

CWD Source Water Protection Program

Hobbs Brook Reservoir

Photo credit: Philip Greenspun, 2015



Source Water Protection Program Overview

- Water Quality and Quantity Monitoring
- Site Plan Review and Permitting
- Site Monitoring and Dam Management
- Hazmat and Emergency Response
- Land Acquisition
- Natural Resources Restoration

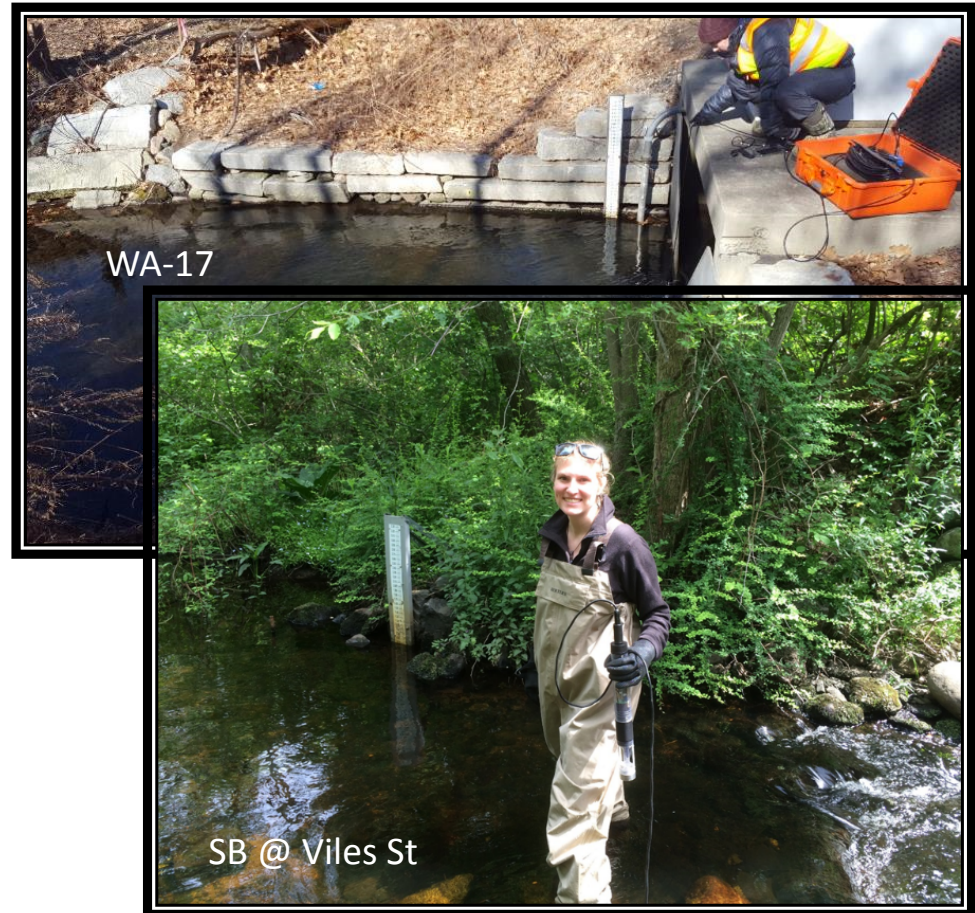
CWD Water Quality Monitoring Program



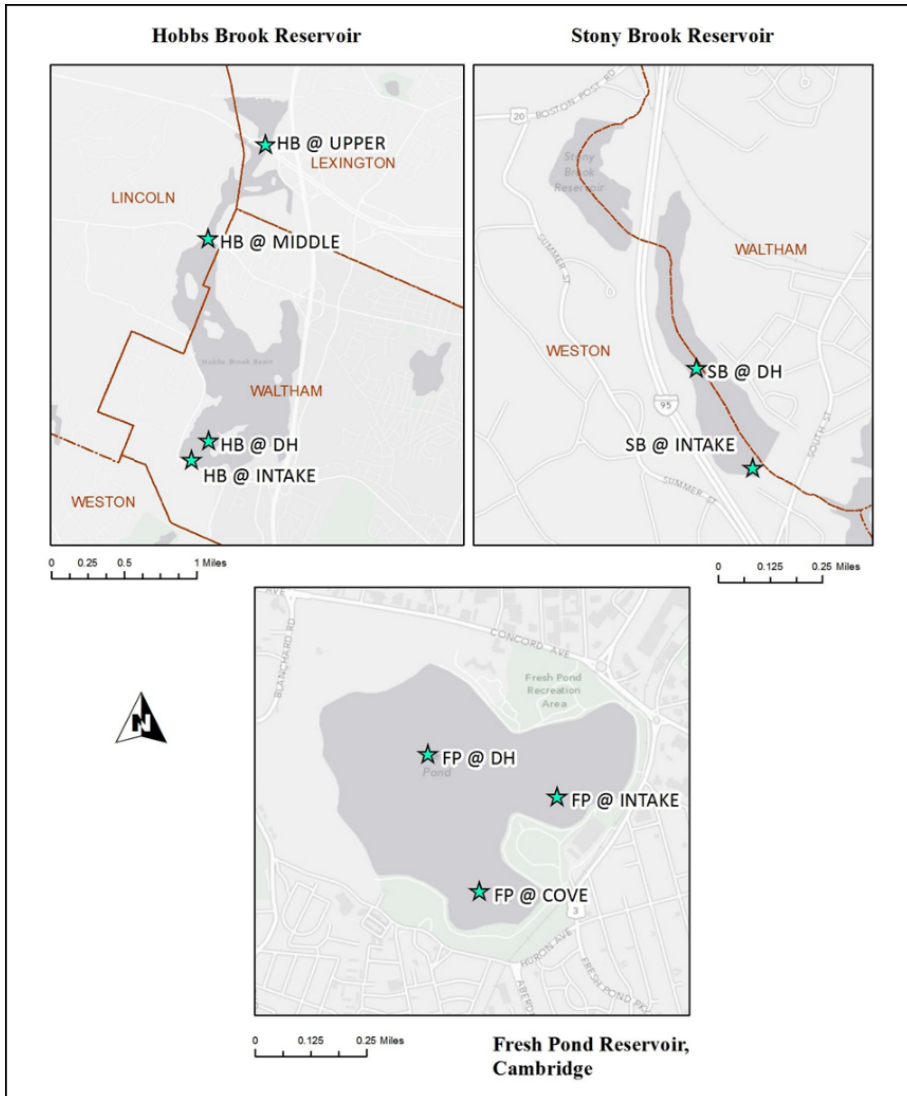
Fresh Pond Deepth Hole Profile, 3/2/2015

