

**From:** [Richard Amper](#)  
**To:** [dec.sm.derweb](mailto:dec.sm.derweb)  
**Subject:** Bethpage Plume Containment Report Comment  
**Date:** Thursday, August 18, 2016 3:17:25 PM  
**Attachments:** [image001.jpg](#)

---

Mr. James B. Harrington  
NYS DEC-Division of Environmental Remediation  
625 Broadway  
Albany, NY 12233-7012

Dear Mr. Harrington,

We are greatly disturbed by the continued spread of the water contamination caused by the Bethpage Plume. As executive director of the Long Island Pine Barrens Society, I have worked to protect Long Island's sole source aquifer from pollution by preventing unnecessary development on the land above the aquifer. The Society fully supports the containment of this groundwater plume and we believe that the water from our sole source aquifer, the only source of drinking water on Long Island, must be restored to protect public health and safety. I hope you take my comments into consideration when determining the plan of action for the Bethpage Plume.

Thank you.

**Richard Amper**  
Executive Director  
Long Island Pine Barrens Society  
Phone: 631-369-3300  
[amper@pinebarrens.org](mailto:amper@pinebarrens.org)  
<http://www.pinebarrens.org>



**From:** [Sandra D'Arcangelo](#)  
**To:** [dec.sm.derweb](#)  
**Subject:** Comments on Remedial Options Report Regarding Full Containment of Grumman Bethpage Plume  
**Date:** Friday, August 26, 2016 9:17:43 PM

---

We are pleased that full containment and decontamination of the Grumman Bethpage Plume is being expedited. We are also glad that some of our numerous basins are being utilized so that the decontaminated water can be replaced in our aquifer.

The part of this report that is **unacceptable** is: Grumman/Navy destroyed a part of our Federally designated sole source aquifer and now they want to destroy over 730 billion gallons of our most valuable resource? One degradation being replaced with another degradation? We understand that the volume of water 19 million gallons released each day makes things more difficult. In addition to considering the **best** basins to use, not always the cheapest/closest, we must also consider changing the policy or law of the DOH to allow our water companies to use this decontaminated water. We are told that this water is the same as what our water companies sell us after they treat it, so why would we want to waste it by releasing it to the ocean? This would require less pumping by water companies and thus, less stress on the aquifer system.

Funding from a Restoration Fund mentioned to green things up should instead be used along with the funds to upgrade Cedar Creek **to build the necessary infrastructure to bring this reclaimed water back to our aquifer system.**

Our aquifer has been over pumped for years and salt water intrusion is further inland than we thought. We cannot afford any more damage to our aquifer system.

Other countries are reusing their water, why are we the last to recognize that we need to stop wasting this valuable resource!

Sandra D'Arcangelo, VP  
Northside Civic Association  
Bethpage, NY 11714

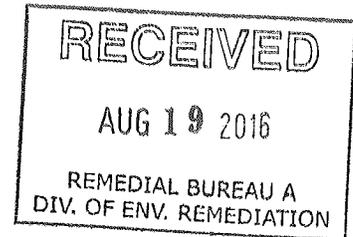
Member of the Restoration Advisory Board  
Navy/Grumman Bethpage Plume

Member of Water For Long Island



**LONG ISLAND WATER CONFERENCE**

c/o Franklin Square Water District  
PO Box 177  
Franklin Square, NY 11010



August 12, 2016

James B. Harrington  
NYS DEC - Division of Environmental Remediation,  
625 Broadway  
Albany, New York 12233-7012

Re: Remedial Options Report Regarding Full Containment of Grumman Plume

Dear Mr. Harrington:

The Long Island Water Conference (LIWC) is an alliance of 47 Nassau and Suffolk public drinking water purveyors and other industry professionals that supply potable water to over 3 million people. The organization, founded fifty years ago, is dedicated to ensuring that a clean, safe, and abundant water supply is maintained for all Long Islanders.

As you are keenly aware on Long Island, the prime source of water supply is the vast sole source groundwater aquifer. Therefore, it is important that we provide comments concerning the remedial options report regarding the full containment of Grumman Plume on behalf of our members who are impacted or threatened by the contamination.

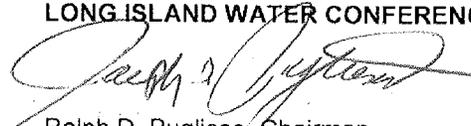
We fully support the containment of this groundwater plume. The plume must not be allowed to continue to migrate and contaminate more public drinking water wells. This environmental disaster has been going on far too long and the appropriate cleanup must not be delayed. Consequently, the sole source aquifer water supply must be restored to protect public health. This is primarily predicated on the fact that unregulated and unknown contaminants continue to be discovered and associated with this plume.

