

BOSTON GROUNDWATER TRUST (BGwT)
BOARD MEETING
January 28, 2011

The Board of Trustees of the Boston Groundwater Trust held its meeting in the Patriot meeting room, which is located in the Lenox Hotel. The Executive Director posted a meeting notice at City Hall in accordance with provision of the Commonwealth's Open Meeting Law. Mr. Gilbert, Trustee, acting chairman, called the meeting to order at 4:03 pm, declaring that there was a quorum.:

Mr. Galen Gilbert, Fenway Community Development Corporation (CDC)
Mr. Peter Sherin, Greater Boston Chamber of Commerce
Mr. William Moy, Chinatown Neighborhood Council
Ms. Nancy Grilk, Mayor's Office

Also present:

Elliott Laffer, BGwT Executive Director; Christian Simonelli, BGwT Technical & Recharge Coordinator; Professor Richard Vogel, Tufts University; Brian Thomas, Tufts University; Julian Bullitt, Emmanuel Church; Linda Pritchard, Resident of Back Bay; Dan Murphy, Back Bay Sun; Bruce Fairless, GZA Geoenvironmental Inc.; Anne M. Pistorio, North End Water Front Residents Association (NEWRA) Groundwater Working Group;

1. Adoption of the minutes of the November 18, 2010 Meeting

Minutes were previously electronically distributed to board members for review. Discussion followed.

Ms. Sherden, Trustee, moved to adopt the minutes. Mr. Moy, Trustee, seconded the motion.

Voted: To accept the minutes of the November 18, 2010 meeting.

2. Financial Report

Because Ms. Sherden, trustee, had not yet arrived, Mr. Laffer reviewed the BGwT *Financial Report and Reconciliation Detail*. Discussion followed.

Mr. Laffer noted under cash outflows the executive director's expenses reflected the purchase of a new laptop computer for Mr. Simonelli, printer cartridges, and dental insurance. The laptop that Mr. Simonelli was using failed. Discussion followed.

He also noted that the BWSC's annual contribution of \$25,000 is expected fairly soon. Discussion followed.

Mr. Sherin, Trustee, noted that the CD of \$250,000 at Salem 5 Bank is due in early March. Mr. Laffer noted that Ms. Sherden is aware and is looking into renewal either at Salem 5 or some other banking institution with a competitive interest rate. Discussion followed.

Mr. Shilland, Trustee, inquired about the \$117,000 FY 2011 Operating Expenses line item under Cash Outflows. Mr. Laffer noted that was a projection through the remainder of the fiscal year at an assumed \$19,500/month.. Discussion followed.

3. 2010 SEP-IRA Contribution

Mr. Laffer reviewed the cost of a 3% contribution of employees' W-2 earnings to the Trust employees SEP-IRA accounts as had been awarded in previous years. He also noted that the Trustees could choose to award a greater, lesser, or no contribution. Discussion followed.

Ms. Sherden moved to adopt the 3% contribution. Mr. Moy seconded the motion.

Voted: To approve the annual 3% contribution to the Trust employees SEP-IRA.

4. Tufts Research Project

Professor Richard Vogel and Brian Thomas presented their report on the impact of stormwater recharge practices on Boston groundwater levels. Below are some of the highlights and comments from the presentation:

- Professor Vogel indicated that the study area consisted of Back Bay
- The study area used data from 1999-2010 in 234 observations wells and 24 recharge systems with a total capacity 9,050 ft³
- A multivariate statistical method was used to compute the model for the study
- Hundreds of different models were built and tested using this method
- The report showed that the recharge systems are having a statistically significant benefit within the study area of Back Bay
- The current model was validated over 100 times using different data sets.
- Mr. Gilbert noted that after hearing the presentation and reviewing the report he was thoroughly convinced the recharge systems are having a benefit on groundwater levels. He felt that the report validates the city's Article 32 implementation. He was concerned about whether the benefit justified the costs. Prof. Vogel said that although they had not investigating the costs, it was a serious issue, which he recommended further investigation. There might be less expensive ways to achieve the same results.
- Mr. Hunt, Trustee, indicated that he felt the report was extremely helpful in identifying the benefit of the installed recharge systems. He pointed out that the City's policy on groundwater improvement were multi-faceted, including supporting the BGwT, working to fix infrastructure leaks, and working with the zoning appeals.
- He asked Professor Vogel how the report accounted for the variable of old leaks and new leaks within the city's infrastructure. Professor Vogel noted that the error term in the method accounts for the leaks. Discussion followed.
- In addition various questions were asked in regards to efficiency and reliability of the system. Discussion followed.
- Mr. Gilbert asked what would be the difference to groundwater elevations in the study area if no improvements had been made. Although Prof. Vogel said he had not looked at that question, it would be easy to calculate from his data and he agreed to supply the figure later. Brian Thomas opined that the figure was about an inch.
- Overall the board was very pleased with the study and answers to questions that followed Professor Vogel and Brian's presentation