CWD Baseflow Water Quality Monitoring

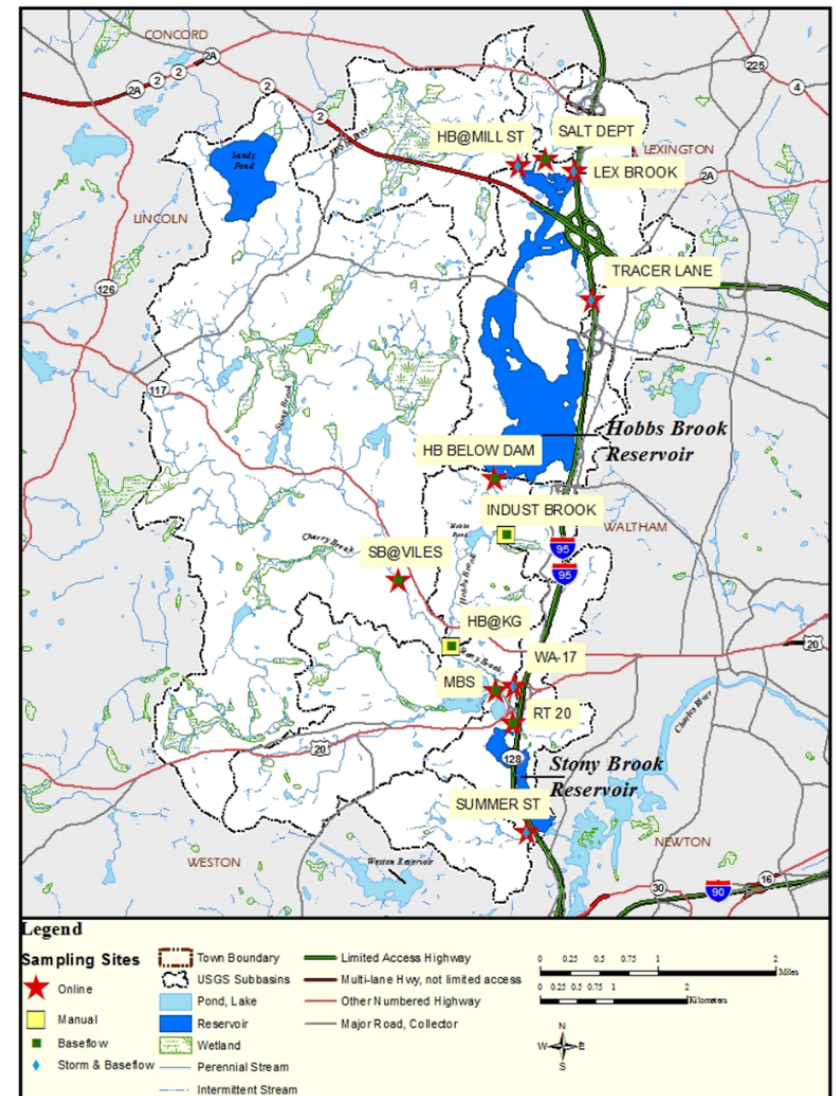
- 12 Tributary Sites, 3 Reservoirs
- Sample 6-8x/year per site
- Analyze >20 physical, chemical, biological parameters, flow
- Annual Water Quality Report



