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VIA EMAIL AND FIRST CLASS MAIL

December 12, 2017

Mr. Stan Carey
Mr. Jeff Szabo
Alternating Chairs
Long Island Coalition for Aquifer Protection
C/O Suffolk County Water Authority
260 Motor Parkway
Hauppauge, NY 11788

Dear Mr. Carey and Mr. Szabo,

Thank you accepting my comments on the Draft Groundwater Resources Plan (DGRMP) prepared by the Long Island Coalition for Aquifer Protection (LICAP). I want to thank all who contributed their time and knowledge to the draft. I know completing the report took substantial effort.

Before I comment on the DGRMP itself, I would like to address some procedural issues concerning the public participation, access to the report and the manner in which public hearings were planned and noticed.

The hearings were originally scheduled for late October/early November, prior to the DGRMP being made available to elected officials or to the public. My office requested a copy of the report on October 12, but we were told it would not be released for two weeks in order to incorporate comments from the previous LICAP meeting into the document.

Subsequently, the hearings were moved to late November/early December. My office received a copy on 11/8 only after a second request. Although the hearing dates were on LICAP's website,

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initially there was no explanation of why the hearings were being held nor was there a link to or copy of the plan on the website. This was rectified after my office alerted SCWA to the deficiency. However, there was no mention of how to submit public comments, to whom the comments should be submitted or the deadline for submission. In addition, there is no contact information on the LICAP website.

In regards to the hearing in Riverhead on December 6, there was confusion and misinformation about the venue. At least two emails were sent out to stakeholders misidentifying the venue as 423 Griffing Avenue, Riverhead, when in fact the proper venue was the legislative auditorium located at 300 Center Drive, Riverhead. One hearing attendee testified he was late because the notice in Newsday listed 423 Griffing as the venue as well. On the evening of the meeting, my staff had contact with three persons who went to the wrong venue. Perhaps others who wanted to attend did not because of this confusion.

My office was informed that the sub-committee reports will not be available as appendices until the final GRMP is approved which is anticipated to happen at tomorrow's LICAP meeting. The public would have benefited from having access to these reports before the vote, especially the report on the Management Opportunities, which explored the creation of an alternate management entity which was a mandate of the original legislation creating LICAP.

Because of the issues I have outlined above, I request that you delay the vote on the draft document, extend the comment period for a minimum of 30 days and clearly outline the mechanisms for submitting written comments on the LICAP website.

For a report that was three years in the making and of such importance, the public was given less than 30 days to review. This is an inadequate amount of time to read, comprehend and comment on a 236 page document. Before voting on the final GWMP, staff should be given time to address the public comment, amend the report as necessary in response to comments received and then the public must be given ample time to review. As a general matter, I request in the future, LICAP do a better job of making documents available and keeping the public informed.

The DGWMP contains important information and data and I appreciate the time and effort it took to pull it all together, analyze and publish in the report. However, as many had pointed out at the hearing, it was not reader friendly, it lacked a table of contents and the chapters were not clearly delineated.

As you are aware, the formation of LICAP was established by the Legislatures of Suffolk and Nassau Counties to address threats, of which there are many, to Long Island's sole-source aquifer and to lay the groundwork for regional groundwater management, conservation and protection. According to Suffolk County's authorizing resolution, *LICAP is intended to be a temporary commission charged with gathering relevant data on groundwater issues and*

preparing a State of the Aquifer Report and a Groundwater Management Plan that should for the scientific underpinning for a yet to be established entity.

I would be more inclined to support the reauthorization of LICAP (executive summary recommendation #13) if the commission is expanded and populated with more diverse and technically proficient voting members from different stakeholder organizations. Since the idea of an entity like LICAP was first considered, I have advocated that representatives from Cornell Cooperative Extension (CCE) of Suffolk County and Suffolk County Soil and Water Conservation District (SCS&WCD) sit on LICAP as voting members. I would recommend that a representative from Nassau County Soil and Water Conservation District have representation as well. These entities have significant resources, can offer invaluable technical assistance and should be a part of LICAP's decision making team.

Recommendation for Short-Term Implementation #1 states *Efforts to monitor the freshwater-saltwater interface near shoreline areas should be continued or enhanced.* CCE has staff members who are expert in this area. The effects of groundwater on surface waters are crucial to the development and implementation of any groundwater management plan and LICAP would be benefit from their participation.

The sole mission of the Soil and Water Conservation Districts is to protect soil and *groundwater*. As a board member of SCS&WCD, I know firsthand that the staff is experienced, professional and knowledgeable; they have worked with both landowners and municipalities to establish and adopt Best Management Practices (BMPs), they have designed irrigation plans for peak demand (executive summary recommendation #4) and they conduct several evaluations every month on projects that can affect ground water quality and they have expertise to comment before municipal planning boards (executive summary recommendation #12). They also have the vast resources of the USDA's Natural Resources Conservation Service (NRCS) at their disposal.

Many of the recommendations in the report are not fleshed out and don't provide a clear path for solutions moving forward. For example, the section on Conservation Pricing, which would be an important key component of conserving the resource, is given only two paragraphs, with no supporting data in the section or projections of water costs into the future.

The science of re-using or the reclaiming water is in a somewhat nascent stage, but it is a critical factor in addressing the threats to the quantity of water. As is pointed out in the DGMWP, the Riverhead Sewage Treatment Plant recently upgraded operations and using some of the treated effluent to irrigate the adjacent Suffolk County golf course. I recently participated in the inaugural meeting of the Long Island Nitrogen Action Plan's Water Reuse Working Group where many innovative ideas were discussed. These are the types of ideas that must be expanded upon and implemented.

The over-development of Long Island has put both the quality as well as a sustainable quantity of groundwater in extreme jeopardy by not only polluting the aquifer, but be substantially

decreasing recharge capacity. Land preservation not only limits development, but it provides open space to provide for recharge. I was gratified to see this DGWMP identifies preservation as a key component of groundwater protection and identified current preservation programs, but the report offers no goals or makes no recommendations on how to prioritize parcels which are important to protecting water quality or how to achieve a better rate of land preservation.

Thank you for the opportunity to submit these comments and I look forward to continuing to work collaboratively to protect this vitally important resource.

Sincerely,

Al Krupski

Al Krupski
Suffolk County Legislature

CC: Presiding Officer DuWayne Gregory
Members of the Suffolk County Legislature
Suffolk County Executive Steve Bellone

STRATEGY FOR PROTECTING AND MANAGING THE GROUNDWATER SUPPLY OF NASSAU AND SUFFOLK COUNTIES

DECEMBER 5, 2017

THE **STRATEGY** PRESENTED IN THIS BRIEF DOCUMENT IS A REALISTIC APPROACH THAT FINALLY MOVES BEYOND THE *STATUS QUO*, AND PUTS LONG ISLAND ON A SUCCESSFUL PATH FOR EFFECTIVE, SUSTAINABLE AND EQUITABLE GROUNDWATER MANAGEMENT.

PREPARED BY

SARAH MEYLAND: NASSAU COUNTY LEGISLATURE MINORITY LEADER REPRESENTATIVE

JARED HERSHKOWITZ: SUFFOLK COUNTY LEGISLATURE'S PRESIDING OFFICER REPRESENTATIVE

AND

REPRESENTATIVES OF *WATER FOR LONG ISLAND*

STRATEGY FOR PROTECTING AND MANAGING
THE GROUNDWATER SUPPLY OF
NASSAU AND SUFFOLK COUNTIES
December 5, 2017

LEARNING FROM THE PAST TO PLAN FOR A BETTER FUTURE

"Water to the country is like blood to a human being," Prime Minister Levi Eshkol of Israel.

"There are solutions to our water problems. Let's let the engineers and geologists lead the way," Seth M. Siegel, author of *Let There Be Water.*

Introduction

Since 1978 and the publication of the *L.I. 208 Study*[1], there have been at least 15 major groundwater studies on Long Island. All the studies were helpful in identifying the problems of the day; and in proposing ways to improve groundwater quality and sometimes quantity as well.[2] But the one thing all these studies have in common is very few of their recommendations have ever been fully implemented.

Now, 40 years later, we see clearly that despite our sincerest wishes, major changes in how groundwater is protected, managed, studied, and regulated have not been realized; and groundwater quality and quantity have continued to decline. The question that must be fully addressed now, after four decades of living with the *status quo*, is why would Long Island choose to continue this unsuccessful approach when real change is needed? Why stay with the *status quo* when we can see how other organizations in New York State are serving as effective water resource stewards? If hindsight has shown us anything, it is that 40 years is long enough to follow the old ways. We believe that Long Islanders truly want a sustainable and reliable source of clean and healthful drinking water; therefore, we must forge a new approach. Although change is unsettling, failure to take the action that is called for now guarantees that Long Islanders will come to regret this failure to tackle the hard realities regarding their groundwater. The future we should all work to achieve requires strong, necessary change and a willingness to work for the interests of all stakeholders – not joining those who would pursue another 40 years of the *status quo.*

Today

The strategy presented in this brief report is a response to the Long Island Commission on Aquifer Protection (LICAP) Report because the most significant tasks assigned to LICAP – those intended to move Long Island beyond the *status quo* – are as yet unaddressed. This strategy is a realistic approach that finally moves beyond what has not worked for 40 years and puts Long Island on a successful path for effective and equitable groundwater management.

LICAP, the Long Island Commission for Aquifer Protection, was established by legislative resolutions in Nassau and Suffolk Counties in 2013. The county resolutions assigned a list of tasks to LICAP to be completed as part of its overall mandate for change. The rationale for LICAP's creation described the decentralized nature of local governmental entities that limits the ability of the two counties to address water quality issues and called

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[1] Long Island Comprehensive Wastewater Management Study, LI Regional Planning Board, 1978. See *Appendix A* for a list of the numerous groundwater plans and studies since 1978.

