

CWD Source Water Protection Program Updates

11/15/2023
Cambridge Water Board

Hobbs Brook Reservoir

Photo credit: Philip Greenspun, 2015

New (and old) Staff – We're Growing!



Jamie O'Connell - Watershed Protection
Supervisor



Anna Van Dreser – Watershed Technical
Supervisor



?? – Watershed Management
Assistant

Source Water Protection Program Overview

- **Water Quality Monitoring**
- **Site Monitoring and Dam Management**
- Hazmat and Emergency Response
- Natural Resources Restoration
- Partnership Development

CWD Water Quality Monitoring Program



HB @ KG on February 17, 2022

CWD Water Quality Monitoring

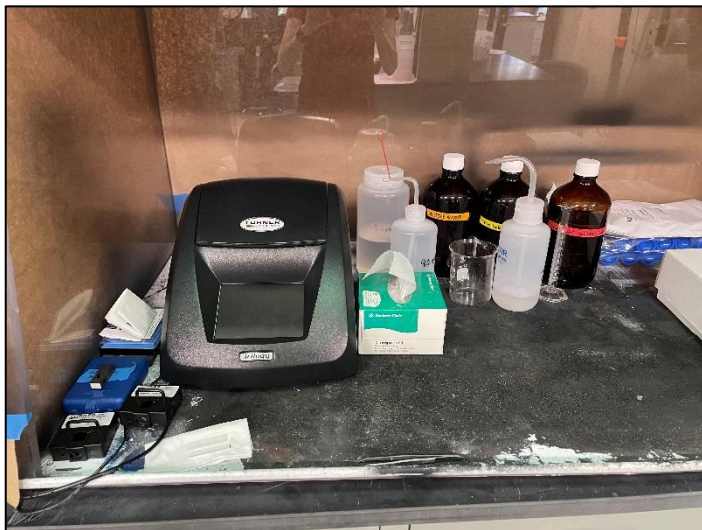
- 12 Tributary Sites, 3 Reservoirs
- Sample 6-8x/year per site
- Analyze >20 physical, chemical, and biological parameters
- USGS JFA



HB @ Upper, 7/25/2023

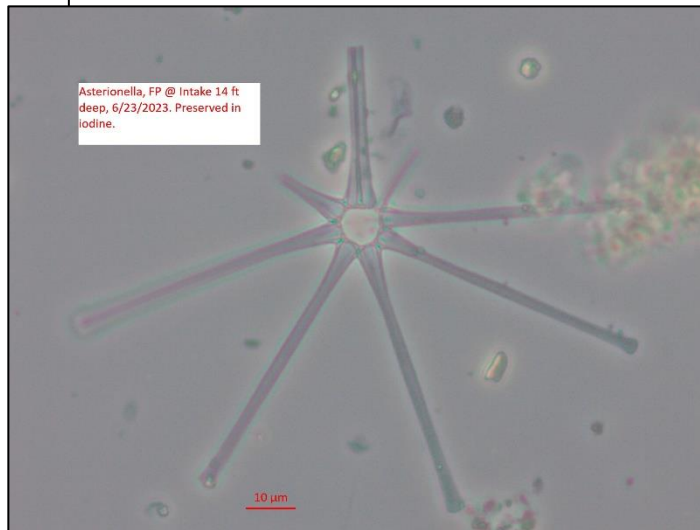
New

- In-house analysis of chl-*a* and phycocyanin (2023)
- Restarted algae monitoring program at Fresh Pond Reservoir (2023)
- Interactive Source Water Quality Report – 2022 Update expected soon