- The final report and presentation will be posted on the www.bostongroundwater.org website

Mr. Gilbert turned control of the meeting over to the Trustee Tim Mitchell at 5:17 pm. The following additional trustees were then present

Mr. Tim Mitchell, Neighborhood Association of the Back Bay
 Mr. Gary Saunders, Boston Back Bay Association Ms. Molly Sherden, Beacon Hill Civic Association
 Mr. Peter Shilland, Ellis Neighborhood Association
 Mr. Jim Hunt, Mayor's Office
 Mr. William Onuoha, Mayor's Office

5. City/State Groundwater Working Group Report

Mr. Laffer reported on the latest City/State Groundwater Working Group meeting that took place on January 20, 2011. Discussion followed. Refer to item numbers 1, 2,3,4,5, and 6 of the attached *Executive Director's Report: January 27, 2011* for a summary of that meeting.

6. Executive Director's Report

BGwT Executive Director Mr. Elliott Laffer distributed his report. Discussion followed. Refer to the attached *Executive Director's Report: January 27, 2011* for a complete list of all activities.

7. Technical & Recharge Coordinator's Report

BGwT Technical & Recharge Coordinator Mr. Christian Simonelli presented his activities since last meeting. Discussion followed. Refer to the attached *Technical & Recharge Coordinator's Update BGwT Meeting: January 27, 2011* for a complete list of all activities.

Mr. Gilbert requested Mr. Simonelli look into areas of the city that have implemented porous pavement. Also, to look at the different types and effectiveness of recharge systems that are currently in place. Discussion followed. Ms. Grilk, Trustee, noted that she has some information and will coordinate getting that to Mr. Simonelli. Discussion followed.

Mr. Sherin, Trustee, asked Mr. Simonelli to give some thought about well maintenance Discussion followed. Mr. Simonelli noted he will be focusing his efforts in the spring and summer when he will be able to access the whole system without the interference of snow cover. Discussion followed.

8. Other Business

Because Ms. Sherden may be away on vacation in February the board recommended one of the co-chairs open bank statements when they arrived. Discussion followed.

The meeting adjourned at 5:58 p.m.

NEXT MEETING: March 24, 2011 @ 4:00 pm at the Lenox Hotel.

Notes submitted by Christian Simonelli, BGwT Technical Coordinator, on 1/28/11.

Respectfully submitted,

A handwritten signature in black ink that reads "Galen Gilbert". The signature is written in a cursive style with a large, stylized initial 'G'.

Galen Gilbert, Secretary

EXECUTIVE DIRECTOR'S REPORT

January 27, 2011

1. **City-State Groundwater Working Group** – The Working Group met on January 20. Attendance and participation, as always, were excellent. Details from the agency reports are included below.
2. **MBTA** – The MBTA is negotiating terms and conditions with GZA for their tunnel repair design contract. They hope that the contract, for in which one of the earliest projects is design of the long term solution for low groundwater in the area near Back Bay Station, will be signed and the engineer given authorization to proceed by April. The plan remains to focus on repairing the leak rather than making up water.
3. **BWSC** – BWSC is continuing to work on the low groundwater problem near the corner of Richmond and Commercial Streets in the North End; they have completed repairs on one sewer line in Richmond Street, but we have not seen an increase in water levels. Farther up Commercial Street, near its intersection with Atlantic Avenue, BWSC repairs appear to have led to a substantial increase in groundwater level. BWSC has completed a television of a brick 72" combined sewer line in Dartmouth Street that showed signs of infiltration and will conduct a similar inspection of a nearby 36" sanitary sewer line; repairs here will be a major focus in an effort to raise the low groundwater levels that have spread over a substantial nearby area in the Back Bay. Repair of a leaking sewer line in Blagdon Street behind the Boston Public Library has been held up by the need to find and test a liner material that will stand up to the heat generated by an adjacent steam line. An inspection of a sewer line under Haviland Street in the Fenway has indicated leakage; that sewer is planned for relining later this year. BWSC continues to inspect lines under Fairfield and Berkeley Streets and near the corner of Albany Street and Union Park in an attempt to find the cause of low groundwater in those areas.
4. **MWRA** – MWRA has reviewed the records of their video inspection of the Boston Marginal Conduit and has found no signs of leakage that could be a contributor to low groundwater levels near Storrow Drive.
5. **MassDOT** – As part of a paving project in the Prudential tunnel on the Turnpike, MassDOT this summer will clean a drain line servicing the tunnel. This will allow inspection of the drain line (which has not been cleaned out since the Turnpike extension was built in the 1960's) to see if there are leaks there that could be contributing to low groundwater levels in the Back Bay and Bay Village near the Turnpike. MassDOT continues to look at potential recharge applications for storm water from the Central Artery.
6. **East Boston** – Groundwater levels in the area near Porter Street and Visconti Road where MWRA has removed a sewer line from its network as part of their overall replumbing of the area and filled in the pipe continue to rise. Many of the wells show increases of 3 feet or more from their formerly consistently low readings.
7. **GCOD** – Compliance with GCOD remains excellent. We have now seen over 200 cases go through the Board of Appeals, with only three very justified variances granted. The BRA has made sure that projects in the GCOD area that were approved prior to its adoption but require modified zoning because of project changes in light of the changed economy meet GCOD requirements. The BRA has also made sure that those projects that are part of Institutional Master Plans or Planned Development Areas and don't go before the Board of Appeals still meet all of the requirements of the GCOD.
8. **Research Project** – The Tufts researchers will be presenting a report at today's trustees' meeting on their Trust sponsored project to determine the impact of recharge as mandated by the GCOD requirements on groundwater levels.
9. **Website** – Traffic to the website has been quite high since the holidays. We continue to hear compliments about the information available and its presentation.
10. **Meetings** – I've attended two meetings on the potential recharge from the Central Artery, including one of the Technical Advisory Committee of the City-State Groundwater Working Group. I attended scoping sessions on the Fenway Triangle mixed use project, the redesigned Parcel 24 Chinatown housing project, the expansion plans for the Massachusetts Eye and Ear Infirmary, and the housing project planned for the Boston Garden Garage site. I

