubia in the 6.25% to 50% test concentrations (Fisher's exact test); a significant reduction in survival of daphnids was measured in the 100% test concentration when compared with survival of daphnids in the receiving water (diluent) control. At test completion, survival of C. dubia in the 6.25% to 50% test concentrations was 100%; survival in the 100% undiluted sample was 70% at test completion (Table 3). The 48-h LC_{50} value and A-NOEC for C. dubia were $> 100\%$ and 50% sample, respectively (Table 2). Survival of daphnids in the laboratory water control and receiving water control was 100% after 48 hours. Copies of raw toxicity data sheets are found in Appendix B.

TABLE 2. SUMMARY OF ACUTE TOXICITY TEST RESULTS FOR
A DISCHARGE 001 SAMPLE COLLECTED ON 6 AUGUST
2001 FROM THE CAMBRIDGE WATER DEPARTMENT
(TEST DATES: 7-9 AUGUST 2001;
TEST ID NO. 21-2247)

Test Species	LC ₅₀ (% Effluent)	A-NOEC (% Effluent)	Control Survival (%)
<u>C. dubia</u>	24 h: > 100	100	100
	48 h: > 100	50	100

TABLE 3. Ceriodaphnia dubia SURVIVAL DATA FOR AN
ACUTE TOXICITY TEST WITH A DISCHARGE 001 SAMPLE
COLLECTED FROM THE CAMBRIDGE WATER DEPARTMENT
ON 6 AUGUST 2001 (TEST DATES: 7-9 AUGUST 2001)

Test ID No.	Test Species	Test Concentration (% effluent)	Survival (%)		
			24 h	48 h	Signif. ^a
21-2247	<u>C. dubia</u>	Lab Control	100	100	--
		Dil Control	100	100	--
		6.25	100	100	NS
		12.5	100	100	NS
		25	100	100	NS
		50	100	100	NS
		100	100	70	*

^a Significant survival effects were determined by using Fisher's exact test; NS: not significant ($P > 0.05$); *: significant ($P < 0.05$).

Reference Toxicant Test

The results of the reference toxicant test with sodium chloride demonstrated that the sensitivity of the test organisms was satisfactory. The 48-h survival data generated from an acute NaCl reference toxicant test conducted in August were used to calculate an LC_{50} for C. dubia. The 48-h NaCl LC_{50} was 2.1 g/L NaCl (95% confidence limits of 1.86 to 2.32 g/L; trimmed Spearman Karber method). This LC_{50} is within limits of NEB's cumulative-summation control chart for sodium chloride presented in Table 4. The data summary and statistical printout for the reference toxicant test are located in Appendix C.

TABLE 4. NEW ENGLAND BIOASSAY'S LC_{50} RANGE
FOR THE REFERENCE TOXICANT,
SODIUM CHLORIDE

Test Species	NEB 48-h LC_{50} Range ^a (g/L NaCl)
<u>Ceriodaphnia dubia</u>	1.7 to 3.7

^a LC_{50} range developed from a cumulative-summation control chart (Peltier and Weber, 1985, p. 8-9) for NEB's in-house cultures. (Updated August 2001)

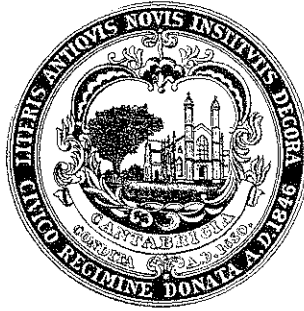
CERTIFICATION

I certify that the acute toxicity test data presented in this report were obtained under my direction or supervision in accordance with protocols of the U.S. Environmental Protection Agency, Region I. The information is, to the best of my knowledge and belief, true, accurate, and complete.