[2] The LICAP *Groundwater Resources Management Plan* (GRMP) Report 2017 will be the latest regional study to describe the current condition of Long Island groundwater but does not provide a concrete strategy for regional aquifer protection and change.

for **groundwater protection strategies that are best handled on a broad geographic scale.**[3] *We agree with this assessment.*

The resolutions also called for the development of a "Groundwater Resources Management Plan that should form **the scientific underpinning for a yet to be established entity**" [emphasis added] capable of meeting the groundwater management needs of the region. *We agree with this goal as well.*

The county resolutions listed eight specific tasks (A – H) that were to be presented in the *Groundwater Resources Management Plan* (GWRMP). While some of the tasks (A, B, C, and F) have been met in the current GWRMP and is the subject of the LICAP hearings (November and December, 2017), many of the most significant tasks (D, E, G, and H) – those that would move Long Island beyond the *status quo* – are not addressed.

The specific components missing or inadequately covered in the LICAP Report are:

> "D. assessment of adequacy of existing groundwater-management regulations;
> "E. management opportunities;
> "G. methods for implementing the recommendations and proposed regulatory amendments; and
> "H. implementation program, including stakeholders, roles and responsibilities, prioritization of actions, schedule and costs…."[4]

Managing Long Island's Groundwater: A New and Workable Approach

Although LICAP was specifically charged with providing a strategy that included recommending a regional management entity, LICAP has chosen to reject this task and avoided the specific task of addressing management opportunities.

To underscore its aversion to regional management, LICAP voted to officially reject the concept of a regional groundwater management entity (October 12, 2017). This was in spite of being aware that a reasonable and rational path to regional groundwater management is available and working in upstate New York and around the nation.[5] Single purpose water management agencies in the form of water management compacts are managing the major surface water resources across New York State, including the Delaware River watershed, the Susquehanna and Chemung Rivers watershed, and the Great Lakes and St. Lawrence River watersheds, to list just a few. These compacts serve approximately 70% of the State of New York. They have taken on all the tasks of managing their respective river systems. The Delaware and Susquehanna agencies also regulate the inter-connected groundwater resources in their watersheds.

Regional compacts address water issues such as: sustainable in-stream flow (comparable to groundwater sustainability), flood control, drought planning, water quality protection and improvement, ecosystem quality, water withdrawal permits (surface and groundwater), long-range planning, scientific studies with the US Geological Survey (USGS) and others, public reporting and education, and more. While compacts have taken over the responsibility of water management, they still work cooperatively with the NYS DEC and other state and federal agencies.

Compacts oversee river systems that flow into adjacent states. Accordingly, upstate compacts are multi-state organizations. The Great Lakes compact, for example, includes the eight States, Canada and several Canadian provinces who all share the same water resource. Compacts are staffed with scientists and water management experts who apply sound science to formulate appropriate water management practices and programs.

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[3] Nassau County Resolution 242-13, adopted December 2013; Suffolk County Resolution 1565-2013, adopted October 2013.

[4] *Ibid.*

[5] See the LICAP GRMP Report, 2017, Section 1: Introduction and Executive Summary, Recommendation 15, page 3.

Creating a Long Island-based Compact - - How It Would Work

Long Island does not have the benefit of a comprehensive system of oversight, regulation, management and protection of its groundwater. The New York State Department of Environmental Conservation (NYS DEC) is the agency responsible for regional groundwater oversight, but it is limited in its ability to provide services comparable to the upstate compacts.[6] For example, the State under the DEC does not underwrite the annual cost of Long Island groundwater and stream flow monitoring for either quantity or quantity. That burden is left to local government to fund through cooperative agreements with the USGS.[7] This would change with a regional groundwater compact, modeled on upstate agencies but customized for our specific challenges and reflecting our regional and local concerns for groundwater.[8]

A Long Island groundwater compact would have a local board of directors (e.g. 11), all of whom would have groundwater, hydrology and/or water management expertise. Enabling legislation passed at the state level would authorize a groundwater compact to perform some duties now the job of the NYS DEC and others duties that are not currently being covered or performed, such as: drought planning and management; recharge enhancement; water quality and quantity monitoring; routine data collection and investigations with the USGS; an updated and enhanced water permit program and groundwater withdrawal strategies; regional Superfund oversight, planning and remediation coordination; revised wastewater discharge regulations, monitoring and enforcement; regional water conservation planning; regular public reporting on water quality and quantity issues; enhanced regional groundwater modeling; heightened attention to protecting the Lloyd aquifer; special attention to saltwater intrusion; and implementation of findings from regional studies; and enforcement.

The compact would continue to cooperate with the NYS DEC, state and local health departments and other local agencies involved with groundwater or water resources on Long Island and within the larger metropolitan area. By assigning water oversight responsibilities to a compact-like groundwater agency, the DEC will have more time to attend to its many other areas of responsibility. See the *Appendix B* for a list of the many programs under the jurisdiction of the NYS DEC.

LICAP has rejected a continued discussion of a future regional groundwater management entity. LICAP also voted (10-2-2017) to reject the establishment of a regional groundwater management entity, preferring to continue with the *status quo*.[9] At the same time (10-2-2017), LICAP voted to support an extension of its own authorization for another 5 years.

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[6] DiNapoli, Thomas, *Environmental Funding in New York State 2014*, Office of Budget & Policy Analysis, NY State Comptroller, www.osc.state.ny.us This report documents the lack of funding and personnel at the NYS DEC which has hampered its ability to fulfill its many duties intended to protect the state's environment and enforce its laws.

[7] Compacts are mainly self-funded. Their budgets are derived from fees for services and for water provided by the compacts to local users. States pay annual dues to the compacts that amount to only a small part of their overall budgets. For Long Island, regional groundwater management could be achieved for as little as $3.50 per person per year, collected as water use fees - - comparable in cost per person to one cup of premium coffee a year. An annual budget of $10-12 million would be supplied through the water use fee. State and local government funding would not be needed.

[8] A Long Island groundwater compact would enter into long term contracts with the USGS and other research entities to undertake annual monitoring activities as well as funding special research studies to improve groundwater knowledge for management purposes.

[9] Recommendation #15 from LICAP GRMP (2017) states: "Do not create any state or regional entity to provide oversight of drinking water because the power to regulate and protect water on a regional basis is already vested in the New York State Department of health and the New York State Department of Environmental Conservation." Pg. 3.

The next section of this report provides a brief outline of the actions and priorities that a regional groundwater management agency should undertake to make our drinking water supply sustainable and safe for present and future residents of Nassau and Suffolk Counties. It presents the priority actions needed and the timeline for those actions. It is an **action plan** for the next 20 years. It is a different path from the one offered by LICAP.

A GROUNDWATER MANAGEMENT STRATEGY FOR LONG ISLAND

The following strategy is a blueprint for regional groundwater management by a designated management agency such as a compact. It is not intended to be an update on groundwater conditions.
The LICAP Report already provides an update on groundwater issues in Nassau and Suffolk Counties.

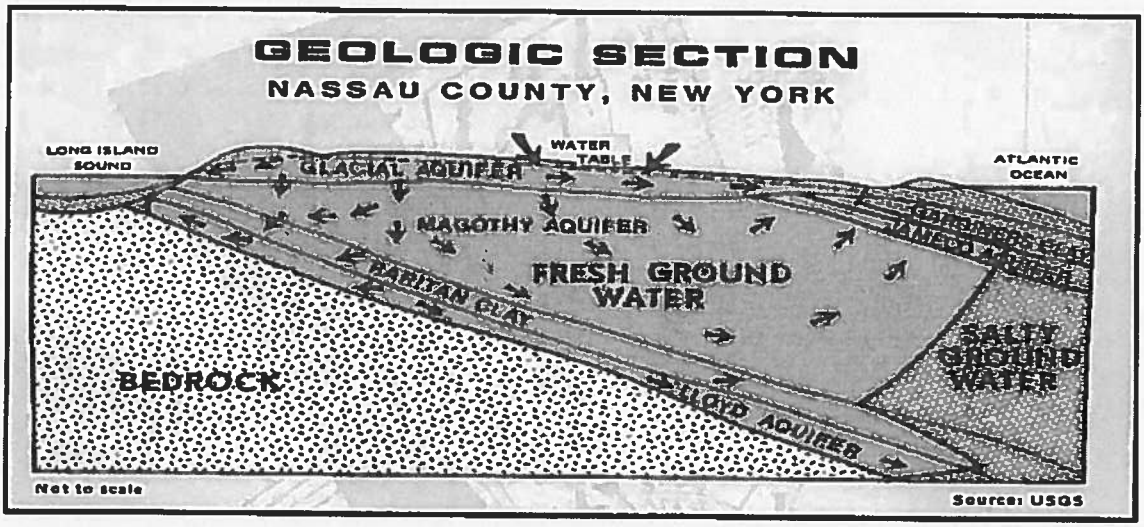
The strategy presented here takes the important next step by identifying or organizing the major challenges confronting Long Island groundwater. This strategy specifically identifies the priority issues that require immediate action and establishes an overall strategic plan.[10] It does not preclude additional action items from being woven into the overall groundwater management program.

The goal of this strategy is 5-fold:

a) To change groundwater use from unsustainable to sustainable;
b) To stop the continuing degradation in groundwater quality from legacy pollution and new sources of pollution as well;
c) To implement programs to tackle the highest priority issues first;
d) To provide leadership in groundwater management, oversight, and implementation of science-based policies; and
e) To provide accountability and measurable benchmarks for progress and change, without falling into the trap of annual budget fights that have largely crippled the NYS DEC and various other local agencies. (See the DiNapoli Report, *Environmental Funding in New York State*, 2014.)

Because it will take years to fully implement programs addressing priority problems, this strategy projects a 20-year program that would be implemented in stages to both give time for agencies to prepare and implement a regulatory structure and to spread out the cost so that funding requirements are manageable.

At the end of each 5-year phase, the successes, lessons learned, and the need for changes and/or additional actions will be assessed and incorporated into the ensuing programs as the strategy unfolds.



[10] Funding for this strategy would be provided through the Groundwater Management Agency.