We firmly believe that cost must not be a deciding factor in the decision process since the Navy and Grumman must be held accountable for the funds and not the water purveyors. The protection of public health must be a priority and the deciding factor.

Thank you for your consideration. Feel free to contact the undersigned if you should have any questions.

Very truly yours,

**LONG ISLAND WATER CONFERENCE**

  
Ralph D. Pugliese, Chairman

**Long Island Water Conference Water Supplier Members**

Albertson Water District ♦ Village of Bayville ♦ Bethpage Water District ♦ Carle Place Water District ♦ Dix Hills Water District ♦ Farmingdale Village ♦ Franklin Square Water District ♦ Freeport Village ♦ Garden City Village ♦ Garden City Park Water District ♦ City of Glen Cove ♦ Glenwood Water District ♦ Water Authority of Great Neck North ♦ Great Neck Water Pollution Control District ♦ Greenlawn Water District ♦ Greenport ♦ Hampton Bays Water District ♦ Town of Hempstead Department of Water ♦ Hempstead Village ♦ Hicksville Water District ♦ Jericho Water District ♦ Locust Valley Water District ♦ City of Long Beach ♦ Manhasset-Lakeville Water District ♦ Massapequa Water District ♦ Mineola Village ♦ New York American Water ♦ Ocean Bay Park Water Corp. ♦ Old Westbury Village ♦ Oyster Bay Water District ♦ Plainview Water District ♦ Village of Plandome ♦ Port Washington Water District ♦ Riverhead Water District ♦ Rockville Centre Village ♦ Roslyn Water District ♦ St. James Water District ♦ Saltaire Village ♦ Sands Point Village ♦ Shelter Island Heights Property Owners Corp. ♦ Smithtown Water District ♦ South Farmingdale Water District ♦ South Huntington Water District ♦ Suffolk County Water Authority ♦ Westbury Water District ♦ Water Authority of Western Nassau County ♦ West Gilgo Beach ♦ West Hempstead-Hempstead Gardens Water District ♦ Williston Park Village

**From:** [Jim Brown](#)  
**To:** [dec.sm.derweb](mailto:dec.sm.derweb)  
**Subject:** Comments on Remedial Options Report/South Shore Audubon Society  
**Date:** Thursday, September 08, 2016 9:26:40 PM

---

*South Shore Audubon Society's Comments on Remedial Options Report regarding the Grumman Aerospace-Bethpage Facility*

The South Shore Audubon Society is a chapter of the National Audubon Society that represents approximately 1300 households on Long Island. Following are comments we would like to address to the Department of Environmental Conservation regarding the Remedial Options Report/Grumman-Bethpage Facility:

Of the three remedial options discussed in detail in the report we find option 1, involving discharge of water into Massapequa Creek, to be an especially problematical and harmful approach to the problem presented by the Bethpage Plume. Discharging such a huge amount of water into Massapequa Creek for many years is likely to have a negative impact on the environment and wildlife found within this important Nassau County Preserve. The South Shore Audubon Society objects to drastically altering the Preserve's basic ecology in this way.

More generally, we feel that there are real problems with removing and sending to the ocean, either via Massapequa Creek or an outfall pipe, such a huge amount of freshwater, thereby adversely affecting the volume of water in our aquifers, our only source of drinking water. The report mentions positive aspects of "recharging treated groundwater" and "direct reuse of water after wellhead treatment." We hope that these possibilities will be studied and pursued as a solution to the water contamination emanating from the Grumman-Bethpage facility.

Sincerely,  
Jim Brown  
Conservation Chair  
South Shore Audubon Society

Jim Brown  
560 Long Beach Road  
Apt. 2  
Island Park, NY 11558  
USA

516-608-1446

**From:** [Michael Sperling](mailto:Michael.Sperling@dec.state.ny.us)  
**To:** [dec.sm.derweb](mailto:dec.sm.derweb@dec.state.ny.us)  
**Cc:** [friendsmp@longislandnn.org](mailto:friendsmp@longislandnn.org)  
**Subject:** Comments on Remedial Options Report  
**Date:** Thursday, September 08, 2016 9:55:33 PM

---

## **Comment on The Remedial Options Report (ROR) for the Grumman Aerospace — Bethpage Facility (NYSDEC Site Number 130003), issued July 2016**

Friends of Massapequa Preserve (founded 1990) is a not-for-profit organization dedicated to protecting, preserving, and restoring the Massapequa Preserve. Our membership consists of over 500 people, who live primarily in the area surrounding the Preserve. Our members actively use the Preserve wisely, and are very concerned about any adverse ecological impacts on its natural environment or water quality.

