

BOSTON GROUNDWATER TRUST (BGwT)  
BOARD MEETING  
September 28, 2007  
The Lenox Hotel – Copley Room

The meeting of the Board of Trustees of the Boston Groundwater Trust was called order at 4:06 pm in the Copley meeting room. The meeting notice was posted at City Hall in accordance with provision of the Commonwealth's Open Meeting Law.

Trustees in attendance, comprising a quorum, were:

Mr. Tim Mitchell, Neighborhood Association of the Back Bay  
Mr. Galen Gilbert, Fenway Community Development Corporation (CDC)  
Mr. Peter Sherin, Greater Boston Chamber of Commerce  
Mr. Paul Chan, Greater Boston Real Estate Board  
Mr. Michael Nairne, Ellis Neighborhood Association  
Mr. Jim Hunt, Mayor's office  
Ms. Nancy Grilk, Mayor's office

Also present were:

Elliott Laffer, BGwT Executive Director; Christian Simonelli, BGwT Technical Coordinator; James Lambrechts, Wentworth Institute of Technology; Anne M. Pistorio, North End Water Front Residents Association (NEWRA) Groundwater Working Group; Bryan Glascock, Boston Environment Department; Rick McCullough, Massachusetts Turnpike Authority

**1. Adoption of the minutes of the August 2, 2007 Meeting**

Minutes were distributed to board members for review.

Trustee Grilk requested that the "State Working Group" in paragraph 5 be changed to reflect its official name "The City/State Groundwater Working Group."

Trustee Grilk also expressed concerns over the accuracy of the pumping statement in paragraph 5. Discussion followed. Mr. Laffer, who was present at the working group meeting, believes the statement to be accurate.

Trustee Grilk requested that the wording in paragraph 6, "*DCR is going to spend eight million dollars to make temporary improvements to the Storrow Drive underpass which will last until there is a new governor, rather than replace it now.*", be changed to "*DCR is going to allocate eight million dollars to make temporary improvements to the Storrow Drive underpass, which will last 5-10 years, rather than replace it now.*"

Trustee Grilk requested a correction in paragraph 10. "Fulton Street Pump Station" should be changed to its correct name "Follen Street Pump Station".

Trustee Hunt moved to adopt the minutes with the above corrections. Trustee Chan seconded the motion.

**Voted:** To accept the minutes of the August 2, 2007 meeting, with the above corrections.

2. **Finance Report**

Trustee Sherin reviewed the BGwT *Financial Report and Reconciliation Detail*.

He noted that the rent will be increasing to \$966 + electric. Mr. Laffer researched the cost for comparable space and found that the rent is still well below the market rate. Discussion followed. The Trust will execute a new letter of agreement with the Back Bay Association for the next year reflecting the higher costs.

Trustee Sherin also noted under Cash Outflows, the annual payment of the Executive Director Bonus of \$5,000.

3. **Bryan Glascock: Peabody Square Project**

Trustee Hunt introduced Bryan Glascock to the board. Mr. Glascock is the Director of the City of Boston Environment Department.

Mr. Glascock discussed the Peabody Square project in Dorchester. He referred to the 604 B grant which is a water quality grant to study city/town storm water management. The \$25,000 grant (through the state DEP) has enabled the city to build test sites for storm water management.

The Peabody Square Project will allow the city to test possible porous pavement applications in sidewalks and, to research run-off conservation methods. The city is working in conjunction with the Charles River Watershed Association. Mr. Glascock noted that the project is close to 75% completion of its design phase. He also noted that the city is ensuring that a proper specification is written and can be constructed correctly. Discussion followed.

Trustee's Gilbert and Sherin expressed concern over of monitoring amount of groundwater being saved. Discussion followed. Mr. Glascock stated that computer models will be used to calculate this. Discussion followed.

Mr. Glascock said that he would involve Mr. Laffer in the design process to make sure that the best feasible groundwater solutions are installed.

Trustee Mitchell thanked Mr. Glascock for attending the meeting and noted that he is pleased with the establishment of the project.

4. **Rick McCullough: Massachusetts Turnpike Authority (MTA)**

Mr. Laffer introduced Rick McCullough, Director of Environmental Engineering of the Massachusetts Turnpike Authority (MTA). Mr. Laffer mentioned Mr. McCullough's efforts in the City/State Groundwater Working Group.

Mr. McCullough discussed the 16 Groundwater Equalization Chambers that have been installed as part of the Central Artery project. The Chambers were a requirement of the environmental permitting of the project to assure that the tunnel would not block the flow of groundwater from one side of the artery to the other.

