NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BROOKLYN-QUEENS AQUIFER FEASIBILITY STUDY

CITIZENS ADVISORY COMMITTEE MEETING: March 4, 2004

MINUTES

The 19th meeting of the Brooklyn-Queens Aquifer (BQA) Feasibility Study Citizens Advisory Committee (CAC) was held on Thursday, March 4, 2004 at the Hillside Manor Comprehensive Care Center. (See Attachment A for Attendance List.)

Helen Neuhaus, Helen Neuhaus & Associates (HNA), opened the meeting by introducing two guests: Nadina Johnson, a Hunter College student who is writing a paper on the BQA Study and Paul Jenkins of Far Rockaway, who is interested in water quality issues. Expressing condolences on behalf of the project team, she also announced that Michael Turner's mother had passed away. Following adoption of the Minutes of the February 5, 2004 meeting without changes, Ms. Neuhaus facilitated a discussion of follow-up items from that meeting. These included the following:

- Letters were sent to CAC members who have not attended a meeting in more than six months to determine their interest in continuing to serve on the CAC. At the Committee's recommendation, letters were not sent to elected officials but were sent to Floyd Flake, Allen A.M.E. Church, and Robert Hampton, York College. Ms. Neuhaus reported that Reverend Flake's office responded by indicating that his representative would be unable to attend tonight's meeting. (Since Reverend Flake has not attended a CAC meeting since April 2002, he will be removed from the CAC roster.) There was no response from York College.

  Linda Caleb Hazel suggested that rather than pursuing the president's office, the project team should reach out to the chairperson of York's environmental program. Donald Cohen, Malcolm Pirnie, Inc., noted that he has spoken with faculty from that program regarding various aspects of the BQA Study. Adding that students from the program attended the October 2003 Public Meeting, Ms. Neuhaus stated that her office would contact the chairperson to determine his or her interest in participating in the CAC.

- Deputy Commissioner Doug Greeley, New York City Department of Environmental Protection (DEP); Nicole Brown, Malcolm Pirnie, Inc.; and Ms. Neuhaus gave a presentation on the BQA Study to Community Board #12 on February 18th. Ms. Neuhaus commented that the project was well received.

- A tape of DEP Commissioner Christopher Ward's appearance on the *Today* show was obtained. Ms. Neuhaus noted that while the segment is not directly related to the BQA Study--it dealt with the City's third water tunnel--the tape is available to any CAC member who wishes to borrow it.

- As requested by the CAC, Dr. Alan Rabideau, State University of New York (SUNY)-Buffalo, has provided a summary of his research proposal regarding groundwater optimization modeling (see Attachment B). Ms. Neuhaus stated that Dr. Rabideau does not expect to hear whether his grant proposal has been funded until June; if funded, work could start this September.

- On a related matter, Dr. Rabideau, as part of his interest in marketing the Environmental Engineering program at SUNY-Buffalo, has expressed interest in speaking with students in southeast Queens about careers in environmental engineering. Ms. Neuhaus indicated that he might be able to visit local schools in conjunction with his trips to New York City to attend CAC meetings. A brief discussion ensued, during which CAC members expressed their strong interest in promoting environmental engineering to students in the community. Although it was noted that high school students are the ones thinking about college programs, there was consensus that children should be exposed to a range of ideas, including opportunities in science, at as early an age as possible. CAC members offered several suggestions for reaching out to students, including contacting guidance counselors; taking part in career fairs; contacting the Queens High School for the Sciences at York College; attending the Saturday morning mentoring program of the National Society of Black Engineers; and speaking at I.S. 59. It was decided that the latter would be the first point of contact, since the project team has an existing relationship with I.S. 59. Ms. Neuhaus will ask Dr. Rabideau if he is available to attend the May CAC meeting and meet with I.S. 59 students during that visit. The project team will also investigate the possibility of his visiting other junior and senior high schools.