met with the Worcester Square Neighborhood Association to discuss groundwater levels in their South End neighborhood. Jim Lambrechts and I presented to a meeting of home inspectors to tell them some of the signs to look for in groundwater sensitive areas and why they were important; we got very positive feedback from attendees.

11. **Comment Letters** – I have written comments on the Fenway Triangle project. As always, comments are posted on our website.
12. **Publicity** – The Back Bay Sun did a profile piece on my work with the Trust and included suggestions for things that homeowners can do to address the issue. The Boston Courant wrote an article on solution of the high groundwater issue in the Newmarket area that included our role in helping to solve the problem.

<p>TECHNICAL & RECHARGE COORDINATOR'S UPDATE BGwT Meeting: January 27th, 2011</p>

WELL MONITORING

Our well network was last read from Nov. 30 – Dec. 19. We started a new set of readings on Jan 10th and finished reading East Boston on Jan. 11th. However, with all the snow we've recently had no wells have been read since the 11th. Hopefully we get a break here soon.

NEW CO-OP

Our new co-op, Ryan Morrison started on Jan 10th. Ryan is a junior at Wentworth and is in their Civil Engineering program. He will be with us until the end of April.

DATA LOGGERS

All 24 of our data loggers are deployed throughout the west zone. I upload the following loggers on a weekly basis:

- 5 along Storrow Drive from Embankment Rd. - Clarendon St.
- 8 along Dartmouth Street from Beacon St. – Commonwealth Ave.
- 3 on Plympton, East Brookline, and East Concord Streets in the South End New Market area
- 1 on Saint Charles St. and 2 on Cazenove St.
- 2 adjacent to the Southwest Corridor Alignment on Berkeley St.

The remaining loggers have been placed in the Fenway and Back Bay.

CONTOURS

We continue to generate contours for all areas of our well network. Elliott and I have reviewed them with our technical committee. We will continue to receive the contours from BWSC and will be sending them our contours for comparison.

RECHARGE

I conducted a phone interview with Elizabeth Hughes. Ms. Hughes is a freelance writer who has been assigned by Holmes magazine to write an article on dry wells. The magazine is affiliated with the HGTV show, "Holmes on Homes." Ms. Hughes will provide the BGWT with a copy of the article provided any of the information I gave her is used.

I'm looking at different types of recharge systems that could be installed in the city. Tanks, point source, trenches, pipe, etc. I'm also looking at different types of porous asphalt and concrete. I'm looking into Google Earth Pro to map and integrate the city's greenspace in our own database and also adding it into our CAD and GIS maps.

MISCELLANEOUS

I have had multiple conversations with Chris Sayers from BWSC regarding the infrastructure in Dartmouth St. We've been focusing on the corner of Dartmouth and Beacon St. (330 Dartmouth St.) where our lowest well is. Mr. Sayers has provided me with a map of the infrastructure in the area. Elliott and I have been working with the BWSC and BGWT Technical Committee to come up with possible sources of drawdown.

I spoke with Lynn Rednicky of Garrison Square Management Company. Ms. Rednicky is the property manager for 330 Dartmouth St. She informed me that the basement of 330 Dartmouth St. has experienced flooding since the Alley work was completed in Public

Alley No. 418; which is located at the rear of the property. I passed this information along to Mr. Sayers at BWSC.

I met Christian Carrillo, a resident of 267 Clarendon St. Mr. Carrillo had questions about the low water levels in the area, wood pile cutoff's and recharge. He was very pleased with the meeting and was impressed with the work that the BGwT is doing.