Robin T. Faulk
Assistant Laboratory Director
New England Bioassay


Date/



CITY OF CAMBRIDGE
Cambridge Water Department
250 Fresh Pond Parkway
Cambridge, MA 02138

Endangered Species Act (ESA) Eligibility

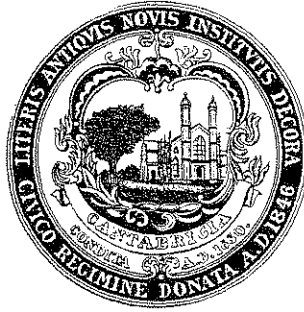
**Cambridge Water Department
NPDES Potable Water Treatment facility General Permit
Notice of Intent (NOI) December 2009**

The Cambridge Water Department (CWD) followed the instructions in Appendix I of the 2009 NOI guidance documents. Based on data provided in Appendix II of the documents CWD meets Criterion A:

No federally-listed threatened or endangered species or their designated critical habitat are likely to occur in the vicinity of the discharge.



Existing NPDES discharge
November 2009 NPDES General Permit Application Historic Properties Requirements Determination of Potential Impact
Cambridge Water Department PW ID# 304900



CITY OF CAMBRIDGE
Cambridge Water Department
250 Fresh Pond Parkway
Cambridge, MA 02138

November 10, 2009

Secretary of the Commonwealth
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125-3314

Re: Project Notification Form
Cambridge Water Department
US EPA NPDES Permit renewal
Notice of Intent (NOI)
Historical Review

Dear Secretary:

The Cambridge Water Department is currently preparing to submit a Notice of Intent (NOI) to renew our permit to discharge clarified backwash water from our treatment plant into Fresh Pond. We believe that this existing discharge has no impacts on historic properties.

We are submitting the attached Project Notification Form for your review and concordance with our determination of "no impact". Our NOI due date is December 31, 2009. We would appreciate your timely review.

If you have any questions please call me at 617-349-4773 or email me at tmacdonald@cambridgema.gov. Thank you for your consideration.

Sincerely yours,

Timothy MacDonald
Manager of Water Operations

Attachments

cc S. Corda

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: Cambridge Water Department: Water Treatment Plant NPDES NOI

Location / Address: 250 Fresh Pond Parkway

City / Town: Cambridge, MA 02138

Project Proponent

Name: Timothy MacDonald, Manager of Water Operations

Address: Cambridge Water Department, 250 Fresh Pond Parkway

City/Town/Zip/Telephone: Cambridge, MA 02138

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name

Type of License or funding (specify)

US Environmental Protection Agency (EPA)

Request for General Permit Authorization to Discharge Wastewater
Notice of Intent to be covered by the General Permit (NOI)

Project Description (narrative):

This is a periodic renewal of a permit to discharge clarified backwash water from the treatment plant back into Fresh Pond. There is no construction or other alterations to exist facilities anticipated.
Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.

NA

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

NA

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

NA

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

No

What is the total acreage of the project area? NA

Woodland _____ acres
Wetland _____ acres
Floodplain _____ acres
Open space _____ acres
Developed _____ acres

Productive Resources:
Agriculture _____ acres
Forestry _____ acres
Mining/Extraction _____ acres
Total Project Acreage _____ acres

What is the acreage of the proposed new construction? NA _____ acres

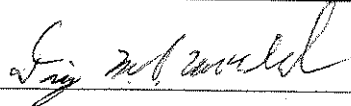
What is the present land use of the project area?

NA, the discharge is to a terminal reservoir with no natural outlet or down stream impacts.