- Referring to Irving Hicks' previous request for a copy of the application map for de-mapping streets adjacent to Station 24, it was confirmed that Mr. Hicks will receive the map following its approval by the New York City Department of City Planning. Mr. Cohen also noted that he met with Yvonne Reddick, District Manager, Community Board #12, regarding the de-mapping application last week.

- In response to a question raised by Dr. Dhanonjoy Saha, Scientific Review Panel (SRP), regarding a potential conflict of interest between his new position with the New York City Department of Health (DOH) and his role on the SRP, it was explained that Dr. Saha's work at DOH involves "special research" and is not related to any issues considered by the SRP. However, Ms. Neuhaus reminded the CAC that when the SRP was established, employees of the New York City and New York State DOH were eliminated from consideration in order to avoid any potential conflict. During the discussion that followed, Committee members emphasized their trust and respect for Dr. Saha but noted that it is important to remain consistent with the original policy. Therefore, it was decided that Dr. Saha would be asked to resign from the SRP and invited to rejoin the CAC.

- Following up on a discussion held last month regarding Councilman Leroy Comrie's suggestion that SRP members submit ethical disclosure forms, Ms. Neuhaus asked the CAC whether her recollection of the ensuing discussion was accurate. Specifically, Ms. Neuhaus observed that the CAC expressed its complete confidence in the SRP and

concluded that a disclosure form is unnecessary. Tracey Bowes and Jeff Diggs confirmed this summary of the discussion and expressed their view that the SRP is working in good faith and that a disclosure form does not make sense at this time. It was decided that the matter would not be pursued. In response to a related question from Debora Hunte, Ms. Neuhaus explained that SRP members are compensated for their time and travel expenses.

Project Update

Mr. Cohen reported that Malcolm Pirnie is continuing to work with DEP's Bureau of Water and Sewer Operations to evaluate sewer capacity in the area of Stations 6 and 24. The project team is also working with the New York State Department of Environmental Conservation (DEC) on resolving issues related to discharge limits for copper and nickel in treated groundwater. Mr. Cohen stated that although DEC recognizes that these metals are not contaminants, the level in groundwater exceeds the discharge limit set for surface water, and there is no regulatory mechanism for dealing with the additional load. He noted that while there has been progress, the project team is still negotiating with DEC to resolve this outstanding issue.

In response to a question from Mr. Diggs, Mr. Cohen explained that groundwater picks up copper and nickel from the surrounding soil. This is not the case with surface water. Commissioner Greeley added that DEC is using treatment plant standards for raw groundwater because these are the only standards it has.

Mr. Cohen further reported that DEC is ready to begin remediation of the West Side Corporation (WSC) site. However, work cannot start until the Atlantic Bus Company signs an agreement with DEP regarding the relocation of some of its buses from the WSC property to a DEP property across the street. Mr. Cohen noted that the agreement is virtually complete, but is being held up by Atlantic. He indicated that DEC will contact the bus company and suggested that it might be helpful if the Community Board office would contact it as well. Ms. Reddick agreed to do so.

In response to questions from Ms. Reddick and Mark Scott, Queens Borough President's Office, Mr. Cohen stated that the new site will be large enough to accommodate the 30-40 buses that will be relocated.

Update on Well Reconstruction Program

Ms. Neuhaus opened the presentation by emphasizing that this update is for informational purposes only and that since there is no drought, there are no plans to activate these wells.

Using PowerPoint (see Attachment C), Ms. Brown reviewed the purpose and implementation of the Well Reconstruction Program. She explained that, in the summer of 2002, in order to address the drought, DEP began upgrading wells at 10 locations in Queens Community Boards #8, #9, #12 and #13. While wells at three of the sites required only electrical upgrades, seven others required treatment with Granular Activated Carbon (GAC). Ms. Brown explained that GAC acts like a Brita filter; the water flows through the carbon while the Volatile Organic Compounds (VOCs) adhere to it. She observed that there are no mechanical parts to this process.

Referring to a photograph of Station 51, Ms. Brown pointed out the size of the GAC tanks in relation to the adjacent house. She remarked that the height of the tanks at each location is based on site and space considerations.