Table One: *The Priority Challenges for Managing Long Island's Groundwater Supply*

A. The Priority Groundwater Issues are:

1. Address **Nitrogen and wastewater impacts** that focus on **groundwater protection.**
2. Address the **chemical pollutants** that have had the greatest impact on groundwater quality – such as **VOCs** (volatile organic compounds) from legacy sites and other sources.
3. Address the problems of **emerging contaminants** and all matters related to these pollutants such as: source regulation, standard setting, treatment, and funding.
4. Address **groundwater quantity** issues and saltwater intrusion impacts - - to ensure that groundwater use is sustainable and does not create undesirable impacts.
5. Establish effective approaches to **inform and engage the public** so that they understand and support the changes that will be needed to protect and manage groundwater for the long term.

B. In order to implement a long-term groundwater management strategy with oversight and enforcement, a single-purpose, **regional Groundwater Management Agency** (GMA) should be created, with the necessary authority, tools and funding issues addressed. This agency will lead the work to achieve effective groundwater oversight, planning, implementation and enforcement policies and programs.

I. First Five-Year Phase of the Strategy (Years 1-5)

The programs described below are designed to address the most critical management needs first and to develop the information that will be required for programs that follow later as well as implementing essential actions. The regional groundwater management agency will need to be established as soon as possible and it will carry out the main job on implementing these recommendations and programs.

Task 1 — Nitrogen Action Plan/Wastewater Treatment
A significant effort is underway to reduce the impact of nitrogen entering surface waters. However, a program focused specifically on the groundwater system has not received a similar level of attention. In this task the Groundwater Management Agency (GMA) will develop an action plan to reduce wastewater discharge impacts and fertilizer use impacts on groundwater. It will work with Long Island Nitrogen Action Plan (LINAP) committees to ensure changes are made to wastewater policies and regulations (such as the SPDES program) to better protect groundwater.

The GMA will coordinate with county and state agencies already involved in nitrogen control planning. A different regulatory approach will be needed to ensure that new and evolving sewage treatment technologies continue to be utilized and installed over the long term. Better nitrogen removal is needed beyond what is presently available. However, nitrogen is not the only wastewater pollutant of concern.

In addition to nitrogen, **other pollutants** must be addressed (e.g., emerging pollutants, unregulated pollutants, PPCPs, etc.)[11] **to prevent them from being discharged within wastewater effluent.** Whether the treatment method is an on-site system or centralized treatment, a broader interpretation of what is acceptable effluent quality is needed if the discharge is to groundwater. Current SPDES programs are designed for discharges to surface water. Long Island needs discharge rules that reflect the different behavior of discharges into

[11] "PPCPs" stands for pharmaceuticals and personal care products. Unregulated pollutants includes chemicals such as PFOA, PFOS, PFCs, 1,4 Dioxane and similar compounds that are being detected in Long Island groundwater.

groundwater. An analysis of the benefits of centralized sewering vs. on-site systems for the long-term protection of groundwater is necessary. Along with higher treatment standards, recharge to groundwater should be encouraged when treated wastewater quality significantly improves. The goal of Task One is to have the new regulatory structure for nitrogen/wastewater impact reduction in place by the end of the first 5-year period.

Presently, the development of a LI Nitrogen Action Plan is being conducted somewhat out of public view. We support actions to increase its visibility in order to obtain as much citizen support for the program as possible (see Tasks 6 and 9 below).

Task 2 — Update and Enforce the SWAP Program

A second critical effort should be the protection of the water districts' public supply wells which provide drinking water to the vast majority of Long Island residents. The goal of this task is to update and enforce Source Water Protection Program (SWAP) plans for public supply wells. The original program was begun nearly 20 years ago. GMA would cooperate with the New York State Department of Health (NYSDOH) that is responsible for the program (under the federal Safe Drinking Water Act) along with water suppliers who prepare and implement the plans. The purpose of this task is to ensure that sources of contamination that pose a risk to public supply wells are eliminated, contained, or neutralized as quickly and effectively as possible. It is essential for these plans to be updated periodically to identify land development activities occurring now and in the future, that can put well sites at risk. This information should to be shared (while respecting confidentiality regulations) with local land use planning agencies, especially in areas that could be used for public supply wells in the future

Task 3 — Data Gathering for Future Decision Making

This task involves developing formal plans to obtain the groundwater data necessary for making sound decisions in the future. It is important that existing studies (Sustainability Study, Watershed Time-of-Travel Study, Age of Groundwater Study, and others, by the USGS) be completed on time. The findings and new data from these studies should be incorporated into regional and sub-regional numerical groundwater models. A specific program should be established for continued monitoring of groundwater quality and quantity conditions and keeping the models up-to-date. Groundwater modeling predictions should be routinely reviewed and shared with all interested agencies as part of the regional groundwater management program. A new program to map, display and disseminate data results of contaminants in groundwater, regional Superfund plumes, and groundwater withdrawal strategies should be developed. The USGS in cooperation with the GMA and any interested agencies involved in these issues would undertake these activities.

Task 3A — Development of an Island-Wide Groundwater Model

Another critical need is the development and implementation of an island-wide digital groundwater model as a tool for guiding groundwater management decisions. This effort has already underway by through the US Geological Survey (USGS) and NYS DEC Sustainability Project. A regional model to define issues of groundwater quantity sustainability is being developed. It will help define the saltwater interface in the aquifers of Long Island as well as the vulnerability of the Lloyd Aquifer. It is essential that the first phase of this study be completed by the end of the first five-year period.

A separate effort is needed to monitor, analyze, and map groundwater quality. The GMA will help move these efforts to completion. It can also become a source of funding for future programs that build on this strong foundation of new groundwater information and maintain an on-going effort to better understand and oversee the groundwater system. The GMA will also work to keep the regional models and sub-regional models up to date with current groundwater data.

Task 3B — Development of a Groundwater Monitoring Plan

At present, groundwater monitoring is being performed by the USGS, Suffolk County Health Department, Nassau County DPW, the NYSDEC (e.g. Superfund remediation program), and water suppliers - - all of which is uncoordinated. The GMA will review all the programs and develop a comprehensive monitoring program

using the most effective parts of the various programs. It will then work will all involved agencies to coordinate their activities. (An alternative is to obtain funding for the USGS to conduct this task.) This will not only obtain priority data but will also minimize cost by avoiding duplicated effort. If necessary, additional monitoring well installations will be proposed where there are gaps in critical data. At the end of this period, the groundwater monitoring program will be implemented with new monitoring wells installed, as necessary.

At the same time, the GMA will coordinate the entry of existing data from all the above agencies into WaterTraq, or other appropriate data base, with a goal of completing data entry by the end of the first five-year period.

Task 4 — Public Outreach Program

The development of a groundwater management strategy with wide support is dependent upon support of the resident population. For this reason, the GMA will create and implement a public outreach program that not only shows why an overall strategy is necessary but also provides periodic updates that are widely distributed. The GMA will dedicate a portion of its staff to this program that will consist of presentations to interested groups, sharing new information through its web site and other social media platforms, preparation of pamphlets that can be distributed with water bills, posts to social media and various public meetings. The model for this approach is the program prepared by Israel's National Water Carrier to obtain support for a nation-wide water management program which is described in *Let There Be Water* (2015) by Seth M. Siegel.

II. Second Five-Year Phase (Years 6-10)

The goal of the second five-year period is to continue the programs begun during the first five-year phase such as implementing the nitrogen/wastewater action, community outreach, data collection/modeling, and the SWAP programs and to start a new set of tasks.

Task 5 — Development of a Groundwater Quantity Withdrawal and Conservation Program

The GMA, working in cooperation with the USGS, NYS DEC, water suppliers and others will analyze groundwater pumpage patterns and impacts by all significant water users on Long Island. Based on the analysis findings, a withdrawal plan will be proposed to ensure that all stakeholders have an adequate source of water and a plan to address potential shortages. The GMA will utilize the USGS Sustainability Study results and regional model to address trends in pumping practices, and analyze a number of related management issues and scenarios.

Some of the related issues the GMA will evaluate include: drought impacts and potential shortages; the impact of climate change on the groundwater quantity; trends in weather vs. water demand; the potential effects of salt water intrusion; opportunities for enhanced recharge; recharge basins management; and the cost/benefits of large-scale water transportation and redistribution within and across county boundaries. The Lloyd Moratorium will be faithfully and fully implemented and a model protocol for Lloyd well applications and permits will be developed. This work will be coordinated with revisions to the Long Island well permit program, including making it more transparent.

A second part of this task is to propose a regional water conservation plan that will include incentives (including pricing) to save water, reduce waste, a public outreach program to explain the issues of over-consumption, drought planning, and recommendations on land use policies that affect water use.

Task 5A – Update the Long Island Well Permit Program

Following the results of the USGS/DEC Sustainability Study, the Long Island well permit program will be updated to provide a more consistent application of protocols, impact reviews, hydrologic assessment, withdrawal locations, and other details that are not currently part of the permitting process. Specific protocols will be prepared and implemented for geothermal well systems and for Lloyd Aquifer wells. Well permit

renewals will not be routinely reauthorized or granted without public notice and an opportunity for public review and input.[12] Certain well permit information such as basic conditions and special conditions will be available in a searchable database; exact well locations and similar information will not be publically available.

Task 5B – Water Budget Development and Water Conservation

An important outcome of the on-going Sustainability Study will be a new assessment of regional and sub-regional water budgets for each aquifer system. The new insights it provides will be applied to the redesign of the L.I. Well Permit program. The redesign will incorporate the results of water demand reduction efforts by public water suppliers begun in 2017.[13] Other major water use sectors such as irrigation uses by golf courses and schools as well as industrial use, agriculture, energy sector use and geothermal use will be addressed in the updated water conservation program. Goals for maximum water use, annual limits on pumpage, public education, customer water use information in billing, and other details will be included in the comprehensive water demand management program. Drought response plans will also be developed in this program.