Reservoir monitoring sites



Tributary monitoring sites



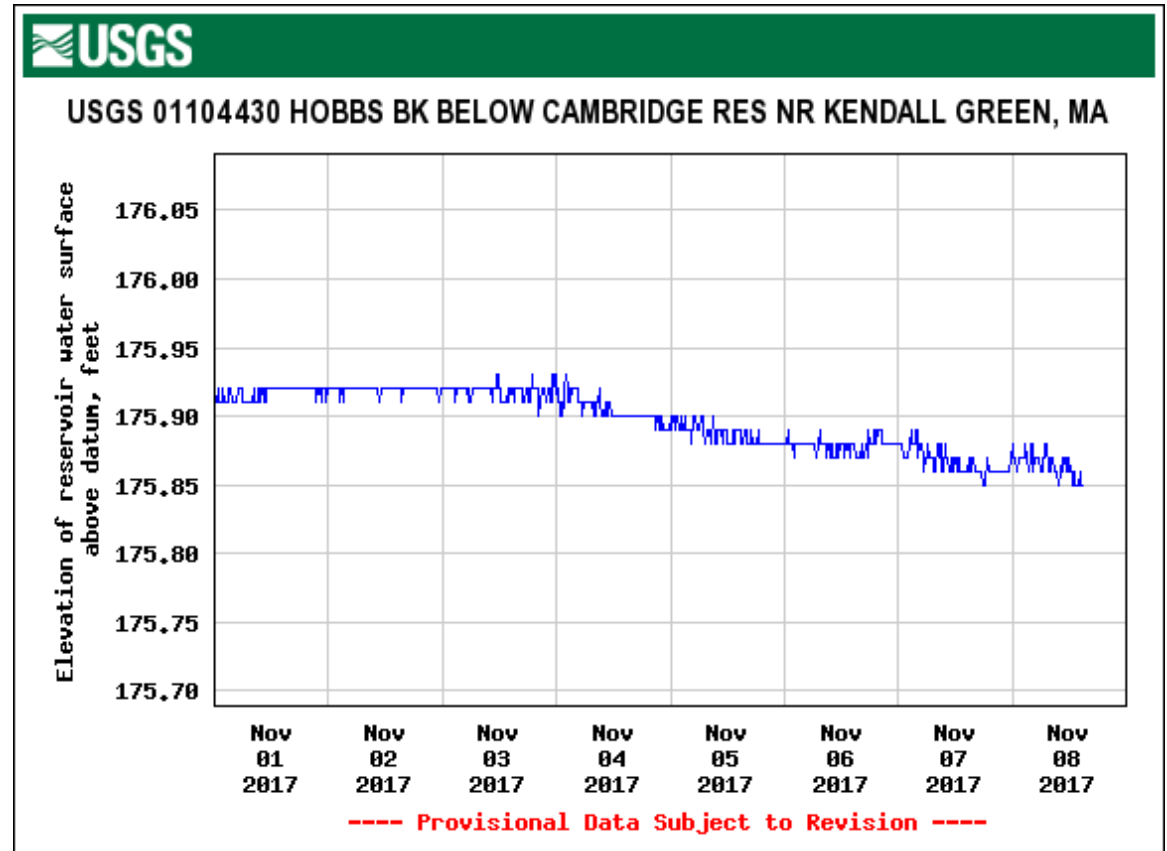
CWD Water Quantity Monitoring

- Baseflow discharge measurements at tributary sites discontinued by USGS
- One continuous water level logger at HB @ KG



CWD-USGS Partnership

- Real-time monitoring
 - Select water quality parameters
 - Reservoir stage, storage, inflows, outflows
 - Tributary stage and discharge
- Water quality sampling of selected ions and nutrients:
 - Stormflow autosamplers
 - Baseflow grab samples
- Published reports



New!!

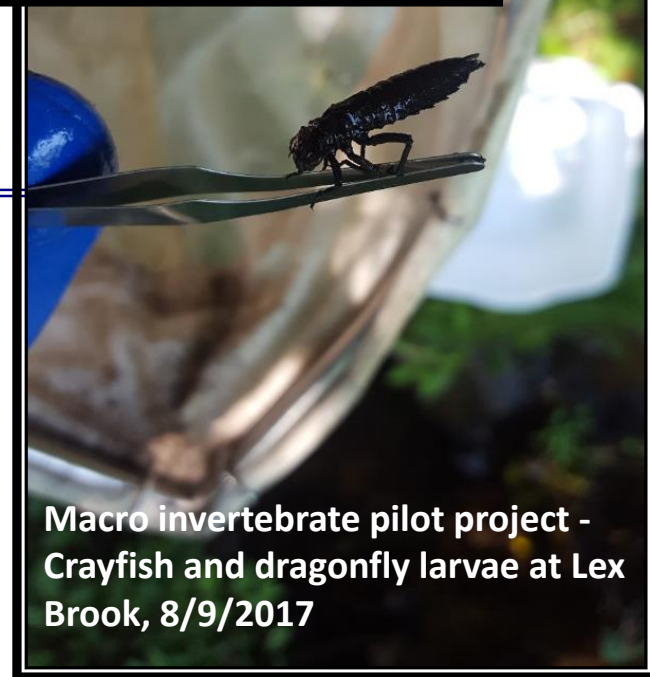
USGS 01104425 HOBBS BRK AT TRAPELO RD AT LINCOLN, MA PROVISIONAL DATA SUBJECT TO REVISION

Available data for this site [SUMMARY OF ALL AVAILABLE DATA](#)

This station managed by the Northborough MA Field Office.

Available Parameters	Available Period	Output format	Days (7)
<input type="checkbox"/> All 5 Available Parameters for this site		<input checked="" type="radio"/> Graph	<input type="text"/>
<input checked="" type="checkbox"/> 00010 Temperature, water	2017-06-27 2017-11-08	<input type="radio"/> Graph w/ stats	-- or --
<input checked="" type="checkbox"/> 00062 Elevation, reservoir	2017-06-15 2017-11-08	<input type="radio"/> Graph w/o stats	Begin date
<input checked="" type="checkbox"/> 00095 Specific cond at 25C	2017-06-27 2017-11-08	<input type="radio"/> Graph w/ (up to 3) parms	<input type="text" value="2017-11-01"/>
<input type="checkbox"/> 62361 Chlorophyll, in situ	2017-06-27 2017-11-08	<input type="radio"/> Table	End date
<input type="checkbox"/> 63680 Turbidity, Form Neph	2017-06-27 2017-10-31	<input type="radio"/> Tab-separated	<input type="text" value="2017-11-08"/>