Ms. Brown then reviewed representative data from Stations 21, 52 and 55. Noting that the regulatory standard for VOCs in treated water is 5 micrograms/liter (ug/L), she observed that after GAC treatment, levels of VOCs in the water were non-detectable (under 0.5 ug/L). Ms. Brown concluded by stating that although major work on the wells has been completed, ongoing testing is under way so that the systems will be functional if they are needed in the future.

The following questions and comments were raised:

- In response to Ms. Hunte's question regarding community notification, Ms. Brown and Mr. Cohen assured the CAC that in the event of another drought, the Community Boards would be contacted in advance of any well activation. Commissioner Greeley added that the local elected officials and the New York City DOH would also be notified.

- Responding to questions from Ms. Hazel, Commissioner Greeley noted that some of the wells have been upgraded or downgraded due to changing conditions. It was also noted that certain wells were dropped from the Well Reconstruction Program because of the poor quality of the raw water.

- Assemblyman William Scarborough asked if the wells would be used to lower the water table or for any other purpose. Ms. Brown explained that pumping from these wells would not alleviate flooding. The project team has looked into possible uses for "gray" (non-potable) water but did not find much interest. She stated that this option could be investigated further. Mr. Cohen added that the Station 6 wells are the ones that will have a direct impact on groundwater levels and flooding.

- In response to Assemblyman Scarborough's question regarding sodium levels in treated groundwater, Mr. Cohen replied that although the Station 6 treatment processes will remove sodium, the GAC used for the "drought" wells is designed to only remove VOCs. Marnie Bell, Malcolm Pirnie, conducted the sampling for these wells; she confirmed that the sodium levels found in the raw water were not high. Commissioner Greeley added that if the wells become operational, the water would be blended with upstate reservoir water. He and Mr. Cohen offered to provide Assemblyman Scarborough with data regarding the sodium levels.

- In response to questions from Mr. Jenkins, Ms. Brown reiterated that the level of methyl tert-butyl ether (MTBE) after treatment was 0.5 ug/L. She explained that while New York State has not established firm regulations regarding the maximum contaminant level (MCL), 50 ug/L is the standard at present. She added that there is some movement toward establishing an MCL of 10 ug/L. Mr. Jenkins observed that the television program "60 Minutes" produced a segment on MTBE that showed that one gallon of this VOC could contaminate an entire city water supply. Commissioner Greeley noted that legislation pending in Congress would hold all MTBE and gasoline companies harmless from spills. DEP has joined other communities in preparing a lawsuit to prevent Congress from enacting this law.

In response to Mr. Jenkins' question regarding the Cryptosporidium and Giardia bacteria, Mr. Cohen explained that although these are not found in groundwater, they are a concern in surface waters. Commissioner Greeley added that DEP is working with upstate farmers to prevent surface water contamination.

Future Events

Noting that the project team is not likely to have further news about the permitting process for several weeks, Ms. Neuhaus suggested that the CAC tour the Hillview Reservoir and Van Cortlandt Valve Chamber in lieu of an April meeting. After a brief discussion, it was decided that the tour will be held on Saturday, April 17th at 10 a.m. Transportation will be provided from a central location in southeast Queens.

Congratulations!

Commissioner Greeley announced that Ms. Brown and Rashard (Ric) Williams, DEP, recently became engaged. After the happy couple was presented with a cake and sparkling cider, CAC members and guests joined the Commissioner in a toast to their future happiness.

The next CAC meeting is scheduled for **Thursday, May 6, 2004 at 7 p.m.** at the Hillside Manor Comprehensive Care Center, 188-11 Hillside Avenue, Jamaica Estates.

Follow -up Items

1. Contact representative of York College environmental program to determine interest in participating in the CAC. Responsibility: HNA

2. Coordinate Alan Rabideau visit to New York City with May CAC meeting and opportunity to speak with students (IS 59 and possibly Queens High School for the Sciences at York College) regarding careers in environmental engineering. Responsibility: HNA

3. Investigate schools (junior and senior high) and other organizations that might be interested in meeting with Dr. Rabideau regarding careers in environmental engineering. Responsibility: Project Team and CAC.

