Incorporated Village of Westhampton Beach
165 Mill Road, Westhampton Beach, New York 11978
(631) 288-1654 * Fax: (631) 288-4332 * clerk@westhamptonbeach.org

August 12, 2020

Janice Scherer, Assistant Town Planning Director
Town of Southampton
24 W. Montauk Highway
Hampton Bays, NY 11946

Re: Water Quality Improvement Project Plan (WQIPP)
2020 Community Preservation Fund Request for Sewer Project

Dear Ms. Scherer:

Please find enclosed seven copies of the proposal submission to the 2020 Community Preservation Fund. This is a resubmission and update of our 2019 proposal for the same project, and reflects an adjustment to the request budget as discussed in my letter to Ms. Lisa Kombrink dated April 30, 2019. The letter is included with the application attachments.

As discussed earlier this week, the engineering design report, plans and specifications have been provided digitally via upload to the Town's Box account. One hard copy is included with this submittal.

Thank you for considering this important project. If further information is needed, please contact me at 631-288-1654 or mayormoore@westhamptonbeach.org.

Sincerely yours,

Maria Z. Moore
Mayor

Cc: jfenlon@southamptontownny.gov

TOWN OF SOUTHAMPTON
Department of Community Preservation
24 W Montauk Hwy, Hampton Bays, NY 11946
Ph: 631-287-5720 Fx: 631-728-1920
WWW.SOUTHAMPTONTOWNNY.GOV/CPF

COMMUNITY PRESERVATION FUND (CPF)
WATER QUALITY IMPROVEMENT PROGRAM
CHECKLIST/APPLICATION INSTRUCTIONS

The CPF Water Quality Improvement Project Plan (WQIPP) Fund follows the objectives in the adopted Water Quality Improvement Project Plan (see http://www.southamptontownny.gov/DocumentCenter/View/7318)

To apply for funding, an application must be **COMPLETED** and submitted along with detailed narratives and supporting information as described below. The Water Quality Advisory Committee will rank and score projects based on the Scoring Criteria contained in the application materials. Parcel acquisitions will be considered on an ongoing basis, independent of this application process.

Note: 7-full sets of plans and one digital submission is required for each application.

A Public Hearing and Town Board Resolution will be required for individual or multiple projects in excess of $50,000.

WATER QUALITY IMPROVEMENT PROJECT MEANS:

[1] DEFINITIONS:

1. **Wastewater Treatment Improvement Project** means the planning, design, construction, acquisition, enlargement, extension, or alteration of a wastewater treatment facility, including alternative systems to a sewage treatment plant or traditional septic system, to treat, neutralize, stabilize, eliminate or partially eliminate sewage or reduce pollutants in treatment facility effluent, including permanent or pilot demonstration wastewater treatment projects, or equipment or furnishings thereof. **Stormwater collecting systems and vessel pumpout stations shall also be included within the definition of a wastewater improvement project.**

2. **Nonpoint source abatement and control program projects** developed pursuant to section eleven-b of the soil and water conservation districts law, title 14 of article 17 of the environmental conservation law, section 1455b of the federal coastal zone management act, or article forty-two of the executive law;

3. **Aquatic Habitat Restoration Project** means the planning, design, construction, management, maintenance, reconstruction, revitalization, or rejuvenation activities intended to improve waters of the state of ecological significance or any part thereof, including, but not limited to ponds, bogs, wetlands, bays, sounds, streams, rivers, or lakes and shorelines thereof, to support a spawning, nursery, wintering, migratory, nesting, breeding, feeding, or foraging environment for fish and wildlife and other biota.

4. **Pollution Prevention Project** means the planning, design, construction, improvement, maintenance or acquisition of facilities, production processes, equipment or buildings owned or operated by municipalities for the reduction, avoidance, or elimination of the use of toxic or hazardous substances or the generation of such substances or pollutants so as to reduce risks to public health or the environment, including changes in production processes or raw materials; such projects shall not include incineration, transfer from one medium of release or discharge to another medium, off-site or out-of-production recycling, end-of-pipe treatment or pollution control.

5. **The Operation of the Peconic Bay National Estuary Program**, as designated by the United States Environmental Protection Agency. Such projects shall have as their purpose the improvement of existing water quality to meet existing specific water quality standards. Projects which have as a purpose to permit or accommodate new growth shall not be included within this definition.

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WATER QUALITY IMPROVEMENT PROGRAM
PROPOSAL SUMMARY

Project Applicant: Village of Westhampton Beach

Project Title: Sewer System Phase 1 Construction

Project Manager:

Name	Maria Moore
Title	Mayor
Organization	Village of Westhampton Beach
Address	92 Sunset Ave. Westhampton Beach, NY 11978
Phone	631-288-1654
Email	mayormoore@westhamptonbeach.org

Property Owner (if different from Project Manager organization):

Name	Same
Affiliation	
Mailing Address	
Phone	
Email	

Project Location

Address	Westhampton Beach business district
SCTM#(s)	N/A

Type of Project (check all that apply):

- ☑ **Reduction**
- ☐ **Remediation**
- ☐ **Restoration**

Project Summary: (add text 2-3 Sentences only)

The Village plans to construction a sewer system to collect and convey 60,000 gallons per day of sanitary wastewater generated within the Main Street business corridor (i.e. Phase 1 service area) to the existing wastewater treatment facility at Gabreski Airport.

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1. PROJECT TYPE

Must meet at least one of the definitions of "Water Quality Improvement Project" per State Law Chapter 551 cited above. Check all that apply.

- [x] **Wastewater Treatment Improvement Project**
- [ ] **Non-point source abatement and control**
- [ ] **Aquatic habitat restoration**
- [x] **Pollution prevention**
- [ ] **Operation of Peconic Bay National Estuary Program (Grant Match)**

Note: Monitoring costs are only potentially eligible for CPF funding within Aquatic habitat restoration projects.

2. PRIORITY AREA(S)

Priority areas are defined in the Water Quality Improvement Project Plan (WQIPP).

- [x] **High**
- [x] **303(d) Impaired**
- [ ] **Medium**
- [ ] **Outside High and Medium priority areas***

*If Outside High and Medium priority areas, explain how the project is relevant to WQIPP goals.

N/A

3. PROJECT DESCRIPTION

3a. Existing conditions of applicable groundwater/sub-watershed/waterbody and most recent and relevant data available (provide sources).

See attached narrative.

3b. How the proposed solution addresses the issue in the context of Reduction, Remediation and/or Restoration as per the CPF Water Quality Project Plan. Note all remediation and restoration projects must assure that reduction measures are also addressed.

See attached narrative.

3c. Describe the proposed technology and its demonstrated efficacy in similar settings. May include published data.

See attached narrative.

3d. How the project supports Town of Southampton, Suffolk County, NYSDEC, Long Island Nitrogen Action Plan (LINAP) or other adopted goals/policies (provide references with pages numbers).

See attached narrative.

3e. Review the following statements and indicate whether they are applicable to your project. For all "Yes" responses, please indicate how your project addresses the requirements indicated.

Yes	N/A	
☐	☑	**If stormwater system or drainage is proposed:** The project must indicate compliance with the New York State Stormwater Design Manual (2015 and as updated).
☐	☑	**If project is related to farmland**: Describe any Agricultural Stewardship Plan or other long term strategy for Nitrogen abatement.
☐	☑	**If the project is for habitat restoration:** The narrative must address how underlying causes are being ameliorated and expected outcomes for local species populations or other ecological considerations are given.
☑	☐	**If project is a Sewage Treatment Plant (STP) or cluster treatment system:** Fund allocation request is based on cost for reduction of pre-existing conditions and not for purpose of accommodating new density (describe pre-existing density and associated flow (gallons per day) and total projected nitrogen reduction in narrative). Include detailed information on how many homes the system would treat as well as potential for formation of Sewer District, if required by Suffolk County Health Department or Town Law.
☐	☑	**If the project is requesting grant match for the Peconic Estuary Program:** Include information related to funding program source and purpose of application and any relevant items on this checklist. Note: A Town Board resolution will be required in order to encumber matching funds for grant applications.

4. WATER QUALITY BENEFIT

4a. Identify Nitrogen, Pathogen or Pollutant of Concern (POC) including Existing Condition and Target Reduction.

See attached narrative.

4b. Describe plans for collecting and reporting on water quality over time.

See attached narrative.

4c. Indicate useful life of proposed technology (must meet or exceed five years).

See attached narrative.

5. COST FACTORS

5a. Explain how you have confirmed that the proposed budget is reasonable, appropriate and necessary. If available, provide third party estimates or other documentation of how costs were determined.

See attached narrative.

5b. Describe any matching funds to be provided.

See attached narrative.

5c. Explain: i. Why project cannot proceed and intended benefits cannot be achieved without external funding. ii. if funds are awarded at a lower level than requested, or if there are cost overruns, explain how the project will proceed.

See attached narrative.

6. MANAGEMENT, EXPERIENCE, ABILITY

6a. Describe applicant's experience in completing similar projects.

See attached narrative.

6b. Describe community support or opposition to project. If there is opposition, explain how this is to be addressed.

See attached narrative.

6c. Describe any permits needed and time frame/status of approvals. If permits are approved, indicate same.

See attached narrative.

7. MAINTENANCE, MONITORING, EVALUATION

Estimate ongoing maintenance costs and explain how these will be supported. Explain stewardship and monitoring activities planned for ensuring sustainability of the project.

See attached narrative.

8. DURATION OF PROJECT

8a. Provide a projected project timeline. Note: The Committee will only make recommendations for shovel-ready projects that can commence this fiscal year.

See attached narrative.

8b. If project is multi-year or phased, provide a breakdown of budget and milestones for each year and phase.

See attached narrative.

9. ATTESTATION

Allocation of CPF funds will not be for the purpose of accommodating new growth, as this is prohibited by State law.

☒ **Check box to certify that funds will not be directed for projects for the purpose of accommodating new growth.**

Signature: _____ **Date** 8/13/2020

10. REQUIRED ATTACHMENTS

Confirm that the following required documents are attached to this application:

- ■ Photos of existing conditions
- ■ Location Map
- ■ State Environmental Quality Review Act (SEQRA) Long or Short Environmental Assessment Form (EAF) (https://www.dec.ny.gov/permits/6191.html)
- xx Completed EPA Spreadsheet Tool for Evaluating Pollutant Load (STEPL) **http://it.tetratech-ffx.com/steplweb/** or similar standardized methodology (describe)
- ■ Project budget (see attached template)
- ■ Ownership commitment is provided via letter of intent (LOI) for non-municipal owners or municipal resolution for municipal owners

11. OTHER ATTACHMENTS

List other attachments provided, including cost estimates, bids, plans, documentation of matching funds, and other as appropriate to demonstrate project readiness, quality, feasibility, and cost effectiveness.

SEE ATTACHED

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Due to formula errors in this form, an alternate budget form has been provided.

COMMUNITY PRESERVATION FUND (CPF)
WATER QUALITY IMPROVEMENT PROGRAM
BUDGET PROPOSAL

PLANNING/ENGINEERING/DESIGN	Town CPF Request	Matching Funds Committed	Matching Funds Pending	Estimated Total Project Costs
In-house labor (provide separate sheet with calculations)				
Task 1-	$-	$-	$-	$-
Task 2-	$-	$-	$-	$-
Task 3-	$-	$-	$-	$-
Task 4-	$-	$-	$-	$-
Task 5-	$-	$-	$-	$-
Task 6-	$-	$-	$-	$-
	$-	$-	$-	$-
In House Labor Total	$-0	$-0	$-0	$-0

Materials/Supplies				
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
Materials/Supplies Total	$-0	$-0	$-0	$-0

Contractual Services				
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
Contractual Services Total	$-0	$-0	$-0	$-0

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CONSTRUCTION AND SITE IMPROVEMENTS	Town CPF Request	Matching Funds Committed	Matching Funds Pending	Estimated Total Project Costs
In-house labor (provide separate sheet with calculations)				
Task 1-	$-	$-	$-	$-
Task 2-	$-	$-	$-	$-
Task 3-	$-	$-	$-	$-
Task 4-	$-	$-	$-	$-
Task 5-	$-	$-	$-	$-
Task 6-	$-	$-	$-	$-
	$-	$-	$-	$-
In House Labor Total	$-0	$-0	$-0	$-0

Equipment/Materials/Supplies				
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
Equipment/Materials/Supplies Total	$-0	$-0	$-0	$-0

Contractual Services				
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
	$-	$-	$-	$-
Contractual Services Total	$-0	$-0	$-0	$-0

ENGINEERING TOTAL	$-0	$-0	$-0	$-0

Total Project Cost	$-0
Total CPF Funds Requested	$-

Applicant matching funds committed	$-
Applicant matching funds pending approval (e.g. grant request submitted pending determination)	$-

Source of matching funds	Amount

Due to formula errors in this form, an alternate budget spreadsheet has been provided.

Village of Westhampton Beach
CPF Proposal
Sewer System Phase I

Planning/Engineering/Design - Contractual	Town CPF Request	Matching Funds Committed	Matching Funds Pending	Estimated Total Project Costs
Map and Plan (1)		$ 60,000		$ 60,000
Engineering design report (1)		$ 150,000		$ 150,000
Dr. Gobler Nitrogen Study (1)		$ 25,000		$ 25,000
Engineering and Design - plans and specs (2)		$ 510,000		$ 510,000
Topographical Survey (2)		$ 350,000		$ 350,000
Private Utility Markout (2)		$ 75,000		$ 75,000
Soil Borings, Existing Pavement Cores, Piezometers/Geotechnical (2)		$ 75,000		$ 75,000
O&M Manual (2)		$ 70,000		$ 70,000
Land & Easement Acquisition (2)		$ 30,000		$ 30,000
Legal and Bond Counsel (2)		$ 20,000		$ 20,000
Subtotal	**$ -**	**$ 1,365,000**	**$ -**	**$ 1,365,000**
Construction and Site Improvements - Contractual				
Sewer, Pump Station & Force Main Construction	$ 4,000,000	$ 6,784,500	$ 1,055,500	$ 11,840,000
Construction Administration			$ 240,000	$ 240,000
Construction Inspection			$ 740,000	$ 740,000
Subtotal	**$ 4,000,000**	**$ 6,784,500**	**$ 2,035,500**	**$ 12,820,000**
Subtotal Construction, Engineering, Soft Cost	**$ 4,000,000**	**$ 8,149,500**	**$ 2,035,500**	**$ 14,185,000**
Project Contingency (10%) (3)			$ 1,400,000	$ 1,400,000
Subtotal (incl. project contingency)				**$ 15,585,000**
Connection Charge - Suffolk County Sewer District #24 (4)			$ 1,800,000	$ 1,800,000
Totals	**$ 4,000,000**	**$ 8,149,500**	**$ 5,235,500.00**	**$ 17,385,000**

Total Project Cost	**$ 17,385,000**
Total CPF Funds Requested	**$ 4,000,000**

Applicant Matching Funds	$ 5,235,500
Applicant matching funds pending approval (e.g. grant pending determination)	$ -

Source of Matching Funds	Amount
NYS ESD Engineering Planning Grant (Map & Plan)	$ 30,000
Village matching share (Map & Plan)	$ 30,000
Village matching Share Engineering Design Report)	$ 150,000
Village matching share (Nitrogen Study)	$ 25,000
NYSDEC WQIP Award 2018	$ 5,000,000
NYS WIIA Award 2019	$ 1,784,500.00
Town of Southampton CPF	$ 1,130,000
Total Matching Funds	**$ 8,149,500**

NOTES:

1. Items not included in engineering design report budget but supported as matching share by Village. All other costs are included in the Engineering Design Report which provides detailed cost calculations and backup.

2. Items supported by 2018 CPF award.

3. 10% cost factor refers to cost opinion on page 22-23 of Engineering Design Report and is based on sum of "Planning/Engineering/Design – Contractual & Construction and Site Improvements – Contractual."

4. Per Engineering Design Report Appendix E: $30/gpd for 60,000 GPD design flow allocation to fund requisite STP improvements.

VILLAGE OF WESTHAMPTON BEACH
SEWER SYSTEM PHASE 1 CONSTRUCTION
PROPOSAL NARRATIVES

SECTION 3. PROJECT DESCRIPTION

3a. Existing conditions of applicable groundwater/sub-watershed/waterbody and most recent and relevant data available (provide sources).

The project location is the Village of Westhampton Beach Phase I Sewer Collection and Conveyance System service area, comprised of 156 Suffolk County tax lots across approximately 31 acres within the downtown business district. The parcels are primarily comprised of commercial lots, with some high-density residential and vacant parcels. See attached map. The project is located within a High Priority Area in the Town of Southampton CPF Water Quality Improvement Project Plan.

The surface water bodies of Moriches Bay, Moniebogue Bay, and Quantuck Bay that surround the Incorporated Village of Westhampton Beach (Village), including its downtown business district, have experienced an increase in recurring red, brown and rust tides and have been added to the New York State Department of Environmental Conservation (NYSDEC) Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy in 2010 (see attached). The pollutants of concern identified by the NYSDEC are nitrogen and low dissolved oxygen with onsite wastewater disposal systems and urban runoff as the suspected sources. The impacts from the ongoing degradation of these surface water bodies can be seen through the significant loss of native plant and shellfish species.

A study prepared by Dr. Christopher J. Gobler of the Stony Brook University School of Marine and Atmospheric Sciences has also identified the high nutrient loading to be attributed to outdated onsite septic systems and cesspools serving the surrounding homes and businesses located within the Village of Westhampton Beach. The report, Quantifying Nitrogen Loading to from Village of Westhampton Beach to Surrounding Water Bodies and Their Mitigation by Creating a Sewer District was completed in June 2017 and is attached to this proposal.

Based on historical Suffolk County Water Authority (SCWA) summer use records from 2014 and 2015, sanitary wastewater generation rates equal an average daily design flow of 60,000 GPD.

The Village has completed the following steps toward implementation of the Phase I system:

- Final Map and Plan
- SEQRA review
- Formal approval for connecting to Suffolk County Sewer District No. 24 at Gabreski Airport
- Engineering Design Report for Sewage Collection and Conveyance System (Volume 1)
- Engineering Design Report for Expansion of Suffolk County Sewer District No. 24 Sewage Treatment Plant (Volume 2)
- Final plans for Sewage Collection and Conveyance System

- Regulatory plan submittals (approved by SCDPW and anticipated approval in August 2020 from NYSDEC and NYSEFC)
- Secured funding support for a portion of project costs from NYS and Town CPF sources

CPF funding is requested for construction of the wastewater collection and conveyance infrastructure. The 2018 CPF provided funding support for related engineering costs. This proposal requests a CPF allocation for construction.

Please refer to the Engineering Design Report (Volume 1) dated May 2020 for comprehensive information on existing conditions including the Map and Plan.

3b. How the proposed solution addresses the issue in the context of Reduction, Remediation and/or Restoration as per the CPF Water Quality Project Plan. Note all remediation and restoration projects must assure that reduction measures are also addressed.

This is a reduction project. As a step towards mitigating the existing water quality issues, the Village plans to construct a sewer system to collect and convey 60,000 gallons per day (GPD) of sanitary wastewater generated within the Main Street business corridor (i.e. Phase 1 service area) to the existing wastewater treatment plant located in Suffolk County Sewer District No. 24 (SCSD #24) at the Gabreski Airport. Treated effluent discharged from the existing wastewater treatment plant is reintroduced to the ground via subsurface leaching pools with nitrogen concentrations reduced below the current drinking water standard of 10 mg/L. Therefore, the Village's sewer system will remove nitrogen-rich onsite wastewater point sources from continuing to discharge to the ground, thereby contributing to the improvement of water quality in the surrounding water bodies.

As described in the Engineering Design Report, Volume 1, the Village's collection and conveyance system will entail installation of a combined gravity/low-pressure sewer system, including two (2) submersible pump stations. In addition, the Village will be required to fund a connection charge to Suffolk County which will be used to fund future improvements to SCSC #24. These improvements are described in the Volume 2 Engineering Design Report.

The 60,000 GPD design flow will support existing conditions and will not support new growth. The project will eliminate existing inadequate onsite septic systems and instead convey the wastewater to the sewer treatment plant in Suffolk County Sewer District No. 24 at the Gabreski Airport.

Please refer to the Engineering Design Report Volume 1, stamped plans and specifications for a comprehensive project description.

3c. Describe the proposed technology and its demonstrated efficacy in similar settings. May include published data.

The Village retained the firm H2M Architects and Engineers to prepare the Map and Plan and Engineering Design Report. Part of the scope of work entailed detailed evaluation of alternatives. The recommended alternative is installation of a combined gravity/low-pressure sewer system, including two (2) submersible pump stations. See Engineering Design Report for further detail. The

recommended alternative is supported by accepted engineering standards and cost benefit analysis.

The project leverages availability of existing capacity at Suffolk County Sewer District 24 at Gabreski Airport. This shared services approach leverages the County's investment in wastewater treatment infrastructure that is compliant with applicable regulatory requirements.

Please refer to the Engineering Design Report Volume 1 for a comprehensive discussion on efficacy of the technologies to be employed.

3d. How the project supports Town of Southampton, Suffolk County, NYSDEC, Long Island Nitrogen Action Plan (LINAP) or other adopted goals/policies (provide references with pages numbers).

The project supports the Town of Southampton Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan as follows:

Town of Southampton Water Quality Improvement Project Plan (WQIPP)

- The project is located in a High Priority Area as defined in WQIPP maps (p. 54).

- The project will remove 156 Suffolk County tax lots from their existing onsite septic systems, and direct the wastewater to the County owned wastewater treatment facility at Gabreski Airport. Treatment of the wastewater prior to discharge will reduce nitrogen before it enters groundwater. As a result, the project will reduce nitrogen loading to Moniebogue Bay by 5,000 pounds per year, a 30% reduction in external nitrogen load (see Gobler report). Nitrogen reduction is a central aim of the WQIPP (p. 12, 25, et. al.)

- The proposed project is in conformance with the authorizing statutes for the WQIPP:

    - NYS Town Law Article 4, Sec. 64-f, Peconic Bay Region Community Preservation Funds, defines a "wastewater treatment improvement project" as "planning, design, construction, acquisition, enlargement, extension, or alteration of a wastewater treatment facility, including alternative systems to a sewage treatment plant or traditional septic system, to treat, neutralize, stabilize, eliminate or partially eliminate sewage or reduce pollutants in treatment facility effluent, including permanent or pilot demonstration wastewater treatment projects, or equipment or furnishings thereof." The proposed project is directly aligned with this definition.

    - The Code of the Town of Southampton, Chapter 140, Community Preservation Fund, includes the same definition of a wastewater treatment project.

    - Town Code Chapter 140, Community Preservation Fund, further indicates that a "wastewater treatment improvement project" incudes "The planning, design,

construction, acquisition, enlargement, extension or alteration of a wastewater treatment facility…" (underlining added for emphasis). This demonstrates eligibility of proposed project costs.

Suffolk County Water Resources Management Plan
The project supports Recommendation 1.1, "As a result of Superstorm Sandy in an effort to promote resilience create and/or expand sewer districts for existing communities identified as priority areas and upgrade current wastewater infrastructure." Key Milestone b., which states, "Advance sewer expansion projects as funding becomes available," is also supported.

Section 9 (Implementation) link:
http://www.suffolkcountyny.gov/Portals/0/health/pdf/Section%209%20Plan%20Implementation.pdf

Suffolk County Harmful Algal Bloom Action Plan
The Top Strategic Priority in the Management Recommendations is to: "Reduce nitrogen and phosphorous loading to ground watersheds, surface watersheds and direct inputs to surface waters, particularly by upgrading septic systems, both residential and nonresidential" (p.50).

Link to plan: http://reclaimourwater.info/Portals/60/docs/HABActionPlan.pdf

Long Island Nitrogen Action Plan (LINAP)
The project supports LINAP goals for reducing nitrogen in Long Island's surface and ground waters.
Links:
https://www.dec.ny.gov/docs/water_pdf/linapfactsheet.pdf
https://www.dec.ny.gov/docs/water_pdf/linapscope.pdf

3e. If project is a Sewage Treatment Plant (STP) or cluster treatment system: Fund allocation request is based on cost for reduction of pre-existing conditions and not for purpose of accommodating new density (describe pre-existing density and associated flow (gallons per day) and total projected nitrogen reduction in narrative). Include detailed information on how many homes the system would treat as well as potential for formation of Sewer District, if required by Suffolk County Health Department or Town Law.

The project is a sewage conveyance system that will leverage the existing Suffolk County Sewage Treatment Plant No. 24 at Gabreski Airport. The project location is the Village of Westhampton Beach Phase I Sewer Collection and Conveyance System service area, comprised of 156 Suffolk County tax lots (the equivalent of 200 single family residences) across approximately 31 acres within the downtown business district.

The project will support only the existing level of development and is not for the purpose of accommodating new density. The planned 60,000 GPD of treatment capacity will service existing conditions only. The following summary table was prepared based on Suffolk County Water Authority data that was provided for properties in the Phase I service area. The table breaks down the existing water use based on each property's designated NYS land use

classification. The number of parcels are as follows: 88 residential, one vacant, 66 commercial and one community services. 70% of acreage is residential.

NYS Land Use	Description	Area		Tax Parcels	Existing Sanitary Flow		Existing Sanitary Flow	
		Acreage	% Acreage	Tax Parcel Count	SCWA - summer	% SCWA Flow	SCWA - winter	% SCWA Flow
100	Agricultural	0.00 ac.	0.0%	0 parcels	0 gpd	0.0%	0 gpd	0.0%
200	Residential	21.95 ac.	70.2%	88 parcels	33,440 gpd	55.7%	5,580 gpd	9.3%
300	Vacant Land	0.34 ac.	1.1%	1 parcels	400 gpd	0.7%	400 gpd	0.7%
400	Commercial	8.70 ac.	27.8%	66 parcels	24,400 gpd	40.7%	11,200 gpd	18.7%
500	Recreation & Entertainment	0.00 ac.	0.0%	0 parcels	0 gpd	0.0%	0 gpd	0.0%
600	Community Services	0.30 ac.	1.0%	1 parcels	1,760 gpd	2.9%	300 gpd	0.5%
700	Industrial	0.00 ac.	0.0%	0 parcels	0 gpd	0.0%	0 gpd	0.0%
800	Public Services	0.00 ac.	0.0%	0 parcels	0 gpd	0.0%	0 gpd	0.0%
900	Wild, Forested, Conservation Lands & Public Parks	0.00 ac.	0.0%	0 parcels	0 gpd	0.0%	0 gpd	0.0%
	TOTAL . . .	31.29 ac.	100%	156 parcels	60,000 gpd	100.0%	17,480 gpd	100.0%

It is anticipated that a portion of this water use is attributed to swimming pools, irrigation and similar activities that do not contribute to sanitary flow. For this reason, the repurposing of some existing Village commercial properties for additional wet uses such as restaurants can be accommodated and is a desirable outcome of the project.

Suffolk County Sewer Agency Resolution 51-2017 granted formal approval for the connection of the Village of Westhampton Beach business district to Suffolk County Sewer District No. 24 at Gabreski Airport.

4. WATER QUALITY BENEFIT

4a. Identify Nitrogen, Pathogen or Pollutant of Concern (POC) including Existing Condition and Target Reduction.

This project will remove properties from onsite septic systems and divert wastewater to the wastewater treatment plant at Gabreski. The project will reduce nitrogen loads entering area surface waters.

According to Dr. Gobler's 2017 report (attached), "The completion of the proposed phase 1 sewering of Main Street would divert nearly 5,000 lbs. of nitrogen each year away from Moniebogue Bay annually, reducing its total nitrogen load by 24% and its external nitrogen load by 30%.

4b. Describe plans for collecting and reporting on water quality over time.

The Village will work with the Town to establish a mutually acceptable plan for ongoing water quality monitoring and reporting for a period of at least five years. It is understood that the Town's aim is to quantify the impact of CPF investment on water quality in Moniebogue Bay. The following ongoing activities will be leveraged to establish the monitoring plan:

- The sewer system will remove existing subsurface wastewater disposal system discharges within the Phase 1 service area from continuing to discharge direct to the ground, and convey the sanitary wastewater up to the existing sewage treatment plant at the Gabreski Airport in Suffolk County Sewer District #24. The existing sewage

treatment plant is required to monitor the effluent water quality as part of its State Pollution Discharge Elimination System (SPDES) permit.

- Stony Brook University's School of Marine and Atmospheric Sciences currently conducts sampling on a weekly basis at a monitoring station at Moniebogue Bay. These ongoing efforts are overseen by Dr. Christopher Gobler of Stony Brook University.