After hearing the concerns of many of our members about a number of serious issues raised by *Remedial Option 1* — including “discharge to Massapequa Creek,” our Board of Directors has voted unanimously to *oppose* this option. There are many reasons why we came to this conclusion; some of them are, in no particular order:

(1) Massapequa Preserve is a *perpetual preserve*, protected by County law from any further development or industrialization. Exactly where in the Preserve would a centralized water treatment plant be constructed? Where would the connecting pipes be buried? Why is no mention made of consulting with the Nassau County Department of Parks, the landowner? The Report only mentions permits needed from the federal and state governments.

(2) There is no evidence this will “improve water quality and flow in Massapequa Creek.” It could have just the opposite effect. The Report has no right to state this without further study. It does state “water temperature and salinity” could be compromised.

(3) The Report mentions that “Massapequa Creek may need improvements to effectively convey an additional 19 million gallons a day.” What kind of *improvements* are they considering in a perpetual preserve? Can we improve over nature?

(4) The Report states the project may induce “reduced ability to convey stormwater, and possible alterations to the current creek biota.” The Massapequa area suffered enough during Hurricane Sandy, and doesn’t need more flooding. And Massapequa Preserve already has more than enough invasive plants, both on land and in the water. No one can accurately predict what increasing the daily streamflow *four times* will do, but if the proposed cutoff sensor fails, the resulting lawsuits by flooded-out homeowners and businesses could be more than the estimated \$268 million cost of the project.

(5) There appears to be a serious mathematical mistake in the Report. It states that “19 million gallons a day of freshwater from a sole-source aquifer will be discharged to the Ocean. Over the projected 200 year period of performance of this remedy, that equates to over 730 billion gallons of freshwater extracted from a *sole-source* aquifer” (emphasis added). The math in the Report is way off!

*Wrong:* 19,000,000 gallons x 365 days = 6,935,000,000 gallons (almost 7 billion! gallons in 1

year)

*Corrected:* 6,935,000,000 gallons x 200 years = 1,387,000,000,000 gallons (1.3 trillion gallons over 200 years!)

(6) The Report lists about 30 documents in its table of References, but omits 3 very important reports that should have been evaluated. This omission is significant, since all 3 were highly publicized and must be consulted before any further work on this proposal proceeds:

(a) “Nassau County 1998 Groundwater Study,” prepared by Nassau County D.P.W. A pioneering study!

(b) United States Environmental Protection Agency, “Liberty Industrial Finishing Superfund Site” (Farmingdale). A decades-long series of reports, with thousands of pages of documents. The final project cost tens of millions of dollars; Liberty’s underground plume feeds directly into Massapequa Creek.

(c) “Massapequa Preserve Streamflow Augmentation and Pond Restoration” project, prepared for the Nassau County D.P.W. by Cameron Engineering & Associates. The Draft document was issued in December 2001 and contains over 400 pages, with multiple charts and appendices, covering every aspect of the Massapequa Preserve and Creek. A Final document followed a few years later. The six-million dollar project finally began in 2008, and finished in 2012. Our organization was involved in both the planning and implementation of the project, and we are pleased with its outcome. There’s no way we are pleased with Option 1!

Richard Schary  
Friends of Massapequa Preserve  
90 Pennsylvania Avenue, Massapequa, NY 11758  
[friendsmp@longislandnn.org](mailto:friendsmp@longislandnn.org)

Board of Directors  
President: Richard Schary  
Vice President: Michael Sperling  
Treasurer: Ralph Healey  
Directors: Walter Arnold, Carol Meschkow, Mark Rabin, Lisa Schary, and John Turner

Dear Sirs:

I am submitting a comment on behalf of one of the mentioned stake holders, Biltmore Shores (Page 9), in Massapequa. As proposed in the report, Biltmore Shores would be the end receipt of the proposed remedial actions. Prior to specifically commenting on the actions, we must be clear that those responsible for creating and allowing this problem to fester to its current state are guilty of complacency and irresponsibility. The extent of this issue and the people that will be effected today for and generations to come is and should be classified as a criminal act. Our once sole source pristine drinking water will now be a source of permanent contamination, and the future of our drinking water to be considered healthy will forever be met with skepticism. Undoubtedly, the residents will be forced into significant expense to acquire new water sources for eastern Long Island or the NYC system. Our property values will drop due to the stigma associated with pollution and contamination. The property owners in the path of the plume must be presented with a plan for compensation.