[Summary of all available data for this site](#)
[Instantaneous-data availability statement](#)



USGS report published in 2017

<https://doi.org/10.3133/sir20175047>

Prepared in cooperation with Cambridge [Massachusetts] Water Department

Loads and Yields of Deicing Compounds and Total Phosphorus in the Cambridge Drinking-Water Source Area, Massachusetts, Water Years 2009–15

Macro invertebrate pilot project - Crayfish and dragonfly larvae at Lex Brook, 8/9/2017

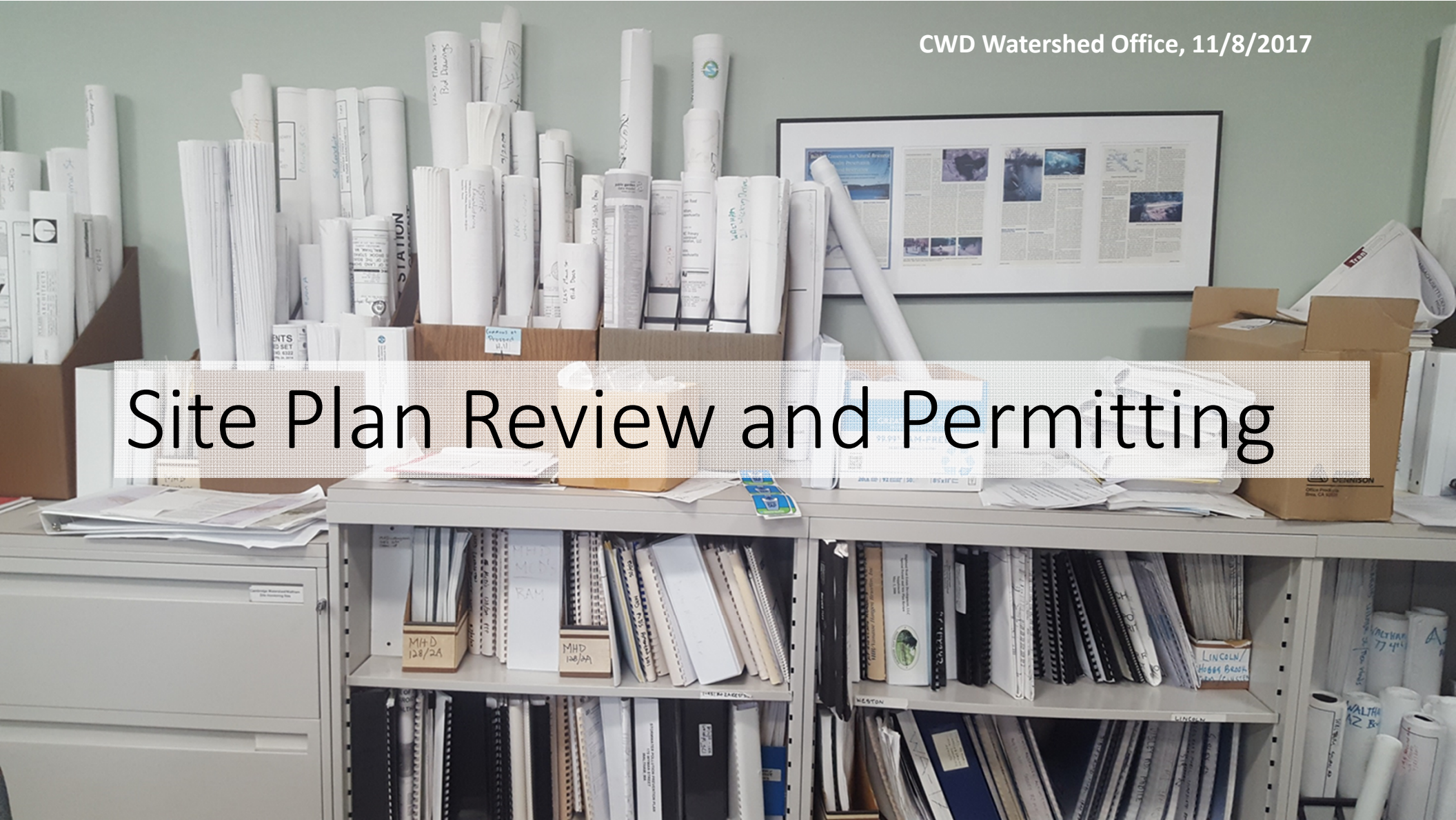
In the works...