- The Moriches Bay Project has an ongoing water monitoring program that they anticipate will last more than five years. Results will continue to be shared with the Village.

4c. Indicate useful life of proposed technology (must meet or exceed five years).

The useful life of the project meets or exceeds the CPF five-year requirement. The design life for non-mechanical infrastructure (i.e. pipes, manholes, concrete, etc.) is based on a 50-year useful life cycle and the design life for the mechanical components (i.e. pumps, motors, electrical systems, etc.) is typically based on a 20-year useful life cycle; however, there are instances when specific mechanical components have expected useful life that is either shorter or longer than the typical 20-year period. These instances are typically identified during detailed design, when final equipment selections are made.

5. COST FACTORS

5a. Explain how you have confirmed that the proposed budget is reasonable, appropriate and necessary. If available, provide third party estimates or other documentation of how costs were determined.

A cost opinion was developed by H2M and is included with the Engineering Design Report Volume 1 (beginning on p. 21, with backup provided in Appendix E). H2M's staff of engineers and other professionals are highly qualified and experienced in design and implementation of wastewater treatment systems. The cost opinion is based on detailed engineering and responsible market estimates.

The project leverages availability of existing capacity at Suffolk County Sewer District 24 at Gabreski. Connection to the County Sewage Treatment Plant will require a Village investment in facility upgrades on the order of magnitude of $3M (these costs are detailed in a separate engineering design report not included with this proposal). Through this partnership, the project's cost benefit is significantly higher than it would otherwise be if the Village had to fund construction of a new sewage treatment plant. This intermunicipal shared services approach meets statewide and local priorities articulated by the Governor and Suffolk County Executive.

5b. Describe any matching funds to be provided.

Confirmed sources are as follows:

Village of Westhampton Beach:

- $25,000 for Nitrogen Study to Dr. Christopher Gobler
- $210,000 for preparation of Map and Plan and Engineering Design Report

New York State:

- $5,000,000 Department of Environmental Conservation Water Quality Improvement Program 2018 award
- $1,784,500 WIIA Award Project C1-5126-02-00. Awarded December 2019. Contract development currently on hold per NYS Budget Bulletin B-1223 (COVID impacts)

Town of Southampton CPF:

- $1,130,000 for engineering costs

5c. Explain: i. Why project cannot proceed and intended benefits cannot be achieved without external funding. ii. if funds are awarded at a lower level than requested, or if there are cost overruns, explain how the project will proceed.

i. Why project cannot proceed and intended benefits cannot be achieved without external funding. The total cost for engineering design and construction for the Phase 1 service area and system infrastructure as well as the County STP upgrades is nearly $17M. By contrast, the entire Village operating budget for 2020-2021 is under $11M. The cost of this project far outweighs the Village's ability to self-finance. Diversified financing is necessary to proceed. The Village is pursuing all available avenues of funding, including external grants from CPF, County, State and Federal sources, as well as lending programs offered by the NYS Environmental Facilities Corporation.

ii. if funds are awarded at a lower level than requested, or if there are cost overruns, explain how the project will proceed. The cost opinion prepared by H2M incorporates escalation factors to account for anticipated construction start in 2020. While best efforts are made to accurately project costs, market conditions may result in unexpected variation from the projected figures. Should cost overruns occur, the Village will utilize its available funding mechanisms, including capital funds, grants and financing tools to advance the project in a reasonable timeframe.

This proposal is a resubmittal of a request submitted to the CPF under the 2019 funding round. In negotiating the terms of a potential award in 2019, the Village was asked to submit supplemental information that would assist the CPF Water Quality Advisory Committee to utilize a single-family equivalency method for determining an award amount. The following information was provided in the attached letter from Mayor More to Ms. Kombrink dated April 30, 2019:

> *To maximize the effect on water quality improvement, the Village defined the boundary of their sewer system service area to encompass the highest density of existing onsite wastewater point loads equal to the 60,000 gpd wastewater flow. The final boundary*

included 156 tax lots comprised of mixed uses, mainly consisting of commercial and high-density residential build-out. The existing mixed-use build-out is equated to 200 single-family residences based on a 300 gpd/SFE (single-family equivalent) conversion factor (i.e. 60,000 gpd + 300 gpd/SFE) that was confirmed by the Town of Southampton Assistant Town Engineer.

The Village kindly requests the Community Preservation Fund (CPF) Water Quality Advisory Committee consider the information provided in this letter when making their final determination on whether the construction costs associated with the Village sewer system project are eligible for grant subsidence. Should the Committee deem the Village eligible, the Village would like to suggest the grant amount be based on the current maximum rebate for an I/A OWTS equal to $20,000 per single family residence, which would equate to a total grant amount of $4,000,000 (i.e. 200 SFE x $20,000/SFE) in an effort to maintain fair and equitable disbursement of CPF grant funding.

The Village maintains its request at this previously discussed level of $4M. Should funds be awarded at a lower level than requested, it is likely that the Village will need to increase borrowing in order to ensure the project will proceed as planned. It is noted that the project budget reflects the Phase I sewage collection and conveyance system only.

As noted in 5.a., in addition to the Phase I sewage collection and conveyance system, the Village will also be required to support additional costs on the order of magnitude of $3M to upgrade the County STP. Due to the high overall project cost, it is imperative that the Village maximize its ability to secure external support.

6. MANAGEMENT, EXPERIENCE, ABILITY

6a. Describe applicant's experience in completing similar projects.

While the Village has not previously established a sewage collection and conveyance system, it has advanced this project in a timely and proficient manner by securing services of qualified and experienced engineering, planning and other professionals, and through effective project management. Evaluation of water quality impacts, preparation of a Map and Plan and preparation of Engineering Design Reports are threshold steps to progress toward establishing a financing plan and advancing to construction. Stakeholder engagement and solicitation of input have been ongoing as well.

The Village has taken the following actions in support of the project. Village Board resolutions and plans provided in the application attachments serve to provide confirmation of Village commitment and capacity to deliver the project:

- Notice of Determination of Lead Agency and Coordinated Review under SEQRA issued to Town of Southampton Highway Department and Southampton Town Board (both dated 9/27/17)

- Determination of Environmental Significance under SEQRA for the Village of Westhampton Beach Sewer System Project (Adopted November 15, 2017)

- Accepted Final Map and Plan – Formation of The Inc. Village of Westhampton Beach Sewer System (Phase 1 Sewer Service Area) For Moniebogue Bay (October 2017)

- Secured formal approval for the connection of the Village of Westhampton Beach to Suffolk County Sewer District No. 24 – Gabreski Municipal (Resolution 51-2017 adopted December 18, 2017)

- SEQRA Determination on the Village of Westhampton Beach Main Street Roadway, Drainage and Streetscape Improvement Project (adopted June 7, 2018)

- Appointment of H2M to provide Professional Engineering Services for the Sewer Project (December 6, 2018)

- Engineering Design Report – Inc. Village of Westhampton Beach Sewer Collection and Conveyance System (Phase 1 Sewer Service Area) Connection to Suffolk County Sewer District No. 24 Volume 1 (May 2020)

- Stamped plans and specifications for Phase 1 Collection and Conveyance System (July 2020)

- Engineering Design Report – Inc. Village of Westhampton Beach (Phase 1 Sewer Service Area) Expansion of Suffolk County Sewer District No. 24 Sewage Treatment Plant (STP) Volume 2 (May 2020)

- Intermunicipal connection agreement with Suffolk County, expected to be finalized August, 2020.

Please see the attached statement of qualifications for H2M, the Village's engineering firm.

6b. Describe community support or opposition to project. If there is opposition, explain how this is to be addressed.

- Significant community support: support letters attached. These letters were secured in 2018 for our prior application and are still valid.

- Community opposition: a small number of residents have voiced concerns about project cost. The Village has responded to these concerns by maintaining transparent and consistent messaging about the need for the project, its importance to the environment and economic viability of the business district, and the cost savings associated with

completing this project as a shared services initiative with Suffolk County. We have also shared information about availability of external funding support, which is more favorable currently than in years past. All of these factors are expected to ameliorate community concern about potential fiscal strain on the Village and its residents.

Further, residents are supportive of this project because they understand that while sewage treatment will not create more development, it will enable existing businesses to repurpose their spaces on Main Street for increased wet uses (e.g. restaurants). Limitations on wet uses due to inadequate capacity of onsite systems has been a longstanding concern of Village residents and business owners. Residents understand that because current zoning and parking restrictions will stay in place, overall square footage is not expected to change.

6c. Describe any permits needed and time frame/status of approvals. If permits are approved, indicate same.

SEQRA determination complete. Approvals from NYS Environmental Facilities Corporation and NYSDEC are anticipated within 1-2 weeks of submittal of this application.

See Engineering Design Report for progress to date and timeline below for remaining tasks.

7. MAINTENANCE, MONITORING, EVALUATION

Estimate ongoing maintenance costs and explain how these will be supported. Explain stewardship and monitoring activities planned for ensuring sustainability of the project.

The Engineering Design Report discusses estimated operation and maintenance costs as follows. See the full report for further detail.

Currently, the Village is engaged with Suffolk County Department of Public Works (SCDPW) to finalize the terms and conditions that will be written into the final inter-municipal sewer Connection Agreement. To date, the Village and SCDPW have agreed that SCDPW will assume the responsibility for the operation and maintenance of the collection and conveyance infrastructure after it is constructed, tested and turned over for beneficial use. The Village will be responsible for the design and construction of the collection and conveyance infrastructure.

The operation and maintenance (O&M) costs associated with the selected alternative are based on the sewer rent that will be assessed by SCDPW. SCDPW has indicated that they would assume full operation of the Phase 1 collection and conveyance infrastructure without increasing the current total annual O&M budget for SCSD #24, if a 100% gravity sewer collection system is installed. Additional O&M costs have been considered to account for the replacement of individual grinder pumps that would be expected to occur roughly every 10 years for the full life of the system. As such, the Village's O&M cost has been comprised of the following two cost components: 1) O&M (sewer rent), which is proportionally based on the

Phase 1 service area single-family equivalent (SFE) flow contribution to the current permitted flow at SCSD #24, and 2) replacement costs for each grinder pump station based on the quantity of stations previously stated in the engineering design report at the assumed 10-year replacement interval. Both cost components are escalated based on 3.5% per year. SCDPW bases their O&M (sewer rent) on SFE flow units equal to 225 GPD. As such, the Phase 1 service area is comprised of 267 SFE (i.e. 60,000 GPD ÷ 225GPD/SFE). The current annual O&M budget for SCSD #24 is $200,000. Therefore, Village residents and business owners will be responsible to pay 40% of the annual operation and maintenance budget equal to a total annual cost of $80,000 per year (i.e. 40% x $200,000). Distributing this total annual cost to the Phase 1 service area will result in an O&M rate equal to $300/year/SFE (i.e. $80,000/year ÷ 267 SFE).

Based on the preliminary collection system layouts identified in the engineering design report, there are a total of one hundred thirteen (113) pumps (i.e. 63 simplex + 25 duplex). A present worth budget of $1,500 per grinder pump per 10-year interval has been assigned to each pump to represent the life-cycle costs that could be expected for pump replacement and/or repair. Projecting this cost over a 30-year period for the quantity of grinder pumps identified above, with an annual escalation factor of 3.5%, the total grinder pump replacement costs over a 30-year period are projected to be $644,177.

8. DURATION OF PROJECT

8a. Provide a projected project timeline.

The following timetable is included in the Engineering Design Report, which was finalized May 2020.

TASK DESCRIPTION	SCHEDULE
Facility Plan Submittal	July 26, 2018
Approval of Facility Plan by SCDPW, SCDHS & NYS EFC	September 30, 2018
Approval of Design Services Proposal by Village	November 27, 2018
Authorize Survey and Soil Borings	December 18, 2018
Design Plans and Specifications submitted to NYSDEC	May 1, 2020
Comments received from NYSDEC	June 15, 2020
Resubmission of Design Report, Plans and Specifications to NYSDEC	July 17, 2020
NYSDEC Environmental Permitting	August 16, 2020
Advertise for Bid	August 15, 2020
Bid Opening for Sewer Contracts	September 20, 2020
Contract Award by Village	November 11, 2020
Initiate Construction	February 4, 2021
Complete Construction	August 15, 2022

8b. If project is multi-year or phased, provide a breakdown of budget and milestones for each year and phase.

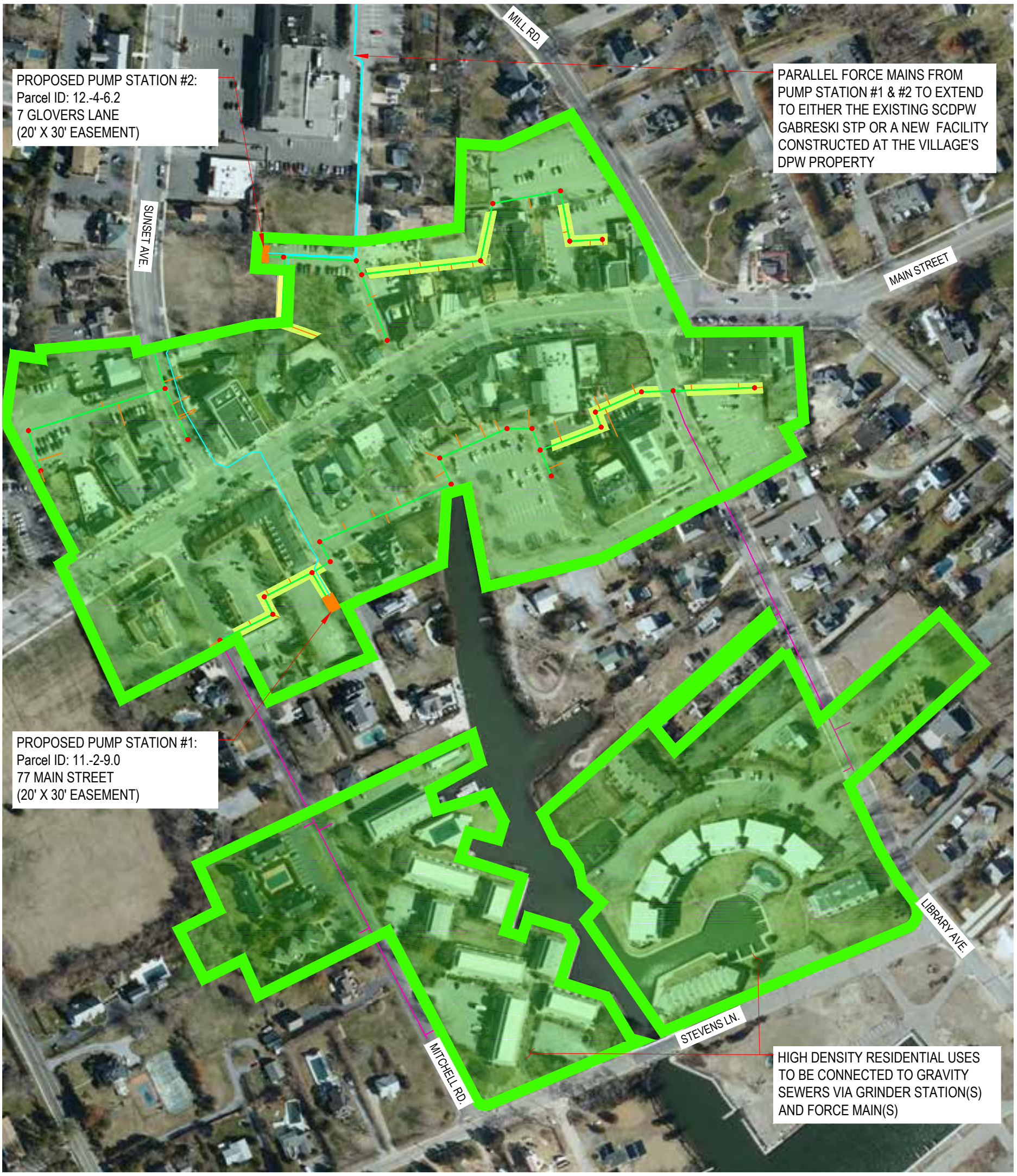
The project is phased with costs for design/engineering and construction distributed over 2018-2022 as shown in the project timeline. See Engineering Design Report Volume 1 for further detail. The Village will look forward to discussing leverage of CPF funding during the life of the project, with 2020 as the initial funding year. It is requested that the Town provide a 2020 allocation of $4M.

Depending on the actual amount of funds provided, and the outcome of future proposals to the Consolidated Funding Application and other grant programs, we anticipate requesting additional CPF funding, the amount of which will take into account availability of external funding sources.

The Village was awarded 2018 CPF funds in the amount of $1,130,000 to support engineering costs for the project. 2020 CPF funds are requested to offset construction costs of the Phase 1 sewage collection and conveyance system only, as described in the Engineering Design Report Volume 1.

Attachments

APPENDICES



Preliminary Phase 1 Sewer Service Area Map

SCALE: 1" = 200-0"

N

* AERIAL BACKGORUND IMAGERY WAS OBTAINED FROM THE NEW YORK STATE GIS CLEARINGHOUSE WEBSITE:http://gis.ny.gov/gateway/mg/

LEGEND:

- SCTM PARCEL BOUNDARIES
- PROPOSED SEWER SERVICE AREA
- PROPOSED SEWER SYSTEM EASEMENT LOCATIONS (20' WIDE)
- PROPOSED PUMP STATION SITE
- PROPOSED GRAVITY SEWER MAIN HOLE
- PROPOSED SEWER SERVICE LATERAL
- PROPOSED GRAVITY SEWER MAIN
- PROPOSED FORCE MAIN
- PROPOSED 3" Ø LPS MAIN

Sanitary Flow Projection based on SCWA usage records: (ADF approx. 60,000 gpd)

NYS Land Use	Description	Area		Tax Parcels
		Acerage	% Acreage	Tax Parcel Count
100	Agricultural	0.00 ac.	0.0%	0 parcels
200	Residential	21.95 ac.	70.2%	88 parcels
300	Vacant Land	0.34 ac.	1.1%	1 parcels
400	Commercial	8.70 ac.	27.8%	66 parcels
500	Recreation & Entertainment	0.00 ac.	0.0%	0 parcels
600	Community Services	0.30 ac.	1.0%	1 parcels
700	Industrial	0.00 ac.	0.0%	0 parcels
800	Public Services	0.00 ac.	0.0%	0 parcels
900	Wild, Forested, Conservation Lands & Public Parks	0.00 ac.	0.0%	0 parcels
	TOTAL . . .	31.29 ac.	100%	156 parcels

CLIENT

Incorporated Village of Westhampton Beach

PROJECT #: WHBV 16-01

DATE: 7/14/2016

H2M architects + engineers

Melville, NY · New City, NY · Albany, NY · Parsippany, NJ

A-1

X:\WHBV (Inc. Village of Westhampton Beach) - 10982\WHBV1601 SEWER MAP AND PLAN\02-BIM-CAD\Sewer Service Area Map_DRAFT.dwg Last Modified: Aug 29, 2017 - 4:38pm Plotted on: Aug 29, 2017 - 4:40pm By nbono

Part 1 - Individual Waterbody Segments with Impairment Requiring TMDL Development (con't)

Water Index Number		Waterbody Name (WI/PWL ID)	County	Type	Class	Cause/Pollutant	Suspected Source	Year
		Atlantic Ocean/Long Island Sound Drainage Basin (con't)						
(MW3.4) LIS (portion 2c)		Milton Harbor (1702-0063)	Westchester	Estuary	SB	Floatables	Urb/Storm, Municipl	2002
(MW3.4) LIS (portion 2c)		Milton Harbor (1702-0063)	Westchester	Estuary	SB	Pathogens	Urb/Storm, Municipl	2002
(MW3.4) LIS-11		Blind Brook, Lower (1702-0062)	Westchester	River	SC	Silt/Sediment	Urb/Storm Runoff	2002
(MW3.4) LIS-11		Blind Brook, Upper, and tribs (1702-0130)	Westchester	River	C	Silt/Sediment	Urb/Storm Runoff	2002
(MW3.6) LIS (portion 2d)		Port Chester Harbor (1702-0260)	Westchester	Estuary	SB	Floatables	Urb/Storm, Municipl	2002
(MW3.6) LIS (portion 2d)		Port Chester Harbor (1702-0260)	Westchester	Estuary	SB	Pathogens	Urb/Storm, Municipl	2002
(MW3.6) LIS-13		Byram River, Lower (1702-0132)	Westchester	Estuary	SC	Pathogens	Onsite WTS, Urb Runoff	2004
(MW4.2b) LIS-MB (portion 2)		Manhasset Bay, and tidal tribs (1702-0141)	Nassau	Estuary	SB	Pathogens	Urb/Storm Runoff	2002
(MW4.3a) LIS-HH		Hempstead Harbor, south, & tidal tribs (1702-0263)	Nassau	Estuary	SB	Pathogens	Urb/Storm Runoff	2002
(MW4.4a) LIS-OBH-MNC-45-P150a		Beaver Lake (1702-0152)	Nassau	Lake	C	Phosphorus	Urban/Storm Runoff	2012
(MW5.3) LIS-62-P296		Millers Pond (1702-0013)	Suffolk	Lake	C	Phosphorus/Low D.O. [2]	Urban/Storm Runoff	2002
(MW5.4c) LIS (portion 5)		Long Island Sound, Suffolk Co, Central (1702-0265)	Suffolk	Estuary	SA	Pathogens	Urban/Storm Runoff	2012
(MW6.1d) GB..GPB-P495		Mattituck/Marratooka Pond (1701-0129)	Suffolk	Lake	A	Phosphorus/Low D.O. [2]	**Other (in-lake recycling)**	2002
(MW7.1b) AO-P815		Agawam Lake (1701-0117)	Suffolk	Lake	C	Phosphorus/Low D.O. [2]	Onsite WTS, Urb Runoff	2008
(MW7.1b) AO-SB		Shinnecock Bay and Inlet (1701 0033) [11]	Suffolk	Estuary	SA	Nitrogen	Onsite WTS, Urb Runoff	2010
(MW7.1c) AO-QB		Quantuck Bay (1701-0042) [11]	Suffolk	Estuary	SA	Nitrogen/Low D.O. [2]	Onsite WTS, Urb Runoff	2010
(MW7.2a) AO-MB (portion 1)		Moriches Bay, East (1701-0305) [11]	Suffolk	Estuary	SA	Nitrogen/Low D.O. [2]	Onsite WTS, Urb Runoff	2010
(MW7.2a) AO-MB (portion 2)		Moriches Bay, West (1701-0038) [11]	Suffolk	Estuary	SA	Nitrogen/Low D.O. [2]	Onsite WTS, Urb Runoff	2010
(MW7.2a) AO-MB-168a thru 175		Tidal Tribs to West Moriches Bay (1701-0312) [12]	Suffolk	Estuary	SC	Pathogens	Urban/Storm, Agric,OWTS	2006
(MW7.2a) AO-MB-168a thru 175	*	Tidal Tribs to West Moriches Bay (1701-0312) [12]	Suffolk	Estuary	SC	Nitrogen/Low D.O. [2]	Urban/Storm, Agric,OWTS	2006
(MW7.3) AO GSB (portion 1)	+	Great South Bay, East (1701-0039) [11]	Suffolk	Estuary	SA	Nitrogen/Low D.O. [2]	Onsite WTS, Urb Runoff	2010
(MW7.3) AO GSB (portion 2)	+	Great South Bay, Middle (1701-0040) [11]	Suffolk	Estuary	SA	Nitrogen/Low D.O. [2]	Onsite WTS, Urb Runoff	2010
(MW7.3) AO GSB (portion 3)	+	Great South Bay, West (1701-0173) [11]	Suffolk	Estuary	SA	Nitrogen/Low D.O. [2]	Onsite WTS, Urb Runoff	2010
(MW7.5) AO-GSB-185-P889		Canaan Lake (1701-0018)	Suffolk	Lake	B(T)	Phosphorus	Urban/Storm Runoff	2002
(MW7.5) AO-GSB-185-P889		Canaan Lake (1701-0018)	Suffolk	Lake	B(T)	Silt/Sediment	Urban/Storm Runoff	2002
(MW7.7) AO-GSB-193..P304	+	Lake Ronkonkoma (1701-0020)	Suffolk	Lake	B	Pathogens	Urban/Storm Runoff	2002
(MW7.7) AO-GSB-193..P304	+	Lake Ronkonkoma (1701-0020)	Suffolk	Lake	B	Phosphorus	Urban/Storm Runoff	2002
(MW7.8) AO-GSB-194		Champlin Creek, Upper, and tribs (1701-0019)	Suffolk	River	C(TS)	Thermal Changes	Urban/Storm Runoff	2002
(MW8.1a) AO-SOB-216 thru 219		Tidal Tribs to South Oyster Bay (1701-0200)	Nassau	Estuary	SC	Pathogens	Urban/Storm Runoff	2012

[11] Other tributary embayments to these larger waters (e.g., **Penniman Creek**, Nicoll Bay, Patchogue Bay, **Bellport Bay**) are also considered to be included within these listings and will be addressed in the TMDL/Watershed Strategy for the larger waterbodies.

[12] Includes Upper Forge River, which is the trib of primary concern. The Lower Forge River is included in *Part 2c - Shellfishing Waters* portion of the list.

Quantuck Canal/Moneybogue Bay (1701-0371) Impaired

Waterbody Location Information

Revised: 07/13/2018

Water Index No:	(MW7.1c) AO-SB-QB-QtC	**Water Class:**	SA
Hydro Unit Code:	Shinnecock Bay-Atlantic Ocean (0203020206)	**Drainage Basin:**	Atlantic-Long Island Sound
Water Type/Size:	Estuary Waters 114.9 Acres	**Reg/County:**	1/Suffolk (52)
Description:	entire canal/bay, as described below		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Shellfishing	Impaired	Known
Primary Contact Recreation	Stressed	Susected
Secondary Contact Recreation	Stressed	Suspected
Fishing *(Aquatic Life)*	Impaired	Known
Fishing *(Fish Consumption)*	Unassessed	-

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known:	LOW DISSOLVED OXYGEN, PATHOGENS
Suspected:	---
Unconfirmed:	---

Source(s) of Pollutant(s)

Known:	ONSITE/SEPTIC SYSTEMS, URBAN/STORM RUNOFF
Suspected:	OTHER SOURCE (waterfowl/wildlife)
Unconfirmed:	---

Management Information

Management Status:	Restoration/Protection Strategy Needed Strategy Implementation Scheduled or Underway
Lead Agency/Office:	DOW/BWAM
IR/305(b) Code:	Impaired Water, TMDL Required (IR Category 5) Impaired Water, TMDL Completed (IR Category 4a)

Further Details

Overview

Quantuck Canal/Moneybogue Bay is assessed as an impaired waterbody due to shellfishing use that is impaired by pathogens and fishing use *(aquatic life)* that is impaired due to low dissolved oxygen. This assessment is based on year-round and seasonal shellfishing closures and continuous water quality monitoring data. Urban and storm runoff are the primary sources of pathogens, although various other sources such as waterfowl/wildlife may also contribute. Onsite septic systems are suspected to be the primary source of low dissolved oxygen to the waterbody.

Use Assessment

Quantuck Canal/Moneybogue Bay is a Class SA waterbody required to support the best use of shellfishing for market purposes, primary and secondary contact recreation and fishing.

Shellfish harvesting for consumption is considered to be impaired in these waters. All of this waterbody (included within Shellfish Growing Area #9) has been designated uncertified or only seasonally certified for the taking of shellfish for use as food. Seasonal restrictions apply to the entire canal and bay; year-round restrictions apply to the Stevens Park Yacht Basin and other smaller boat basins. Shellfish that grow in contaminated waters can accumulate disease-causing microorganisms (bacteria, viruses) that can be eaten with the shellfish. These shellfishing designations are based on results of water quality sampling and evaluation of data against New York State and National Shellfish

Sanitation Program monitoring criteria and/or shoreline surveys of actual or potential sources of contamination. Certified/uncertified shellfish area designations are revised regularly; for the most up to date and detailed descriptions of current designations, go to www.dec.ny.gov/regs/4014.html. (DEC/DFWMR, Region 1, July 2010)

Fishing use is evaluated based on standards and guidance values for the protection of aquatic life and the human consumers of fish. Fishing use *(aqautic life)* is impaired based on continuous monitoring results that show low dissolved oxygen.