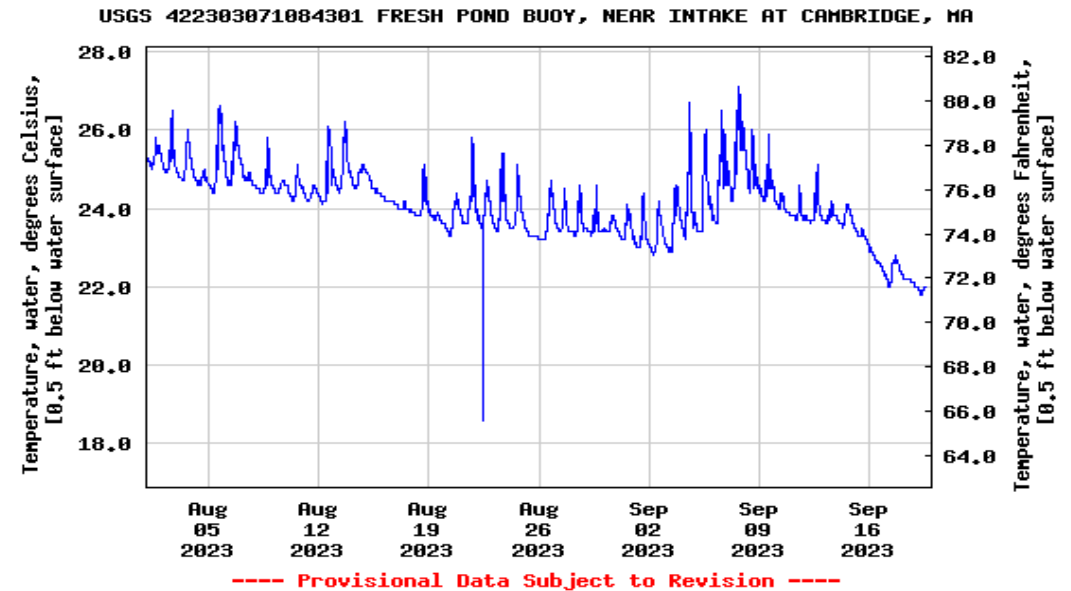
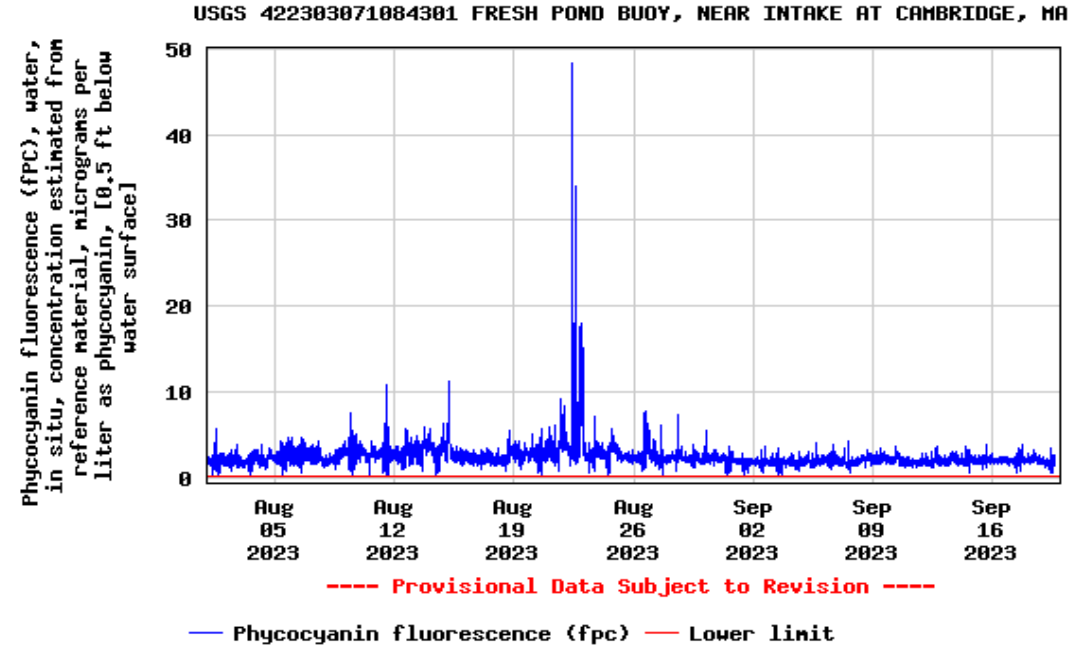
[Source Water Quality Report \(arcgis.com\)](https://arcgis.com)

The screenshot displays the ArcGIS interface for the 'Source Water Quality Report' collection. At the top left is the Cambridge Water Department logo. The main title is 'Source Water Quality Report', with the subtitle 'Results from the Cambridge Water Department Source Water Quality Monitoring Program' and 'Updated through calendar year 2020'. A 'Get started' button is located below the subtitle. The right side of the interface features a grid of 12 thumbnail images, each with a numbered label: 1. Introduction (brick building), 2. Standards and Guidelines (water bottles), 3. Land Cover (aerial view), 4. Reservoir Retention Time (lake), 5. Temperature and Dissolved Oxygen (lake), 6. pH (lake), 7. Bacteria (swan in water), 8. Salts (snowy stream), 9. Nutrients (pond with algae), 10. Metals (pipe in water), 11. Macroinvertebrates (2019 pdf) (stone in water), 12. Algae (2019 pdf) (pond with algae).