Task 6 —Water Quality Mapping

The goal of this task is to produce the first regional groundwater quality maps by aquifer, depth, and contaminant. These maps will include Geographic Information System (GIS) maps showing the presence of pollutants such as: inorganic constituents, like nitrates, chloride and perchlorate; organic compounds, such as volatile organic chemicals (VOCs); emerging contaminants, such as 1, 4 Dioxane and perfluorinated compounds (PFCs); radiological compounds; and other commonly detected pollutants. These maps will be presented to the public and others as soon as possible during Phase II and updated every 5 years thereafter as additional data become available and new wells are installed. After the first set of maps, future maps will also identify changes in groundwater quality from one 5-year period to the next. These maps will show areas of impact using contaminant plume contours like those produced for Superfund sites.[14]

Task 7 – Update the Public Outreach Program

The performance and effectiveness of the public outreach program in Phase One will be assessed. Based on this assessment, the program will be updated and improved in Phase Two. A ten-year status report will be made to the public and public offices on the work of the GMA at the mid-way point of the strategy.

III. Third Five-Year Phase (Years 11-15)

The third five-year phase will focus on programs that were not addressed in the earlier Phases. It will also examine refinements to activities initiated in Phases I and II such as withdrawal practices, water conservation, and modeling studies.

Task 8 — Legacy Contamination Sites

A comprehensive program will be developed and implemented to address legacy contaminated sites that are being remediated under Superfund (state and federal), RCRA, Brownfields, Spills Program, Manufactured Gas Sites and Voluntary Cleanup programs. For the most part, this effort will review remediation plans and programs that have been implemented. It will recommend how to improve groundwater protection and/or groundwater conservation. A summary of the most effective remediation practices will be produced and widely disseminated. A common set of best practices will be developed and implemented. A separate report will be prepared that shows cleanup progress for all sites on Long Island. This report will identify those sites that

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[12] Long Island well permits are renewable on a 10-year cycle.

[13] In January 2017 all public water suppliers on Long Island were directed by the NYS DEC to prepare and submit a plan to reduce water use by each water system by 15%. The plans must be approved by the DEC and suppliers will have between 2-3 years to show the reduction results of their programs.

[14] Groundwater quantity stressed areas may also be mapped pursuant to Title 15, § 15 – 1529, Stressed Aquifer Segments.

recharge or recycle treated groundwater and the quantities involved. A comprehensive map of the groundwater plumes for each county from all sites will be produced and made public. The GMA will work with all involved agencies and interest groups to bring about better coordination, public information and education on the remediation progress, and a consistent set of publicly available remediation protocols. This task will be reported on at least once for each subsequent 5-year Phase to identify progress or needed improvement and revisions to plume maps.

Task 9 — State Pollutant Discharge Elimination System (SPDES) Program

The SPDES program is administered by NYS DEC. It regulates the discharge of wastewater and industrial waste discharges into surface and groundwaters of the State through a permit program. First discussed in Task One, SPDES will again be reviewed to assess its effectiveness in improving discharge quality. In Task One, the program was to be revised to regulate groundwater discharges differently. Discharge permits should now be receiving more rigorous review and impact assessment during each 5-year permit renewal period. Using groundwater models, discharges will now be evaluated for their impacts, both short-term and long-term. Specific attention will be given to chemicals being detected in groundwater such as VOCs, pharmaceutical and personal care products (PPCPs), household consumer products, and others. SPDES permits shall address how to limit the presence of these chemicals in wastewater effluent. Groundwater monitoring down-gradient of SPDES discharges to groundwater will be required at the expense of the permit holder and reported in the Discharge Monitoring Reports (DMRs) of permit holders. Changes in wastewater treatment technology will be evaluated.[15]

Task 10 — Further Refinement of Contaminant Mapping and Withdrawal Patterns

This task will involve developing and distributing maps that show groundwater quality and withdrawal patterns by aquifer, sub-region and watershed. These maps will be made available to local governments, planning agencies and others for use in developing their own local programs and policies. It will identify the latest saltwater intrusion information by aquifer. These maps will also be valuable to identify areas that are prime sites for public acquisition as open space to preserve and protect high quality groundwater.

Task 11 — Groundwater Recycling Plan

In Task Five, the GMA developed a water conservation program. This task will specifically develop a water recycling program if it was not fully addressed in Task Five. This will involve evaluating potential recycling opportunities for treated water from municipal wastewater treatment plants and how to distribute recycled water to those customers willing to use it. The use of Aquifer Storage and Recovery (ASR) technologies will also be examined to determine if it is appropriate for Long Island. This effort will identify sites where reinjection/recharge would be most desirable and/or effective from a quantity management perspective. Recommendations will be made as to how to use recycled water.

Task 11A – Climate Change Analysis

A specific assessment of the potential impacts of climate change will be conducted in this task. The likelihood of events such as major hurricanes, drought, coastal flooding along with storm surge impacts and sea level rise, will all be evaluated and the results of this analysis will be incorporated in the development of the regional management plans. Assessment results will also be taken into consideration and incorporated into permits that would need to reflect climate change risks, such as well permits, SPDES permits, and local government policies such as siting, building codes, and community development plans. The outcome of this work will be reviewed and incorporated into Tasks such as 5, 5A, 5B, 8, 9, and 11.

IV. Fourth Five-Year Phase (Years 16-20)

The fourth five-year period will focus on the following issues:

[15] Along with this task, work pursuant to current law, Title 8, §17-0826 (Notification of discharges affecting groundwater) and Title 8, §17-0828 (Discharges affecting ground waters) should be implemented.

Task 12 – Evaluate other environmental regulation programs designed to protect environmental quality that can impact groundwater quality and quantity. Evaluate their effectiveness and recommend upgrades to the programs as appropriate in order to better protect groundwater. Some of the programs that fall within this group are: sand mining operations; composting facilities; solid waste disposal sites; Construction & Demolition (C&D) disposal sites; landfills; pesticide programs; bulk chemical storage; gasoline spill remediation; and UIC (underground injection control program). Recommendations will be made to the appropriate agencies.

Task 13 – Assessment the effectiveness of what has been accomplished to date. Identify necessary changes in the programs and make recommendations for improvements, mid-course corrections, expansions and sun-setting of tasks or programs.

Task 14 — Evaluate the effectiveness of new requirements for emerging contaminants and the adequacy of funding to meet testing and treatment protocols. Develop a program for the next set of issues to be addressed in the coming years. Continue to improve previous tasks and programs.

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Task 15 — Prepare a comprehensive report to the public and public officials to be delivered at the 20-year mark.

Respectfully Submitted,

Sarah Meyland and Jared Hershkowitz, Non-voting Members of LICAP

Nick Valkenburg and

Water for Long Island
December 5, 2017

APPENDIX A:
MAJOR STUDIES AND PLANS SINCE THE 1978 *LI 208 STUDY*

1. *Long Island Comprehensive Waste Treatment Management Plan* (LI 208 Study), 1978, Long Island Regional Planning Board (LIRPB).

2. Numerous Studies of Long Island Groundwater, U.S. Geological Survey, 1906 – present

3. *Master Water Plan of Nassau County, State of New York*, 1980, H2M Corp.

4. *Progress Report from the New York State Commission on Water Resource Needs of Long Island*, 1980 – 1990

5. *The Long Island Segment of the National Urban Runoff Program*, 1982, LIRPB.

6. *Streamflow Augmentation Study* (FANS) within Nassau County Sewage Disposal District 2 and 3, 1982, US EPA and Nassau County DPW.

7. *Groundwater and Public Water Supply Facts for Nassau County*, New York, 1984 – 1999, Nassau County Department of Health

8. *Long Island Groundwater Management Plan*, 1986, NYS Department of Environmental Conservation

9. *Suffolk County Comprehensive Water Resources Management Plan*, 1987, Suffolk County Department of Health Services

10. *New York State Water Resources Management Plan, Long Island Region*, 1989, NYS DOH; NYS Water Resources Planning Council

11. *Nassau County Comprehensive Water Management Plan*, 1989, Nassau County Department of Public Works

12. *Long Island Comprehensive Special Groundwater Protection Area Plan*, 1992, LIRPB.

13. *Nassau County 1998 Groundwater Study*, 1998, Nassau County Department of Public Works and CDM, Inc.

14. *Long Island Source Water Protection Program, Long Island*, 2003, NYS Department of Health

15. *Nassau County Groundwater Monitoring Program, 2000 – 2003*, 2005, Nassau County Department of Public Works

16. *Suffolk County Comprehensive Water Resources Management Plan*, 2015, Suffolk County Department of Health Services

17. Numerous local planning reports, Mater Plans, and land use documents by local governments and planning boards that address groundwater concerns at the County, Town, City, and Village level.

APPENDIX B:
AREAS OF RESPONSIBILITY OF THE NYS DEPARTMENT OF ENVIRONMETNAL CONSERVATION

1. Groundwater Protection; L.I. Well Permit Program; Stateside Water Withdrawal Program
2. Wastewater Discharge Program; SPDES Permit Program
3. Solid Waste Disposal; MSW Landfills; C&D disposal
4. Mineral Resources: Mining; Sand Mining; Restoration
5. Coastal Water Quality
6. Wetlands: Fresh Water and Marine Wetlands
7. Air Quality and Discharge Permits; acid rain, emissions discharges,
8. Pesticides
9. State Superfund Remediation
10. Environmental Remediation; Spills Response
11. RCRA Program and Permits (hazardous waste)
12. Brownfields Program
13. Forest and State Land Management
14. Fish & Wildlife Protection and Management
15. Environmental Permits
16. Surface Waters Protection (Clean Water Act): classification; 303-D List, TMDL program; etc.
17. Climate Change; Sea Level Rise
18. Bulk Storage of Chemicals
19. Radiation Program
20. Compact Representative for NY State (Delaware; Susquehanna; and Great Lakes Compacts)
21. Hudson River Estuary
22. Great Lakes Program
23. New York City Watershed
24. Environmental Justice
25. Enforcement

Long Island Farm Bureau

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Long Island Commission on Aquifer Protection Testimony
November 30, 2017

Long Island Farm Bureau is a membership association representing over 3,000 farmers, fisherman, agri-business people, and individuals interested in a rural quality of life here on Long Island.

We appreciate the many hours it took of hard work and dedication to compile this report and make recommendations. The agricultural industry feels there are a few points and recommendations that need to be addressed before your report is finalized and we are here to assist with comments to better inform the users of this information so they have correct and factual information for future decisions.