Primary and secondary contact recreational uses are thought to be stressed based on shellfishing certification monitoring. There are no regularly monitored beaches in this waterbody, but bacteriological sampling conducted through the shellfishing monitoring program indicate elevated pathogen levels. However criteria for shellfishing are lower than those for public bathing and additional bacteriological sampling is needed to more fully evaluate swimming use.

Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed. (NYS DOH Health Advisories and DEC/DOW, BWAM, April 2018)

Water Quality Information
Assessments of recreational uses and aquatic life in marine waters are based primarily on information from NYS and local health departments and the NYSDEC Division of Fish Wildlife and Marine Resources. This information is compiled and updated in regularly issued advisories and certifications regarding bathing beaches, shellfishing harvest and sportfish consumption.

A Long Island dissolved oxygen monitoring effort led by The Nature Conservancy in collaboration with SUNY Stony Brook SoMAS and USGS began continuous monitoring of dissolved oxygen in a number of marine embayments in 2014. This sampling documented significant diurnal swings in dissolved oxygen during some summer periods. The initial results of this sampling are consistent with this assessment that fishing use *(aquatic life)* is known to be impaired by the episodic low dissolved oxygen.

Source Assessment
Based on surrounding land use and general knowledge of the waterbody, urban stormwater runoff and possibly residential onsite wastewater/septic systems are considered to be the primary sources of pathogens, although various other sources such as boat discharges, municipal wastewater discharges and waterfowl may also contribute.

Management Actions
Quantuck Canal/Moneybogue Bay was among the waterbodies covered by the Long Island Pathogen TMDL to address shellfishing impairments that was established in 2007.

The NYS Legislature authorized $5 million to DEC and the Long Island Regional Planning Council (LIRPC) for a Long Island nitrogen management and mitigation plan. Plan development – with active input from local stakeholders and public – is underway. Chief among the expectations for the plan is a focus on wastewater issues, including sewering of unsewered communities in Suffolk County and the evaluation and use of advanced alternative onsite wastewater treatment systems to reduce nitrogen loads from individual septic systems where sewering in not viable.

This waterbody is also included within the South Shore Estuary Reserve (SSER). The SSER encompasses the tidal waters and watershed between the Nassau–Queens County line and the eastern boundary of Shinnecock Bay. The goals of the SSER Program outlined in the draft Comprehensive Management Plan (CMP) include improvement and maintenance of water quality, protection and restoration of living resources, expansion of public use and enjoyment of the estuary, and increasing education, outreach and stewardship. Program activities focus on point and nonpoint source pollution reduction, protection and restoration of water quality and coastal habitat, increasing shellfish harvesting, open space preservation and enhancing other public uses of the estuary. A vessel waste no discharge zone was established for the entire South Shore Estuary in 2009 to address impacts from boat pollution.

Section 303(d) Listing

Quantuck Canal/Moneybogue Bay is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. However, this updated assessment suggests that it may be appropriate to include this waterbody on the next list. It is recommended that this waterbody be added to Part 3c of the List as an impaired waterbody for which TMDLs are deffered pending development/implementation/evaluation of other restoration measures. This waterbody is currently categorized as an IR Category 4a water that is impaired but not listed due to the inclusion of the waterbody in the 2007 Long Island Pathogens (Shellfishing) TMDL.

Segment Description

This segment includes tidal waters between the Bascule Bridge at Jessup Lane to Quantuck Bay.

QUANTIFYING NITROGEN LOADING FROM THE VILLAGE OF WESTHAMPTON BEACH TO SURROUNDING WATER BODIES AND THEIR MITIGATION BY CREATING A SEWER DISTRICT

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EXECUTIVE SUMMARY

The Village of Westhampton Beach is located within the watersheds of Moniebogue Bay, Quantuck Bay, and Moriches Bay, all water bodies declared impaired by the New York State Department of Environmental Conservation (NYSDEC). For more than 30 years, these waters have been plagued by recurrent brown tides more frequently than any other water body across Long Island leading to significant losses of shellfish and eelgrass. High levels of nitrogen have been detected in the groundwater under the Village and this nitrogen flows to coastal water bodies, promoting these brown tides while also contributing toward other nitrogen-related impairments including the loss of salt marshes, the loss of eelgrass, poor water clarity, low oxygen levels, and poor conditions for fish populations. Any effort to reduce the delivery of nitrogen from the Village of Westhampton Beach will help mitigate these conditions. This study was undertaken to estimate the effect of sewering various portions of the Village of Westhampton Beach on the total nitrogen loads to Eastern Moriches, Moniebogue Bay, and Quantuck Bay, as well as the water quality within these systems. A nitrogen loading model was developed that considered nitrogen delivered to these waterbodies from three types of fertilizers, septic systems, the atmosphere, surface-run-off, storm drains, sediments, and birds. The model was run for current conditions as well as for four phases of wastewater remediation for the Village including the creation of phased sewer districts and upgrades of on-site septic systems. The subsequent effects on water quality in the surrounding water bodies was quantified. The models demonstrate that wastewater is currently the largest source of nitrogen to East Moriches, Moniebogue, and Quantuck (58%, 78% and 62% of the external nitrogen load). The completion of the proposed phase 1 sewering of Main Street would divert nearly 5,000 lbs of nitrogen away from Moniebogue Bay annually, reducing its total nitrogen load by 24% and its external nitrogen load by 30% but would not significantly impact East Moriches and Quantuck Bays which are outside of the Main Street watershed. Phases 2 and 3 would expand sewering to regions beyond Main Street bringing a 30% reduction of total nitrogen load and ~40% reduction of external loads to Moniebogue Bay and modest reductions to East Moriches and Quantuck Bays (0 – 5%). Phase 4 of the plan would bring alternative, denitrifying septic systems to the remainder of the Village and lead to the largest total nitrogen reductions to all waterbodies with the total load reduction of 12% for East Moriches Bay, 56% for Moniebogue Bay, and 8% for Quantuck Bay and external loads reductions of 18% for East Moriches Bay, 70% for Moniebogue Bay, and 13% for Quantuck Bay. Given that Moniebogue Bay is the only water

body fully within the Village's watershed, and that the Village comprises ~20% of the other watersheds, the 70% reduction in nitrogen load to this water body is the most realistic assessment of the efficacy of this project. Upon the reduction of nitrogen loads to coastal waters, it is expected that the intensity of brown tides and other algal blooms would be reduced. Additional ecosystem benefits would include improved nighttime oxygen levels, improved water clarity, increases in submerged aquatic vegetation, and improved conditions for pelagic fish. Given that recent research at Stony Brook University has determined that waterfront or near-waterfront home values can be strongly effected by water clarity, improved water clarity could financially benefit home owners in the region as well as associated tax revenues.

Task 1 Summarize the current status of water quality within Moniebogue and Quantuck Bay and known relationships to excessive nitrogen loading in a brief report.

Estuaries and other coastal ecosystems have suffered multiple anthropogenic insults in recent decades, including pollution, eutrophication, overfishing of fish and shellfish, and loss of key habitats, such as seagrass beds, salt marshes, mangroves, and oyster reefs (Valiela et al., 1992, Nixon 1995, Cloern 2001, Lotze et al. 2006). At the same time, resource value of estuaries and their various habitats has increased, as measured by monetary value (Costanza et al. 1997) or by ecosystem services provided to marine and terrestrial species, including humans (Beck et al. 2001, Bruno et al. 2003, Johnson and Heck 2006). In response to the ongoing degradation of coastal ecosystems, the current challenge to scientists and managers is to implement management schemes for estuaries and coastal waters that balance preservation, conservation, and restored ecosystem function with ever-growing human populations and human demands in the coastal zone. Anthropogenic nutrient loading is a major threat to coastal systems; it has increased world-wide and led to eutrophication in many systems (Nixon 1995, Cloern 2001, de Jonge et al. 2002). Eutrophication can have severe effects on estuaries and estuarine resources, such as hypoxia/anoxia leading to loss of benthic habitat (Breitburg 2002), harmful algal blooms (Sunda et al. 2006), shading of seagrass beds (Dennison et al. 1993), and "regime changes" from a high-biomass benthos to a pelagic, microbially-dominated system (Lotze et al. 2006).

These broad global threats to estuaries are abundantly apparent in the coastal waters surrounding the Village of Westhampton Beach. As a relatively dense population hub with a main street and a series of condominiums in the Village, there is an abundance of nitrogen-rich wastewater entering the groundwater under the Village. A GIS-based map of nitrogen levels in groundwater across Westhampton measured by Suffolk County shows that levels are relatively low north of the Village and in the region of the Pine Barrens (<1 mg N per liter; Figure 1). In strong contrast, the Village of Westhampton Beach and surrounding regions stand out as having exceedingly high levels of nitrogen in groundwater, in some cases exceeding 20 mg nitrogen per liter (Figure 1). Due to the low elevation of the Village and shallow groundwater, this nitrogen is likely to quickly traverse through the aquifer and directly into coastal water with little processing or denitrification.

The first marine habitat to receive nitrogen-groundwater from the Village would be salt marshes or wetlands. Salt marshes serve as an important habitat for a variety of animals as multiple marine, terrestrial, and migratory species utilize these systems for food, shelter, and nurseries (Turner 1987; Leonard et al. 1999). Marine marshes can also serve as a buffer between the land and the adjacent marine ecosystem whereby land-derived nutrients and organic carbon may be retained and re-mineralized, potentially minimizing the effects of these constituents on the local

marine environment (Valiela et al. 1978; Valiela and Teal 1979; Dame et al. 1992). The expansion of human populations along coastlines during the past century has led to the alteration and degradation of many salt marsh habitats, a process which, in turn, can impact estuaries. There has been an accelerated loss of salt marshes in recent decades all around Long Island, but most notably along the south shore (NYSDEC 2014). What was once vegetated intertidal marsh has become non-vegetated underwater lands and/or mud flats. Moreover, high marsh vegetation is being converted to low marsh vegetation or has been built upon.

The salt marshes along Westhampton Beach and Moniebogue Bay, despite their vast, potentially healthy-appearance, are likely degrading. It was once thought that salt marshes had an unlimited capacity to remove nitrogen and were, therefore, not susceptible to damage due to nitrogen overloading. Earlier research had shown that excess nitrogen loading can lead to an expansion of above ground, leaf biomass of salt marshes, and thus, eutrophied salt marshes can appear green and lush (Valiela 2006). There is, however, now a scientific consensus that excessive nutrient loading promotes the collapse and destruction of salt marshes. Excessive nitrogen concentrations accelerate microbial decomposition of leaves, stems, and other organic biomass in marshes sediments and prevent the ability of these marsh communities to keep up with sea level rise (Turner et al. 2009). Nutrient enrichment decreases the dense below ground biomass of bank-stabilizing plant roots and increases microbial decomposition of organic matter within the soils that underlie the marsh biomass that can cause marshes to subside (Deegan et al. 2007, 2012). Longer term exposure to enhanced nutrient levels causes an increased probability of marsh channel destabilization (Deegan et al. 2012). The tall marsh grasses in a nitrogen-enriched system produce fewer roots and rhizomes – plant attributes that are critical to stabilizing the edges and soils of marshlands (Deegan et al. 2007, 2012). The poorly rooted grasses eventually grow too tall and then fall over, thereby destabilizing the creek-edge and bay-edge marsh, causing it to slump and exposing soils to erosive forces (Deegan et al. 2012). The destabilization of creek-edge and bay-edge marshes makes these areas much more susceptible to the constant tugging and pulling of waves, accelerating erosion, and the loss of stabilizing vegetation. Ultimately, this process of root degradation and collapse of salt marshes leads to their conversion to mud flats (NYSDEC 2014). These conclusions are consistent with those of Stony Brook University scientists who have found that marsh loss in eutrophied regions, is driven by nitrogen and organic matter loading, which perturb the salt marsh sulfur cycle and lead to plant die-offs and the deterioration of marsh peat (Kolker et al. 2010).

Tidal wetlands are critically important for protecting coastal communities such as the Village of Westhampton Beach from storm damage by dissipating wave energy and amplitude, reducing erosion from waves by slowing water velocity, and by stabilizing shorelines through sediment deposition (Möller et al., 1999). Some studies estimate that more than half of normal wave energy is dissipated within the first 3 meters of marsh vegetation, such as cord grass, while

other studies concluded that wave height is reduced by 80 percent over fairly short distances as waves travel through marsh vegetation (Anderson et al. 2013; Jadhav and Chen 2012; Ysebaert et al. 2011). In addition, wave energy dissipation rates over the salt marsh are more than dramatically higher than non-marsh regions and are therefore important for maintaining a natural defense for coastal communities against storm surge, waves, and flooding (NYSDEC 2014). This is very obviously in the vicinity of the Village of Westhampton Beach. Large stands of salt marshes line the entire eastern bank of Moniebogue Bay (Figure 2). During Hurricane Sandy, these salt marshes absorbed a large amount of tidal flooding, protecting many regions of the Village of Westhampton Beach (Figure 2). In contrast, regions on the west side of Moniebogue Bay without salt marshes were badly flooded (Figure 2). Beyond storm events, the amount of sea level rise in the next 30 years may also pose a risk to coastal communities such as the Village of Westhampton Beach. In a manner similar to Hurricane Sandy, the projected sea level rise for the next 30 years is likely to lead to flooding of some properties and homes along the western shore of Moniebogue Bay whereas the salt marshes on the eastern shore should protect the homes behind it, as well as the Village (Figure 2). Importantly, however, these projections are assuming the current salt marshes remaining intact. If nitrogen loading continues or accelerates, they could weaken and experience a die-back and future flooding might be worsened (Deegan et al., 2012; NYSDEC, 2014). Alternatively, nitrogen mitigation could strengthen these salt marshes and enhance the protection they offer (Deegan et al., 2012; NYSDEC, 2014). Therefore, while the loss of tidal marshlands results in a direct reduction in coastal resiliency and the ability of these natural features to help protect coastal communities along the Village of Westhampton Beach from future storm surges, projects that have the potential to remove significant amounts of nitrogen are likely to encourage salt marsh recovery and enhance community protection.

Beyond the shoreline, the release of nitrogen from groundwater into coastal waters has a strong effect on the surrounding estuarine ecosystems since nitrogen is considered the limiting element for primary producers (Nixon, 1995). Hence, more nitrogen will lead to more growth of algae. An examination of 40 years of marine monitoring data from Suffolk County's Department of Health Services clearly illustrates the impact excessive nitrogen loading is having on regional estuaries and water quality. In compiling all of the data from Shinnecock, Quantuck, and Moriches Bay from 1976 - 2014, no site monitored had higher levels of total nitrogen in bay waters than Quantuck and Moniebogue Bay (Figure 3). The precise levels (~0.6 mg nitrogen per liter) exceeded the guidelines recommended by US EPA for many estuaries including the Peconic Estuary and Chesapeake Bay (< 0.4 mg per liter; PEP, 2001). These high nitrogen levels have a cascading effect on the entire estuarine ecosystem. As mentioned above, nitrogen is the limiting element in estuaries (Nixon, 1995) including Quantuck Bay (Gobler et al., 2004, 2011). Hence, these high nitrogen levels lead to algal blooms. The highest levels of chlorophyll *a* (a proxy for the biomass of microalgae) anywhere across Shinnecock, Quantuck, and Moriches Bays (Figure 3) and across most of Long Island (Figure 4) are found in Moniebogue and Quantuck Bays. In

fact, of >30 sites monitored by the Gobler lab since 2014, only the Forge River has had higher levels (Figure 4). During late spring and summer months, these algae are typically dominated by the brown tide alga, *Aureococcus anophagefferens* (Gobler et al., 2004, 2011). Such brown tides are a serious ecosystem threat as they are lethal and toxic to bivalves such as clams, oysters, scallops, and mussels and they can kill of seagrasses (Gobler and Sunda, 2012). During the past 30 years, no place on Earth has had more intense brown tides than Quantuck Bay, eastern Moriches Bay, and western Shinnecock Bay (Figure 3). Consistent with Suffolk County's data, monitoring across all of Long Island by the Gobler Laboratory has revealed the precise same trend (Figure 5). In fact, during the past decade, these brown tides have become more frequent and more severe than they had been from 1985 – 2005 (Figure 6). Beyond brown tides, an even more dangerous algae is *Alexandrium*, a dinoflagellate that synthesizes saxitoxin, a compound 1,000-times more potent and dangerous than cyanide (Anderson, 1997). This algae and toxin can cause paralytic shellfish poisoning when humans consume shellfish contaminated with saxitoxin (Anderson, 1997). There have been four PSP-induced shellfish bed closures in Shinnecock Bay during the past seven years and high levels of *Alexandrium* have been detected in Moniebogue Bay and Quantuck Bay (Figure 7). Blooms of *Alexandrium* and *Aureococcus* have both been shown to be strongly promoted by nitrogen loading (Hattenrath et al., 2010; Gobler et al., 2005, 2011).

Algal blooms can have additional, secondary negative impacts on marine life. Both the occurrence of brown tides and the occurrence of algal blooms in general can make coastal waters extremely turbid and murky (Gobler and Sunda, 2012). Accordingly, the region of Quantuck Bay, eastern Moriches Bay, and western Shinnecock Bay is the epicenter for low water clarity across the south shore of Long Island (Figure 3). Monitoring by the Gobler laboratory across all of Long Island during the past three years has demonstrated that Moniebogue Bay and Quantuck Bay have the lowest water clarity of any locations monitored (n=30; Figure 8). Poor water clarity has a host of primary and secondary ecosystem and economic ramifications. Firstly, low light levels from poor water clarity can lead to the loss and demise of seagrass meadows that are a critical nursery habitat for juvenile finfish and shellfish (Dennison et al., 1993). Also, recent research at Stony Brook University has determined that waterfront or near-waterfront home values can be strongly effected by water clarity, with low water clarity being associated with lower home values.

Finally, low light levels associated with poor water clarity can minimize the amount of photosynthesis in an ecosystem and thus contribute toward low oxygen levels. The decay of intense algal blooms can also promote low oxygen levels (Diaz and Rosenberg, 2008). Quantuck Bay, eastern Moriches Bay, and western Shinnecock Bay have the lowest oxygen levels across Long Island's southeast shoreline (Figure 3) and monitoring across Long Island has demonstrated that this region has some of the lowest oxygen levels anywhere (Figure 9), commonly falling below the minimum standard for oxygen set by the NYSDEC of 3 mg per liter. Low oxygen levels are associated with the loss or death of marine life (Diaz and Rosenberg, 2008).

In summary, the groundwater flowing from the Village of Westhampton Beach into Moniebogue and Quantuck Bay is highly enriched in nitrogen. This nitrogen threatens severe future flooding in the region due to the nitrogen-induced degradation of salt marshes. Nitrogen loading is promoting brown tides, *Alexandrium*, and other algal blooms that are reducing light and oxygen levels and negatively impacting finfish, shellfish, and seagrasses. The severity of the problem in the Village of Westhampton Beach is clear as the near-by coastal water bodies have some of the worst water quality on Long Island. Nitrogen mitigation is needed to improve water quality and protect homes in the region.

TASK 2. DEVELOP A DYNAMIC MODEL FOR NITROGEN LOADING RATES AND SOURCES FOR THE VILLAGE OF WESTHAMPTON BEACH TO MONIEBOGUE, QUANTUCK, AND EASTERN MORICHES BAY.

A Nitrogen Loading Model was developed to quantify the total dissolved nitrogen input into the waterbodies surrounding the Village of Westhampton Beach. The original Nitrogen Loading Model (NLM; Valiela et al., 1997) is available via a web-based modeling tool (nload.mbl.edu) described in Bowen et al. (2007) and used in Bowen and Valiela (2004) and recently in Kinney and Valiela (2011) among others. The NLM uses information about land use in a defined watershed to predict both the amount of nitrogen that is released into the watershed from various sources and how much of it ends up in a corresponding waterbody. This model requires accurate land-use and land cover information, such as area of agriculture, residential areas, and impervious surfaces as well as other environmental data that was gathered for this project from scientific literature, NYS and Suffolk County GIS data bases, USGS reports, the Town of Southampton, Suffolk County, and the US census as described in Table 1. Hence, for this project, this original model was modified to utilize more accurate, local data sources, although the underlying assumptions and several critical components were not altered. As an example, originally average roof area was multiplied by the number of buildings to approximate the total area of roofs in a watershed. With more accurate, GIS-based data, the area of each roof in the watershed was calculated and then all the individual areas were summed together.

The NLM is a good fit for watersheds around the Village of Westhampton Beach that are a mix of residential, forested, and forest and is one of the most inclusive nitrogen loading models regarding the transformation and transport of nitrogen as it travels from watershed to estuaries.. The NLM assumes that the primary transport mechanism for nitrogen entering the bays from each watershed is groundwater flow. This assumption is consistent with data available for the region as the little inflow to the bays from streams is actually derived from groundwater and geologically, Long Island is composed of unconsolidated sands that allow for relatively easy transport of groundwater to coastal lagoons. The NLM assumes that all nitrogen entering the waterbodies from external sources originates from atmospheric deposition to the watershed, wastewater, or fertilizer. Valiela et al. (1997) validated this model by comparing its nitrogen load prediction to empirically measured nitrogen levels. They found the NLM's results to be statistically indistinguishable from measured concentrations and that a linear relationship exists between the percent contributions from wastewater that the NLM predicted and the stable isotope signature for wastewater expected from known isotopic N values of nitrate in groundwater. A recent study by Gobler (2016) came to the same conclusion for the south shore of Long Island.

The NLM utilizes multiple features, which were obtained or derived from Suffolk County and New York State datasets for the watersheds: number of people; number of people within 200

meters of shore; area of roofs; surface area of the watersheds; area of freshwater wetlands; area of agriculture; area of golf courses; lawn area on parks, athletic fields, and residential parcels; freshwater ponds; and, various impervious surfaces (Table 1). The model also includes a list of constants assigned values based on recommendations from Suffolk County (Table 1).

Watershed delineation

The surface extent of the East Moriches Bay, Moniebogue Bay, and Quantuck Bay watersheds were determined using a combination of CDM's ground water travel time analysis and groundwater flow patterns, which have been previously found to generally follow hydraulic gradients established by surface topography (Figure 10). Surface topography was determined using United States Geological Survey LiDAR data. Watersheds were limited on the northern edges by the 50-year groundwater travel time line provided by H2M, with the western edge of the East Moriches watershed was drawn roughly half way down the complete Moriches watershed, and the Quantuck Bay watershed as previously established (Gobler, 2016). As described later in this document, the multi-phase wastewater mitigation strategy being implemented by the Village encompasses all of the Moniebogue Bay watershed, 23% of the western Quantuck Bay watershed, and 19% of the eastern Moriches Bay watershed (Figure 11).

Atmospheric Deposition of Nitrogen

Atmospheric nitrogen is delivered via precipitation (wet) or via dust (dry). Nitrogen that arrives in the watersheds through wet and dry deposition may have a varied contribution to waterbody nitrogen load depending on where the nitrogen lands. Different land use types (impervious, vegetation, developed) alter the amount of nitrogen that passes through to groundwater and enters a waterbody. Nitrogen deposited on vegetation has time to be assimilated by plants and organisms in the soils, and/or may be denitrified in the aquifer. Nitrogen that lands on impervious surfaces can runoff directly into a stream, or bay, skipping assimilation. It may also flow through a municipal separate stormwater sewer system (MS4) where it eventually seeps into sandy soils and discharges into coastal zones. In general, when atmospherically deposited nitrogen lands on impervious surfaces, less is removed before entering the waterbodies.

Nitrogen inputs from wet and dry deposition were determined using the National Atmospheric Deposition Program (NADP; wet) and the EPA's Clean Air Status and Trends Network (CASTNET; dry). Data from the closest NADP monitoring station is in Southold, NY, 10 miles from eastern Shinnecock Bay, were utilized. Two years (2010-2011) of monitoring from CASTNET's three closest monitoring stations (Washington Crossing, NJ, Claryville, NY, and Abington, CT) were averaged to determine the dry deposition input. Atmospheric deposition rates often only consider inorganic forms of nitrogen despite the fact that organic nitrogen contribution to atmospheric deposition can be considerable. While direct measurements are not available, a 1:1 ratio of inorganic to organic deposition of nitrogen has been suggested by

Cornell et al. (1995). Hence, the value of wet and dry deposition was doubled to account for organic nitrogen loading from these sources. As a result total input for atmospheric deposition amounted to 5.4 kg N per hectare yr^{-1} (=4.8 lb N per acre per year). Direct atmospheric deposition rate to the bays was added to the nitrogen load from wastewater and fertilizer for a final nitrogen load rate for each subwatershed.

Nitrogen runoff from driveways, roofs, and other impervious surfaces was attenuated because it first passes through turf and/or soils. All atmospheric depositions also go through a limited amount of denitrification in the aquifer. The atmospheric deposition of nitrogen is decreasing on Long Island and the Northeast in general, a trend expected to continue due to changes in industrial atmospheric discharge in the Midwest (Gobler, 2016).

The land-use and land cover information used for the NLM was ascertained through the Suffolk County Land Use and Land Cover parcel dataset for all watersheds. This layer includes all taxable parcels, but areas like public roads are not covered. All inputs to the NLM and their sources are referenced in Table 1. Impervious land areas were estimated by finding where the Normalized Difference Vegetation Index (NDVI) was low (NDVI<80). The NDVI was created from the USGS's high resolution orthoimagery. Parcels that were known by land type to not have any impervious surfaces were removed to improve the accuracy. The removal included the classes open water, vacant land, preserved/forested land, and agricultural land. Road area was estimated by limiting this impervious layer to areas where land parcels did not exist. Driveway areas were estimated by limiting the impervious layer to residential parcels and where the height of objects on the properties were close to zero. The height of objects on properties (trees, buildings, decks, etc.) was determined by subtracting a Digital Elevation Model from a Digital Surface Model. These models were created from the same USGS LiDAR point cloud data. Total roof area was quantified by summing the area of each building footprint within the watershed. Footprint data was supplied by Suffolk County.

Wastewater

The contribution of nitrogen load to the bays from wastewater was calculated in the NLM by multiplying the nitrogen released per person by the number of occupants in the watershed. The number of occupants for most parcels in each watershed was determined by using CDM's model results. They determined that one residential parcel produces 300 gpd of sewage. Using 2010 census data for the region, occupancy of 2.8 people per one year round residential parcel. Hence, it was estimated that 2.8 people produce 300gpd. With this ratio and the modeled sewage output, the occupancy for other property types was determined. Most commercial and industrial properties were included in H2M's study, but it did not fully cover the watersheds. Year-round residential properties outside of H2M's study were assigned 2.8 people and seasonal occupancy properties were assigned 0.92 people assuming three months of occupancy and an average of 5.5 people per

seasonal home, numbers acquired from the recent NYSDEC's Long Island Nitrogen Action Plan Subwatersheds study. Properties were determined as year round or seasonal based on the permanent address of the owner.

Differing levels of nitrogen were then removed from wastewater loading depending upon the type of on-site sewage disposal system (septic or cesspool) and the system's distance from shore as there is significantly less nitrogen removed when septic tanks and cesspools are within 200 m of coastal waters. Residential and commercial parcels have either an individual septic tank system or cesspool, which differ slightly in the fraction of nitrogen released to the underlying aquifer, with the less effective cesspools releasing more. In Suffolk County, a law was passed in 1973 requiring all newly constructed buildings to include a septic tank system instead of a cesspool. For this study, half of the residential and commercial uses were assumed to have cesspools. The study area does not contain any municipal wastewater treatment facilities.

The NLM breaks down the nitrogen removal in septic tank and cesspool-based systems into three steps: removal in the tank, removal in leach rings, and removal in septic plumes (Table 1). Cesspools on Long Island are typically composed of cylinders arranged vertically, eliminating any traditional leaching rings and the associated nitrogen removal therein. Although there is a disposal pit associated with these vertically structured cesspools systems, only a small amount of nitrogen is removed in this part of the system (<10%).

Fertilizer

The NLM considers fertilizer input from agricultural uses, golf courses, parks and athletic field lawns, and manicured residential lawns. The area of each type was calculated using ArcGIS processes; residential lawn areas were found by limiting high NDVI areas (NDVI>80) to residential parcels and to areas where the LiDAR height layer was near zero (height<0.05m). Golf courses were extracted from the Open Street Map and were further manually edited. Agricultural land was extracted from the Suffolk County Land Use and Cover dataset and manually verified with satellite imagery. Parks and athletic field parcels were also extracted from the Suffolk County Land Use and Land Cover dataset but were then further limited to lawn areas within those parcels with the same process used for residential lawns.