New

- May 2022- added new USGS station to measure phycocyanin (cyanobacteria indicator) and temperature near the Fresh Pond Reservoir treatment plant intake

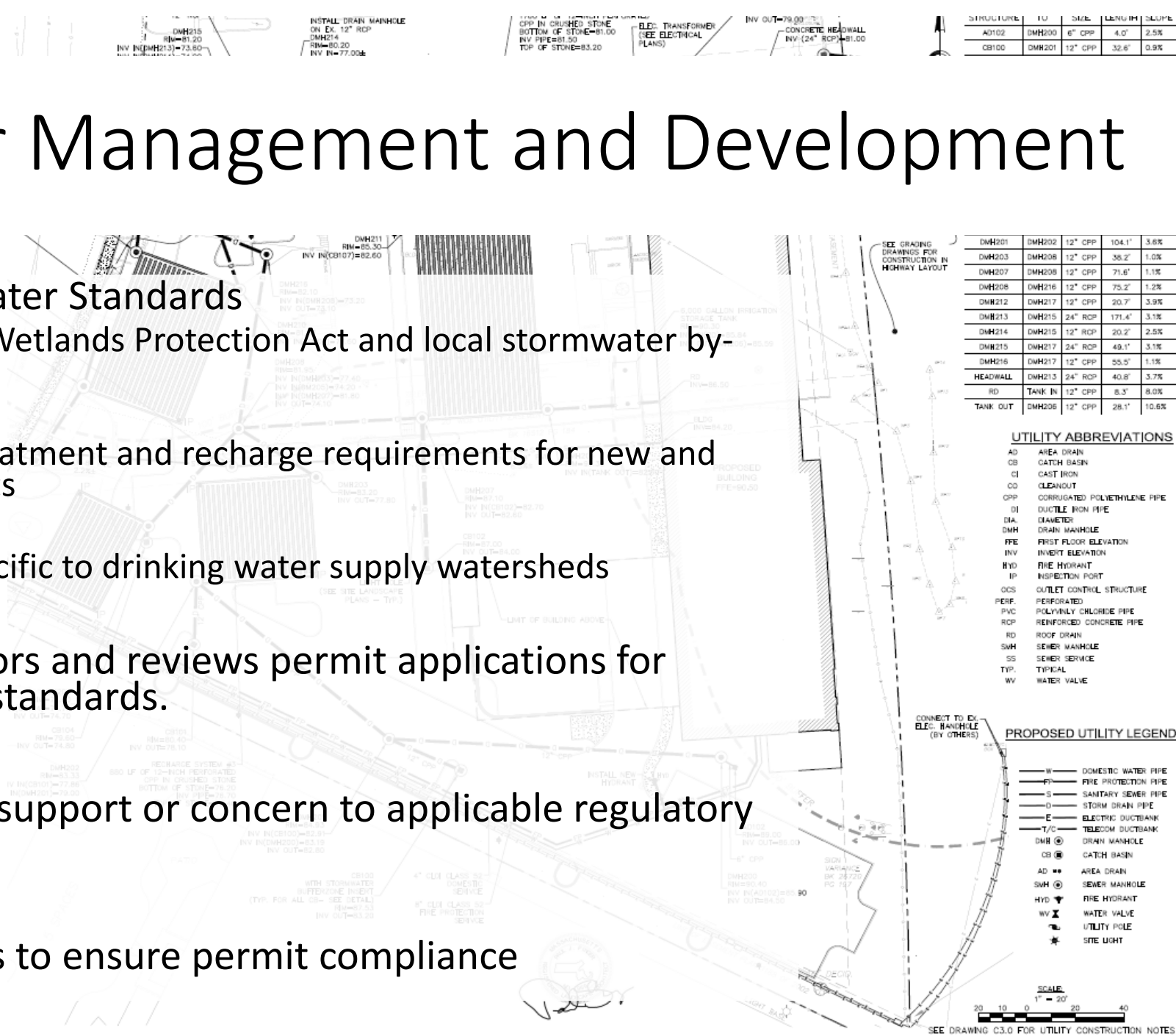


Site Monitoring Program

830 Winter St, Waltham Site Inspection 12/5/2016

Stormwater Management and Development

- Massachusetts Stormwater Standards
 - Implemented though Wetlands Protection Act and local stormwater by-laws
 - Specify stormwater treatment and recharge requirements for new and redevelopment projects
 - Contain provisions specific to drinking water supply watersheds
- CWD proactively monitors and reviews permit applications for compliance with these standards.
- CWD submits letters of support or concern to applicable regulatory boards.
- Perform site inspections to ensure permit compliance