Mr. McCullough reviewed the design of the chambers.

1. Manholes are 6' deep, some are deeper than that, and are located in the sidewalk or the street.
2. Manholes are clearly identified with the words "Groundwater Equalization Chamber" located on the cover
3. Manholes are surrounded by filter fabric and crushed stone
4. Chambers are spaced every few hundred feet
5. There are 9 separate low point locations for discharge
6. He noted that there are no set limits for pumping rates
7. Federal guidelines call for 1GPM over 1,000-linear feet of pipe

Discussion followed.

## **5. Storrow Drive Update**

Mr. Laffer updated the BGwT on Storrow Drive project. He noted that DCR will perform interim repairs that should last from 5-10 years. Discussion followed. Mr. Laffer also noted that the Longfellow Bridge is in rougher shape than the tunnel and has taken priority for repairs. Discussion followed.

All tunnel alternatives being studied include a commitment to recharge any water drained, after treatment, to chambers along Back Street and Mugar Way. Mr. Laffer expressed optimism that DCR will commit to install an interim recharge system utilizing the galleys recently installed in Back Street by BWSC so that recharge can begin well before reconstruction of the tunnel.

## **6. Research Projects**

Mr. Laffer updated the BGwT on the project for finding the tops of woodpiles using radar and acoustics. He noted that the team has been unsuccessful so far but are back in the lab performing additional tests. Discussion followed.

Professor Lambrechts updated the BGwT on his alternative to underpinning research project. He noted that the design work is well underway with much of the structural design done and geotechnical work under way. The design work is being done by our coop student Cao Le under Professor Lambrechts' instruction.

He noted that the study is tentatively scheduled to be completed in December, with the hope of the 153 Paris Street test site being performed in the summer of 2008.

## **7. Executive Director's Report**

BGwT Executive Director Mr. Elliott Laffer distributed his report. Discussion followed. Refer to the attached *Executive Director's Report: September 27, 2007*, for a complete list of all activities.

## **8. Technical Coordinator's Report**

BGWT Technical Coordinator Mr. Christian Simonelli presented his activities of the past month. Discussion followed. Refer to the attached *Technical Coordinator's Well Monitoring Update BGWT Meeting: September 27, 2007* for a complete list of all activities.

**The meeting adjourned at 6:07 p.m.**

**NEXT MEETING: November 29, 2007 @ 4:00 pm at the Lenox Hotel.**

**Notes submitted by Christian Simonelli, BGWT Technical Coordinator, on 9/28/07.**

Respectfully submitted,

A handwritten signature in cursive script that reads "Galen Gilbert".

Galen Gilbert, Secretary

**EXECUTIVE DIRECTOR'S REPORT**  
**September 27, 2007**

1. **DCR** – The Storrow Drive advisory process was thrown somewhat off its anticipated track when the state reinstated consideration of a bypass road through a portion of the Esplanade. DCR has confirmed that they will implement repairs that will extend the life of the tunnel by at least five, and more likely ten, years. Recharge remains a commitment for the completed system, with a high likelihood that the interim recharge plan will be implemented. Final construction on Storrow may fall behind that on the Longfellow Bridge which appears to be in even more serious condition.
2. **MBTA** – The recharge wells on St. Charles, Cazenove, and Berkeley Streets were turned back on in August. Levels have substantially recovered to their prior condition. Steve Poulos, Jim Lambrechts, and John Sullivan have met to discuss how the data gathered through operation of the recharge systems impacts the best long term solution for raising groundwater levels in the area. After they reach agreement, the T will reconvene the Technical Advisory Committee to the City-State Groundwater Working Group to see if it concurs, then take the agreed solution to the Action Team, a public meeting, and to the General Manager for implementation. These steps should all be completed this fall.
3. **North End** – There will be a meeting of concerned agencies on October 9 to discuss groundwater issues in the North End, focused on the area around Fulton, Richmond, and Commercial Streets. There are locations in the area where very low groundwater readings are occurring close to where we have wells with much higher readings.
4. **Prudential Center** – I met with the developers and their geotechnical engineer to discuss groundwater issues surrounding the two new buildings proposed for the Pru. Because the entire Center is surrounded by a relatively impervious sheet pile wall (the integrity of which was demonstrated during the Mandarin Oriental project), we would like the required recharge to be done outside the sheet piling. Most likely, this would be on Exeter Street for the residential tower and on Belvidere or Dalton Street for the office building. The project is currently in the Article 80 review process; comments will be filed in October.
5. **New Well** – We will be installing a new well on Exeter Street near the Lenox Hotel, paid for by the hotel, to help it better understand some groundwater issues at the facility. The well, in the public sidewalk, will be incorporated into our network. It will be installed before the construction moratorium in November.
6. **City Pilot Project** – The City is installing a pilot Low Impact Development project in Peabody Square in Dorchester in conjunction with the rebuilding of the Ashmont MBTA Station. Included will be permeable sidewalks and other measures that will allow DPW and the Parks department to study the viability of such measures in terms of installation and maintenance. Although not in an area of concern for wood pilings, the project will be helpful in understanding what can work and the costs involved.
7. **City Council** – I met with Councilor Linehan, who now represents District 2 and chairs the committee responsible for groundwater related issues. He was very supportive of the work of the Trust. I expect that we will enjoy a good relationship with him, as we did with his predecessor, Councilor Kelly.
8. **Website** – Visits to the website dropped off sharply at the beginning of September and have not yet recovered. We have not seen this dropoff in September in the past; however, the number of visits is at around the level of September 2006. We have modified the data on the interactive map to differentiate those wells that are dry from those that are inaccessible. This became a significant issue in East Boston, where very low groundwater levels have left a significant number of wells dry. The Technical Advisory Committee has also been able to use this data to identify several wells that, because the impervious organic layer is at a relatively high elevation, are not giving us useful data; these wells will be decommissioned.
9. **Research Projects** – Design work on the project to develop an alternative method of supporting a building with failed pilings continues. Our coop student, Cao Le, spends