Sediments, birds, and waterfowl

To determine benthic flux, sediment core samples were obtained from three locations in the lake: one at the north sampling station, one at the longitudinal center of the lake and one near the southern portion of the lake. Cores were extracted using a box corer dropped from the side of the boat which was then brought to 0.3 m below the water surface. An acid-washed clear polycarbonate tube (length = 26.6 cm, diameter = 9.3 cm) was then inserted through the top of the corer to collect a sediment sample. While the tube was still in the sediment, a plastic cap was

placed on the bottom and then the top to capture the sediment sample and lake water immediately above the sediment. Cores were immediately placed in a cooler and transported back to the lab within one hour. A replicate and blank of the North End were also retrieved. Core samples were then incubated in similar light and temperature conditions to those measured at the lake bottom of each site. The samples were also aerated to achieve similar dissolved oxygen levels found in bottom waters of Quantuck Bay using an aquarium air pump. Physical parameters were monitored using an Onset® temp/light monitor. Water samples were extracted using an acid-washed 60 ml syringe with 15 cm tubing attached to the end. Water was drawn up slowly from just above the sediment water interface and care was taken to not draw up sediment. Samples were placed in acid-washed 60 ml bottles and frozen. The incubation was allowed to run for 12 hours with a total of 5 samples obtained per core as a time course during the incubation. Samples were filtered on combusted GFF and analyzed for nutrient levels. As filtered lake water was not added to replace the volume extracted, a mass balance correction was applied using the equation $(C_0 - C_1) \times V_0 = \Delta m$ where C_0 is the starting concentration, C_1 is the ending concentration, V_0 is the starting volume and Δm is the mass change. This correction was applied to each time point in the series and the results were plotted against time. The resulting slope was used to determine the flux of nutrients out or into the sediment. Given that incubations were with mud and that sands generally do not provide benthic fluxes, flux rates were applied to only 75% of the bottom of the Lake, and the shoreline region which is at least 25% of the bay is sandy. In addition, it was assumed that benthic fluxes cease during winter (December through March) when cold temperatures restrict this process.

Final processes considered were direct atmospheric deposition to the water bodies (0.16 mole m^{-2} yr^{-1} as per Gobler (2016) and waterfowl. Fleming, R. and H. Fraser (2001) reported the nitrogen content of Canadian geese droppings as: 3,168 mg/goose/day and 608 to 1,819 mg/bird/day. Bird populations of East Moriches, Moniebogue, and Quantuck were estimated at 100, 100, and 300 birds, respectively, and a loading rate of 2,000mg/bird/day was used.

Nitrogen loading rates to East Moriches, Moniebogue, and Quantuck Bays

Recently, nitrogen loads have been quantified for many watersheds across Suffolk County. In most of these efforts, load calculations have been based exclusively on external nitrogen loads from watersheds to the ecosystem and have not considered processes within the waterbody. For this study, both internal and external nitrogen loads to East Moriches, Moniebogue, and Quantuck Bays were quantified. When considering external loads only, wastewater was the largest source of nitrogen to all three waterbodies. East Moriches, Moniebogue, and Quantuck Bays received 25,087, 6,909, and 11,889 kg N per year from wastewater sources representing 74%, 89%, and 80% of the total external nitrogen load to these three systems (Table 2). The second largest external nitrogen source was fertilizer comprising 19%, 7%, and 11% of the total nitrogen load to East Moriches, Moniebogue, and Quantuck Bays (Table 2). Atmospheric deposition onto the land,

the last external source, produced between 4 and 9% of the external nitrogen load to the watersheds.

When considering internal and external loads, wastewater was still the largest source of nitrogen to the waterbodies and represented 49%, 72%, and 53% of the total nitrogen load to East Moriches, Moniebogue, and Quantuck Bays respectively (Table 3; Figure 11-13). The next largest source of nitrogen was an internal source, specifically direct atmospheric deposition to the waterbodies that contributed 9,578, 1,043, and 4,072 kg N per year that represented 19%, 11%, and 18% of the total nitrogen loads to these systems (Table 3). Benthic fluxes, another internal source, followed with 7,647, 832, and 3,251 kg N per year representing 15%, 9%, and 15%. Thereafter, fertilizer emanating from homes, golf courses, and public parks were the fourth largest source of nitrogen contributing 13%, 6%, and 7% of the total nitrogen loads East Moriches, Moniebogue, and Quantuck Bays, respectively (Table 3; Figure 11-13). Atmospheric deposition to the land contributed less than 6% of the total nitrogen load and nitrogen from birds was below 1% for each waterbody (Table 3). These distributions of nitrogen loads are similar to recent studies in Suffolk County (Kinney and Valiela, 2011; Lloyd, 2014, 2016; Gobler, 2016).

Recently, the NYSDEC's Long Island Nitrogen Action Plan (LINAP) has made significant progress in accessing nitrogen loads to coastal water bodies. One of the earliest actions of LINAP has been the formation of the Suffolk County Subwatersheds Study and committee. As part of that effort, individuals from US EPA, USGS, Cornell University, Stony Brook University, Suffolk County, NYSDEC, and The Nature Conservancy have been collaborating to consider the manner in which nitrogen from land is transported to bays, harbors, lakes, and estuaries in Suffolk County. Through that process, two important and new consensus facts have been established. First, the existing cesspools and septic systems across Suffolk County have been found to be releasing significantly more nitrogen than had previously been thought. For example, in the original NLM model developed by Bowen et al., (2007) it was assumed that there was a 35% reduction in nitrogen within septic tanks, within leaching pits, and as groundwater traverses through the aquifer. While subsequent studies on Long Island began to reduce the removal rates for each step, LINAP has determined that the loss of nitrogen from each of these processes is between 5 and 10%, making wastewater a significantly stronger nitrogen source within the ecosystem (Figure 11-13). Another major change initiated by LINAP has been with regard to lawns. While NLM originally assumed lawns allowed 40% of nitrogen applied to enter groundwater, LINAP has compiled enough information to feel confident that the transmission rate is 30% (Table 1). Finally, although NLM had assumed there would be a large vadose zone removal of nitrogen applied to land surfaces, LINAP has concluded such a process does not exist on Long Island and thus it has been eliminated. This project used the most up-to-date information available regarding nitrogen loading on Long Island as developed by LINAP. As a result, the total nitrogen loads are higher since nitrogen is not being removed within the aquifer at the rates previously assumed but rather at much lower

rates and more nitrogen is being transmitted by septic systems and lawns to groundwater. These changes were slightly larger for wastewater than for fertilizer, making the later process more important. Regardless, the findings of this study are generally consistent with recent studies that have found that wastewater is usually the largest source of nitrogen to a given watershed, although fertilizer can sometimes be larger (Kinney and Valiela, 2011; Lloyd, 2014, 2016; Gobler and Stinnette, 2016).

TASK 3. USE THE DYNAMIC MODEL QUANTIFY HOW CONNECTING DIFFERENT REGIONS OF THE VILLAGE OF WESTHAMPTON BEACH WILL ALTER NITROGEN LOADING RATES TO MONIEBOGUE, QUANTUCK, AND EASTERN MORICHES BAY.

For task 3, the nitrogen loading model developed for the Village of Westhampton was built to consider the different proposed phases of sewers. This was done in multiple phases (Table 4; Figures 14-15). Phases one through three will involve connecting individual commercial and residential parcels to the sewer treatment plant at Gabreski Airport in phases (Table 4; Figures 14). Phase one focuses on Main Street and a section of residential properties south of Main Street connecting 68 commercial properties and 88 residential properties (Table 4; Figures 14). Phase two focuses on regions north of Main Street and connects 46 commercial properties and 23 residential properties (Table 4; Figures 14). Phase three incorporates 55 commercial properties and 97 residential properties between Montauk Highway and the south edge of Gabreski Airport (Table 4; Figures 14). Phase Four, which will be addressed concurrently with phases 1- 3, will involve an upgrade of on-site septic systems to denitrifying systems recently approved as Article 19 of the Suffolk County Health Code which requires that denitrifying systems reduce nitrogen discharge to at least 19 mg nitrogen per liter. Phase 4 will specifically involve 96 commercial properties and 1,955 residential properties across the Village (Table 4; Figures 15). For phases 1 – 3, wastewater diverted from on-site systems and delivered to the sewer treatment plant at Gabreski Airport was added to the nitrogen loads to the Quantuck Bay watershed assuming a treatment level of 10 mg N per liter.

The first important observation of this task is that the region under consideration for phase 1 sewering falls entirely within the watershed of Moniebogue Bay, meaning that the proposed phase 1 sewer district will benefit this water body but is not expected to have any effect on East Moriches Bay and will add very modestly to the nitrogen loads of Quantuck Bay (2%) (Figures 16, 18). The proposed sewer district for phase 1, however, will have a substantial impact on nitrogen loading to Moniebogue Bay (Figure 17). Beyond the phase 1 sewer district falling entirely within the Moniebogue Bay watershed (Figure 14), it is also important to note that the very large majority of nitrogen entering the waterbody comes from wastewater (72%; Figure 12) and hence the proposed project which will divert a large fraction of this nitrogen load out of the watershed will have a significant impact on loading to regional waterbodies. Quantitatively, the nitrogen load that will be removed from Moniebogue Bay with the implementation of this phase 1 sewer district is 2,167 kg of N per year (~5,000 pounds; Figure 17), representing 22% of the total nitrogen load into Moniebogue Bay (Table 5, Table 13) and 28% of externally sourced nitrogen loads (Table 6, Table 14). Given that the overwhelming majority of nitrogen load to the waterbody is from wastewater, expanding the size of sewer district will further decrease the total nitrogen load to this system.

Phase 2 and 3 are an expansion of the sewer district to a larger area focusing on properties north of the downtown commercial area (Figure 15). Phase 2 would not bring any reduction to Eastern Moriches Bay but phase 3 would bring a reduction of 1,388 kg of nitrogen removed per year to this system (Tables 7 - 10; Figure 16) representing 3 and 4% of total and external nitrogen loads, respectively (Tables 13 and 14). Phase 2 would also have an additional benefit to Moniebogue Bay, removing another ~700 kg of nitrogen per year (Tables 7 and 8; Figure 17), bringing the reduction in nitrogen load to the bay to ~30% of the total load and 37% of the external loads (Tables 13 and 14). In contrast, phase 3 would target few homes within the Moniebogue Bay watershed and this would have only a minor impact on this system (Tables 9 and 10; Figure 17). For Quantuck Bay phase 2 and 3 would have almost not net effect as the nitrogen removed from this watershed is nearly equal to the nitrogen imported from the others via the sewage treatment plant (Tables 7 – 10, 13-14; Figure 18).

Finally, phase 4 of the Village of Westhampton Beach sewage mitigation program would entail upgrading more than 2,000 onsite septic systems to systems that denitrify and remove large amount of nitrogen. This phase targets nearly five-times more systems than phases 1 – 3 combined and thus would remove the largest amounts of nitrogen. Numerically, for Eastern Moriches Bay, this phase would remove 3,876 kg or more than four tons of nitrogen leading to a cumulative reduction of 12% of the total load and 18% of the external load (Tables 11-13; Figure 16). For Moniebogue Bay, this phase would remove an additional 4,121 kg of nitrogen leading to a cumulative reduction of 56% of the total load and 70% of the external load (Tables 11-13; Figure 17). Finally, for Quantuck Bay this phase would remove nearly 2,000 kg of nitrogen leading to a cumulative reduction of 8% of the total load and 13% of the external load (Tables 11-13; Figure 18).

The three waterbodies studied here are interconnected and therefore have a degree of mixing, in this way it is possible to look at the results as one mixed waterbody. In that context, for all three watersheds combined, these projects would amount to reductions of 16 – 23% (Tables 13 and 14), percentages much smaller than the effect on Moniebogue Bay (70% reduction) which is wholly within the Village watershed. These differences arise from the Eastern Moriches watershed and Quantuck watershed each being individually much larger than the entire Village of Westhampton Beach. For example, the phase 4 area is roughly 1,500 acres whereas the Eastern Moriches Bay watershed is 3,950 acres and the Quantuck Bay watershed is 2,370 acres. Again, while the Moniebogue Bay watershed is completely contained within the phase 4 area, only 19% of the Eastern Moriches Bay watershed and 23% of the Quantuck Bay watershed is contained within the phase 4 area (Figure 6). Hence, going forward it will be important for the Village to partner with the Town of Southampton, Suffolk County, and NYSDEC to address larger scale nitrogen loading and wastewater issues as related to these larger water bodies. The extension of the Community Preservation Fund and the inclusion of water quality improvement projects in that

fund in the future should provide millions of dollars to the Town of Southampton to address on-site wastewater loading within coastal watersheds. Suffolk County's Reclaim Our Waters Initiative will seek to reduce nitrogen loading rates to coastal water bodies that are highly impaired. This will specifically be facilitated via NYSDEC's Long Island Nitrogen Action Plan's Subwatersheds study of Suffolk County that will specifically seek to identify regions most in need of septic upgrades. Given the severe water quality impairment in eastern Moriches Bay, Quantuck Bay, and western Shinnecock Bay (Figures 1-9), it seems certain this region will become a high priority for wastewater mitigation in the near term. This study provides the background and justification for this region to be 'shovel ready' for future wastewater mitigation projects.

Given that some of the study areas examined here are large watersheds outside of the Village boundaries, a final way of examining these project is to assess the proportion of the total nitrogen load from the Village to the surrounding water bodies. All combined, there is 21,431 kg of nitrogen per year delivered from land and sea into the water bodies receiving discharge from the Village as its own watershed including internal (bay) and external (land, atmosphere) and roughly 16,500 kg of nitrogen per year when controllable, land-based sources only are considered (i.e. wastewater and fertilizer; Figures 19, 20). When considering these loads only, phase 1 reduces the total nitrogen load the Village is responsible for by 10 - 14% (for total and land-only based loads), whereas phase 2 is a 16 - 21% reduction, phase 3 is a 23 - 30% reduction, and phase 4 leads to a 66 – 70% reduction of the total nitrogen load the Village is responsible for (Figures 19, 20; Table 15). The higher estimates are likely more important for the Village to consider since internal nitrogen sources like benthic flux and atmospheric deposition cannot be easily mitigated or controlled.

A final thought with regard to phase 4 of this project is the precise types of alternative on-site systems that are installed. Article 19 of Suffolk County's Health Code now requires that alternative, denitrifying on-site septic system reduce nitrogen effluent levels to at least 19 mg of nitrogen per liter and this was the level used in the present study to estimate load reductions associated with phase 4 of this project. Importantly, however, some systems reduce nitrogen levels below this threshold. For example, in pilot phase testing in Suffolk County the Hydro-Action system achieved, on average, 12 mg of nitrogen per liter effluent. In addition, the New York State Center for Clean Water Technology at Stony Brook University has created a new design of septic system called Nitrogen Reducing Biofilters that, in pilot phase testing in Massachusetts, has regularly achieved < 10 mg of nitrogen per liter effluent (CCWT, 2016). Hence, the phase 4 estimates used in this study were conservative and based on the realistic information available as of 2017. It is feasible that the amount of nitrogen reduction achieved in the Village of Westhampton Beach by phase 4 could be twice as large as estimated here which could be up to a 90% reduction in the wastewater loading of nitrogen to Moniebogue Bay, for example.

TASK 4. USE THE DYNAMIC MODEL QUANTIFY HOW BUILDING OUT THE VILLAGE OF WESTHAMPTON BEACH WITH AND WITHOUT CONNECTING DIFFERENT REGIONS OF WESTHAMPTON VILLAGE TO A SEWAGE TREATMENT PLANT WILL ALTER NITROGEN LOADING RATES TO MONIEBOGUE, QUANTUCK, AND EASTERN MORICHES BAY.

With the implementation of phase 1 of the sewer district, nearly 5,000 lbs of nitrogen will be diverted from Moniebogue Bay annually while completion of phase 4 will divert 10,000 lbs annually. The creation of the sewage district will also allow for an expansion of building within the Village with the newly constructed structures being connected to the sewage treatment plant which will treat the sewage to a 10 mg N per liter standard. Hence, for this task, the Moniebogue Bay watershed nitrogen loading model was run under six scenarios: Current nitrogen loading, nitrogen loading with the addition of 100,000 square feet of commercial space within the Village, nitrogen loading with the implementation of the sewer district (phase 1), nitrogen loading with the addition of 100,000 square feet of commercial space within the Village along with the implementation of the sewer district, nitrogen loading with the implementation of the sewer district and denitrifying septic systems (phase four), and nitrogen loading with the implementation of the sewer district and denitrifying septic systems and 100,000 square feet of commercial space within the Village. It should be noted that this much building is unlikely to occur within the Village in the near future or potentially ever. This level was specifically chosen to represent a large growth scenario to assess how the implementation of the sewer district would affect nitrogen loading future growth in the region.

As shown in Figure 22, if 100,000 square feet of commercial space was added to the Village without the sewer district, this would ***increase*** nitrogen loading rates to Moniebogue Bay by 64 kg of N per year, likely exacerbating environmental degradation of this water body (Figure 21). Alternatively, if the same growth occurred but the new structures were hooked up to the new sewage treatment plant, the net effect on Moniebogue Bay will be a 2,100 kg N per year ***reduction*** in nitrogen loading to this water body (Figure 21). If this project was carried out to phase four with denitrfying septic systems also added, even 100,000 square feet of commercial space would yield a net decrease in nitrogen loading by more than 50% (Figure 21). Hence, while increased building can lead to significant increases in nitrogen loading to coastal water bodies, when such growth occurs in parallel to the implementation of a sewer district, net nitrogen loading can be reduced.

TASK 5. PROJECT AND DESCRIBE HOW CONNECTING DIFFERENT REGIONS OF THE VILLAGE OF WESTHAMPTON BEACH TO A SEWAGE TREATMENT PLANT WILL IMPROVE WATER QUALITY IN MONIEBOGUE BAY.

The large and significant reductions in nitrogen loading from the Village of Westhampton Beach into surrounding water bodies will contribute toward a series of significant water quality improvements in the regions. As stated in the introduction, the first marine habitat to receive nitrogen-enriched groundwater from the Village are salt marshes or wetlands. These habitats are critical for the survival of marine life, birds, and even some terrestrial mammals (Turner 1987; Leonard et al. 1999). In addition, they are known to intercept and process land-derived pollutants including excessive nitrogen loading (Valiela et al. 1978; Dame et al. 1992). Finally, recent research has affirmed the key role salt marshes play in protecting coastal communities from storm surge and flooding (Anderson et al. 2013; Jadhav and Chen 2012; Ysebaert et al. 2011). In fact, mapping of the storm surge from Hurricane Sandy or the expected rise in sea level this century suggests that the salt marshes surrounding the Village of Westhampton Beach are playing a critical role in protecting the Village against current and future storms (Figure 2). It is now widely recognized that excessive nitrogen loading degrades and erodes salt marshes (Turner et al. 2009; Deegan et al, 2012) making coastal communities on Long Island more vulnerable to flooding (NYSDEC 2014). Therefore, the currently proposed project that will divert and remove up to 70% of the nitrogen load to Moniebogue Bay will play a key role in stabilizing and restoring the salt marshes in this region and thus protecting the Village from future flooding associated with sea level rise and storm events.

Beyond the shoreline, the release of nitrogen from groundwater into coastal waters has a strong effect on the estuarine ecosystem since nitrogen is considered the limiting element for primary producers (Nixon, 1995). Hence, excessive nitrogen loading from the Village is promoting algal blooms, brown tides, and *Alexandrium* blooms in near-by waters (Figures 3 – 7), and the cascade of events that ensue from these events such as paralytic shellfish poisoning, reduced water clarity, the loss of seagrass, low oxygen levels and the loss of marine life (Figures 3 - 9). Prior research across Long Island and regionally demonstrates that these processes can work in reverse if nitrogen loads are mitigated. For example, in 1980, the Southwest Sewer District was implemented and sewage from a large region of southwest Suffolk County that had flowed into Great South Bay was diverted to the Atlantic Ocean. Following this, nitrogen levels in Great South Bay declined and more than 3,000 acres of seagrass re-grew (NYSDEC, 2009). Similarly, in Mumford Cove, CT, seagrass was lost entirely as population and sewage inputs increased during the 20th century, and the Cove became overgrown with seaweeds (Vaudrey et al., 2010). In 1989, the sewage was diverted from this Cove and the seaweeds vanished and were replaced by seagrasses (Vaudrey et al., 2010). In Northport Harbor, *Alexandrium* blooms had occurred every year from 2008 to 2012, leading to the closure of more than 8,000 acres of shellfish beds due to

contamination with saxitoxin and the threat of paralytic shellfish poisoning (PSP; NYSDEC, 2008-2016). In 2013, the Northport Village sewage treatment plant was upgraded and reduced its daily nitrogen discharge by more than 50%. In the years since that upgrade (2013-2017), there have been no PSP events in Northport Harbor. Finally, in 1994, a plan was devised to reduce nitrogen loading into Long Island Sound by 58.5% over a 20 year period. Reductions began in earnest at the turn of the century and through this century, the size of the 'dead zone' or low oxygen zone within Long Island Sound has progressively shrunk to the point that in 2015, for the first time since records began, there was no dead zone in Long Island South (CT DEEP, 2015).

With the implementation of the sewer district and the upgrading of septic systems in the Village of Westhampton Beach, it is anticipated that similar change will occur in the surrounding water bodies, but primarily within Moniebogue Bay. More specifically, by reducing nitrogen loadings, that water body will become less hospitable for harmful algae such as brown tides and *Alexandrium* (Hattenrath et al., 2010; Gobler and Sunda, 2012). This will lead to improved water clarity and higher oxygen levels and thus will promote the re-colonization of seagrasses. This, in turn, along with lower levels of brown tide, will benefit regional finfish and shellfish populations. This will also increase the diversity of the phytoplankton community in Moniebogue Bay. Brown tides compete with diatoms and green algae for dominance in this region (Gobler et al., 2011) and prior research has shown that nutrient reductions selectively reduce harmful algae biomass more than other phytoplankton in general (Heisler et al., 2008). This change will have whole ecosystem benefits. It is well-known that brown tides are poorly grazed by zooplankton compared to other phytoplankton (Gobler and Sunda, 2012) and during summer, bloom to the exclusion of other phytoplankton. Since zooplankton are the next step in aquatic food webs that ultimately yield fish, under current conditions, blooms of brown tides are inhibiting the productivity of finfish and shellfish populations, especially pelagic fish that feed in the water (Gobler and Sunda, 2012). Hence, as nitrogen reductions begin to alter phytoplankton populations and reduce the prevalence of brown tides and enhance phytoplankton diversity, zooplankton populations should also rebound, a change that will benefit pelagic finfish and benthic shellfish populations.

Other changes wrought by a lowered intensity of algae blooms should include increased water clarity, improved dissolved oxygen levels, and enhanced levels of submerged aquatic vegetation, and these changes are likely to have positive, synergistic effects on each other and fish populations. More than a decade of research in Moniebogue Bay has shown that water clarity is highly correlated with the levels of algal biomass ($p<0.001$) and hence, the 40% reduction in nitrogen loads should translate into a similar reduction in algal biomass. Additional water clarity will allow more light to penetrate to the bottom of Moniebogue Bay which will promote the growth of submerged aquatic vegetation in regions that previously received less light. Such vegetation can benefit to fish populations whose juvenile forms may utilize the vegetation as a nursery habitat. These aquatic plants will also produce oxygen as they photosynthesize, thus enhancing oxygen

levels in Moniebogue Bay. Finally, the reduction in algal biomass from sewering should also benefit the levels of nighttime dissolved oxygen in Moniebogue Bay. Night-time fish kills are becoming more prominent on eastern Long Island. At night, in the absence of photosynthesis, dissolved oxygen levels are controlled by respiration rates which consume oxygen. These respiration rates are proportional to the total amount of algal biomass produced in Moniebogue Bay which can directly respire or can result in bacterial respiration as the carbon from the algal biomass is consumed. In either scenario, reduced algal biomass from sewering will reduce the incidence and likelihood of low dissolved oxygen levels and fish kills at night in Moniebogue Bay and thus will contribute toward a rebuilding of healthy fish stocks in Moniebogue Bay.

Recently, a study performed for the Town of Southampton estimated the effects of removing nitrogen loads on the intensity of brown tide blooms in Quantuck Bay (Figure 22). If that results from that same study were applied to the nitrogen mitigation that would be associated with this project and focused on Moniebogue Bay, it seems likely this system would see a significantly lessening of brown tide intensity. For example, the 56% reduction in total nitrogen loads to Moniebogue Bay associated with completion of phase 4 of the Village of Westhampton sewage mitigation plan might result in a drop of total nitrogen in the Bay of more than 70%, a 50% reduction in brown tide cells densities, and a 40% reduction in total algae (Figure 22). Collectively, these changes would have many of the ecosystem benefits described above.

Finally, there will be a financial benefit of sewering the Village. Recent research at Stony Brook University has determined that waterfront or near-waterfront home values can be strongly effected by water clarity. Hence, the improved water clarity associated with lower intensity algal blooms should financially benefit home owners in the region as well as associated tax revenues. Obviously, other benefits such as fewer fish kills and algal blooms will also likely improve home values as well as the number of visitors to Moniebogue Bay and the Village, occurrences that will have direct and indirect financial benefits for the Village and its residents.

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Figure 1. Nitrogen concentrations in groundwater under and surrounding Westhampton Beach Village.

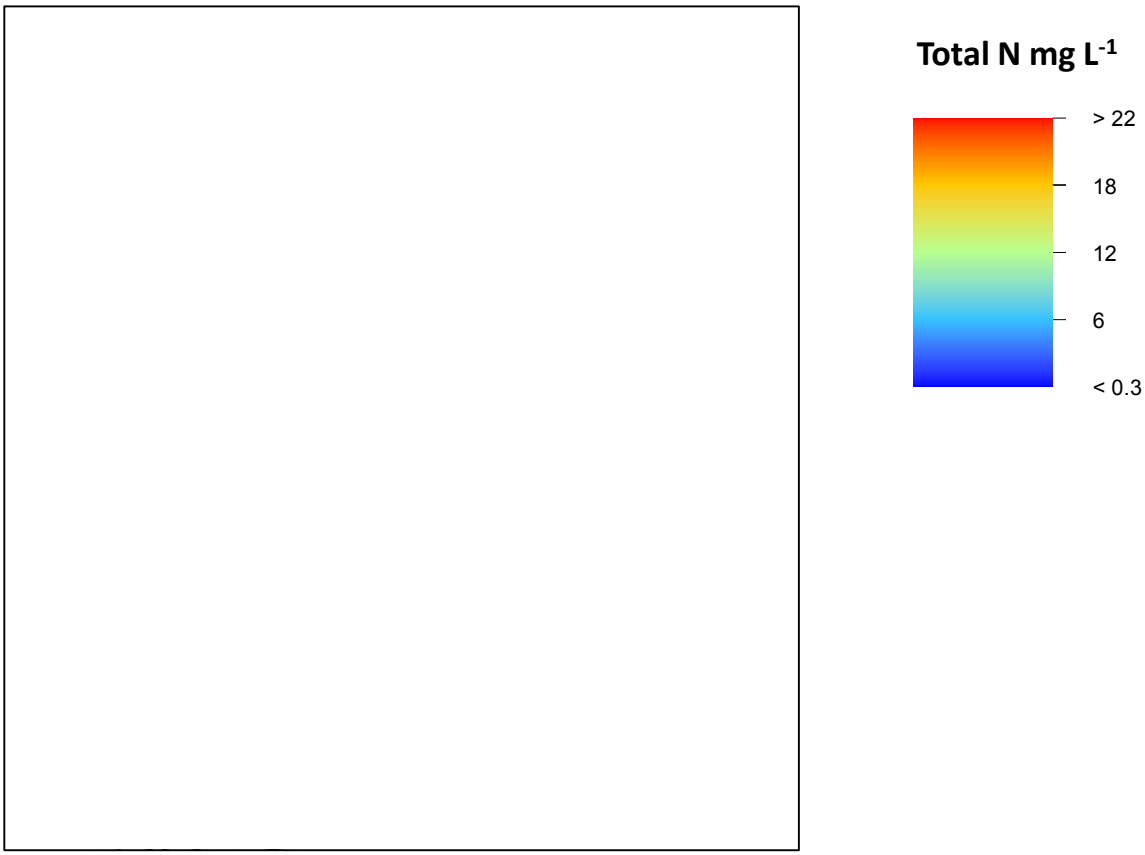


Figure 2. Westhampton Beach Village Right: highlighting surrounding salt marshes on Moniebogue Bay. Below left: Flooding that occurred during Hurricane Sandy. Below right: Expected sea level due to sea level rise by the year 2050. The images below highlight the key role salt marshes / tidal wetland play in protecting Westhampton Beach Village from flooding. This protection is at risk from the degradation wrought by excessive nitrogen loading

Flooding, Hurricane Sandy

Sea level by year 2050

Figure 3. Water quality coastal waters within Moriches, Quantuck, and Moriches Bay as measured by Suffolk County Department of Health Services 1976 – 2014 specifically showing (clockwise from the upper right) total nitrogen, brown tide densities, dissolved oxygen levels, secchi disc depth, and chlorophyll *a* levels, a proxy for phytoplankton. The data shows that the waters surrounding Westhampton Beach Village have the lowest quality in this region.