4. Provide data regarding sodium levels found in groundwater tested as part of the Well Reconstruction Program to Assemblyman Scarborough. Responsibility: Malcolm Pirnie.

Attachment A

Brooklyn-Queens Aquifer Feasibility Study
Citizens Advisory Committee
Thursday, March 4, 2004

Attendance List

CAC Members/Alternates

Tracey Bowes
Community Board #12

Linda Caleb Hazel
A Better Day Inc./St. Benedict The Moor/
St. Bonaventure

Manuel Caughman
Community Board #12/Brinkerhoff Action
Association

Jeff Diggs
Councilman Leroy Comrie

Kenneth Gill
Addisleigh Park Civic Association

Irving Hicks
Brinkerhoff Action Association

Debora Hunte
Brinkerhoff Action Association

Yvonne Reddick
Community Board #12

Earl Roberts
113th Precinct Council

Assemblyman William Scarborough
New York State Assembly

Mark Scott
Office of Borough President Helen Marshall

Gurpal Singh
Office of State Senator Malcolm A. Smith

Guests

Sarah Hicks
Resident

Paul Jenkins
Deerfield Area Association, Inc.

Nadina Johnson
Resident

Maurice Muir
Community Board #12

Minto Singh
Office of State Senator Malcolm A. Smith

Rashard Williams
New York City Department of
Environmental Protection

Project Team

Marnie Bell
Malcolm Pirnie, Inc.

Nicole Brown
Malcolm Pirnie, Inc.

Don Cohen
Malcolm Pirnie, Inc.

Lillie Farrell
New York City Department of
Environmental Protection

Doug Greeley
New York City Department of
Environmental Protection

Natasha Harper
New York City Department of
Environmental Protection

Helen Neuhaus
Helen Neuhaus & Associates Inc.

Denise Woodin
Helen Neuhaus & Associates Inc.

Anita Wright
Helen Neuhaus & Associates Inc.

Bill Yulinsky
New York City Department of
Environmental Protection

Attachment B

High performance computational tools for water supply optimization

Alan J. Rabideau

Computer models are routinely used to analyze the movement of groundwater. For water supply applications, models help visualize the response of the groundwater system to pumping wells and potential sources of contamination. Models are particularly useful for "optimizing" system management by identifying the location and pumping rates that will provide the best performance in terms of water quantity, water quality, and cost. For coastal aquifers, the potential for seawater intrusion greatly complicates the modeling problem because the underlying physical process in which dense seawater replaces native groundwater is very complex. For problems of this nature, the ability to develop realistic computer predictions is limited by the speed of the computer.

The proposed project will bring together a team of researchers from the University at Buffalo (UB) *Groundwater Research Group* and *Center for Computational Research*, working closely with USGS scientists in Long Island and USG Headquarters. The UB computational scientists have developed techniques to combine the computational power of thousands of independent desktop computers into a single "massively parallel" system. The user of such a system would interact with a single desktop computer in a normal fashion. However, the actual calculations behind the model would be performed by thousands of computers, perhaps located in different buildings or even cities. The time required to perform a given model simulation would be reduced roughly in proportion to the number of computers connected to the system. For example, simulations that currently require hours or days of computing time could be reduced to minutes; alternatively, thousands of different well configurations could be analyzed in the time that it currently takes to perform one simulation.