The remediation plans call for an absurd clean up and monitoring time frame of 200 years. Those that suggest that the time frame must be out of touch with reality to assume that the proposed building materials will function for the decades much less centuries, and the conveyance system of the creeks, bays and shorelines will remain in their present state.

Our comments on specific remediation actions pertain to the objection of R O#1 and R.O.# 2.

#### Remedial Option # 1

The objection to this option is the proposal to discharge the water into the Massapequa Creek. Specifically:

- It is unrealistic to believe the creek , ponds and lakes will be able to absorb the daily extra capacity
- It is unrealistic to state that during a storm event over the next 200 years, that the discharge into the creek will be halted.
- The discharge from the southern lake into the canal at Biltmore Shores will not be able to handle the capacity.
- The elevation of the eastern waterfall is lower than the western waterfall at the southern lake, commonly known as Caroons Lake. The volume of water exiting the lake enters the saltwater by traveling underneath the roadway via a culvert located underneath a residential property. The volume and flow rate will destroy this home.
- The salinity of the canals, bays and wetlands will be drastically altered, affecting the active bay side, and damaging the marine life, fishery and shell fish forever.
- The additional water and flow rate will disturb the sediment of the ponds and lakes. The sediment was deemed hazardous due to metals tied in to plumes by the former Liberty Aircraft site in Farmingdale. The toxic sediment cannot be disturbed.

#### Remedial Option # 2

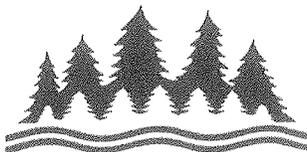
The discharge of the billions of gallons of water into the sea will greatly affect the ground waters of the area, further reducing the levels of surface freshwater. Additionally, this will lead to salt

water intrusion, and new expenses for consumers for new and deeper wells. This option did not mention the absolute necessity for retro fitting existing wells with filtration to match the current water quality, which exceeds the inadequate federal standards.

- The plan must include the full utilization of treated water to be sent to existing, expanded and new recharge basins to recharge groundwater and the aquifer.
- The plan must include secondary uses of irrigation systems and well injection.
- The plan must include transmission of the water for industrial uses, such as cooling systems, at the major electrical power generation facilities. The facilities currently are open loop systems and must be converted to close loop systems.
- The plan must include long term escrow accounts for the replacement of infrastructure, and compensation to water districts and consumers that now must be burdened by this environmental crisis.

Phil Healey, President  
Biltmore Shores Civic Association  
PO Box 292, Massapequa, NY  
516 398 6277  
[Biltmore1957@aol.com](mailto:Biltmore1957@aol.com)

**CITIZENS  
CAMPAIGN**  
FOR THE ENVIRONMENT



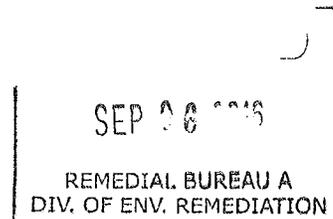
www.citizenscampaign.org

☐ 225A Main Street • Farmingdale, NY 11735  
516-390-7150  
☐ 744 Broadway • Albany, NY 12207  
518-772-1862  
☐ 733 Delaware Road, Box 140 • Buffalo, NY 14223  
716-831-3206  
☐ 2000 Teall Avenue, Suite #204 • Syracuse, NY 13206  
315-472-1339  
☐ 2404 Whitney Avenue, 2nd Fl. • Hamden, CT 06518  
203-821-7050

Empowering Communities, Advocating Solutions.

September 7, 2016

James B. Harrington  
NYS Department of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway  
Albany, NY 12233-7012



**Re: Bethpage Groundwater Plume - Remedial Options Report  
Grumman Aerospace-Bethpage Facility  
NYSDEC Site Number 130003**

Citizens Campaign for the Environment (CCE) is an 80,000-member, non-profit, non-partisan organization that empowers communities and advocates solutions to protect public health and the natural environment in New York State and Connecticut. CCE appreciates the opportunity to provide comments on the New York State Department of Environmental Conservation's (DEC) proposed options for remediation of the Bethpage groundwater contamination plume.