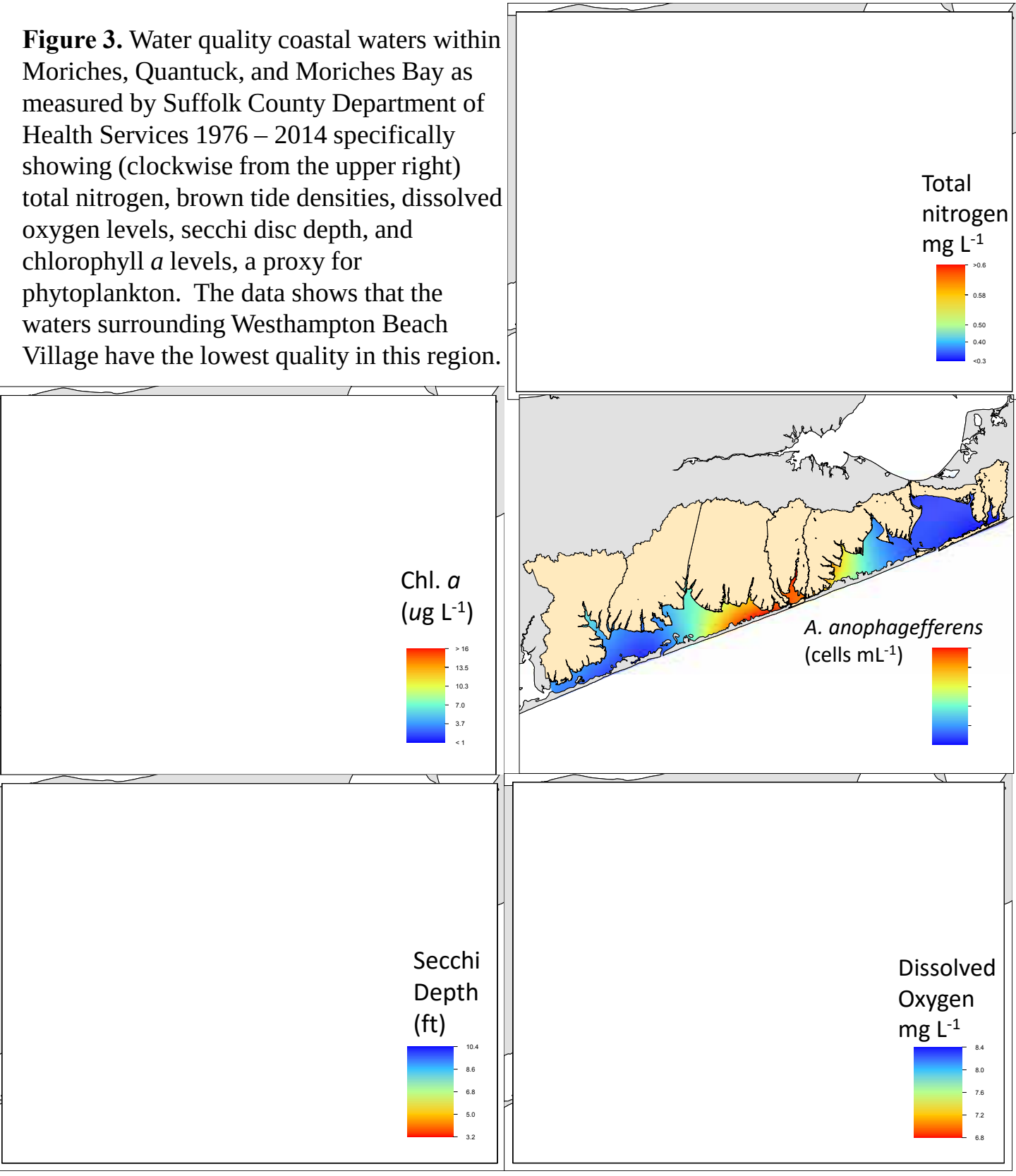


Figure 4. Chlorophyll *a* levels across 28 sites around Long Island as measured during the summers of 2014-2016 by the Gobler Lab's water quality reporting to News 12. Moniebogue Bay was the second worst site across all of Long Island.

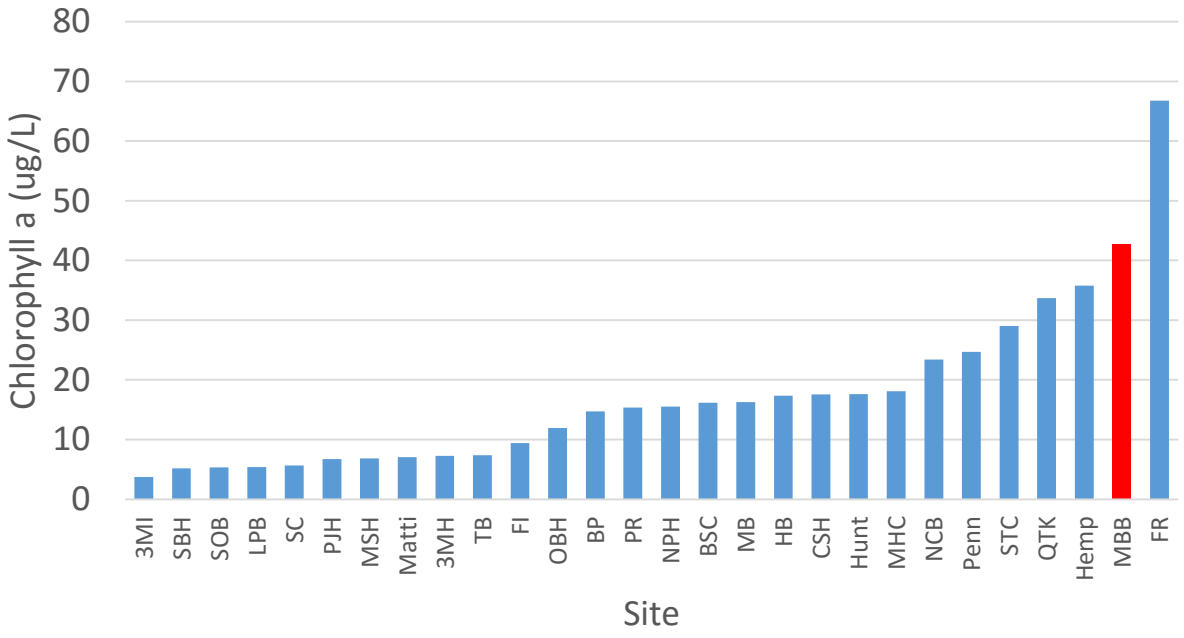


Figure 5. Brown tide levels across 28 sites around Long Island as measured during the summers of 2014-2016 by the Gobler Lab's water quality reporting to News 12. Moniebogue Bay was the worst site across all of Long Island.

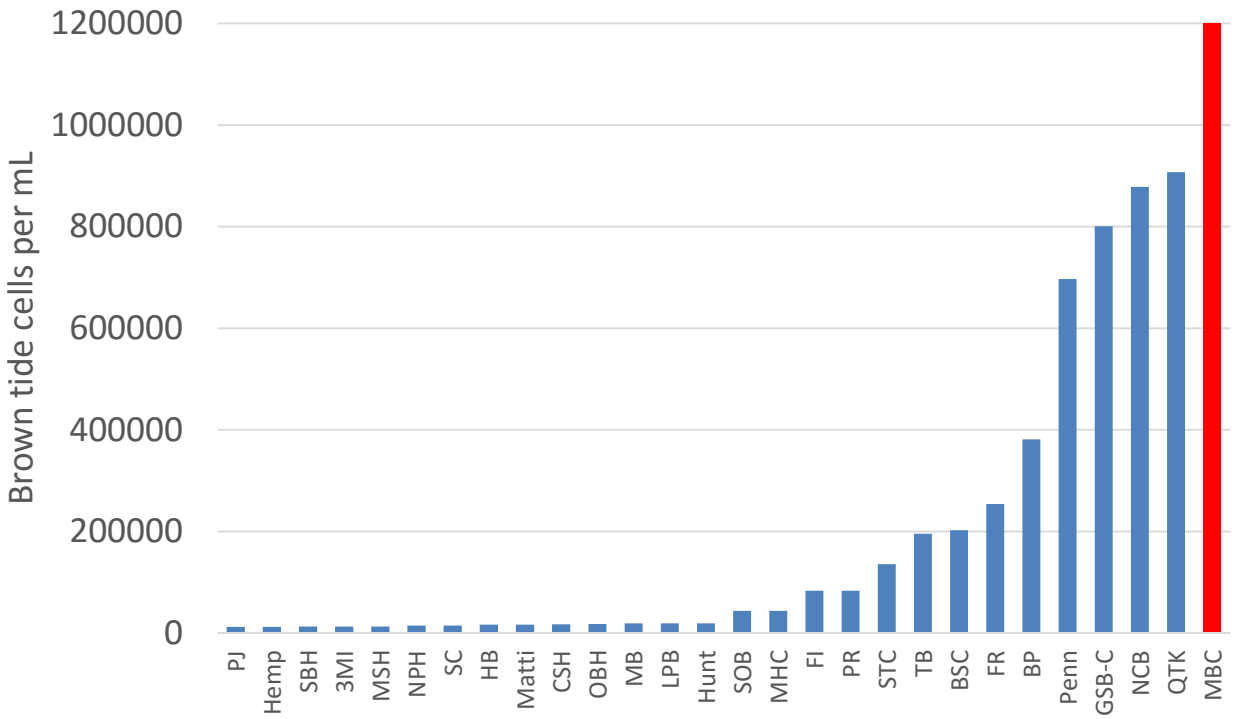


Figure 6. Brown tide levels in Quantuck Bay from 1989 through 2016. In the last decade brown tides have gotten more intense and more frequent.

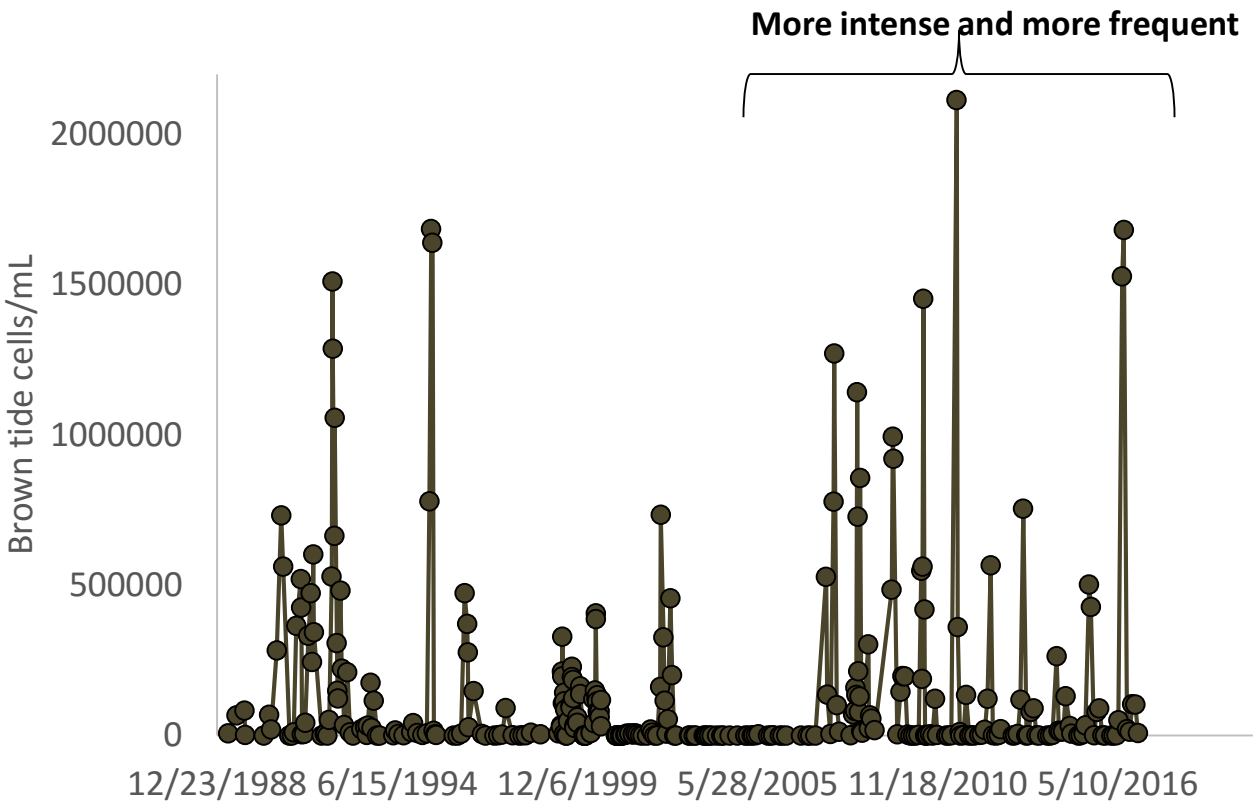


Figure 7. Densities of the toxic algae, *Alexandrium*, across Long Island 2007 – 2015, and the 2017 shellfish bed closure in Shinnecock Bay in the region within the Westhampton Beach Village watershed.

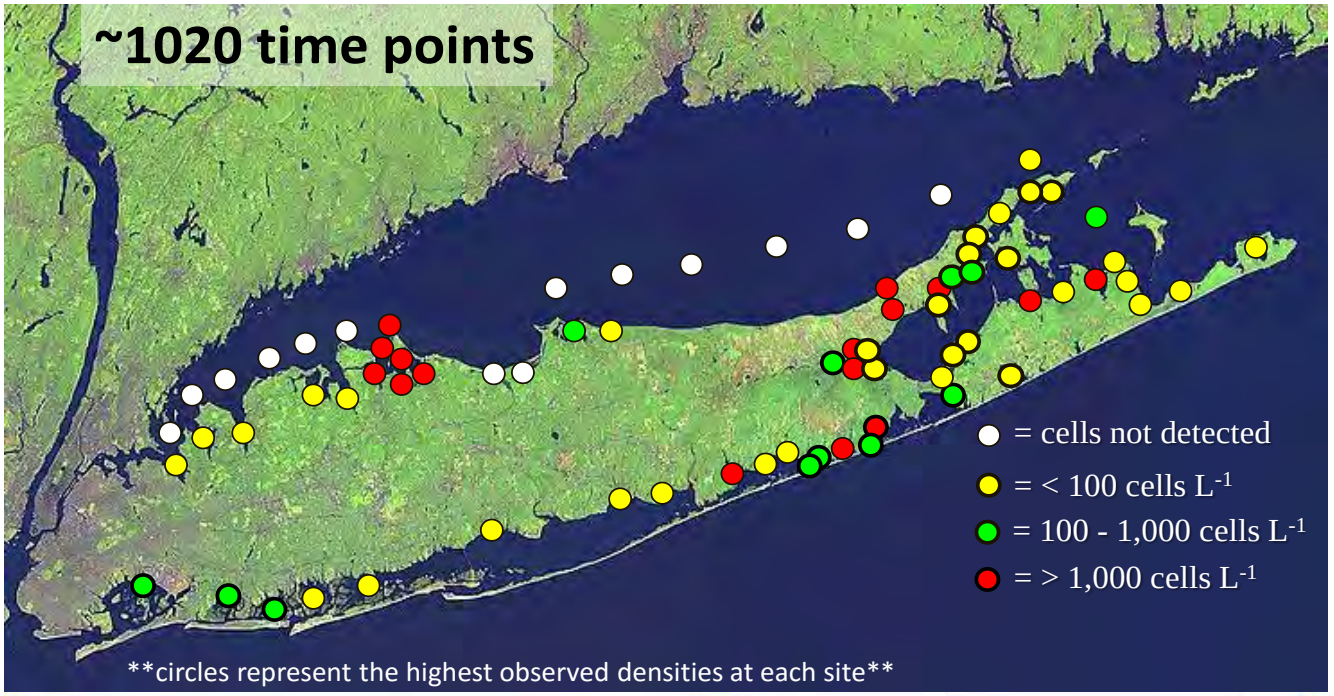


Figure 8. Water clarity across 28 sites around Long Island as measured during the summers of 2014-2016 by the Gobler Lab's water quality reporting to News 12. Moniebogue Bay was the worst site across all of Long Island.

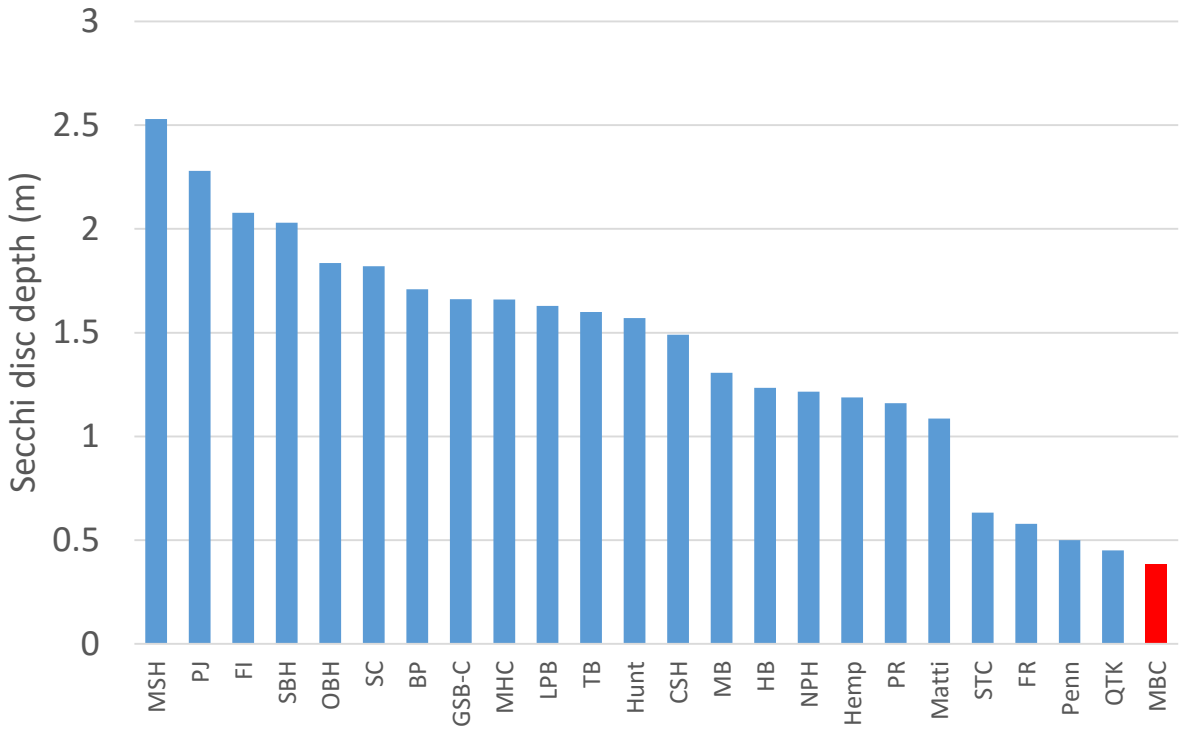
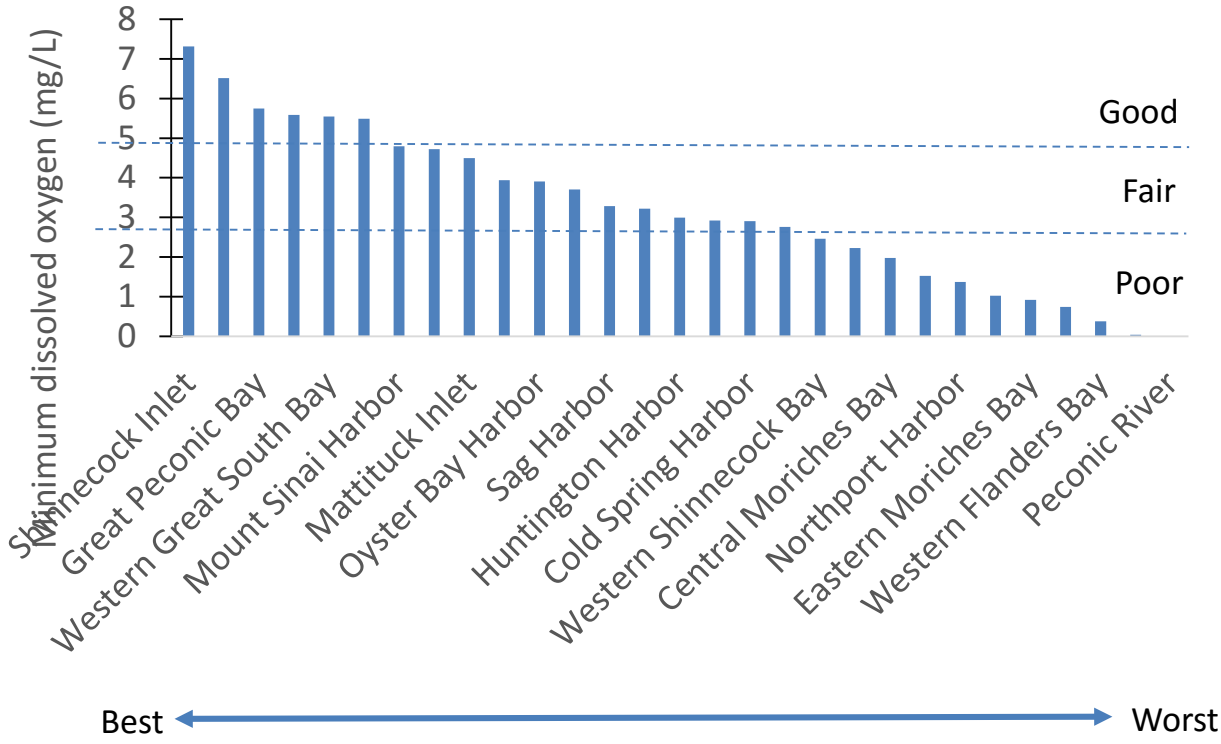


Figure 9. Dissolved oxygen levels across sites around Long Island as measured during the summers of 2014-2016 by the Gobler Lab's water quality reporting to News 12. Eastern Moriches Bay was the third worst site across all of Long Island. Rankings of good, fair, and poor follow NYSDEC standards.



Good, fair, poor based on NYSDEC standards

Figure 10. Watersheds for East Moriches, Moniebogue, and Quantuck used in this study.

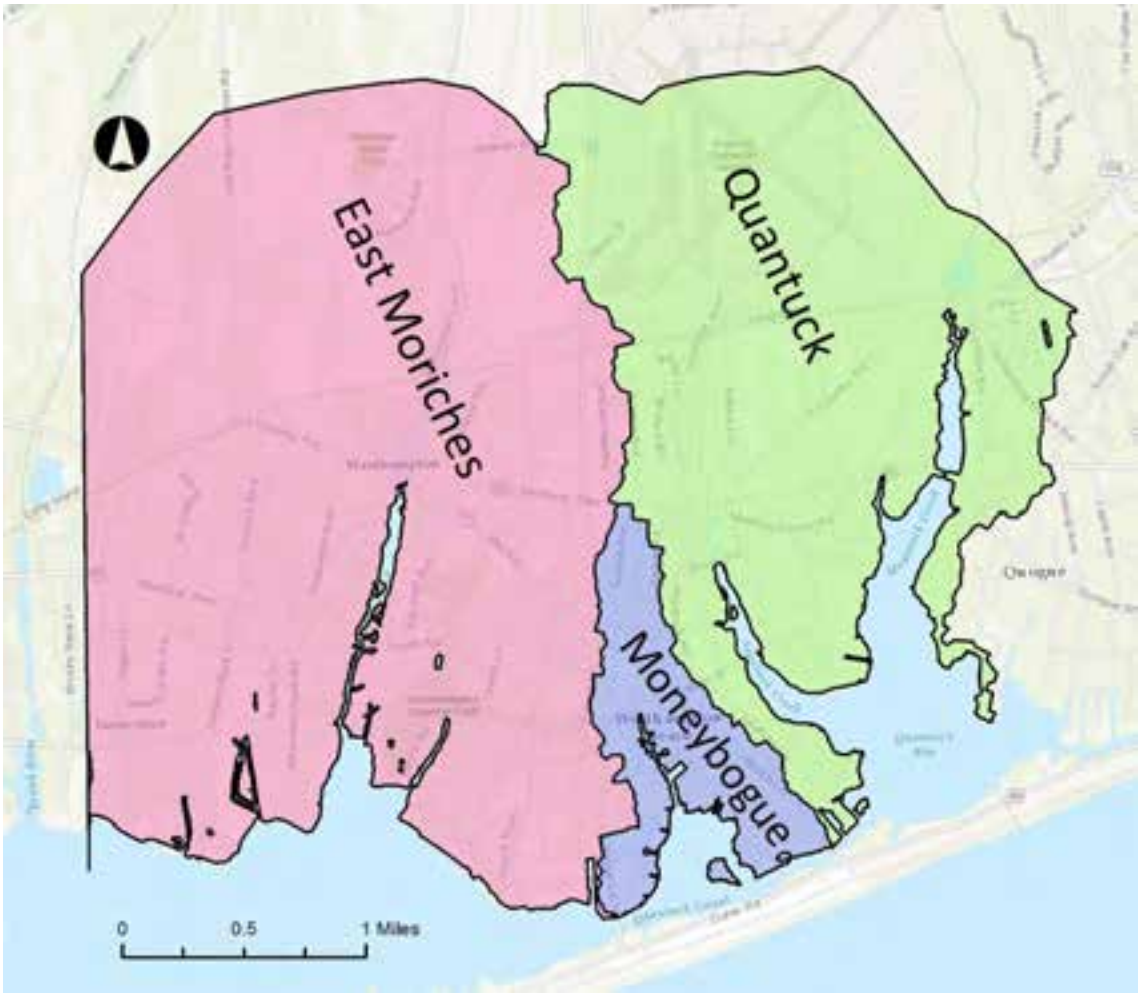
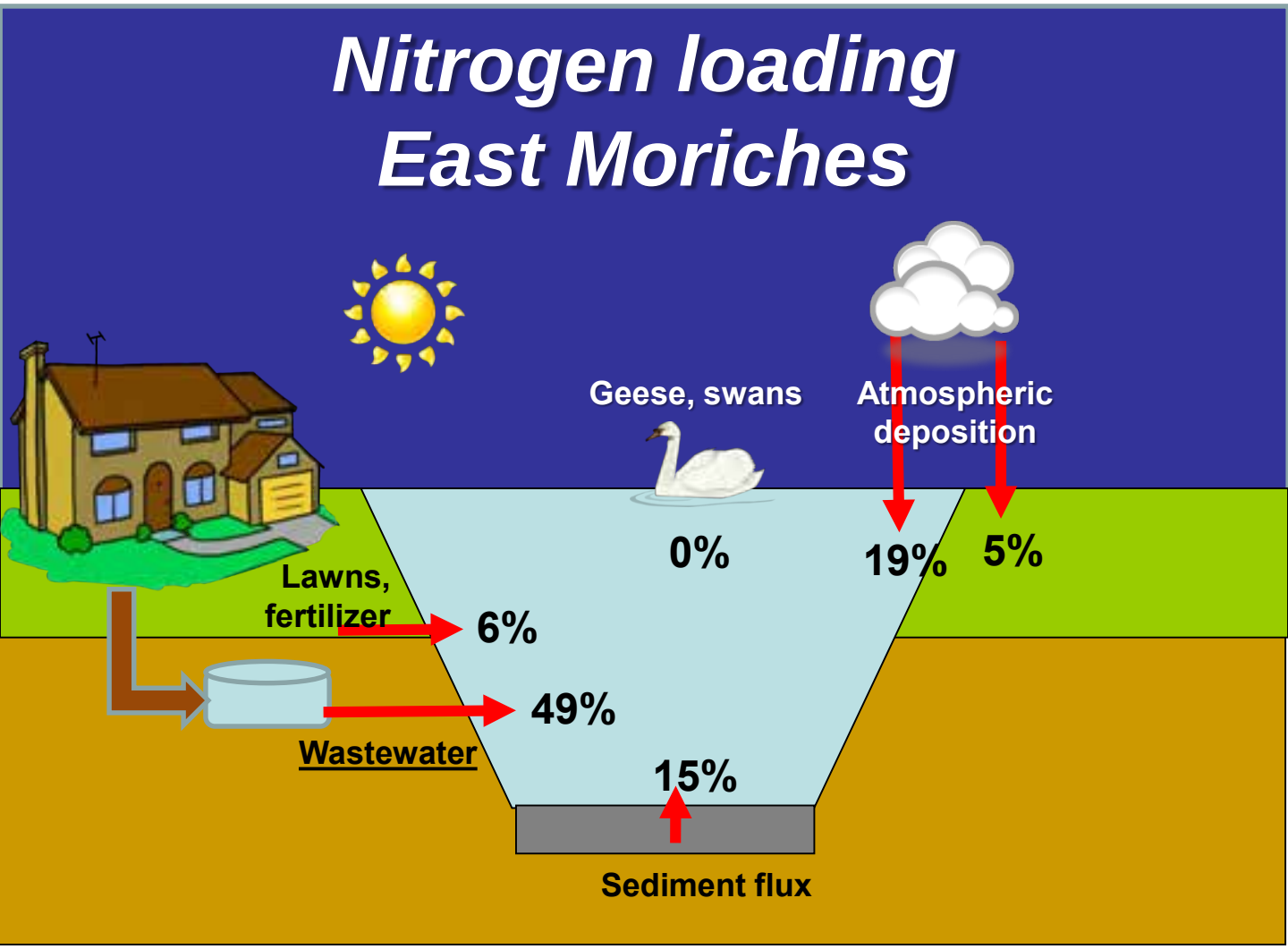


Figure 11. Current relative contribution of various nutrient loading processes to the total nitrogen load to East Moriches.