- Algae monitoring, continued program development in conjunction with CWD Laboratory



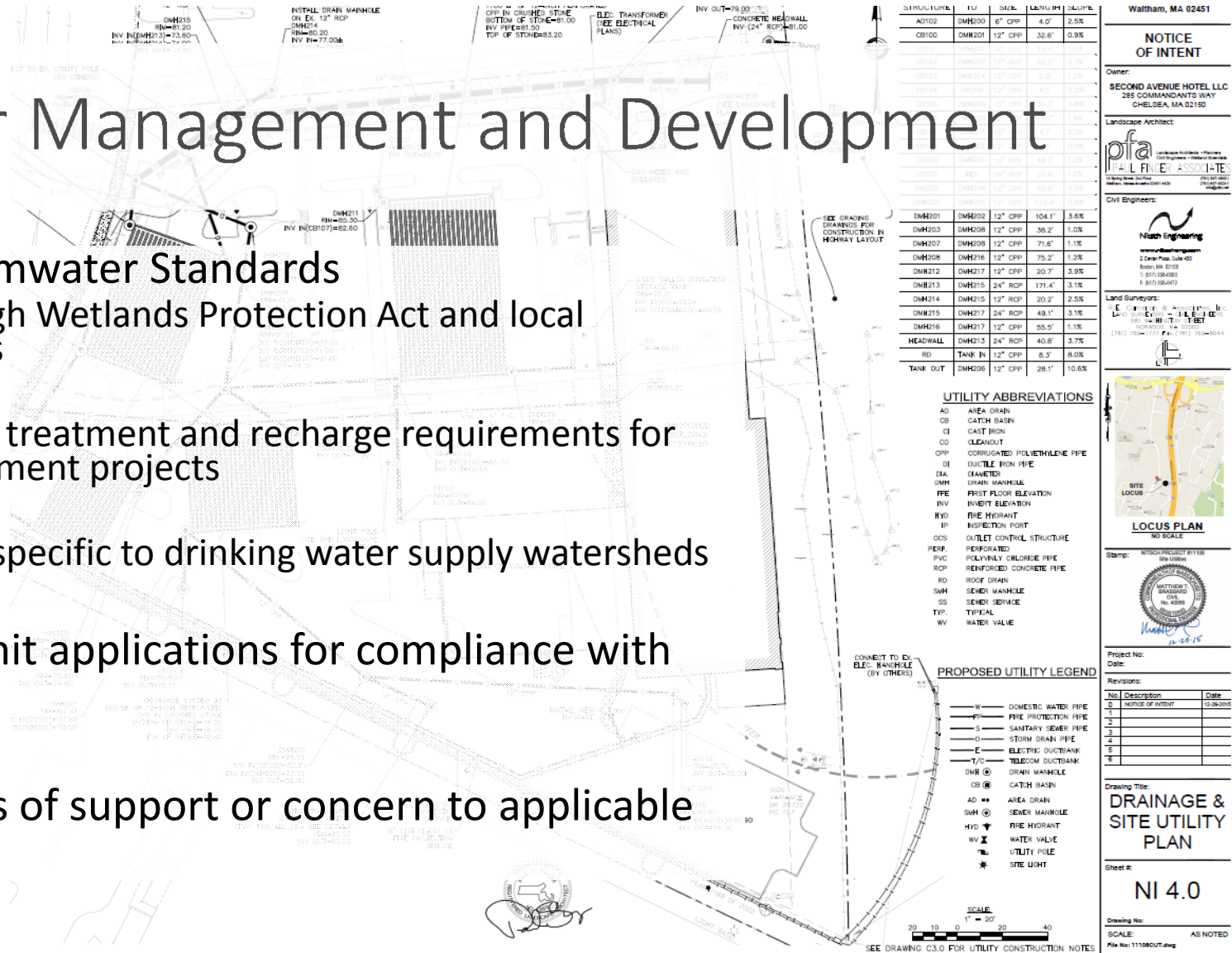
CWD Watershed Office, 11/8/2017

Site Plan Review and Permitting



Stormwater Management and Development

- Massachusetts Stormwater Standards
 - Implemented through 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 monitors permit applications for compliance with these standards.
- CWD submits letters of support or concern to applicable regulatory boards.