As you state in multiple sections of your report, Suffolk County remains one of the largest agricultural producing counties in terms of sales of product in New York State with over $240 million dollars in annual sales. To our credit, municipalities across the county have invested hundreds of millions of dollars to preserve working farmland from development so that farmers will have land to farm in perpetuity and produce the food and fiber necessary to feed our citizens today and into the future.

As a water user, we are disappointed that agriculture did not have a seat at the table to present our industry's perspective and give guidance to the committee on the positive projects the industry is working on to ensure good stewardship of the land and water for future generations, nor were we asked to advise the group on our issues and concerns. The first recommendation we are going to make to you is if there are any proposed regulations or recommendations put forth affecting farmers that an agricultural subcommittee be formed with farmers and industry support groups, in order that they are able to review and comment on the proposals. With almost 40,000 acres of farmland in production, water quality and quantity are essential to the survival of the industry. Furthermore, if any regulations or recommendations are proposed, we ask that new data compilation and testing are done to ensure the most up to date information is used as opposed to historical data that has changed or is outdated.

We also take great exception at the editorialized comments in the farming sections (pg. 56 et al) in the report. We find it unfortunate that the authors chose to paint a specific picture of agriculture instead of reporting facts. Comments such as, "an unfortunate by product of farming is the need to kill or control pests and nuisance vegetation using pesticides...", do not belong in this report as written, and need to be corrected before it is finalized, so as not to influence the user of this information. It is a necessity that farmers have the ability to protect their crops from crop failure, and ensure that they are able to produce the quality product that the market demands. Contrary to most peoples' opinions, farmers only use products if necessary and in accordance with the label use as per EPA recommendations. (Pg. 50) Since you have brought up concerns regarding agricultural production, we would like to see added to this report, the positive steps farmers have taken to be better stewards of their land and water. Our industry has been a leader over the last 15 years or longer in instituting programs to this effect. We would ask this report be modified to credit farmers for their efforts. Some examples of our initiatives include but are not limited to:

- Development of a comprehensive updated agricultural stewardship plan through Suffolk County which passed the Suffolk County legislature in April 2016 unanimously.
- Secured funding of over 1 million dollars (to date) in the Environmental Protection Fund to help farmers write and implement certified nutrient management plans and provide staffing to do so along with possible funding to assist farmers in implementation of those plans.
- Work with Cornell University to utilize The Integrated Pest Management Program to reduce pesticide use on farms (we were among the first to do so).
- With Suffolk County's leadership received a Regional Conservation Partnership Program grant of over 1.2 million dollars to help protect the water in the Peconic Bay Watershed.
- Secured hundreds of thousands of dollars in funding to replace and modernize outdated fuel tanks on farms.
- Through Soil and Water Conservation Service work with farmers on better irrigation design and implementation to conserve water.
- Obtained funding to institute a spray pad collection system to prevent contamination of ground water.

The agricultural community was also pleased to be a leading industry in the Long Island Pesticide Pollution Prevention Strategy and with the guidance of scientists at Cooperative Extension worked hard to educate farmers in better ways to utilize products and develop best management practices for Imidacloprid, Atrizine, and Metalaxyl, the first 3 products reviewed by LIPPPS. Farmers have also cooperated with the SC Dept. of Health Service to have test monitoring wells installed on some farms to get a true and accurate picture of water quality.

We would also like to recommend that your language regarding the Community Preservation Fund be modified in 2 ways. The first being the CPF or 2% transfer tax was not just about open space. The top priority is Farmland Preservation (and remains so to this day). Open space preservation and farmland preservation remain 2 separate and distinct programs. Additionally, last year, voters approved using up to 20% of CPF funds to allow for water quality improvement projects. We would like to highlight that included in this language is the ability for those funds to be utilized for agricultural environmental management programs as well. (pg. 50 & pg. 164.)

With regards to recommendations, we wholeheartedly agree that sole responsibility for oversight of, and the power to regulate our aquifer, should remain with the NYS Dept. of Health and NYS Dept. of Environmental Conservation.

We are opposed to any mandatory programs, especially unfunded mandates.

We also believe careful consideration should be given to any recommendation that jeopardizes private property rights such as density reduction without just compensation.

We would like to formally ask the following be added to the end of the report under recommendations to help with water quality improvements and protections:

1. Additional funding for farmland preservation should be a top priority of the State and County.

There are many benefits to having preserved farmland and priority should be given to more preservation in the future. Among the many benefits include no additional cost to taxpayers for maintenance; farmers not only maintain the land removing the burden from taxpayers, but pay taxes on the land. As well, farmland is a great way for aquifer recharge areas to be maintained. Other benefits include the continued production of crops, jobs, wildlife habitat, and rural character. Additionally, farmland is currently being looked at as a means to recharge grey water. While this is in its' preliminary stages, there could be possibilities for certain crops.

2. Any water quality or quantity regulations or measures for conservation should take into account actions already implementedby industry.

   This recommendation will ensure that any industry that has already worked to be a better steward of water will not be further restricted by sweeping recommendations.

Long Island Farm Bureau remains committed to assisting LICAP in their efforts. We thank you for the opportunity to present and remain available to answer any questions you might have.

LICAP BOARD

Comments on LICAP Report for 12-6-17 Hearing (by Roy Reynolds, PE)

With a 246-page report, a table of contents would have been helpful; I recommend including one in the final draft.

The report contains 108 recommendations.

What surprises me is that there is no specific recommendation for the acquisition of land to protect our water budget areas. This should be a priority and the report should recommend that we acquire as much undeveloped property as possible in the water budget areas.

This is especially urgent, since some of the report's recommendations set the stage for Suffolk County to ship our water into Nassau County [See Recommendations C-4 on page 211 and C-11, 16 and 17 on page 212]. Since Nassau County is running out of water you might want to recommend that they curtail development and stop discharging their water supply into the ocean.

Suffolk County residents should be made aware that this transfer of water to Nassau County is in the works.

Next, I am surprised that there are no recommendations to stop the discharge of our drinking water supply into the ocean - through sewer districts. Case in point: Southwest Sewer District. Does anyone think it is a good idea to dump 30 million gallons of drinking water into the ocean - everyday? And with additional development projects in the works, like the Ronkonkoma Hub and the Heartland project, this will increase to 40 million gallons per day. This means that 40 million gallons of water that is normally recharged into the ground will be lost to the ocean every day. The effects of this are stated in the report on page 13 and include:

Lowering of the water table
Reduction in stream flow
Reduction in Coastal discharge
Change in Bay salinity.

Another effect not mentioned is the effect that this loss of groundwater has on the water temperature of the estuaries. The temperature of Groundwater is approximately 55 degrees Fahrenheit, which means it has a cooling effect on the bays in the summer and a warming effect in the winter. Decreasing the coastal discharge upsets this balance and leads to changes in the dynamics of the bays and their health (and that's where the problem lies).

The LICAP report should recommend stopping these discharges into the ocean and, at the least, stopping their increase.

Page 58 of the report states "The increased nutrient loads from groundwater discharge, especially nitrogen, to surface waters have caused algal blooms..." This statement is misleading and should be removed from the report.

Is nitrogen from sewage disposal systems really causing harmful algal blooms? The answer is no. Case in Point: The entire south shore of Long Island from the Queens border to Oakdale has been sewered since 1981, meaning there is no discharge of nitrogen from conventional systems entering the bays for over 36 years. So one has to ask: If conventional systems are such a problem, then why hasn't their elimination and sewering solved the harmful algae bloom problem? In fact, 4 years after the completion of the Southwest Sewer District, the brown tide was first reported in the Great South Bay. Since then the harmful algae blooms have only gotten worse.
Do I see cause and effect?

Instead of eliminating conventional sewage disposal systems - a clear recommendation should be made to support fixing them. Recommendation C-39 alludes to this, but it is buried in the back of the report and is not forceful enough. There are thousands of systems that do not have septic tanks, have block pools and require continuous treatment due to hydraulic failure. People are adding all types of chemicals to try and fix their problems, when what they really need is to physically repair and upgrade them. For the cost of installing one of the proposed "advanced treatment systems", several conventional systems can be repaired with no monthly maintenance cost. I recommend that the County take control of the repairs, but in doing so, assure that there are practical rules in place with financing. The benefits will far outweigh whatever could be achieved through expensive advanced treatment systems.

In addition, some of the recommendations in the report are poorly worded and do not make sense as written: For example, one recommendation [C-33 on page 214] reads: "Identification and prioritization of parcels and determine the sewage treatment plant capacity to permit the connection of identified parcels." If I wrote that sentence my professor would have thrown me out of class. I recommend that someone go through the recommendations and correct the grammar.

In summary, I am submitting the written comments on the report, including some grammatical suggestions, typos and questions as to the intent and purpose of certain recommendations. In addition, I recommend that the 108 recommendations be grouped into categories and labeled as such. For examples some recommendations call for Additional Funding, so that might be a category, Additional Studies, Code Changes, GHPs, etc. Also you might consider renumbering them to eliminate duplicate numbers, e.g., A-1, A-2, B-1, B-2, etc.

Hopefully it will spur some thought and changes to the report.

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CONCENTRATION OF WHAT?

Table 3

{tc \l1 " Table 3}**Concentration History: Public Community Supply Wells in Suffolk County Exhibiting Concentrations Exceeding 100 mg/L**

S-Number	Date of 1st Sample	Date of Last Sample	Number of Samples	Min. Conc.	Max Conc.	Mean Conc.	1st Sample Conc.	Last Sample Conc.	Change in Conc.
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
S-00177	10/19/1998	10/14/2015	18		111	52		86	56
S-103522	12/15/1998	11/17/2015	19		134	89		91	62
S-121811	5/16/2005	2/3/2010	6		104	57		66	-38
S-124659	7/31/2007	9/9/2015	9		147	89		147	100
S-124789	10/29/2008	6/2/2015	6		198	181		198	26
S-126076	9/9/2008	8/21/2014	6		201	155		192	81
S-126912	8/12/2008	9/23/2015	8		296	112		197	180
S-129199	8/22/2011	7/14/2015	6		277	213		171	-106
S-130317	8/2/2011	5/18/2015	5		209	74		209	203
S-131612	6/27/2013	6/23/2015	3		137	99		137	70
S-29492	7/16/1998	7/1/2015	19		131	66		80	44
S-32552	7/16/1998	6/2/2015	20		196	121		171	90
S-33775	1/27/1999	6/3/2015	17		131	114		107	7
S-54473	9/29/1999	6/2/2015	18		128	69		128	90

supply wells as part of their own due diligence. This work has already been performed by the SCWA and at several public supply wells.