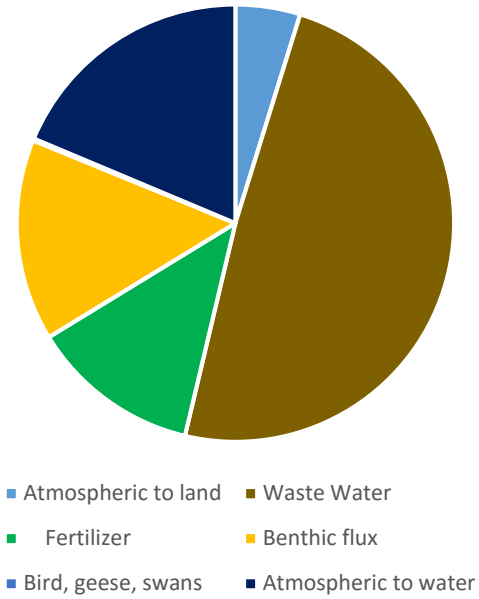
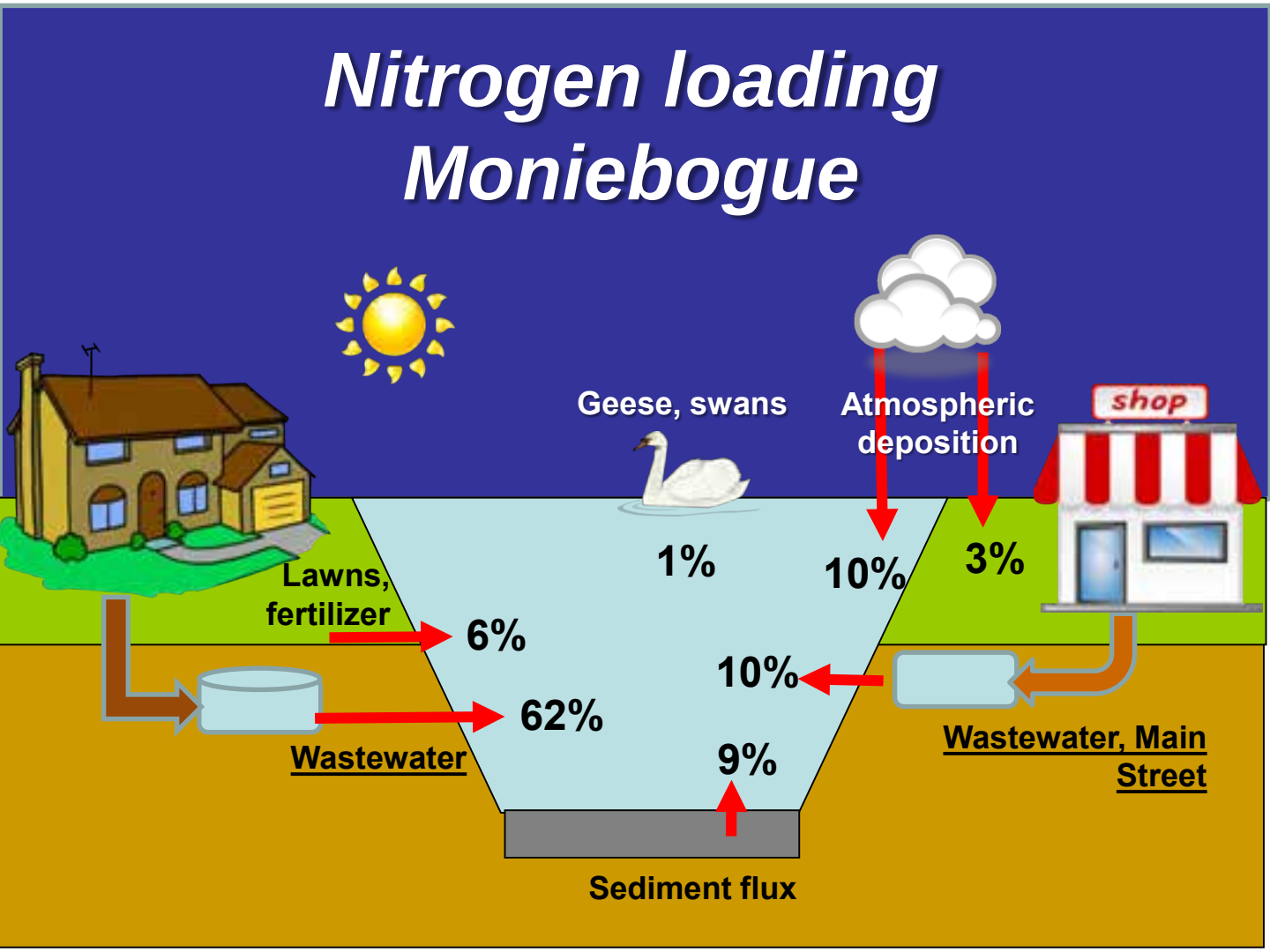


Figure 12. Current relative contribution of various nutrient loading processes to the total nitrogen load to Moniebogue bay.



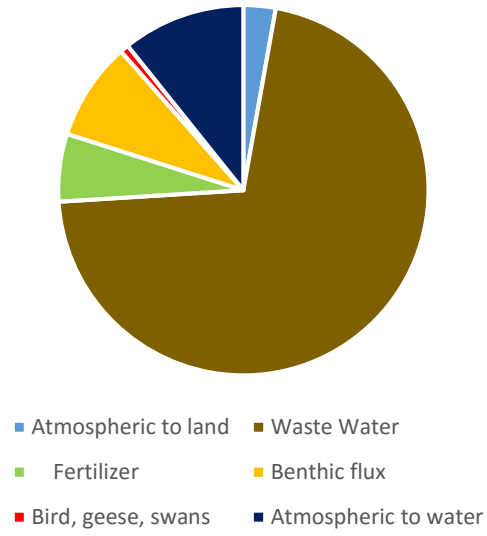
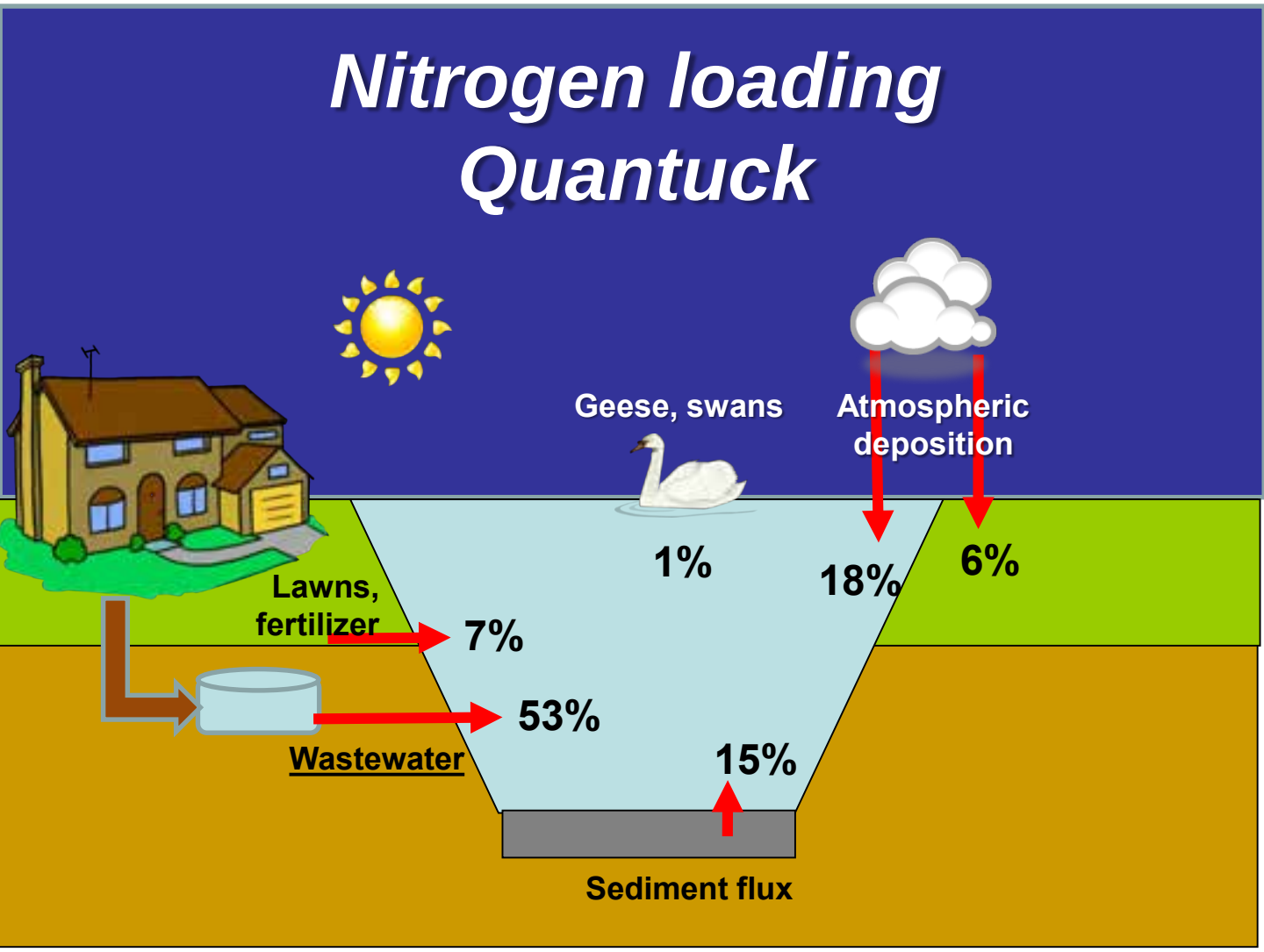


Figure 13. Current relative contribution of various nutrient loading processes to the total nitrogen load to Quantuck bay.



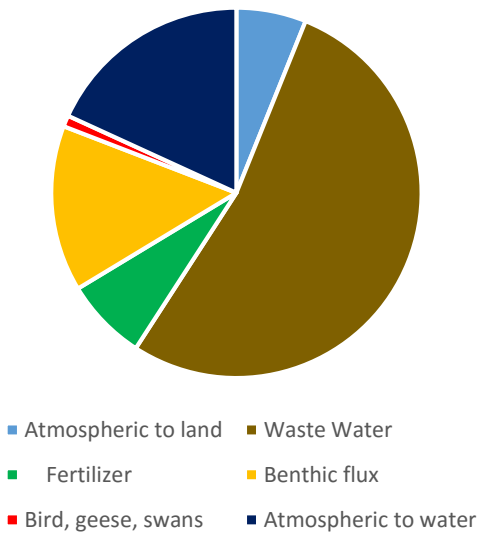


Figure 14. Extent of proposed sewer improvement areas for phases 1 – 3.

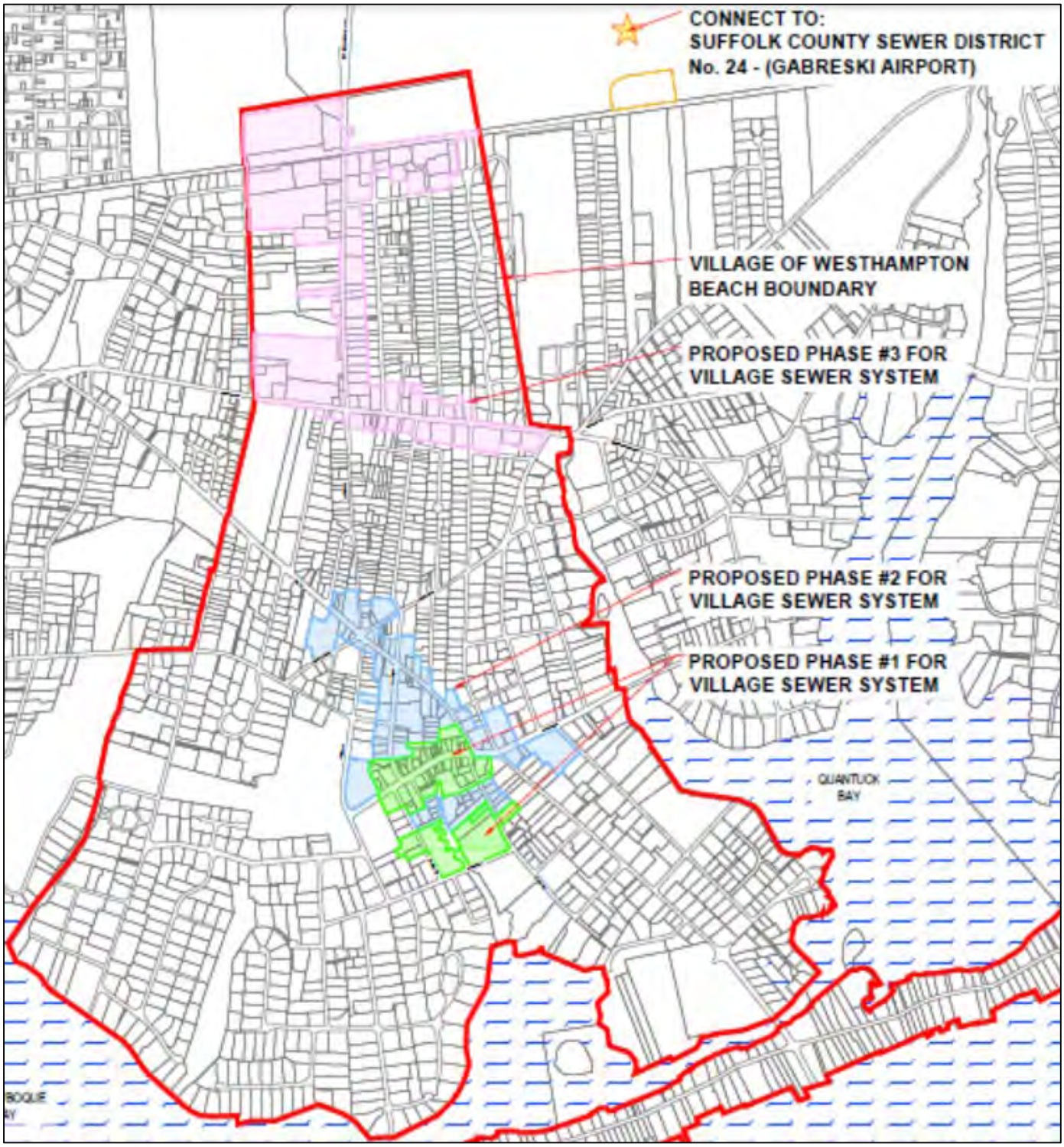


Figure 15. Extent of proposed sewer improvement area through phase 4 is outline in orange. The percent of watershed area captured by phase 4 proposal are labeled in the sections of phase 4 boundary.

Figure 16. Modeled total nitrogen loads in East Moriches for each proposed phase.

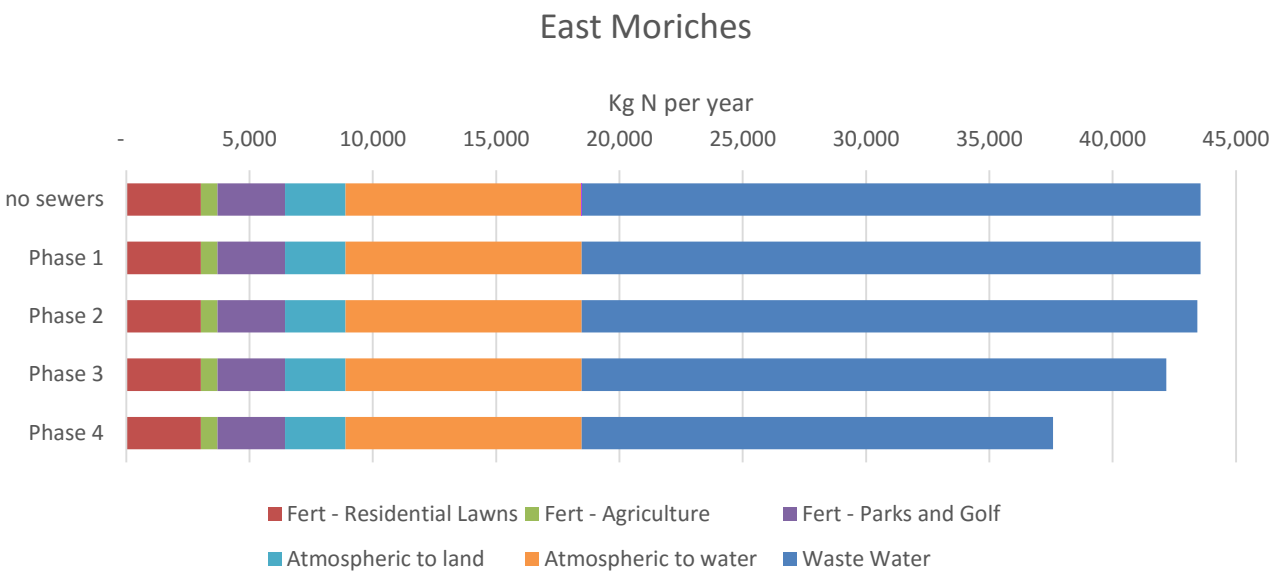


Figure 17. Modeled total nitrogen loads in Moniebogue for each proposed phase.

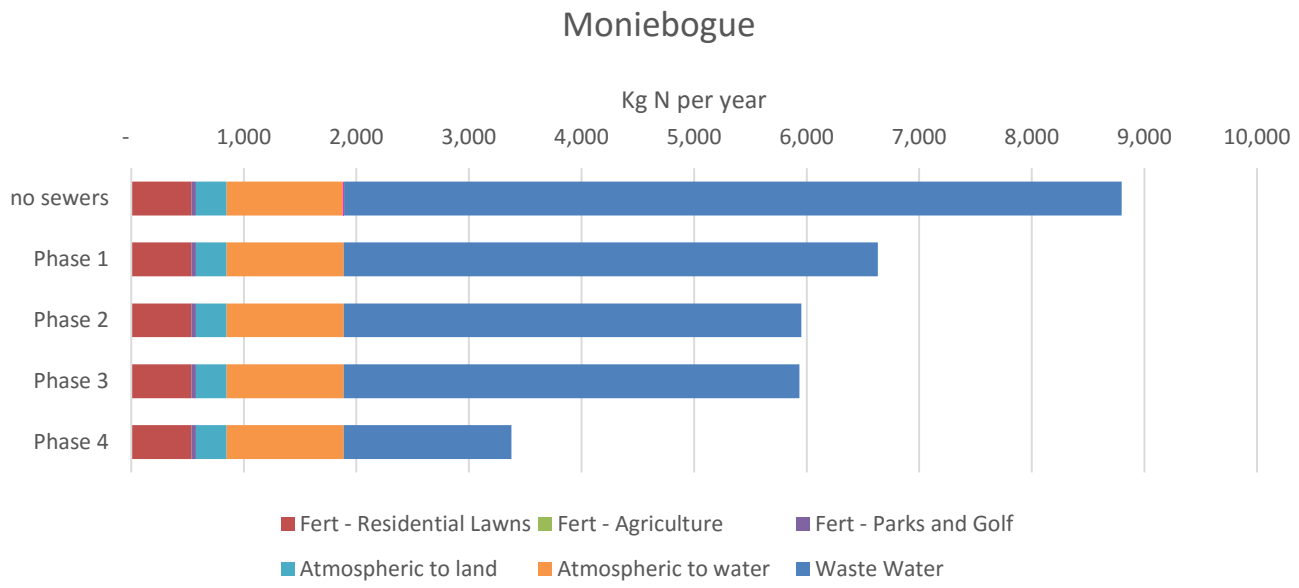


Figure 18. Modeled total nitrogen loads in Quantuck for each proposed phase.

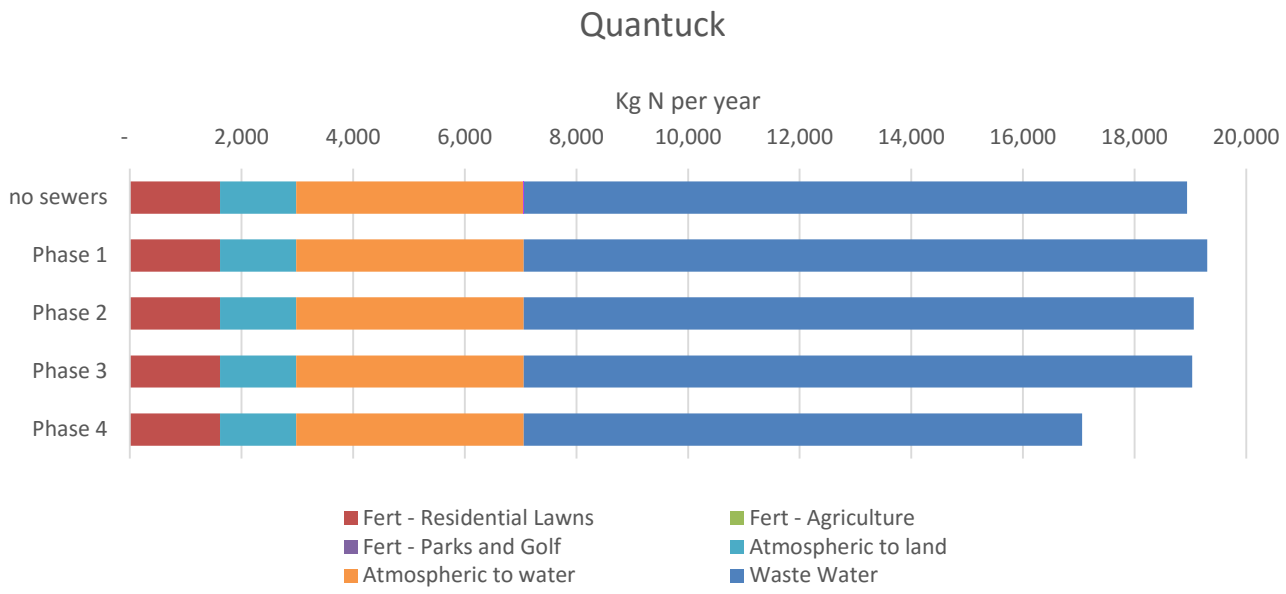


Figure 19. The village only contains a small portion of the larger watersheds, this plot scales back the total N load to 21,431 kg per year which is the amount the Village is geographically responsible for. It essentially limits the study area to the village boundaries instead of the watershed boundaries. All sources of nitrogen, external and internal, are included.

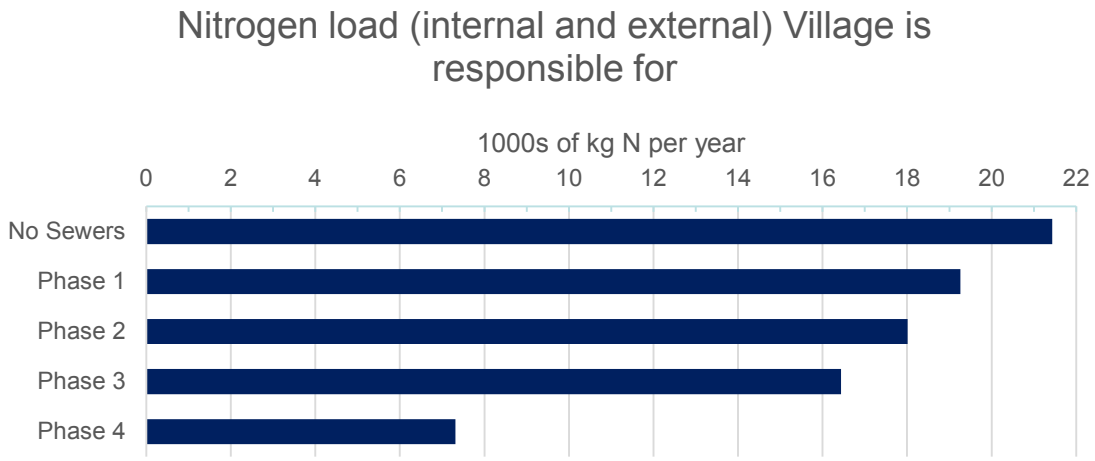


Figure 20. Wastewater and fertilizer sourced nitrogen load with the study area limited to the village boundaries instead of the watershed boundaries.

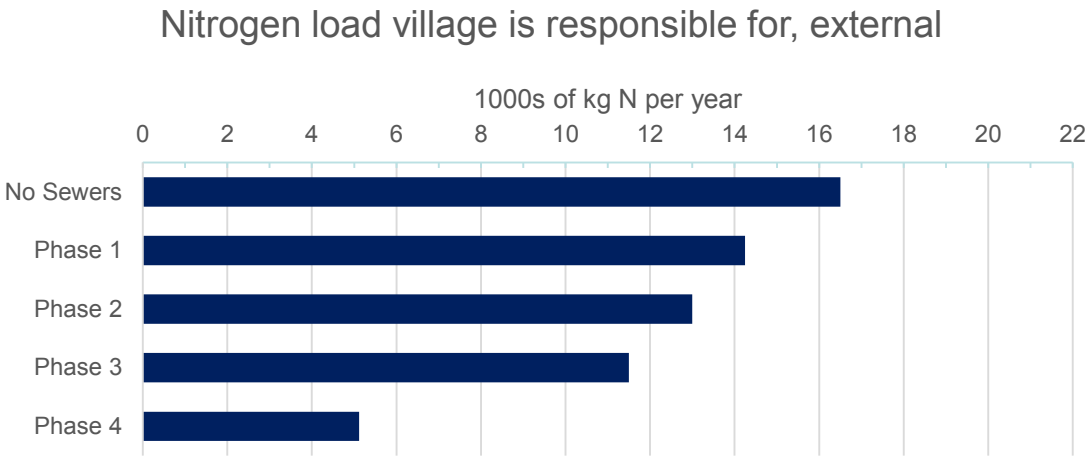


Figure 21. Nitrogen loading rates from the Village of Westhampton Beach with and without future growth of 100,000 square feet of space and with and without the implementation of the sewer district (phase 1) and advanced septic systems (phase 4).