Waltham, MA 02451

NOTICE OF INTENT

Owner:
SECOND AVENUE HOTEL LLC
 285 COMMANDANTS WAY
 CHELSEA, MA 02150

Landscape Architect:
pfa
 PAUL FINLEY ASSOCIATES
 1100 State Street
 Waltham, MA 02451
 (781) 852-1100

Civil Engineers:
Neach Engineering
 www.neacheng.com
 2 Cedar Plaza, Suite 400
 Boston, MA 02108
 (617) 552-8888
 F: (617) 552-6492

Land Surveyors:
LOCUS ENGINEERING & SURVEYING, INC.
 651 WASHINGTON STREET
 WALTHAM, MA 02451
 (781) 760-1777 Fax: (781) 760-8044

Stamp: NISDC PROJECT #1158
 08/12/2015
 WALTER T. BRADSHAW
 CIVIL ENGINEER
 No. 42009
 12-28-15

Project No:
 Date:

Revisions:

No.	Description	Date
0	NOTICE OF INTENT	12-28-2015
1		
2		
3		
4		
5		
6		

Drawing Title:
DRAINAGE & SITE UTILITY PLAN

Sheet #:
NI 4.0

Drawing No:
 SCALE: AS NOTED
 File No: 111080UT.dwg

New

- Site Monitoring Tool – in development
 - GIS-based tool for mobile data collection and data management in office
 - Track all aspects of CWD permit review and requirements for long term site management
 - Perform inspections using GIS surveys with knowledge of stormwater infrastructure and relevant permit restrictions

The screenshot displays a GIS application interface. At the top, a map shows a parcel highlighted in red. A pop-up window titled 'Cambridge Watershed Parcels: Reservoir Woods East Campus' provides details for the parcel at 40, 44, 50, 60 Sylvan Road. It lists the Parcel OID / Parcel ID / Old ObjectID as 6868 - [10E8F5C5-DF79-4049-907C-4211C6783FCB] - 6,868. It also shows 12 restriction types and 13 infrastructure types on the parcel. Two buttons are visible: 'Construction Site Form' and 'Stable Site Form'.

The main interface is titled 'CWD SMP DMS - Parcel Details'. It shows the following information:

- Name: Reservoir Woods East Campus
- Address: 40, 44, 50, 60 Sylvan Road
- Town: 1
- CWD Owned?:
- Date Acquired: [blank]
- Acquisition Type: Planning
- Public Access Allowed?:
- Conservation Easements?:
- Utility Easements?:
- Description: [blank]
- MAP: 029
- BLOCK: 001
- LOT: 0003
- PARCELID: 120
- LOC_ID: 717704_2969049
- MAP_PAR_ID: R029 001 0003
- PROP_ID: R029 001 0003
- GISParcelID: 666
- GlobalID: 10e8f5c5-df79-4049-907c-4211c6783fcb

Below the details, a section titled 'This Parcel is related to the following projects' lists three projects:

- ORAD**: No project information. Just info about an ORAD issued in February of 2021. The ORAD approved BVW, bank, and river.
- New Parking Garage and Parking Lot**: This project was a redevelopment to build a new parking garage in an existing parking area. The project will also demolish an existing building to build a surface parking lot. Stormwater treatment for the development is provided by an exiting wet basin. The project also includes WQUs and deep sump hooded CBs. The project also includes new sod swales and stone swales, though it's not clear if those swales are for water quality treatment or conveyance only.
- New Parking Garage and Office Buildings**: In December 2021, the applicant applied for an RPA just for demolition of the existing site. In February 2022, the applicant applied...

Dam Management



Hobbs Brook Dam Outlet,
10/31/2017 Inspection

CWD Dams

- 2 High Hazard dams in Satisfactory condition
- CWD staff target 10 inspections/yr
- Created mobile data collection and reporting tool to standardize inspections and improve problem tracking over time
- Uses various ESRI apps to integrate field and office data
- Presented at NEARC conference in October 2023

CWD Dam Inspections

Fixed Monitoring Stations

Fixed Sites - Inspection Results

Date of Inspection is between
September 1, 2023 and September 30, 2023

Dam Name
Stony

Monitoring Station Name
- All -

Filter for a specific monitoring station

Stony: SCrestSouthWest

Date of Inspection
September 7, 2023

Notes
Describe the problem(s)

Inspection Details

Excessive vegetation growth No
Visible depressions or inconsistencies in slope or grade No

7 of 24

Map view showing dam structure and surrounding area with red star markers indicating inspection points.

Photographs showing the dam structure and surrounding area.

Questions?

Fresh Pond, 10/5/2015