MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Re: Minutes of the meeting of September 23, 2013
Date: October 8, 2013

PRESENT:	**REGRETS:**
N. Bartilucci	M. Alarcon
H. Bokuniewicz	R. Alvey
S. Colabufo	P. Granger
C. Gallagher	L. Koppelman
D. Paquette	R. Liebe
A. Rapiejko	R. Mazza
K. Roberts	M. Nofi
W. Spitz	M. Scorca
S. Terracciano	

1. There were no comments of the minutes of the last meeting (June 3, 2013).

2. A proposal has been developed by Peconics Green Growth for the LI Economics Development Council to undertake a study of specialized septic systems for nitrogen control. The proposal is noteworthy because it recognizes the importance of limitations of existing technology (lack of space on private lots, high cost, maintenance needs) and looks to develop new approaches that might be practical on Long Island. H2M had reached a similar conclusion (attached); we do not yet have plausible on-site systems for Long Island. Sewering does work but there is no longer Federal money to defray the costs.

3. Mr. Sweeney's Bill 81631 (Water Pollution Control Act) calls for four commissions to be created and run by the DEC. These would be a Water Quality Commission, a Citizen's Advisory Commission, a Commission in of Elected Officials and a Technical Advisory Committee. It is intended that this initiative be undertaken at no cost to the state.

4. As we have discussed previously, the Long Island Clean Water Partnership, comprised of the Citizens Campaign for the Environment, the Group for the East End, the Nature Conservancy and the Pine Barrens Society. This group had distributed "Water Worries" in conjunction with the Peconic Bay Keeper a couple of years ago (2012?). In general, they are calling for public pressure for more regulation. Nitrogen seems to be prioritized as the major issue. In contrast to the Thorne-Holst proposal (item 2) the message seems to have been that the technology for nitrogen removal exists now and should be mandated on Long Island. It was noted that water quality and remediation are not the only concern, perhaps not even the principal, concern of these groups, and that further regulations are envisioned to limit further development.

They have recently obtained three million dollars from the Rauch Foundation for a three-year period. As part of this program, News 12 Long Island and Newsday will have special "investigations" under the title "What's in the Water"

	News 12	**Newsday**
Monday	"Toxic Trails"	"Wastewater dangers"
Tuesday	"How Much is too much" (Pesticides)	"Superfund sites"
Wednesday	"Burden on the Bays"	
Thursday	"Cancer"	"Water Use"
Friday	"Going with the flow"	"Composting Fallout"

In discussion, it seems that few of the experts at this meeting had been contacted to provide input to the investigation. Government employees are prohibited from talking to reporters etc. without permission. In addition, as staffs shrink expertise in these fields continues to be lost, hampering any system of checks-and-balances in addressing these issues. Without a balanced approach there should be concern that a "fear factor" will lead us into hasty and ill-advised decisions. As monitoring and research continues to be phased out, information for making management decisions is increasing outdated, non-existent or biased. The Suffolk County Department of Health Services, for example, collected some 1300 samples from industrial sites in 2006, but less than 200 in both 2011 and 2012. There is only one technician testing private wells. No water sampling has been done by the State in three years.

There also seems to be an unbalanced interest in nitrate as "the" problem. While it is a concern, there are other issues such as VOCs, GACs etc. that may be more of a threat to the public water supply.

5. Despite severe shortfalls in funding, progress is being made on several student projects at the University.

    a. Caitlin Young should defend her Ph.D. this Fall. Caitlin has been working on the flow of groundwater and nitrogen under the shoreline and into Stony Brook and Port Jefferson harbors. In Port Jefferson, she figures the nitrogen contribution from groundwater is comparable to the STP input.[1]
    b. Joe Tamborski has begun research on underflow of freshwater and nitrogen into Smithtown Bay. He spoke about his project to the Council in May. He has been awarded a NASA fellowship for studies of these processes and several members of the Council were kind enough to write letters in support of our proposal for his research for the Sea Grant Institute. [2]
    c. Coreyn Goddard and I met with Andy in June about plumes from composting facilities. Andy sent us well data and Coreyn has made some progress but it has been limited so far by her academic commitments. The project is unfunded; however, the DEC report on these issues at the Great Gardens Facility on Horseblock Road had been released in July. It recommended "university" research.