3. The cost, benefits, and environmental impasts of water supply alternative technologies such as ASR and brackish water desalination should be studied for possible use in marginal areas.

4. Incentivize intermunicipal agreements for water transfer to water suppliers which are threatened by salt water intrusion or other major sources of contamination. This should include the purchase and transmission of water from both New York City and Suffolk County into Nassau County, with consideration to the potential costs involved.

5. Water use for each County, with details on large water-user categories, should be reported annually, and this data should be available on the internet so that it can be tracked more easily. NYSDEC should provide this service. Per capita water use data for Long Island is needed.

6. The NYSDEC should comply with the state law requiring it to identify quantity and quality-stressed areas of the aquifers/groundwater system.

7. Improvements in recharge basin management should be implemented to increase aquifer recharge.

8. An educational program for all well permit holders should be developed and implemented so that accurate information on water pumped can be reported and the information used.

9. Implement a drought monitoring plan with an associated monitoring well network.

10. As more information is provided on the location of the freshwater-saltwater interface and risk from saltwater intrusion becomes available, a change in water withdrawals programs should be developed and implemented. More attention should be given to all the issues related to saltwater intrusion and its mitigation.

11. Consider the preparation of a groundwater study that analyzes the feasibility, sustainability, and potential environmental impacts that may occur as a result of transporting water across multi-jurisdictional boundaries.

12. Quantify drawdown impact thresholds for future water supply projects

13. Identifying contamination sources or locations and need to supply public water in developed communities where water quality is degraded and water resources are limited.

14. Assessing the sustainability of long-distance transmission should become a routine practice in the future. This may include changes to zoning codes to modify the developed landscape where it is sustainable based on the availability of resources.

15. Identify areas where growth should be encouraged or discouraged relative to available clean drinking water supplies. Coordinate with current land use development initiatives (e.g., around transit hubs, in downtown areas, etc.) to ensure adequate water supplies exist.

16. Examining existing policies, provisions, and regulations that apply to the transmission of public water, including permit requirements and prohibited activities (i.e. across jurisdictional boundaries).

17. Coordination with the Central Pine Barrens (CPB) Joint Planning and Policy Commission on a determination of jurisdiction for the transmission of water from the CPB to communities outside of Suffolk County.

18. Identifying the locations of water supply wells that have groundwater contributing areas inside the CPB area, to better understand exactly which wells draw groundwater from the CPB.

19. Evaluating cumulative impacts of expanded sewering in Suffolk County along with potential impacts from long-distance public water transmission on groundwater resources.

appropriate limits enacted by either the NYSDEC or the local municipalities.

27. The NYSDEC should require intermediate HX for open-loop systems permitted under the LIWP program. The NYSDEC should also require installation of an intermediate HX on existing systems that do not employ HXs before permits are renewed. The NYSDEC could reach out to owners of such existing systems in advance of the permit date for voluntary retrofit.

28. The NYSDEC should require due diligence for LIWP applications for large GHP systems similar to that required by Region 2.

C – 29. Better education and training is needed on the proper implementation of GHP systems, possibly facilitated by local professional organizations in association with the the NYSDEC or other agencies. A GHP system inspector training program should be developed specifically for Long Island municipal building inspectors.

C – 30. Siting of STPs inside of the 25-year contributing area to sensitive surface waters should be minimized; if this is not possible, an advanced treatment process shall be provided.

C – 31. Enacting discharge regulations that utilize mass loading of nitrogen rather than effluent concentration.

32. Acceleration of wastewater reuse, mining for resources, energy production, and source separation as ways to better value wastewater.

33. Identification and prioritization of parcels and determine the sewage treatment plant capacity to permit the connection of identified parcels.

34. Prioritize parcels in critical areas that shall be required to install nitrogen reducing I/A OWTS.

35. Revise Article 6 Groundwater Management Zone 4 density requirements to conform to Zones 3, 5, and 6 to improve groundwater and surface water quality in the Peconic Estuary.

36. Increase horizontal setback distances between OWTS and surface waters.

37. Create a Wastewater Management District with a Responsible Management Entity (RME) to oversee the financing, operation, maintenance, and enforcement of I/A OWTS and cluster systems. Consider municipal partners to help advance installations.

38. Create and/or identify funding sources and costs to meet on-site system objectives. Continue to advance a combination of on-site solutions that can treat to higher levels. Allow the vetting of systems to occur regionally to speed the acceptance of a larger range of options.

39. Evaluate ways to reduce costs for the installation, oversight, and maintenance of on-site systems

40. Modify the Sanitary Code to minimize the "grandfathering" of State Pollutant Discharge Elimination System (SPDES) and/or Suffolk County Department of Health Services (SCDHS)-permitted sanitary flows that exceed and predate Sanitary Code density requirements on other than single-family residential lots without the installation of an I/A OWTS or connection to sewers; review options to effect upgrades under the Environmental Conservation Law, NYCCR, SPDES.

41. Assess feasibility of updating the Sanitary Code to prohibit the replacement in kind of failed on-site wastewater technology without SCDHS approval.

42. Implement a comprehensive integrated data collection, analysis, and evaluation program to monitor groundwater, drinking water, and surface water, including Reinstatement of the comprehensive groundwater and stream monitoring program.

43. Require that certified contractors obtain continuing education credits by attending technical and business related classes. Use the certification process to establish and maintain a database for use in cooperation with public water supply systems.

Article On Sewer Policies (by Roy Reynolds PE, Published in the Southampton Press on November 16, 2017)

Here in Suffolk County we have been told by experts and politicians that "nitrogen is public enemy #1" for our environment, portraying nitrogen from conventional septic systems as the primary cause of "harmful algae blooms" (HABs) and environmental problems in our estuaries. As a solution, they call for more sewers, advanced treatment systems (AWTS) and eliminating conventional septic systems. In retrospect, our history has shown that completely eliminating sewage discharge from conventional septic systems has not prevented harmful algae blooms and, in some cases, may actually be facilitating them.

Case in point: The Southwest Sewer District was created in the 1970's and went into full operation in 1981; over 341,000 residents were connected and their septic systems eliminated. This, when combined with the other sewer districts in Nassau County, has resulted in the entire south shore from the Queens border to Oakdale being sewered, meaning there has been no sewage and related nitrogen discharged into the bays and estuary for over 36 years. So, one has to ask the question: If conventional septic systems are the problem, then why hasn't their elimination and sewering solved the harmful algae bloom problem? In fact, some believe that there may be a relationship between the sewering and the rise of harmful algae blooms, such as "Brown Tide", which was first reported in 1985; four years after the Southwest Sewer District became fully functional and the septic systems were eliminated. Since then the harmful algae blooms have only gotten worse.

Prior to this sewering, discharged nitrogen was part of the food chain in the bays that led to a harvestable crop of hard clams; it is obvious from the subsequent decline in the clam populations, that the dynamics changed and this is what we need to understand before moving forward with sewage treatment "solutions". In addition, what is not being acknowledged is how effective conventional septic systems are at treating sewage. Once being discharged from a septic system, sewage and its nitrogen component must travel through the ground prior to reaching surface waters. This path takes it through naturally occurring primary, secondary and tertiary treatment, similar to the treatment provided by sewage treatment plants and advanced wastewater treatment systems, but without the need for mechanical processes and high costs; in effect, it lets nature do the work. The conventional system has no pumps or electrical requirements and relies totally on nature to provide the treatment; and as an added bonus it puts the water back into the ground for reuse (sewage is over 95% water). This phenomenon, coupled with the County's regulations that limit the amount of sewage that can be discharged per acre of land (known as limiting population density) has worked well in controlling the magnitude of inorganic nitrogen discharge, the effect of which has not been proven to cause harmful algae blooms.

It's time for the County to take a step back and review its nitrogen and anti-septic system policies. There is plenty of room for upgrading and improving the existing conventional systems and this is what the County should focus on first. Homeowners and business people need affordable and low maintenance sewage disposal; not complicated high maintenance processes, with negative side effects and unproven environmental benefit.

Perhaps its also time to take a closer look at how nitrogen discharge might be used for our benefit and focus more on the other dynamics of the estuaries as being the source of the problems; including runoff, restricted circulation, loss of wetlands, filling in of the flood plains, wildlife waste, pesticides and the defoliation of buffer zones.

OPEN SPACE COUNCIL

CARMANS RIVER WATERSHED TRUST FUND

PO BOX 142 • SHOREHAM, NY 11786

Comments on LICAP'S Draft Groundwater Resources Management Plan

December 6, 2017

Thank you for this opportunity to comment on LICAP'S draft groundwater Plan (hereinafter referred to as "draft Plan"). My name is Karen Blumer, representing the Open Space Council, a not-for-profit environmental organization which administers a legacy fund for the Carmans River Watershed. We are also a member representing the umbrella water group, Water For Long Island, focused on groundwater.

Putting together a 236-page report of this magnitude has been a heavy lift. Our group was pleased to join the effort during the Commission's second year. We attended and videoed every LICAP general and special meeting, and participated in a number of its subcommittees, including the Management Opportunities, Waste Water Treatment, Water Conservation & Efficiency and Geothermal.

In light of the dire condition of Long Island's sole source drinking water aquifer, deemed by LICAP's enabling Resolution to be in "critical" need of protection due to its acknowledged state of "degradation," this bi-county Commission, in 2013, was tasked to produce a Plan that would form the "scientific underpinnings" for a "yet to be established entity" to address Long Island's quantity and quality groundwater decline. (SC Resolution 805-2013).

That was the literal mandate, the letter of the law.