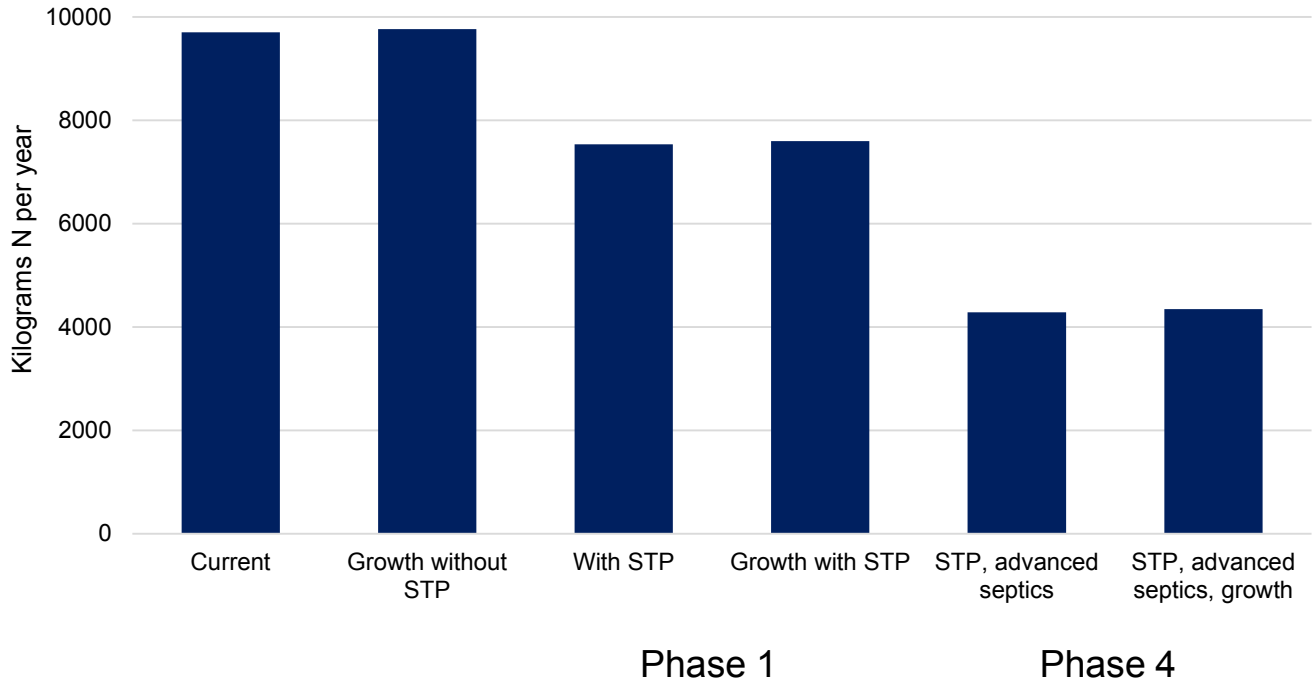


Figure 22. Changes in nitrogen levels, brown tide, and chlorophyll levels with differing levels of nitrogen reduction as modeled for Quantuck Bay.

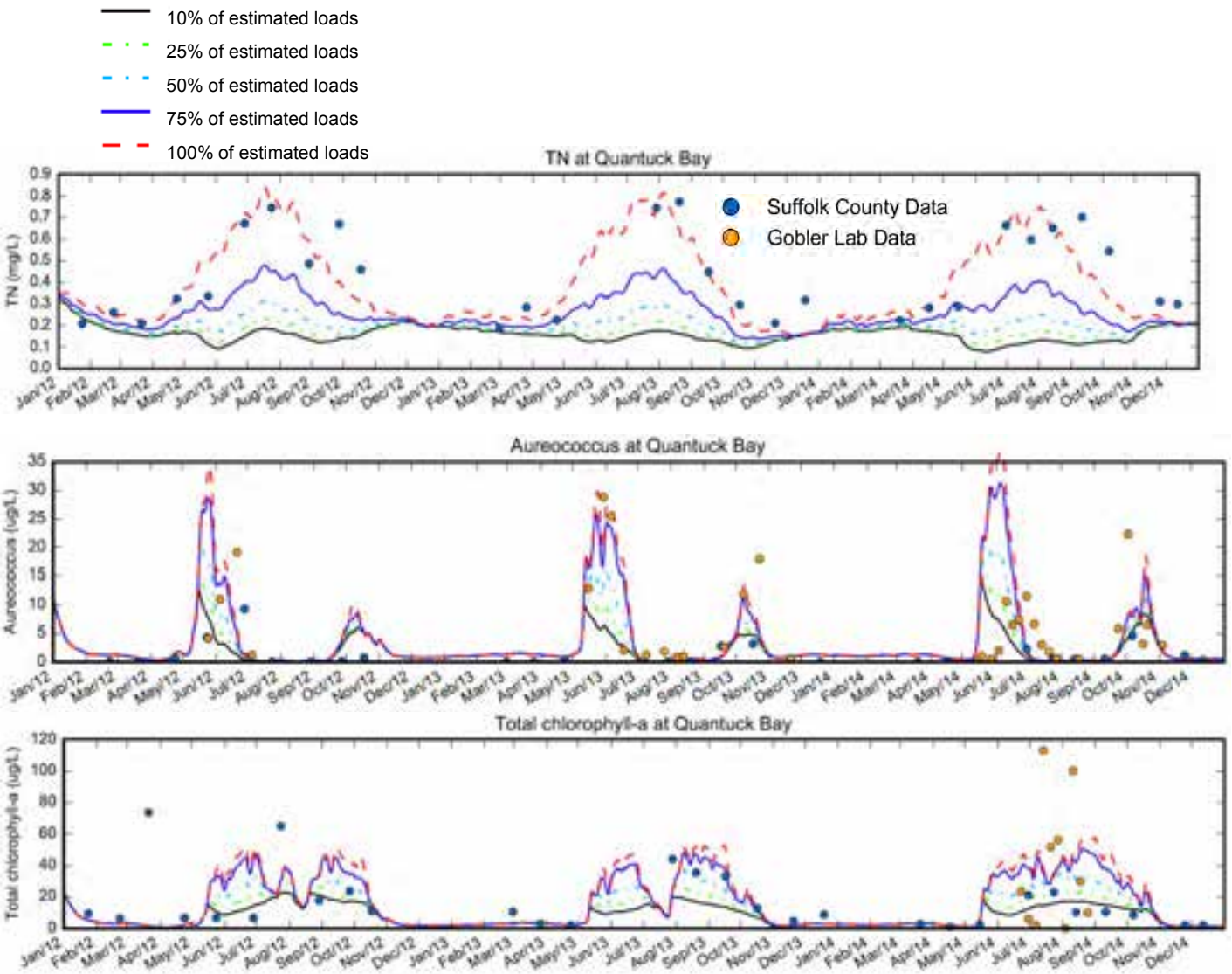


Table 1. Inputs used for the nitrogen loading model constructed for this study.

	E Moriches	Moniebogue	Quantuck	Units	Source
Watershed area	1598	172	962	ha	ArcGIS®
Area of wetlands (freshwater)	225	0	110	ha	NYS freshwater wetlands maps
Area of agriculture	19	0	0	ha	Suffolk County Land Use and Land Cover dataset
Area of golf courses	41	0	0	ha	Open Street Map, Manual Delineation
Area of parks and athletic field lawns	23	2	0	ha	Suffolk County Land Use and Land Cover dataset
Impervious surfaces total	274	43	192	ha	Low NDVI created from USGS High Resolution Orthoimagery, open water areas removed.
Area of freshwater ponds	10	0	6	ha	Suffolk County Land Use and Land Cover dataset
Percent of buildings with cesspools	50	50	50	%	Southampton GIS department (houses built before 1973 have cesspools) (SB, QB), estimate MB
Area of residential lawns	248	44	133		High NDVI (USGS HRO), limited to residential parcels, limited to areas where LiDAR height data was near zero. (USGS LiDAR)
Percent of parcels with fertilized lawns	90	90	90	%	Suffolk County Recommendations
Total area of roofs	63	14	35	ha	Suffolk County building footprint dataset, 2006
Area of Driveways	123	19	132	Ha	Impervious layer limited to developed parcels
Area of road	49	11	24	ha	Impervious layer limited to non-taxed parcels
Nitrogen inputs from wet and dry deposition	5.37	5.37	5.37	kg N ha^{-1} yr^{-1}	Suffolk County Recommendations
Fertilizer applied to golf courses	189.9	189.9	189.9	kg N ha^{-1} yr^{-1}	Suffolk County Recommendations
Fertilizer applied to parks and athletic fields	89.8	89.8	89.8	kg N ha^{-1} yr^{-1}	Suffolk County Recommendations
Fertilizer applied to agriculture	97.6	97.6	97.6	kg N ha-1 yr-1	Suffolk County Recommendations
Denitrification in the	7.5	7.5	7.5	%	Suffolk County Recommendations

Table 2. Current annual external nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load represented by each process also shown.

No Sewers	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	7%	4%	9%
Waste Water	25,087	6,909	11,889	74%	89%	80%
Fert - Residential Lawns	3,027	534	1,615	9%	7%	11%
Fert - Agriculture	679	0	0	2%	0%	0%
Fert - Parks and Golf	2,733	40	0	8%	1%	0%
Fertilizer - all	6,440	574	1,615	19%	7%	11%
Total	33,983	7,755	14,871	100%	100%	100%

Table 3. Current annual nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load represented by each process also shown.

No Sewers	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	5%	3%	6%
Waste Water	25,087	6,909	11,889	49%	71%	53%
Fert - Residential Lawns	3,027	534	1,615	6%	6%	7%
Fert - Agriculture	679	0	0	1%	0%	0%
Fert - Parks and Golf	2,733	40	0	5%	0%	0%
Fertilizer - all	6,440	574	1,615	13%	6%	7%
Benthic flux	7,647	832	3,251	15%	9%	15%
Bird, geese, swans	73	73	219	0%	1%	1%
Atmospheric to water	9,578	1,043	4,072	19%	11%	18%
Total	51,282	9,703	22,413	100%	100%	100%

Table 4. Numbers of commercial and residential properties connected to the sewage treatment or receiving upgraded septic systems under the proposed Village of Westhampton Beach plan.

		Commercial	Residential	Total
Phase 1	Sewage treatment plant connections	68	88	156
Phase 2	Sewage treatment plant connections	46	23	69
Phase 3	Sewage treatment plant connections	55	97	152
Phase 4	Alternative onsite systems	96	1,955	2,051
Whole project	Sewage treatment plant connections and onsite systems	264	2,164	2,428

Table 5. Phase 1 annual nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load

Phase 1	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	5%	4%	6%
Waste Water	25,087	4,742	12,250	49%	63%	54%
Fert - Residential Lawns	3,027	534	1,615	6%	7%	7%
Fert - Agriculture	679	0	0	1%	0%	0%
Fert - Parks and Golf	2,733	40	0	5%	1%	0%
Fertilizer - all	6,440	574	1,615	13%	8%	7%
Benthic flux	7,647	832	3,251	15%	11%	14%
Bird, geese, swans	73	73	219	0%	1%	1%
Atmospheric to water	9,578	1,043	4,072	19%	14%	18%
Total	51,282	7,537	22,774	100%	100%	100%

Table 6 . Phase 1 annual external nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load represented by each process also shown.

Phase 1	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	7%	5%	9%
Waste Water	25,087	4,742	12,250	74%	85%	80%
Fert - Residential Lawns	3,027	534	1,615	9%	10%	11%
Fert - Agriculture	679	0	0	2%	0%	0%
Fert - Parks and Golf	2,733	40	0	8%	1%	0%
Fertilizer - all	6,440	574	1,615	19%	10%	11%
Total	33,983	5,589	15,232	100%	100%	100%

Table 7. Phase 2 annual nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load represented by each process also shown.

Phase 2	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	5%	4%	6%
Waste Water	24,967	4,063	11,438	49%	59%	53%
Fert - Residential Lawns	3,027	534	1,615	6%	8%	7%
Fert - Agriculture	679	0	0	1%	0%	0%
Fert - Parks and Golf	2,733	40	0	5%	1%	0%
Fertilizer - all	6,440	574	1,615	13%	8%	7%
Benthic flux	7,647	832	3,251	15%	12%	14%
Bird, geese, swans	73	73	219	0%	1%	1%
Atmospheric to water	9,578	1,043	4,072	19%	15%	18%
Total	51,162	6,858	21,962	100%	100%	100%

Table 8. Phase 2 annual external nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load represented by each process also shown.

Phase 2	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	7%	6%	9%
Waste Water	24,967	4,063	12,007	74%	83%	80%
Fert - Residential Lawns	3,027	534	1615	9%	11%	11%
Fert - Agriculture	679	0	0	2%	0%	0%
Fert - Parks and Golf	2,733	40	0	8%	1%	0%
Fertilizer - all	6,440	574	1615	19%	12%	11%
Total	33,864	4,910	14,989	100%	100%	100%

Table 9. Phase 3 annual nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load represented by each process also shown.

Phase 3	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	5%	4%	6%
Waste Water	23,699	4,045	11,980	47%	59%	53%
Fert - Residential Lawns	3,027	534	1,615	6%	8%	7%
Fert - Agriculture	679	0	0	1%	0%	0%
Fert - Parks and Golf	2,733	40	0	5%	1%	0%
Fertilizer - all	6,440	574	1615	13%	8%	7%
Benthic flux	7,647	832	3251	15%	12%	14%
Bird, geese, swans	73	73	219	0%	1%	1%
Atmospheric to water	9,578	1,043	4072	19%	15%	18%
Total	49,894	6,840	22,504	100%	100%	100%

Table 10. Phase 3 annual external nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load represented by each process also shown.

Phase 3	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	8%	6%	9%
Waste Water	23,699	4,045	11,149	73%	83%	80%
Fert - Residential Lawns	3,027	534	1,615	9%	11%	11%
Fert - Agriculture	679	0	0	2%	0%	0%
Fert - Parks and Golf	2,733	40	0	8%	1%	0%
Fertilizer - all	6,440	574	1,615	20%	12%	11%
Total	32,596	4,892	14,131	100%	100%	100%

Table 11. Phase 4 annual nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load represented by each process also shown.

Phase 4	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	5%	6%	7%
Waste Water	19,106	1,488	10,005	42%	35%	49%
Fert - Residential Lawns	3,027	534	1615	7%	12%	8%
Fert - Agriculture	679	0	0	1%	0%	0%
Fert - Parks and Golf	2,733	40	0	6%	1%	0%
Fertilizer - all	6,440	574	1615	14%	13%	8%
Benthic flux	7,647	832	3251	17%	19%	16%
Bird, geese, swans	73	73	219	0%	2%	1%
Atmospheric to water	9,578	1043	4072	21%	24%	20%
Total	45,301	4,283	20,528	100%	100%	100%

Table 12. Phase 4 annual external nitrogen loading rates from the watershed to East Moriches, Moniebogue, and Quantuck in kilograms of nitrogen per year with percentages of the total nitrogen load represented by each process also shown.

Phase 4	East Moriches (kg/yr)	Moniebogue (kg/yr)	Quantuck (kg/yr)	East Moriches (%)	Moniebogue (%)	Quantuck (%)
Atmospheric to land	2,457	273	1,367	9%	12%	11%
Waste Water	19,106	1,488	9,174	68%	64%	77%
Fert - Residential Lawns	3,027	534	1,615	11%	23%	12%
Fert - Agriculture	679	0	0	2%	0%	0%
Fert - Parks and Golf	2,733	40	0	10%	2%	0%
Fertilizer - all	6,440	574	1,615	23%	25%	12%
Total	28,003	2,335	12,156	100%	100%	100%

Table 13. Percent reduction of nitrogen load each phase would achieve compared against current nitrogen loads considering internal and external nitrogen loading.

% reduction of N from phase	East Moriches	Moniebogue	Quantuck	All Combined
Phase 1	0%	22%	0%	2%
Phase 2	0%	29%	0%	3%
Phase 3	3%	30%	0%	5%
Phase 4	12%	56%	8%	16%

Table 14. Percent reduction of nitrogen load each phase would achieve compared against current nitrogen loads considering external nitrogen loading only.

% reduction of N from phase	East Moriches	Moniebogue	Quantuck	All Combined
Phase 1	0%	28%	0%	3%
Phase 2	0%	37%	0%	5%
Phase 3	4%	37%	0%	7%
Phase 4	18%	70%	13%	23%

Table 15. Percent reduction of nitrogen load each phase would achieve. The first column contains all sources of nitrogen load to the waterbody, the second only contains external sources controllable by the Village, wastewater and fertilizer

	Wastewater, Fertilizer, Atmospheric to land, Atmospheric to water, Benthic, Birds	Wastewater, Fertilizer, Atmospheric to Land
Phase 1	10%	14%
Phase 2	16%	21%
Phase 3	23%	30%
Phase 4	66%	70%

VILLAGE OF WESTHAMPTON BEACH

NOTICE OF DETERMINATION OF LEAD AGENCY
AND
COORDINATED REVIEW UNDER SEQRA

To: Southampton Town Board
Southampton Town Hall
116 Hampton Road
Southampton, NY 11968

Re: Village of Westhampton Beach Sewer System Project

The Village of Westhampton Beach is considering the establishment of the Incorporated Village of Westhampton Beach Sewer System, including the adoption of a formal Map and Plan (hereinafter, the "sewer system project").

As presently contemplated, but subject to further review and modification, the sewer system project is separated into four phases. Phase 1 focuses on the area surrounding Main Street and includes the Moniebogue Bay watershed – which has been identified by the New York State Department of Environmental Conservation as an impaired water body. Phase 2 (north of Main Street) and Phase 3 (centered on Montauk Highway/County Road 80) have been identified as future sewer service areas within the Village. Phase 4 comprises all tax parcels within the Village that are not located within the Phase 1, 2 or 3 service areas and would be served by innovative advanced on-site nitrogen removal systems. The proposed Phase 1 sewer service area is approximately 31.29 acres in total area and comprises 89 residential properties and 67 commercial properties. The proposed Phase 1 sewer system will consist of a combination of gravity and low pressure sewers, two conventional pump stations and two force mains. The existing Gabreski Airport Sewage Treatment Plant (STP) has been identified as the preferred treatment location for sewage flow from the proposed service area. The Gabreski Airport STP would be modified to provide the additional capacity to support the Village's flow. It is anticipated that existing equipment at the facility would be replaced to increase capacity without requiring expansion outside of the footprint of the facility or any additional tankage.

The Village Board of Trustees has preliminarily classified the sewer system project as a Type I action under the State Environmental Quality Review Act ("SEQRA" – Article 8 of the New York Environmental Conservation Law).

You have been identified as a potential "involved agency" for purposes of SEQRA review, due to the fact that the sewer system project will extend beyond the boundaries of the incorporated Village of Westhampton Beach and into the unincorporated territory of the Town of Southampton for purposes of connecting the system to the Gabreski Airport STP. New York State Village Law §14-402 requires consent of the Southampton Town Board under such circumstances.

Pursuant to 6 NYCRR Section 617.6(b)(3), the Village Board of Trustees has determined the following:

1. That there will be coordinated review of the application;
2. That the Village Board of Trustees is proposing to serve as lead agency.

PLEASE TAKE NOTICE, that the Village of Westhampton Beach Board of Trustees shall assume lead agency status unless you notify the Board of Trustees within thirty (30) days that you disagree with this designation:

Annexed hereto are copies of the following:

1. EAF Part I; and
2. Site map for sewer system project.

Dated: September 27, 2017

Village of Westhampton Beach
Board of Trustees

By: _____
Anthony C. Pasca, Village Attorney

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Village of Westhampton Beach Sewer System		
Project Location (describe, and attach a general location map): Project is centered in the Main Street Commercial District/Moniebogue Bay Watershed, Village of Westhampton Beach, NY (see attached location map)		
Brief Description of Proposed Action (include purpose or need): The proposed project involves the establishment of the Village of Westhampton Beach Sewer System and the installation of sewer infrastructure to serve the Village's Main Street commercial district. The total proposed area to be sewered is approximately 35 acres (total area of the tax parcels within the proposed sewer service area is 31.29 acres) and comprises 89 residential properties and 67 commercial properties. The project would install a combination of gravity and low pressure sewer mains within the 35-acre service area, with two pump stations to pump sewage to the existing Gabreski Airport Sewage Treatment Plant (STP). Modification to the existing STP would be performed within the existing building footprint. Parallel force mains would extend from the two pump stations, along Oak Street, to the Gabreski STP. Project area includes he central portion of the Main Street commercial district and spans from just west of Sunset Avenue/Mitchell Road to just east of Mill Avenue/Library Avenue. The northern boundary of the service area is located just north of Main Street with the southern boundary running along Stevens Lane.		
Name of Applicant/Sponsor: Village of Westhampton Beach	Telephone: 631-288-1654 E-Mail: info@westhamptonbeach.org	
Address: 165 Mill Road		
City/PO: Westhampton Beach	State: New York	Zip Code: 11978
Project Contact (if not same as sponsor; give name and title/role):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	**If Yes: Identify Agency and Approval(s) Required**	**Application Date (Actual or projected)**
a. City Council, Town Board, or Village Board of Trustees ☑Yes ☐No	Village Board of Trustees - SEQRA determination; DPW - road opening permits	10/2017
b. City, Town or Village Planning Board or Commission ☐Yes ☐No		
c. City Council, Town or Village Zoning Board of Appeals ☐Yes ☐No		
d. Other local agencies ☑Yes ☐No	Town of Southampton - Town Board; Highway Dept. - road opening permits	TBD
e. County agencies ☑Yes ☐No	Dept. of Econ. Dev/Plan. - Funding; SCDHS -Eng Design Review, SCPC Referral, DPW - roads	TBD (following SEQRA determination)
f. Regional agencies ☐Yes ☐No		
g. State agencies ☑Yes ☐No	SHPO - (arch/hist); EFC - Funding; DEC - Eng. Design Review; Comptroller - SD ; MTA; NYSDOH	SHPO - in progress. Others - TBD (following SEQRA determination)
h. Federal agencies ☐Yes ☐No		

i. Coastal Resources.
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☑Yes ☐No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part I

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes ☑No

If Yes, identify the plan(s):

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☑Yes ☐No

If Yes, identify the plan(s):

Open Space Acquisition Policy Plan for Suffolk County, Town of Southampton Community Preservation Plan

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
B-1 (Business District 1), HC (Hamlet Commercial) and MF-20 (Multi-Family Residence)

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site?

C.4. Existing community services.

a. In what school district is the project site located? Westhampton Beach UFSD

b. What police or other public protection forces serve the project site?
Westhampton Beach Police

c. Which fire protection and emergency medical services serve the project site?
Westhampton Beach Fire District/Westhampton War Memorial Ambulance Association, Inc.

d. What parks serve the project site?
The Great Lawn, Village Marina

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Formation of the Westhampton Beach Sewer District and installation of a sewer system

b. a. Total acreage of the site of the proposed action? 35 acres
b. Total acreage to be physically disturbed? 8 (Phase 1) acres **Note: 10+ acres disturbed with potential future Phases 2, 3 & 4**
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? N/A acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will proposed action be constructed in multiple phases? ☑ Yes ☐ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated 4
- Anticipated commencement date of phase 1 (including demolition) 10 month 2018 year
- Anticipated completion date of final phase TBD month TBD year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

This EAF focuses on the formation of the sewer district and the installation of the Phase 1 Service Area. Phase 2 (north of Main Street) and Phase 3 (centered on Montauk Highway/CR 80) have been identified as future sewer service areas within the Village. Phase 4 comprises all tax parcels located within the Village that are not located within the Phase 1, 2 or 3 Service Areas and would be served by innovative advanced on-site nitrogen removal systems. Phases 2, 3 and 4 are contingent upon additional funding and extensive upgrades to the Gabreski STP (or construction of a new facility)

f. Does the project include new residential uses? ☐Yes ☑No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☑Yes ☐No

If Yes,

i. Total number of structures 2

ii. Dimensions (in feet) of largest proposed structure: TBD height; TBD width; and TBD length

iii. Approximate extent of building space to be heated or cooled: N/A (two pump stations) square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No

If Yes,

i. Purpose of the impoundment:

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:

iii. If other than water, identify the type of impounded/contained liquids and their source.

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)

If Yes:

i. What is the purpose of the excavation or dredging?

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards):
- Over what duration of time?

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe.

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐Yes ☐No

ix. Summarize site reclamation goals and plan:

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description):

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐Yes☐No
If Yes, describe:

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes☐No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☑Yes☐No
If Yes:

i. Total anticipated water usage/demand per day: (existing) 60,000 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑Yes☐No
If Yes:

- Name of district or service area: Southampton
- Does the existing public water supply have capacity to serve the proposal? ☑Yes☐No
- Is the project site in the existing district? ☑Yes☐No
- Is expansion of the district needed? ☐Yes☑No
- Do existing lines serve the project site? ☑Yes☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes☑No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes☑No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), maximum pumping capacity: gallons/minute.

d. Will the proposed action generate liquid wastes? ☑Yes☐No
If Yes:

i. Total anticipated liquid waste generation per day: (existing) 60,000 gallons/day **conveyed to STP in-lieu of septic systems**

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
sanitary wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑Yes☐No
If Yes:

- Name of wastewater treatment plant to be used: Gabreski Airport STP
- Name of district: Suffolk County Sewer District No. 24 - Gabreski-Municipal
- Does the existing wastewater treatment plant have capacity to serve the project? ☑Yes☐No
- Is the project site in the existing district? ☐Yes☑No
- Is expansion of the district needed? ☐Yes☑No

Note: Project seeks to establish new Village Sewer District

- Do existing sewer lines serve the project site? ☐Yes ☑No
- Will line extension within an existing district be necessary to serve the project? ☑Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project:

Line extension would be required to connect the proposed service area to the existing Gabreski STP. Approx. 12,500 LF of parallel 4" pipe would be utilized. STP equipment would be replaced to increase capacity without requiring expansion outside of the footprint of the facility or any additional tankage

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☑Yes ☐No

If Yes:

- Applicant/sponsor for new district: Village of Westhampton Beach
- Date application submitted or anticipated: 2018 (anticipated)
- What is the receiving water for the wastewater discharge? Groundwater

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

Existing Gabreski Airport STP will be utilized

vi. Describe any plans or designs to capture, recycle or reuse liquid waste:

N/A

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No **Note: No change in stormwater runoff as all disturbed areas will be restored to prior condition (landscaped or paved)**

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

____ Square feet or 0 acres (impervious surface) **See note above - No increase in impervious surfaces**

____ Square feet or 35 acres (parcel size) **Size of Proposed Phase 1 Service Area**

ii. Describe types of new point sources. None

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Any construction-related stormwater runoff will be managed through provisions outlined in the project's SWPPP. Following construction, no stormwater runoff is anticipated as there will not be an increase in impervious surface/new point sources

- If to surface waters, identify receiving water bodies or wetlands:

N/A

- Will stormwater runoff flow to adjacent properties? ☐Yes ☑No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☑No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑Yes ☐No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

Intermittent deliveries to the sewage treatment plant

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

N/A

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

Wastewater process emissions (hydrogen sulfide likely, methanogenesis is not occurring within the aerobic treatment tanks and sludge holding tanks)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- ____ Tons/year (short tons) of Carbon Dioxide (CO_2)
- ____ Tons/year (short tons) of Nitrous Oxide (N_2O)
- ____ Tons/year (short tons) of Perfluorocarbons (PFCs)
- ____ Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- ____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- ____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend
☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

550 kW-hr of electricity per day

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

Grid/Local utility (PSEG)

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply. **Note: All construction will suspended from Memorial Day to Labor Day**

i. During Construction:

- Monday - Friday: 7 AM - 6 PM
- Saturday: 8 AM - 5 PM
- Sunday: 8 AM - 5 PM
- Holidays: No Construction Activity

ii. During Operations:

- Monday - Friday: 24 hrs/day
- Saturday: 24 hrs/day
- Sunday: 24 hrs/day
- Holidays: 24 hrs/day

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑Yes ☐No

If yes:

i. Provide details including sources, time of day and duration:

Construction activities may temporarily produce noise exceeding existing ambient levels but would be restricted to the hours/seasons specified above.

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐Yes ☑No

Describe: _____

n. Will the proposed action have outdoor lighting? ☐Yes ☑No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐Yes ☑No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐Yes ☑No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐Yes ☑No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐Yes ☑No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐Yes ☐No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐Yes ☑No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility: _____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

Phase 1 project area includes the Main Street commercial district and includes 89 residential properties and 67 commercial properties

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	8 (Phase 1); 10+ (Ph. 2, 3 & 4)	8 (Phase 1);10+ (Ph. 2, 3 & 4)	0
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: Landscaped Area			

c. Is the project site presently used by members of the community for public recreation? ☑ Yes ☐ No

i. If Yes: explain: The Great Lawn and Village Marina are located just outside of the proposed service area. Water quality at Marina will improve.