Waltham, MA 02451

NOTICE OF INTENT

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

Landscape Architect:
pfa
PAUL FINEY ASSOCIATE
200 WASHINGTON ST
WALTHAM, MA 02451

Civil Engineers:
Nash Engineering
www.nasheng.com
2 Deep Pond Lane #20
Boston, MA 02128
617.552.4283
617.552.4491

Land Surveyors:
L. E. FINEY & ASSOCIATES, INC.
200 WASHINGTON ST
WALTHAM, MA 02451
(617) 750-1100 FAX (617) 750-5544

LOCUS PLAN
NO SCALE

Stamp: NTSCH PROJECT #1158
WALTHAM MASSACHUSETTS
10-28-15

Project No:
Date:

Revisions:

No.	Description	Date
1	NOTICE OF INTENT	10-28-2015
2		
3		
4		
5		
6		

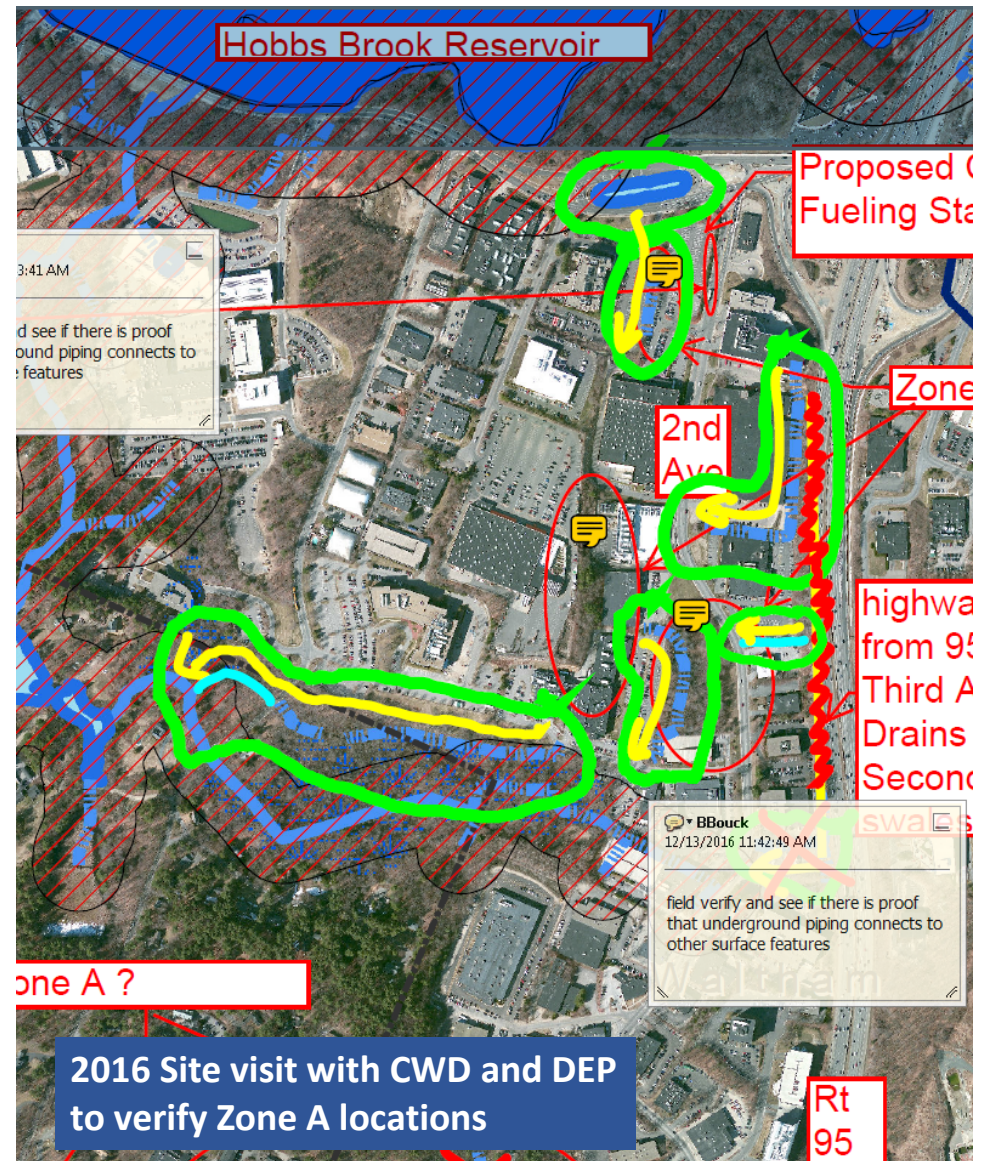
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DRAINAGE & SITE UTILITY PLAN