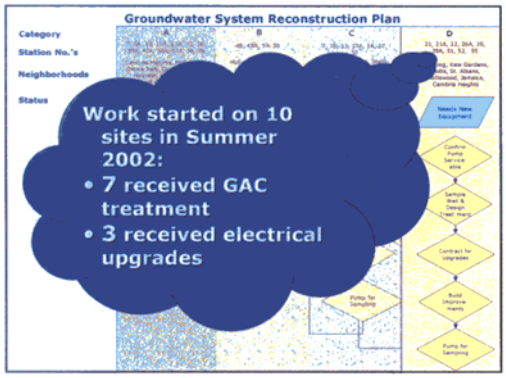
The UB study will analyze and improve the performance of USGS groundwater and seawater intrusion models for applications that are currently very time consuming. One of the primary case studies will be the Long Island aquifer system. Although the activities of the project are generic and not directly connected with the BQA project, the tools developed in the research could greatly enhance the performance of future computer models developed to manage the BQA system.

Attachment C

Groundwater Well Reconstruction Update

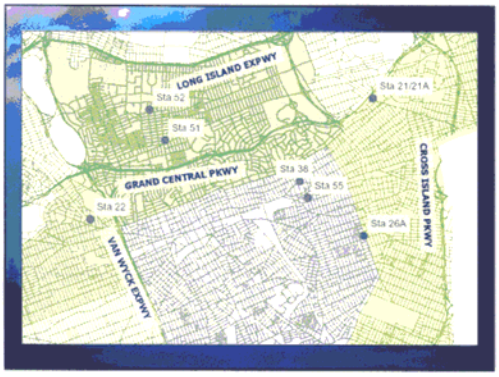
Citizens Advisory Committee Meeting

March 4, 2004



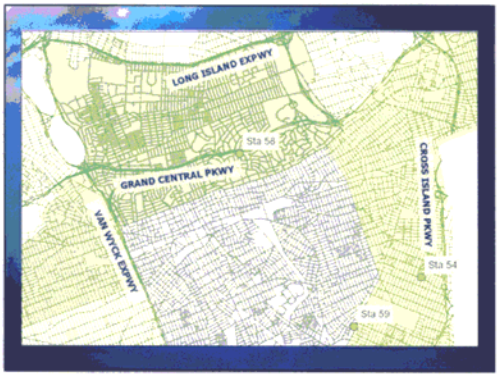
Well Locations with GAC Treatment

- Station 21 – Holliswood (CB-13)
- Station 22 – Kew Gardens (CB-9)
- Station 26 – St. Albans (CB-13)
- Station 38 – Hollis (CB-12)
- Station 51 – Flushing (CB-8)
- Station 52 – Flushing (CB-8)
- Station 55 – Springfield Gardens (CB12)



Well Locations with Electrical Work ONLY

- Station 54 – Cambria Heights (CB-13)
- Station 58 – Jamaica (CB-8)
- Station 59 – Springfield Gardens (CB-12)



Station 21

Station 22

Station 51

Adjacent to 2-story home

Water Quality at Station 21

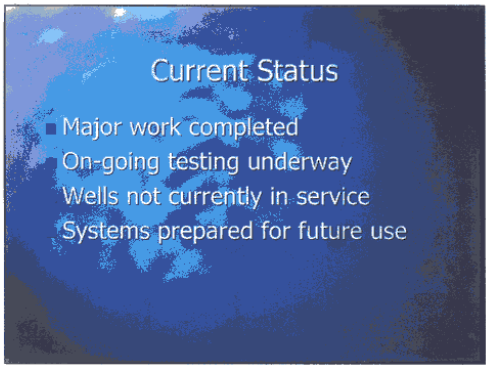
	Raw Water (µg/L)	Treated Water (µg/L)
PCE	15	Not Detected
TCE	1.2	Not Detected
Freon-12 (Dichlorodifluoro -methane)	8.6	Not Detected

Water Quality at Station 52

	Raw Water (µg/L)	Treated Water (µg/L)
PCE	11	Not Detected
MTBE	1.0	Not Detected

Water Quality at Station 55

	Raw Water (µg/L)	Treated Water (µg/L)
PCE	70	Not Detected
TCE	3.0	Not Detected
Cis-1,2-Dichloroethylene	8.5	Not Detected


Current Status
Major work completed
On-going testing underway
Wells not currently in service
Systems prepared for future use