Consistent with the letter of the law was its spirit and intent. This intent was understood well, and expressed vigorously, by all the Nassau and Suffolk County legislators we met with or talked to during our participation in the LICAP process. That intent simply, in plain English, was: "Make sure your Plan gives us a solution, or solutions from which to choose, to get us out of this water mess."

The depth of that message — "get us out of this mess" — was reiterated and underlined in December 2015 at the Health Committee meeting in Riverhead, by its Chair, the sponsor of the LICAP bill, Dr. William Spencer, when he admonished the leadership of LICAP — Stan Carey and Jeff Szabo — that the legislature did not want LICAP to be like that TV ad where the bank is being held up at gunpoint with the guard disclaiming that he is only the "monitor, not the enforcer." In other words, the legislature is looking for solutions in LICAP's recommendations, not just a monitoring scheme or another laundry list of "musts" and "to dos," similar to those emerging from many previous documents. LICAP's intern, RJ Theofield, presented some of those reports in August, 2015. (http://www.liaquifercommission.com/images/LICAPSummariesPPTPresentationRevised_8_19_15.pdf).

The date of the first of the reports was in 1969; that's 48 years ago, nearly half a century, after which a significant number of "commonly identified problems" remain "not yet resolved" to this day (compendium on last page of the LICAP/Theofield presentation). That means awareness of Long Island water challenges has existed for a very long time within its oversight agencies and the governments who serve as our trustees for the water that we, the citizens, own.

To wit, as early as 1968, 49 years ago, in the Nassau County Greeley and Hansen report (draft report, p. 44), water consumption was already "projected to exceed the permissive sustained yield." We are deeply disturbed as municipalities currently approve increased density, town-by-town, project-by-project, way beyond the 208 recommendation. They are approved with virtually **no** attention given to carrying capacity analysis related to water quantity nor quality. This is unacceptable. This is not a new issue; this is a half-a-century old problem whose solution has not even been scratched. Nor is it scratched in an analytic way, nor given barely a mention, in what is LICAP's draft Plan.

In essence, we conclude that members, possibly unanimously, of both legislatures will be deeply let down to find that the Commission has given us a continuing laundry list of isolated and often disconnected recommendations rather than an actionable and enforceable ***plan***, offering real solutions. The draft before us is not a plan. Were we legislators, we would not accept it, nor would we give LICAP any extension past the five years intended to find a solution to our water mess if nothing more substantial is to come forth within the next year to complete this as-yet incomplete task. Were we legislators — that is, trustees of the public's life-supporting water asset — we would hasten to legislatively restructure LICAP to insist that a more incisive analysis is performed, compatible with its mandate.

As a legislator, a portion of that performance that we would insist be included in any LICAP forum and Plan, is a significant grappling with the creation of a sea change from the current ineffectual water management status quo to something viable. We have contributed to and concur with Water For Long Island's white paper entitled **"Strategy for Protecting and Managing the Groundwater Supply of Nassau and Suffolk Counties"** (hereinafter referred to as "Strategy Plan") which we understand was presented to LICAP at yesterday's hearing, December 5th. We agree that a regional WMA, Water Management Agency, **does** constitute a viable solution. Such an entity would serve as an independent, professional oversight manager, to coordinate the many water tasks now divided between agencies. It would operate with a dedicated self-funding mechanism and a water-experienced representative familiar with the doctrine of the Public Trust as a voting member to insure a connection with the public. It will serve as the central brain that does not now exist.

Essentially the Strategy Plan is the LICAP Minority Report constituting the brain trust of where Long Island should really be going if we are to create the sea change needed to save our ground and coastal waters.

We could review piece by piece the many elements of the LICAP draft Plan, but it is far more productive to go right to the heart of the matter. We lived through the entire process. There was not one nanosecond devoted to how we got into this mess and why it continues. WHY, after nearly half a century of official oversight — including the health departments, the NYS DEC, the federal USGS, departments of public works, county executive offices, and other governmental bodies — are our waters declining precipitously? By not identifying the cause, it would be impossible to fulfill a legislative mandate to find a solution.

The answer to such an inquiry is already hinted at in the legislative preamble: "the proliferation of local governmental entities and decentralized land use controls on Long Island limits the ability of the two Counties" to deal with many of these issues. We would add, not just local governments but agency oversight at every level that is consistently identified as being chaotic, uncoordinated (the SC IBM report; Tom de Napoli papers), and frustrating (officials in the agencies themselves, often during most of the LICAP and subcommittee meetings, shared their inability, after all this time, to still not even share a dataBase, among other things.).

The legacy of local government, water district, and agency fiefdoms is not unique to Long Island. Israel faced the same dilemma, where funds and power generated from local water entities were ravaged by fractious spending on projects unrelated to water. Hence they identified the need to create an Israel Water Authority with science-based,

professional stature and an independence allowing policy-making and enforcement. The result is a desert region which not only treats wastewater as an asset (one of the recommendations of the LICAP Waste Water Subcommittee that never made it into a final draft Plan) rather than shunting it out to pollute an ocean, but also miraculously manages, after satisfying its own nation, to **export** drinking and agricultural water to surrounding nations! They do it via a water management entity akin to that suggested by the Strategy Plan.

In short, there is a legacy of agency fiefdoms from the federal to local levels overseeing the destiny of our Long Island waters, each having a little portion of the water elephant, with little to no coordination, communication, or power to redress Long Island's water ills. This chaotic and confused status quo went **unaddressed by this Commission.** In fact, the Commission went out of its way to dismiss or omit a truly viable option as a solution in its #15 recommendation, "Do not create any state or regional entity…."(Page 3, draft Plan)

This unfortunate recommendation comes on the heels of a May conference in 2016 at which every legislator who attended from federal, State, County and local municipalities, strongly endorsed the need for a regional water entity.

We encourage all members of this Commission to reject any acceptance of the draft report at this time at the General Meeting next Wednesday, December 13. Instead, we urge all Commission members to return it to a drawing board in order to receive the critical improvements it needs, bolstered by continued forums and input one would need to arrive at a sea change solution, or solution alternatives, and a real plan, in order to fulfill its mandate from both legislatures to extract us from our water mess. It will be the waste of a four-year effort to continue the mess by enhancing the staus quo that got us here, rather than rearranging the environment in which they are forced to work.

We are particularly ardent on this point, we, as owners and beneficiaries of our life-supporting water asset. Contrary to SCWA legal counsel, who has on occasion declared that "New York State owns our water," we hope that the Commission as trustee understands that New York State does **not** own our water. We own it, ecologically, hydrologically, and legally, under the ancient, sovereign doctrine of the Public Trust. This fact is underlined in caselaw, such as that of *Geer v. Connecticut:* "It is the duty of the legislature to enact such laws as will best preserve the subject of the trust, and secure its beneficial use in the future to the people of the state." (Geer v. Conn, 161 U.S. 519, 534 [1896])

Members of the legislature — and Commission members as their appointees in the instance of LICAP — serve merely, but significantly, as our trustees, to protect our water asset, preventing its decline. You must ask yourselves, if this were your own private trust, and your assets were gradually, or precipitously, diminishing, how long would you retain your trustee — in this case, yourself? There is an opportunity to turn that direction around. We hope you use it.

Respectfully submitted by Karen Blumer, OSC, Vice-President, sent USPS to: LICAP c/o Suffolk County Water Authority, transmitted electronically 12.7.17

Sent via e-mail to all members of LICAP.

An addendum comment regarding housekeeping and inclusion, a number of LICAP participants who have spent virtual hours and shared intellectual property have been omitted from the Acknowledgements on pp. 217 and 218.

Brenda Reiss, Greenlawn resident, water activist, *WWT subcommittee*

Gerald Ottavino, Long Beach resident, water activist, *WWT and Management Opportunity subcommittees*

Glynis Berry, architect and expert on alternative WWT systems, *WWT subcommittee*

Jared Hershkowitz, co-chair of Management Opportunities subcommittee

John Turner, Town of Brookhaven, water conservation presentation, *Water Conservation & Efficiency Subcommittee*

Karen Blumer, expert on overland flow WWT, *WWT and Management Opportunity subcommittees*

Separate from Richard Bova:

Sarah Meyland, co-chair of Management Opportunities subcommittee, author of part of Lloyd Aquifer report

THE OFFICE OF SUFFOLK COUNTY LEGISLATOR

Sarah S. Anker

Suffolk County Legislator, 6th District

Chairwoman of the Seniors & Consumer Protection Committee • Vice Chairwoman of the Veterans Committee
Environment, Planning and Agriculture Committee • Chairwoman of the School Traffic Safety Commission • BNL Legislative Roundtable
Chairwoman of the Suffolk County Heroin and Opiate Advisory Panel • Suffolk County Cancer Prevention and Health Promotion Coalition

December 6, 2017

Stan Carey, Chairman
L.I. Commission for Aquifer Protection
P.O Box 3319
Farmingdale, NY 11735

Dear Chairman Carey and Members of LICAP,

Thank you for the opportunity to provide written testimony in regards to the Long Island Commission for Aquifer Protection's Groundwater Management Plan. The plan provides a comprehensive evaluation of the current conditions of our water and includes valuable recommendations to manage our groundwater and local water bodies.

I commend the members of LICAP for their hard work and dedication, and for understanding that we need to address groundwater issues on a broad geographic scale. On Long Island, water is our lifeblood. In addition to our aquifer providing drinking water, water is also an economic driver that attracts tourism and supports the livelihood of our agriculture and marine industries. It is critical that we continue to focus on improving our water quality through policy changes while working to improve our existing infrastructure.

I am pleased with LICAP's recommendations, such as optimizing pumping operations near shoreline areas, conducting groundwater and plume monitoring, and establishing guidelines for the use of water by geothermal systems. However, I believe that the plan lacks focus on "management opportunities," as resolved in IR 1565-2013. Specifically, the establishment of a Groundwater Management Agency with authority over groundwater oversight, planning, and policy implementation and enforcement. This entity is necessary to coordinate county, state, and federal effort, with a focus on gathering data, developing an island-wide groundwater model, conducting public outreach, creating a conservation program, and addressing legacy contamination sites.