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

attached

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form:  Date: November 10, 2009

Name: Timothy MacDonald, Manager of Water Operations

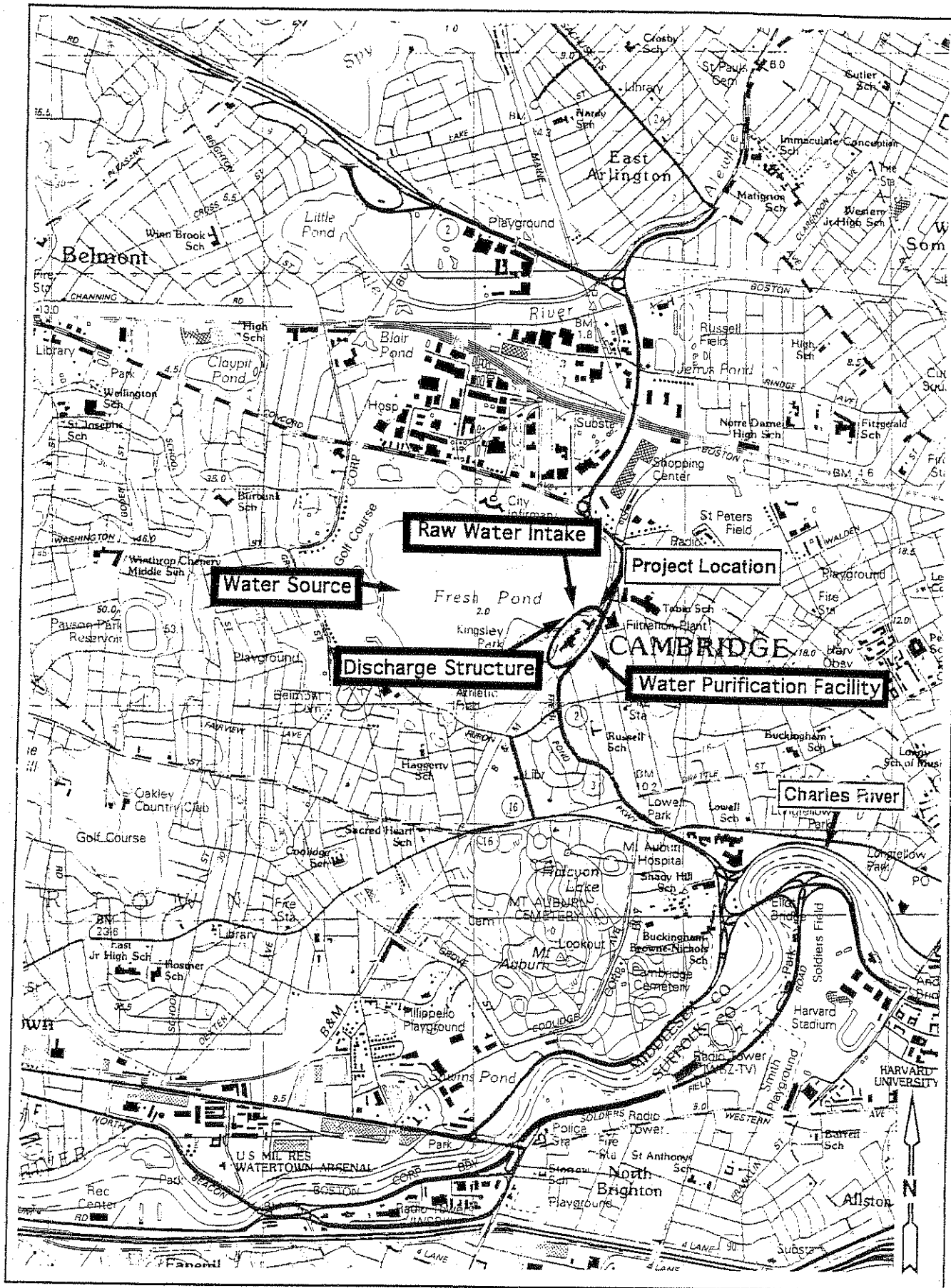
Address: Cambridge Water Department, 250 Fresh Pond Parkway

City/Town/Zip: Cambridge, MA 02138

Telephone: 617-349-4773

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.



Source: U.S.G.S. Maps Boston North and Boston South (MA) Quadrangles
SCALE 1:25000

Cambridge Water Department
Water Treatment Plant Project

Figure 1
Project Location Map