[1] Since the meeting, Caitlin has accepted a post-doctoral position with Dr. Martin at the University of Florida (Gainesville) to continue research on these topics.
[2] Since the meeting, we have been notified that this proposal was funded. (Of course, now there's a government shutdown, but . . .)

d. An in-vessel bioreactor and gasification system is being considered. This would be the first such system east of Ohio. The Town may be the lead agency and implementation will need approval from the Suffolk County Department of Health Services. There are ten or eleven other sites at which the usual suite of contaminants associated with compost are seen (Mn, metals, barium etc.). Chromium has been detected at another site (BBS Lumber) near a compost pile. The issue apparently has not arisen in Nassau County but, after Sandy, large amounts of yard waste accumulated.

e. The Town of Brookhaven is still interested in installing and monitoring a permeable reactive barrier along about 130 yards of Riviera Drive on the north shore of Wills Creek (into the Forge River). We have a proposal in to monitor the site but funding is still pending. A PRB is essentially a trench below the water table, filled with sawdust to provide a carbon source for denitrification. The recent concern on composting however may mean that sawdust is not as innocuous as thought.

f. Two of the USGS staff are in the University Hydrogeology Program. Riley Behrens is studying the storm surge impacts due to Sandy. Jason Finklestein is working on crop circles to provide estimates of irrigation recharge the USGS's North Atlantic Coastal Plain study.

6. With the start of the new academic year, students may be looking for projects:

a. We still have the project to look at salt flushing in the vadose zone that we started last spring. The student, who started on this project last year, abandoned it, but a new person may want to pick it up.

b. The subject of bathing beach closures is another possibility. We had done some work on the Laurel Hollow Beach but couldn't identify a "smoking gun" http://www.somas.stonybrook.edu/institutes/LIGRIsbuLauralHollow.pdf . This research could be continued. (It seems odd that beaches on the west side of Oyster Bay in Nassau County seem to be closed more frequently than those on the eastern shore in Suffolk County). At Laure Hollow Beach, it seems that closures are frequent until the Fourth of July but happens less frequently after that. Precautionary closures routinely follow heavy rainstorms. The USGS has a web-page "Beaches Now" for pulling together data on water quality. EPA has a forecasting program that might be tried.

c. Investigation of soil-vapor intrusion also would be interesting. Under slabs and in basements soil vapor can be elevated, PERC for example might reach 100 ppm. At Oser Avenue in Hauppauge, several hundred homes in a development were tested. Vapor testing below the foundation slabs found a few with elevated concentrations of VOCs . Nearby wells had only 15 ppb VOC, but still soil vapor concentrations were high even though submerged under fifteen feet of clean water. It's possible these were due to local (homeowner or contractor) spills of, say turpentine. PERC and TCA are also detected.

d. We had considered geothermal systems before. Cornell now has a Graduate Center to look at environmental issues. Cornell apparently will be taking over a hospital with a geothermal system.

7. An interesting note: At a storm water drainage site the USGS is investigating along the Major Deegan, David Moskowitz (EcolSciences, Inc.) has constructed a "floating wetland" soil supported on a bed of (floating) foam.

Paul Mankiewicz, Ph.D., Biologist/Plant Scientist, (Paul serves as the Executive Director of the Gaia Institute) and The Bronx Council for Environmental Quality have created a popup wetland (http://www.dnainfo.com/new-york/20130919/concourse/bronx-environmentalists-install-pop-up-wetland-collect-highway-runoff) that collects precipitation draining off the from the Major Deegan Expressway into the Harlem River. Unique to the design is that the soil floats.

The USGS is working with the BCEQ to assess the quality of storm water being diverted into the pop up wetland. The goal is to better understand the types and relative concentrations of roadway contaminants (for example, metals and petroleum-related organic compounds). Results will provide a metric for accounting the amount of contaminated runoff captured by the wetland and will be used in the design and establishment of a park at Pier V near Yankee Stadium.

8. The next meeting will be on Monday, October 21, 2013 at the offices of Dvirka and Bartilucci in Woodbury, 9:30 – 11 AM. The November meeting will be on Monday, November 18, 2013.

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