Thank you for your attention to this matter and for your continued commitment to improving water quality on Long Island. I look forward to working together to preserve out groundwater and find solutions to mitigate pollution. If I can be of assistance, please contact my office at 631-854-1600.

Sincerely,

Sarah S. Anker

Sarah S. Anker
Suffolk County Legislator
Sixth Legislative District

CC: Jeff Szabo, LICAP Vice Chairman

620 Route 25A, Suite B, Mt. Sinai, NY 11766 • 631-854-1600 • Fax 631-854-1603
Sarah.Anker@suffolkcountyny.gov

COUNTY OF SUFFOLK

STEVEN BELLONE
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

JAMES L. TOMARKEN, MD, MPH, MBA, MSW
COMMISSIONER

December 6, 2017

Mr. Stan Carey, Chair
Long Island Commission for Aquifer Protection
c/o Suffolk County Water Authority
4060 Sunrise Highway
Oakdale, NY 11769

Re: Long Island Commission for Aquifer Protection - Draft Groundwater Management Plan
Suffolk County Department of Health Services (SCDHS) Comments

Dear Chairman Carey:

The Suffolk County Department of Health Services (SCDHS) commends the Long Island Commission for Aquifer Protection (LICAP) for producing a very useful document, in a short timeframe, with limited resources. It has been an honor for SCDHS to serve as a supporting member on this Commission, and we sincerely hope that our participation has added value to the process.

We also want to thank LICAP for incorporating many SCDHS preliminary comments into the plan, including refining the chapter on wastewater (with focus on nitrogen pollution). Portions of the report now integrate water quality issues such as volatile organic compounds, pesticides, and emerging contaminants such as 1, 4 dioxane, perfluorinated compounds (PFCs), and pharmaceutical and personal care products (PPCPs). These issues are central to SCDHS programs to protect and restore the aquifer, to assure clean drinking water, and healthy streams, wetlands and estuarine resources.

At the same time, we concur with Deputy Suffolk County Executive Peter A. Scully's testimony, which calls for another year to finalize the Draft Groundwater Management Plan. As Mr. Scully indicated, this is not a negative criticism, but merely an acknowledgement that the statutory time period was insufficient to complete the enormous task you have undertaken.

The mechanism for developing the current Plan included a compilation of various work group reports, coupled with the very recent addition of an Executive Summary. For reasons of limited time in relation to the statutory deadline, neither the overall Plan, nor its Executive Summary, had the benefit of full vetting and approval of the Commission.

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PHONE: 631.854.0000 FAX: 631.854.0108

The Summary sets priorities, but does not adequately represent the interests or concerns of Suffolk County. We recommend that LICAP take additional time to develop a more meaningful and holistic strategy which better captures priorities for each County, as well as the region as a whole.

Most important for the Summary, and its priority actions, is the need to improve the problem of legacy septic systems in Suffolk County, not only to protect drinking water, but also to restore the integrity of declining coastal ecosystems, which are plagued with worsening harmful algal blooms, chronic hypoxia, fish kills, and other serious problems. Suffolk County has embarked on an ambitious Reclaim our Water program, and has recently established a Responsible Management Entity for Innovative/Alternative Onstite Wastewater Treatment Systems (I/A OWTSs), implemented a Septic Improvement Program (providing County grant funding for voluntary upgrades to I/A OWTSs), and enacted historic code changes to begin to phase out cesspools and address legacy pre-existing, non-conforming ("grandfathered") wastewater pollution. The Plan should certainly reflect Suffolk County's goal to establish a Wastewater District with a stable, recurring revenue source to address Suffolk's wastewater needs. The priority recommendations also need to better integrate various water quality concerns noted above, including volatile organic compounds, pesticides, and emerging contaminants.

In addition to added balance, the Summary for the Plan should include, where possible, specificity, such as costs, benefits, responsible entities, timeframes, and next steps and critical pathways. It should serve as a roadmap for funding entities, as well as agencies and stakeholders responsible for implementation and tracking of progress. For each recommendation, the role of LICAP should be considered and articulated, as to whether LICAP is a primary entity for developing programs or policy recommendations, or simply providing tools or oversight for tracking progress. Integration with other initiatives, such as the Long Island Nitrogen Action Plan and Suffolk County Subwatersheds Wastewater Plan, should be emphasized.

Additional technical comments/revisions for consideration and incorporation into the draft document will be provided directly by SCDHS staff to Mr. Colabufo at the Suffolk County Water Authority. Thank you again for your effort. We look forward to working with you in moving forward on finalizing and implementing this plan.

Sincerely,

James L. Tomarken, MD, MPH, MBA, MSW
Commissioner

C: Jeffrey Szabo, Suffolk County Water Authority CEO, LICAP Vice Chairman
Seth Wallach, Suffolk County Water Authority
Peter A. Scully, Deputy County Executive
Christina Capobianco, CPA, SCDHS Deputy Commissioner
Walter Dawydiak, PE, Director, SCDHS. Div. of Environmental Quality

PECONIC GREEN GROWTH

February 1, 2018

Long Island Commission for Aquifer Protection
c/o SCWA
PO box 38
Oakdale, NY 11769

Dear Commission Members,

Thank you for allowing comments and working together to protect our precious aquifers. The following is in response to the top recommendations. With a mandate to protect both the quality and quantity of the aquifers, I was surprised that none of the top recommendations really support conservation in a holistic manner.

The only suggestion that supports conservation is number 3, conservation pricing, which increases fees for customers using more water. We support conservation pricing if social equity issues are addressed, either by allowing a minimum rate based on occupancy, or using recalculation methods such as Albuquerque uses. BUT, with any program aimed to extract funds from violators, it needs to be offset by incentives and positive action to reduce usage. Otherwise, Long Island will never reach its goal of reducing usage by 20%. Examples across the nation show that water use can be reduced impressively with the right combination of incentives and regulation. Long Island's conservation actions appear weak compared to locations elsewhere.

At the public hearing, I asked how the extra funds obtained through tiered pricing would be used, and the answer was: to incentivize property owners to hook up to public water and to provide more infrastructure to meet demand. Increasing capacity to meet demand and supporting an unlimited demand is not the way to protect our aquifers. This mode of action only protects the business model of water suppliers. I would urge instead that the funds be used to:

1. Repair leaks in the existing system of the respective water supplier (10%)
2. Offer better incentives than currently offered by the respective water suppliers with public reporting on the use and impacts of the program (60%)
3. Fund a shared, island-wide educational program, offer incentives to monitor private and commercial onsite wells, and develop a program for onsite well management, such as shared, rotational testing, pumping criteria, use guidance, and incentives for conservation. (30%) Please note that this would eventually be matched by other sources of support. The basis for this is that we are sharing the aquifer, so a coordinated program is necessary. This fund would be managed outside the water supplier's agency, either by a regulatory agency or non-profit organization.

The top recommendation, to optimize pumping for coastal wells is also threatening, as it seems to encourage pumping in sensitive areas, increasing the likelihood of salt-water intrusion, a major concern for the East End. Rather a study on pumping levels, the vulnerability factors (hopefully attained from the

PECONIC GREEN GROWTH

regional groundwater model), and guidance on overall planning that compensates for water consumed for important uses, such as food production, would lay the groundwork for proper use and regulation that links land use and aquifer protection.

Suggestion 12, develops planning practices on a project-by-project basis. While individual review is advisable, it should be accompanied by clear planning guidance for town officials and applicants on expected issues and limitations. Also, there should be an identification of conditions that trigger a need for added limitations, such as in environmentally sensitive areas. One example: an application for a livestock farm on land already preserved with portions of the parcel in wetlands draining to a creek listed as impaired. SEQR exempts agriculture, listing it as a Type II action. There is also no limit on intensity of use. This one project could undo years of work, aggravate salt-water intrusion, and pollute a very special bay ecosystem.

Finally, there is an underlying assumption to all the regulations and action items that public water supplies are inherently better than onsite wells. The agencies and organizations need to reevaluate this, as it may not be true in all situations. Historically, we have many areas on the East End that are still on wells accessing the Upper Glacial aquifer. Many smaller pumping actions may be better than centralized pumping here. Guidance for onsite pumping maximums are also needed for onsite pumping. With new technologies, decentralized treatment may be optimal under prescribed conditions. The environmental and operational costs/impacts of public water supply should be clearly defined and compared to options.

Relative to item 14, this should be reworded to identify a need for a water budget.

While continuing your very important mission, please view these issues from a sustainable, overall perspective, not just from that of water suppliers. Please attack conservation efforts intensively and incorporate strategies for people with onsite systems as well.

Sincerely,

Glynis M Berry

Glynis M. Berry, AIA, LEED AP
Executive Director

651 West Main Street Riverhead, NY 11901 T 631 591 2402 www.peconicgreengrowth.org

February 1, 2018

Long Island Commission for Aquifer Protection
c/o SCWA
PO box 38
Oakdale, NY 11769

Dear Commission Members,

Thank you for your efforts to protect our aquifers. We are commenting on the action items of the LICAP management plan on behalf of the recently formed Water Conservation Committee of the Town of Southold. We are tasked to educate on the need for conservation in protection of our water resources. As such, we would like to comment on your report.

Conservation,
Please develop a program that addresses conservation more proactively, with a range of incentives and rewards aimed at both residential and commercial uses. We suggest that the funds obtained from suggestion three be used only for conservation efforts.

Salt-water Intrusion
In the Town of Southold, most of our development is close to the coastline. We are very concerned about salt-water intrusion, especially with the intensified use of irrigation we have seen recently. This relates to items one, five, twelve, and fourteen. We also support a regulation that does not allow geothermal systems to be connected to public water. Please work with us on planning guidance and action plans that balance the needs of water suppliers, local agriculture and businesses, and onsite water users that protect the quality and quantity of our local aquifer.

We look forward to working with you on this very important topic.

On behalf of the Southold Town Water Conservation Committee,

Kindest Regards,

Bob Ghosio Jr.
Southold Town Councilman,
Bob.ghosio@town.southold.ny.us