For decades this contamination has been allowed to linger and spread throughout the aquifer threatening public health. CCE applauds the NYSDEC for working to move the process towards containment and remediation and we urge the DEC to expedite this remediation process wherever possible. In regards to the "Grumman Aerospace-Bethpage Facility Remedial Options Report" released in July, 2016, CCE submits the following comments:

- **A Finalized Containment and Remediation Plan must be Employed, Without Delay.** This plume must not be allowed to continue to migrate. The Grumman Plume has been spreading through Long Island's groundwater system for the last 30 years. This delay has allowed the plume to advance to depths greater than 800 feet thereby increasing the challenges of appropriate remediation and the cost of remediation. *Protecting Massapequa Water District's drinking water supply wells should be given the highest priority.*
- **CCE Supports Remedial Option No. 1, with water recharge and/or water reuse-** Option 1 includes 16 groundwater extraction wells along the Southern State Parkway that will pump 19 mgd of contaminated groundwater that will be treated at a centralized

treatment plant. This plan is the best plan for ensuring the protection of drinking water wells, specifically in the Massapequa Water District. However, this plan calls for the full 19 mgd to be discharged to Massapequa Creek, with no plans for full or partial water recharge/re-use. **Water Recharge and/or Reuse** - All three options do NOT explore opportunities for groundwater recharge of treated water. Given the high volume and excessively long and unprecedented remediation time frame of 200 years, greater care and planning needs to occur for water reuse options. Discharging 19 mgd into the Massapequa Creek drives the cost down, however, cheap is expensive. Cost cannot and should not be the driving factor when it comes to long term planning for drinking water and public health protection.

Planning to withdraw 19 mgd or approximately 7 billion gallons per year of water for 200 years from a sole source aquifer is a serious and potentially damaging proposition. The ramifications of this rate of withdrawal have not been appropriately evaluated in this document. Such impacts may include salt water intrusion, loss of wetlands, loss of wildlife habitat in tributaries in the South Shore Estuary Reserve and more.

**Groundwater recharge and water reuse needs to be a long term part of this plan.**

The Department notes that it would be an extremely difficult undertaking to recharge *all* of the treated water, but that should not deter serious consideration of recharging significant portions of the treated water to groundwater and/or incorporating reuse options. The Department also notes that other remediation projects are successfully recharging millions of gallons a day. Remediated water will be effectively treated to drinking water standards therefore, rather than discharging *all* of the water into the Massapequa Creek, options should be established for recharge to prevent the depletion of our aquifer. **This critical effort to protect public health and our drinking water from contamination cannot cause the depletion of our drinking water source.** Solving one problem by creating another problem is not good public policy. CCE implores the DEC to require the responsible parties to fund and provide recharge of treated effluent.

- **CCE strongly opposes utilizing the Cedar Creek Sewage Treatment Plant as a plume treatment option.** Nassau County is currently planning to use the existing ocean outfall pipe for treated effluent from the Bay Park STP in an effort to save the Western Bays. In addition, the Cedar Creek facility will be utilized to accommodate essentially important downtown revitalization efforts in the Village of Hempstead, which will need a portion of the currently unused treatment capacity of Cedar Creek. The Navy should not be permitted to derail careful plans for implementing these important County projects.
- **Community Transparency** - Responsible parties, in partnership with the NYS DEC, should hold public meetings at least once per year to report remediation progress, next steps, unanticipated challenges and other relevant information. A remediation process that is not monitored by the public is a remediation process that goes astray.

- **Two Hundred Years for Remediation is Precedent Setting** – As an organization that has evaluated remediation plans for plumes across Long Island for 30 years, we find the 200 year timeframe disturbing. I am unaware of any other remediation plan in a sole source aquifer that is permitted a 200 year time frame for cleanup. The longest remediation plan approved by DEC to date has been 70 years for the Strontium 90 plume at Brookhaven National Laboratory (BNL).

We understand that the size and depth of this plume presents considerable challenges and community impacts, however, we urge the DEC to reevaluate this precedent setting remediation timeframe and require efforts that will allow remediation to be more in line with other existing cleanup efforts.

Thank you for the opportunity to comment. Please contact me at 516-390-7150 if you have any further questions.



Adrienne Esposito  
Executive Director

cc: Basil Seggos, NYS DEC Commissioner  
Carrie Gallagher, NYS DEC Region 1 Director  
Hon. John Flanagan, NYS Senate  
Hon. Carl Marcellino, NYS Senate  
Hon. Joseph Saladino, NYS Assembly  
Hon. Steve Englebright, NYS Assembly  
Hon. Ed Mangano, Nassau County Executive  
Stan Carey, Massapequa Water District