about half of his time on the project, with the rest spent reading wells. We are working with Jim Hunt's office and the Department of Neighborhood Development to secure a site at which a system can be installed. Funding will likely be provided by the City using the EPA grant funds. While we have not yet seen success in the project to develop a method to sense pile cap elevations remotely, the researchers are planning to go back into the lab with a modified approach that they are hopeful will yield positive results.

- 10. Community Meetings** – I met again with the groundwater committee of the North End Waterfront Residents Association. I'll be meeting with West End Civic Association's Zoning and Planning Committee on October 1.

<p style="text-align: center;"><b>TECHNICAL COORDINATOR'S WELL MONITORING UPDATE BGwT Meeting: September 27, 2007</b></p>
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WELL MONITORING

The BGwT's latest set of readings are indicated below.

There are currently 709 wells in the West network. Wells were read between August 27 – September 20, 2007. Of the 709 wells read:

- 132 wells @ elevation >7'
- 291 wells @ elevation 5'- 7'
- 206 wells @ elevation 3'-5'
- 54 wells @ elevation <3'
- 6 wells @ Dry
- 20 wells @ no reading

We have read 89 wells in the East network (East Boston Area). Wells were read in East Boston on August 23 & 24, 2007. Of the 89 wells read:

- 43 wells @ elevation >7'
- 15 wells @ elevation 5'- 7'
- 8 wells @ elevation 3'-5'
- 9 wells @ elevation <3'
- 14 wells @ Dry

NOTE: We are continuously reading the well network.

## Map Interface Update

We have updated our map to illustrate wells in the network that are dry. Dry wells are designated in black.

## LEVELLOGGERS

- Group 6 dataloggers were uploaded in June and are now on the website.
- Group 7 dataloggers were installed in June and uploaded in September. All data is on the website.
- As per agreement with GEI Consultants Inc., loggers (there are a total of 5) installed in and around Cazenove St. continue to be uploaded once a week and sent to GEI Consultants Inc. The purpose is to observe the water levels in the area where the recharge systems have been installed.
- 4 dataloggers have been installed on Beacon St., in the Berkeley to Clarendon St. block. This area (historically) shows a wide range of high and low elevations. We are looking for any trends that may explain this.
- 3 dataloggers have been installed in the North End around Fulton and Commercial streets. We have inherited a well from CA/T in public Alley No. 101 which is at elevation 7.2'. The levels in this area range from elevation 5.6' to 9.4'. Again, we are looking for any trends that may help explain the wide range of elevations over a short distance.

## ISD REASEARCH

- We continue to look for any underpinned buildings. Data continues to be scarce up to this point.

## PURGEING

- Wells continue to be purged to verify their operability
- Wells not meeting a certain criteria will be tabbed for replacement or flushing depending on the results
- These wells are the original wells that formed the foundation of our network. All were installed by various developers at different times. Some are also from the WPA study.

- Our last major purging effort was in 1999 and 2000

#### New Co-op

- Cao Le from Wentworth Institute of Technology began his co-op in August. Mr. Le's duties are split between reading wells and assisting Professor Lambrechts with his alternative to underpinning research project.