Sheet #:
NI 4.0

Drawing No:
SCALE: AS NOTED
File No: 11108027.dwg

Permit Review – beyond the Stormwater Standards

- Other applicable laws and regulations:
 - Title V of the State Environmental Code
 - Massachusetts Clean Water Act
 - Safe Drinking Water Act
- CWD coordinates with municipal, state, and federal regulatory authorities and permit applicants to address concerns



Site Monitoring Program

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



CWD Site Inspections

- Construction
 - Compliance with applicable permits (EPA Construction General Permit, NPDES, etc.)
 - General common sense erosion control
- Stable sites
 - Compliance with operation and maintenance plans, Order of Conditions, etc.
- Two reservation caretakers patrol municipal, private, and CWD properties in the watershed, 7 day/week



8/30/2016 inspection at 200 Smith St Waltham

Site Monitoring

- Annual report
- Working towards new GIS enabled Site Monitoring Database for use in field



10/30/2017 – during CWD inspection



10/31/2017 – after CWD inspection

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
- CDM Phase I inspection completed August 2016
- Phase I inspection submitted to DCR - Office of Dam Safety every 2-years



Downstream slope of Stony Brook Dam, 10/31/2017

Hazmat Planning and Response

Stony Brook at Rt 20, 3/12/2014



Hazmat Program

- Emergency Response Plan, last updated 2017
- Hazmat Atlas, last updated 2013
- MOU with Waltham Fire Department
- Storage of hazmat response equipment in Watershed
- Participation in LEPC
- CWD water quality sampling and dam management following events



A photograph of a forest floor covered in fallen leaves and a stone wall in the foreground. The scene is a wooded area with many trees, some with bare branches, suggesting a late autumn or winter setting. The ground is covered in a thick layer of brown and orange leaves. In the foreground, there is a low, rustic stone wall made of large, grey, rounded stones. The wall runs across the lower part of the frame. The background shows a dense forest of trees with varying trunk thicknesses and some bare branches. The lighting is bright, casting shadows on the ground.

Land Acquisition

DeNormandie Property, 2011

Land Acquisition Program

- City owns and controls 9% of watershed land
- Since 2012, City has acquired ~130 acres of watershed land: DeNormandie, Rando, & Flint parcels, Lincoln MA
- Continues partnership with Lincoln Rural Land Foundation
- Funding sources – CPA, State Drinking Water Supply Protection Grants, Capital



Natural Resources Restoration



Glacken Slope Restoration, 2011

Fresh Pond Master Plan Implementation

- 27 acres of habitat restored or created
- 1,720 linear feet of shoreline restored
- 11,730 linear feet of accessible paths constructed
- 16,000 recorded volunteer hours



A wide-angle photograph of a sunset over a large body of water, likely a pond. The sky is filled with dramatic, colorful clouds in shades of orange, red, and purple, with a bright yellow and orange glow from the setting sun on the horizon. The water in the foreground is dark and reflects the colors of the sky. The far shore is lined with a dense forest of trees, silhouetted against the bright light of the sunset. The word "Questions?" is written in a large, white, sans-serif font across the upper middle portion of the image.

Questions?

Fresh Pond, 10/5/2015