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑ Yes ☐ No

If Yes,

i. Identify Facilities:

Family Counseling Services (40 Main St. Westhampton Beach, NY)

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☑ No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

v. Is the project site subject to an institutional control limiting property uses? ☐Yes ☐No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐Yes ☐No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? Greater than 100 feet

b. Are there bedrock outcroppings on the project site? ☐Yes ☑No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:

Riverhead sandy loam, 0-3% (RdA)	89 %
Cut & fill land, gently sloping (CuB)	9 %
	%

d. What is the average depth to the water table on the project site? Average: 6 feet

e. Drainage status of project site soils:
☑ Well Drained: 100 % of site
☐ Moderately Well Drained: % of site
☐ Poorly Drained % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 95 % of site
☑ 10-15%: 3 % of site
☑ 15% or greater: 2 % of site

g. Are there any unique geologic features on the project site? ☐Yes ☑No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑Yes ☐No

ii. Do any wetlands or other waterbodies adjoin the project site? **Note: No construction in these areas** ☑Yes ☐No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑Yes ☐No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 923-66 Classification SC
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters Approximate Size Tidal Wetlands (LZ)
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑Yes ☐No

If yes, name of impaired water body/bodies and basis for listing as impaired:
Name - Pollutants - Uses Quantuck Canal/Moneybogue Bay – Pathogens – Shellfishing

i. Is the project site in a designated Floodway? ☐Yes ☑No

j. Is the project site in the 100 year Floodplain? ☑Yes ☐No

k. Is the project site in the 500 year Floodplain? ☑Yes ☐No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑Yes ☐No
If Yes:

i. Name of aquifer: Sole Source Aquifer Names:Nassau-Suffolk SSA

m. Identify the predominant wildlife species that occupy or use the project site:
N/A - Project Area nearly fully developed

n. Does the project site contain a designated significant natural community? ☑Yes ☐No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
Marine Eelgrass Meadow
ii. Source(s) of description or evaluation: NYS DEC
iii. Extent of community/habitat:
- Currently: 1597.81 acres
- Following completion of project as proposed: 1597.81 acres **Note: No construction in this area**
- Gain or loss (indicate + or -): 0 acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐Yes ☑No

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☑Yes ☐No
If yes, give a brief description of how the proposed action may affect that use:
Moriebogue Bay has historically been used for fishing/shellfishing but suffers from chronic pollution (classified as impaired by NYS DEC). Proposed action will significantly reduce nitrogen loading associated with wastewater, which is the largest contributor to poor water quality in Moriebogue Bay

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No
If Yes, provide county plus district name/number:

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No
If Yes:
i. CEA name:
ii. Basis for designation:
iii. Designating agency and date:

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☑ Yes ☐ No

Note: Historic Resources are located outside of project area

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☑ Historic Building or District

ii. Name: US Post Office--Westhampton Beach, Foster-Meeker House

iii. Brief description of attributes on which listing is based:

Post Office - Colonial Revival Arch /WPA Project, Foster-Meeker House - 1735 shingled Cape-Cod residence

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☐ Yes ☑ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s):

ii. Basis for identification:

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: The Great Lawn, Village Marina/Moniebogue Bay

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): Local Parks/Recreational Facilities

iii. Distance between project and resource: 0.10 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation:

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

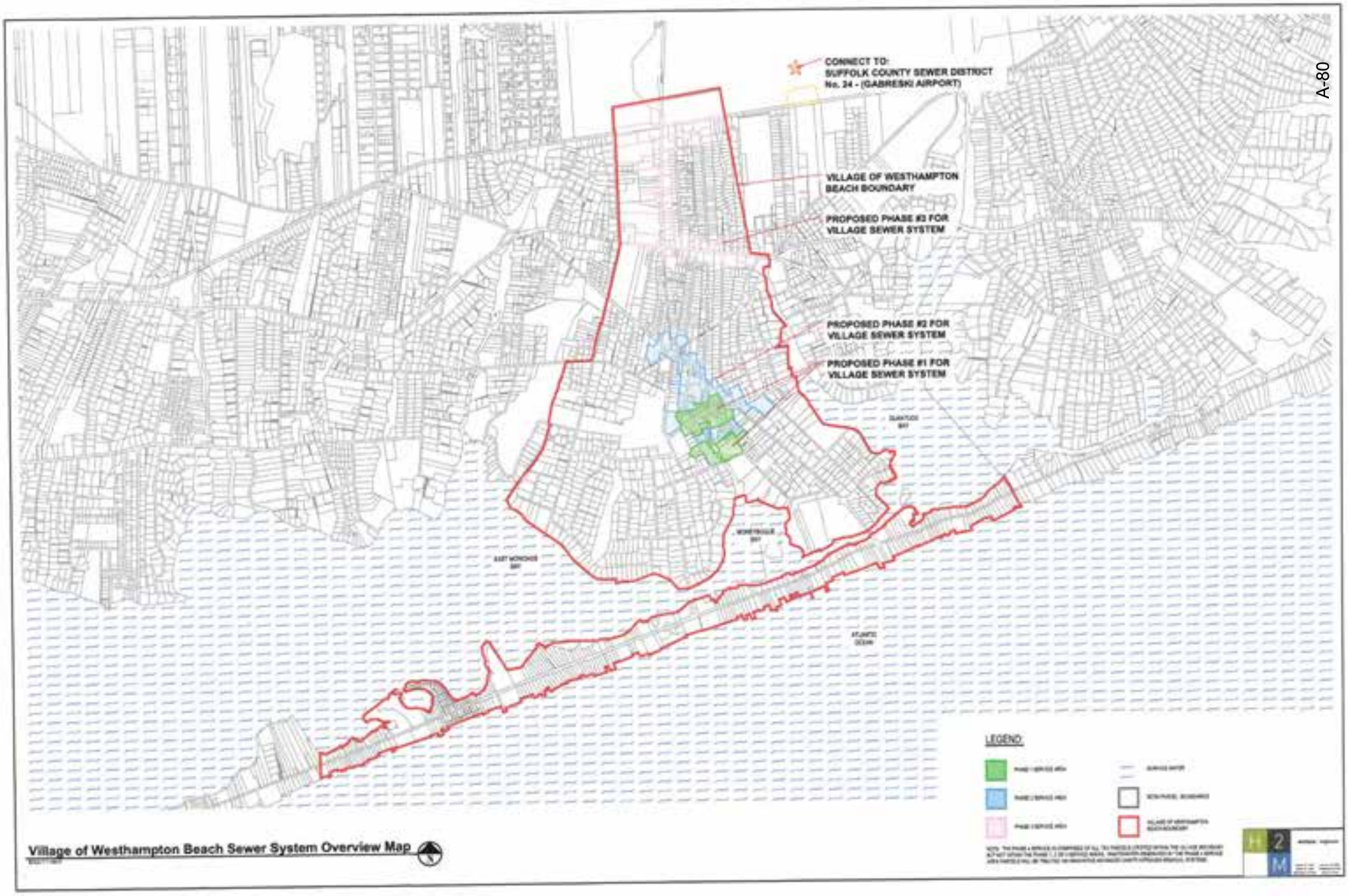
G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name David Tepper Date 9/29/2017

Signature  Title Planner, AICP (Cameron Engineering & Associates, LLP)

PRINT FORM



Village of Westhampton Beach Sewer System Overview Map

* AERIAL BACKGORUND IMAGERY WAS OBTAINED FROM THE NEW YORK STATE GIS CLEARINGHOUSE WEBSITE http://gis.ny.gov/gateway/mg/

Preliminary Phase 1 Sewer Service Area Map

SCALE: 1" = 300-0"

LEGEND:

Sanitary Flow Projection based on SCWA usage records: (ADF approx. 60,000 gpd)

NYS Land Use	Description	Area		Tax Parcels
		Acerage	% Acreage	Tax Parcel Count
100	Agricultural	0.00 ac.	0.0%	0 parcels
200	Residential	21.95 ac.	70.2%	88 parcels
300	Vacant Land	0.34 ac.	1.1%	1 parcels
400	Commercial	8.70 ac.	27.8%	66 parcels
500	Recreation & Entertainment	0.00 ac.	0.0%	0 parcels
600	Community Services	0.30 ac.	1.0%	1 parcels
700	Industrial	0.00 ac.	0.0%	0 parcels
800	Public Services	0.00 ac.	0.0%	0 parcels
900	Wild, Forested, Conservation Lands & Public Parks	0.00 ac.	0.0%	0 parcels
	TOTAL . . .	31.29 ac.	100%	156 parcels

CLIENT: **Incorporated Village of Westhampton Beach**

PROJECT #: WHBV 16-01

DATE: 7/14/2016

H2M architects + engineers

AFFIDAVIT OF MAILING

STATE OF NEW YORK)
COUNTY OF SUFFOLK) ss.:

Gail Johnson, being duly sworn, deposes and says:

1.I am not a party to the action, I am over 18 years of age, and I reside in Riverhead, New York.

2. On October 2, 2017, I served, by regular first class mail, the annexed VILLAGE OF WESTHAMPTON BEACH NOTICE OF DETERMINATION OF LEAD AGENCY AND COORDINATED REVIEW UNDER SEQRA upon the following agency at the address listed below, by depositing the original of same, enclosed in a postpaid wrapper, in an official depository under the exclusive care and custody of the United States Postal Service within the State of New York:

Southampton Town Board
Southampton Town Hall
116 Hampton Road
Southampton, NY 11968

Gail Johnson
Gail Johnson

Sworn to before me October 4, 2017

Elizabeth Spiess
Notary Public

ELIZABETH SPIESS
Notary Public, State of New York
No. 4811949
Qualified in Suffolk County
Commission Expires September 30, 2018

VILLAGE OF WESTHAMPTON BEACH

NOTICE OF DETERMINATION OF LEAD AGENCY
AND
COORDINATED REVIEW UNDER SEQRA

To: Town of Southampton Highway Department
20 Jackson Avenue
Hampton Bays, NY 11946

Re: Village of Westhampton Beach Sewer System Project

The Village of Westhampton Beach is considering the establishment of the Incorporated Village of Westhampton Beach Sewer System, including the adoption of a formal Map and Plan (hereinafter, the "sewer system project").

As presently contemplated, but subject to further review and modification, the sewer system project is separated into four phases. Phase 1 focuses on the area surrounding Main Street and includes the Moniebogue Bay watershed – which has been identified by the New York State Department of Environmental Conservation as an impaired water body. Phase 2 (north of Main Street) and Phase 3 (centered on Montauk Highway/County Road 80) have been identified as future sewer service areas within the Village. Phase 4 comprises all tax parcels within the Village that are not located within the Phase 1, 2 or 3 service areas and would be served by innovative advanced on-site nitrogen removal systems. The proposed Phase 1 sewer service area is approximately 31.29 acres in total area and comprises 89 residential properties and 67 commercial properties. The proposed Phase 1 sewer system will consist of a combination of gravity and low pressure sewers, two conventional pump stations and two force mains. The existing Gabreski Airport Sewage Treatment Plant (STP) has been identified as the preferred treatment location for sewage flow from the proposed service area. The Gabreski Airport STP would be modified to provide the additional capacity to support the Village's flow. It is anticipated that existing equipment at the facility would be replaced to increase capacity without requiring expansion outside of the footprint of the facility or any additional tankage.

The Village Board of Trustees has preliminarily classified the sewer system project as a Type I action under the State Environmental Quality Review Act ("SEQRA" – Article 8 of the New York Environmental Conservation Law).

You have been identified as a potential "involved agency" for purposes of SEQRA review, due to the fact that road opening permits may be required from the Town of Southampton Highway Department in association with the sewer system project.

Pursuant to 6 NYCRR Section 617.6(b)(3), the Village Board of Trustees has determined the following:

1. That there will be coordinated review of the application;
2. That the Village Board of Trustees is proposing to serve as lead agency.

PLEASE TAKE NOTICE, that the Village of Westhampton Beach Board of Trustees shall assume lead agency status unless you notify the Board of Trustees within thirty (30) days that you disagree with this designation:

Annexed hereto are copies of the following:

1. EAF Part I; and
2. Site map for sewer system project.

Dated: September 27, 2017

Village of Westhampton Beach
Board of Trustees

By: _____
Anthony C. Pasca, Village Attorney

AFFIDAVIT OF MAILING

STATE OF NEW YORK)
COUNTY OF SUFFOLK) ss.:

Gail Johnson, being duly sworn, deposes and says:

1. I am not a party to the action, I am over 18 years of age, and I reside in Riverhead, New York.

2. On October 2, 2017, I served, by regular first class mail, the annexed VILLAGE OF WESTHAMPTON BEACH NOTICE OF DETERMINATION OF LEAD AGENCY AND COORDINATED REVIEW UNDER SEQRA upon the following agency at the address listed below, by depositing the original of same, enclosed in a postpaid wrapper, in an official depository under the exclusive care and custody of the United States Postal Service within the State of New York:

Town of Southampton Highway Department
20 Jackson Avenue
Hampton Bays, NY 11946

Gail Johnson

Gail Johnson

Sworn to before me October 4, 2017

Notary Public

ELIZABETH SPENCER
Notary Public, State of New York
Qualified in Suffolk County
Commission expires September 30, 2018

The Board of Trustees of the Village of Westhampton Beach held their Regular Meeting on Wednesday, November 15, 2017 at 5 p.m. in the Municipal Building, 165 Mill Road, Westhampton Beach

PRESENT: Mayor Maria Z. Moore
Deputy Mayor Ralph Urban
Trustee Rob Rubio
Trustee Brian Tymann
ABSENT: Trustee Stephen Frano

Clerk-Treasurer Elizabeth Lindtvit
Village Attorney – Stephen Angel

RESOLUTIONS

Determination of Environmental Significance under SEQRA for the Village of Westhampton Beach Sewer System Project

Motion made by Trustee Tymann:

WHEREAS, The Village of Westhampton Beach is considering the establishment of a sewerage system to be known as the Incorporated Village of Westhampton Beach Sewer System, including the adoption of a formal map and plan (hereinafter, the "sewer system project"); and

WHEREAS, the sewer system project is separated into four phases. Phase 1 focuses on the area surrounding Main Street and includes the Moniebogue Bay watershed – which has been identified by the New York State Department of Environmental Conservation as an impaired water body. Phase 2 (north of Main Street) and Phase 3 (centered on Montauk Highway/County Road 80) have been identified as future sewer service areas within the Village. Phase 4 comprises all tax parcels within the Village that are not located within the Phase 1, 2 or 3 service areas and would be served by existing private on-site wastewater disposal systems and innovative advanced on-site nitrogen removal systems; and

WHEREAS, pursuant to the regulations of the New York State Department of Environmental Conservation (6 NYCRR Part 617), specifically Sections 617.2(b) and 617.3(g), the "action," as defined under the State Environmental Quality Review Act "SEQRA" (Article 8 of the New York Environmental Conservation Law), is the Board of Trustees' establishment of the Incorporated Village of Westhampton Beach Sewer System and the implementation of Phase 1 of the sewer system project; and

WHEREAS, the Village has engaged H2M Architects + Engineers as consulting engineers for the sewer system project and Cameron Engineering & Associates, LLP, as environmental consultants for the SEQRA review of the sewer system project; and

WHEREAS, H2M Architects + Engineers has prepared a proposed map and plan for the establishment of the Village's complete sewerage system (the "Map and Plan"); and

WHEREAS, by resolution dated September 20, 2017, the Village Board of Trustees preliminarily classified the sewer system project as a Type 1 action; and

WHEREAS, pursuant to the regulations of the New York State Department of Environmental Conservation under SEQRA (6 NYCRR Part 617), specifically Section 617.6(b)(3), the Board of Trustees, by resolution dated September 20, 2017, determined (1) that there should be coordinated review of the application; and (2) that the Village Board of Trustees was proposing to serve as lead agency; and

WHEREAS, the Board of Trustees undertook coordinated review with the "involved agencies" pursuant to SEQRA; and

WHEREAS, by notice mailed on October 2, 2017, the Board of Trustees provided the Involved Agencies with a description of the sewer system project, copies of the FEAF Part 1 and a site map of the project, and notified the Involved Agencies that the Board of Trustees wished to assume lead agency status for purposes of

conducting a coordinated SEQRA review, and none of the involved agencies objected to the Board of Trustees acting as lead agency under SEQRA; and

WHEREAS, Cameron Engineering & Associates, LLP, in consultation with H2M Architects + Engineers, the Village Attorneys, and the Village planning consultant, prepared an Expanded Environmental Assessment of the sewer system project that analyzes the potential environmental impacts of the project in detail; and

WHEREAS, pursuant to 6 NYCRR § 617.6(b)(3), the Board of Trustees, by resolution dated November 2, 2017, (1) declared itself lead agency for purposes of conducting coordinated SEQRA review with the Involved Agencies; and (2) accepted and adopted the findings set forth in the FEAF Part 1 and the Expanded Environmental Assessment; and

WHEREAS, pursuant to 6 NYCRR § 617.6(b)(3)(ii) the Board of Trustees, as lead agency, must make its determination of significance for the action within 20 calendar days of its establishment as lead agency; and

WHEREAS, accordingly, the Board of Trustees, by resolution dated November 2, 2017, scheduled a special meeting on November 15, 2017, for the purpose of making its determination of significance for the action within the requisite 20-day period; and

WHEREAS, in order to give the public an opportunity to provide input on the FEAF Part 1, the Expanded Environmental Assessment, and the Map and Plan before making its determination of significance, and before the adoption of any resolutions concerning the establishment of a sewerage system, and the adoption of the Map and Plan, the Board of Trustees made these documents available for public review and inspection both in person at the Village offices and digitally on the Village's website, so that members of the public could provide their written comments on the FEAF Part 1, Expanded Environmental Assessment, and Map and Plan in advance of the aforesaid Board of Trustees' November 15, 2017 special meeting; and

WHEREAS, Cameron Engineering & Associates, LLP, in consultation with H2M Architects + Engineers, the Village Attorneys, and the Village planning consultant, prepared Parts 2 and 3 of the FEAF, which were submitted to the Board of Trustees on or about November 14, 2017; and

WHEREAS, the Board of Trustees considered all potential impacts arising from or in connection with this project, and also considered reasonably related long-term, short-term, direct, indirect, and cumulative impacts of the proposed action, including other simultaneous or subsequent actions which are: (1) included in any long-range plan of which the proposed action is a part; (2) likely to be undertaken as a result thereof; or (3) dependent thereon; and

WHEREAS, the Board of Trustees also considered the significance of a likely consequence (i.e., whether it is material, substantial, large, or important) in connection with: (1) its setting (e.g., urban or rural); (2) its probability of occurrence; (3) its duration; (4) its irreversibility; (5) its geographic scope; (6) its magnitude; and (7) the number of people affected; and

WHEREAS, the FEAF and Expanded Environmental Assessment concluded that the proposed action would not result in any significant adverse impacts within the proposed service area or surrounding area; and

WHEREAS, in particular, the Expanded Environmental Assessment noted that the proposed service area has been identified and analyzed by both Suffolk County and the Village of Westhampton Beach as a target area for sewering that would result in significant environmental and public health benefits, as well as eliminate an identified barrier to the Village implementing the vision, goals and objectives for its central business district; and

WHEREAS, as explained in detail in the Expanded Environmental Assessment, the Board of Trustees' environmental analysis focused on the existing conditions, potential adverse impacts, and mitigation of the construction and operation

associated with the implementation of the Phase 1 Service Area, because the preliminary design and identification of funding sources have been completed for this phase; and

WHEREAS, while Phases 2, 3 and 4 have been included in the Map and Plan to show the overall plan for future sewer service/nitrogen reduction in the Village, these future phases have yet to be designed and are therefore not appropriate for funding, and a plan to accommodate the sewage flow for Phases 2 and 3 of the project and the implementation of those phases – which is anticipated to require the expansion of the existing footprint of the Gabreski Airport STP – has not been determined by the Board of Trustees as yet; and

WHEREAS, due to these outstanding questions regarding the design and funding of Phases 2 and 3, there are no current plans to implement those phases and the Board of Trustees considers the information on these future phases of the project to be too speculative; and

WHEREAS, at such time as the Board of Trustees seeks to implement Phases 2 or 3 of the proposed project at some point in the future, it will conduct a SEQRA analysis once designs are completed and funding sources identified; and

WHEREAS, Phase 4 of the sewer system project consists of the installation of innovative advanced on-site nitrogen removal systems; and

WHEREAS, as explained in the Expanded Environmental Assessment, in the past year certain local municipalities have adopted, or are considering adopting code changes that would require the installation of such systems under certain circumstances, and if the Village decides to consider similar code changes, those aspects of Phase 4 would have no functional connection to Phase 1 (or future Phases 2 and 3), and would instead be implemented separately through regulations and grant programs adopted by Suffolk County, the Town of Southampton, and/or the Village of Westhampton Beach, regarding the installation of the type of innovative sanitary systems contemplated by Phase 4 of the project; and

WHEREAS, the Board considers the information on Phase 4 of the project to be too speculative and further notes that Phase 4 is likely to be functionally independent from the Phase 1 Service Area; and

WHEREAS, as set forth in the Expanded Environmental Assessment, while the future service areas contemplated by Phases 2, 3, and 4 of the proposed project were not addressed in the environmental assessment, all of these phases are expected to have only beneficial environmental impacts and therefore will clearly be no less protective of the environment, as the main purpose of the sewer system project is to reduce nitrogen loading into local water bodies in order to improve water quality within the Village; and

WHEREAS, the Board of Trustees desires to determine the significance of the proposed action pursuant to 6 NYCRR § 617.7, and set forth its determination and reasoning therefor, in this written resolution, pursuant to 6 NYCRR §617.7(b)(4),

NOW, therefore be it resolved that;

1. The Board of Trustees reviewed the FEAF, the Expanded Environmental Assessment, the Map and Plan, and any and all documents prepared and submitted with respect to this proposed action and its environmental review, and has thoroughly reviewed and considered each and every indicator of significance set forth in 6 NYCRR §617.7(c)(1).

2. After consideration of the potential environmental impacts, including those reviewed in accordance with 6 NYCRR §617.7(c), the Board of Trustees finds that the proposed action of establishing the Incorporated Village of Westhampton Beach Sewer System and implementing Phase 1 of the sewer system project, will have no moderate or significant negative environmental consequences or impacts and, therefore, an Environmental Impact Statement is not required for the proposed action.

3. Based on the foregoing, the Board of Trustees hereby issues a Negative Declaration of environmental significance in accordance with SEQRA for the above-referenced proposed action.

4. To the extent that the Board of Trustees' review of the proposed action could be considered a "segmented review" because its environmental review focused on the potential impacts of the implementation of Phase 1 of the sewer system project, the Board of Trustees finds such segmented review to be justified under these circumstances, in accordance with 6 NYCRR §617.3(g)(1). In particular, the Board finds that such segmented review is warranted, and is no less protective of the environment, primarily because: (1) information on future phases of the sewer system project is too speculative; (2) certain future phases of the sewer system project may not occur; and (3) certain future phases are functionally independent of Phase 1 of the sewer system project. The Board's justification for such segmented review is further set forth in the Expanded Environmental Assessment, the findings of which were accepted and adopted by the Board of Trustees by resolution dated November 2, 2017, and are incorporated herein as if set forth at length.

5. In accordance with 6 NYCRR § 617.12(a), concerning the preparation of documents, the Board of Trustees further resolves that: (1) this Resolution, including its negative declaration, has been prepared in accordance with Article 8 of the NY Environmental Conservation Law, (2) the Lead Agency is the Board of Trustees of the Village of Westhampton Beach, with an address of 165 Mill Road, Westhampton Beach, NY 11978; (3) Mayor Maria Moore, with an address of 165 Mill Road, Westhampton Beach, NY 11978 and a phone number of (631) 288-1654 can provide additional information with regard to the proposed action; (4) the proposed action is the establishment of the Incorporated Village of Westhampton Beach Sewer System and the implementation of Phase 1 of the sewer system project; (5) the proposed action is classified under SEQRA as a Type 1 action; and (6) the location of the proposed action is the entirety of the Village of Westhampton Beach, County of Suffolk, and State of New York; and

6. The Board of Trustees authorizes and directs the Mayor of the Incorporated Village of Westhampton Beach, Maria Moore, to complete and sign, as required, the determination of significance prepared by Cameron Engineering & Associates, LLP, and any related documents, confirming the foregoing Negative Declaration, which fully completed and signed FEAF, Expanded Environmental Assessment, and determination of significance shall be incorporated by reference in this Resolution.

7. In accordance with 6 NYCRR § 617.12(b), concerning the filing and distribution of documents, the Board of Trustees further resolves that: (1) this Resolution, including its negative declaration, will be filed with the Village Board of Trustees, all involved agencies, and any person who has requested a copy; and (2) the following documents concerning the proposed action will be maintained in files at Village Hall that are readily accessible to the public and will be made available on request: all SEQRA documents and notices, including without limitation, the FEAFs, the Expanded Environmental Assessment, and this negative declaration.

8. In accordance with NYCRR §617.12(c), concerning publication of notices, the Board of Trustees further resolves that notice of this Resolution's Type 1 negative declaration shall be published in the Environmental Notice Bulletin ("ENB") and the Village attorneys are directed to complete said publishing of the ENB.

Seconded by Deputy Mayor Urban and unanimously approved 3 Ayes, 0 Nays

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Adopt Map and Plan and Establish Boundaries of Sewer System

Motion made by Deputy Mayor Urban:

WHEREAS, The Village of Westhampton Beach is considering the establishment of a sewerage system to be known as the Incorporated Village of Westhampton Beach Sewer System, including the adoption of a formal map and plan (hereinafter, the "sewer system project"); and

WHEREAS, the sewer system project is separated into four phases. Phase 1 focuses on the area surrounding Main Street and includes the Moniebogue Bay watershed – which has been identified by the New York State Department of Environmental Conservation as an impaired water body. Phase 2 (north of Main Street) and Phase 3 (centered on Montauk Highway/County Road 80) have been identified as future sewer service areas within the Village. Phase 4 comprises all tax parcels within the Village that are not located within the Phase 1, 2 or 3 service areas and would be served by existing private on-site wastewater disposal systems and innovative advanced on-site nitrogen removal systems; and

WHEREAS, the Village has engaged H2M Architects + Engineers as consulting engineers for the sewer system project; and

WHEREAS, New York State Village Law Article 14 ("Sewers"), Section 14-1400, empowers the Board of Trustees to "establish, extend and maintain a sewerage system" within the Village in accordance with the provisions of Article 14; and

WHEREAS, Village Law §14-1400 further authorizes the Board of Trustees to cause a map and plan to be prepared for a complete sewerage system for the Village, with plans and specifications for sewage treatment and disposal works; and

WHEREAS, H2M Architects + Engineers has prepared a proposed map and plan for the establishment of the Village's complete sewerage system dated October 2017 (the "Map and Plan"); and

WHEREAS, pursuant to Village Law §14-1400, the Board of Trustees is required to submit the Map and Plan to the Commissioner of Health for approval, and while the Map and Plan must be comprehensive and cover all portions of the Village, the Board of Trustees is authorized to temporarily omit and/or defer any portion of the sewer system until such portion is found to be necessary, subject to the approval of such omission by the Commissioner of Health; and

WHEREAS, while Phases 2, 3 and 4 have been included in the Map and Plan to show the overall plan for future sewer service/nitrogen reduction in the Village, these future phases have yet to be designed and are therefore not appropriate for funding, and a plan to accommodate the sewage flow for Phases 2 and 3 of the project and the implementation of those phases – which is anticipated to require the expansion of the existing footprint of the Gabreski Airport STP – has not been determined by the Board of Trustees as yet; and

WHEREAS, due to these outstanding questions regarding the design and funding of Phases 2 and 3, there are no current plans to implement those phases and the Board of Trustees considers the information on these future phases of the project to be too speculative; and

WHEREAS, Phase 4 of the sewer system project consists of the installation of innovative advanced on-site nitrogen removal systems; and

WHEREAS, as explained in the Expanded Environmental Assessment, in the past year certain local municipalities have adopted, or are considering adopting code changes that would require the installation of such systems under certain circumstances, and if the Village decides to consider similar code changes, those aspects of Phase 4 would have no functional connection to Phase 1 (or future Phases 2 and 3), and would instead be implemented separately through regulations and grant programs adopted by Suffolk County, the Town of Southampton, and/or the Village of Westhampton Beach, regarding the installation of the type of innovative sanitary systems contemplated by Phase 4 of the project; and

WHEREAS, the Board considers the information on Phase 4 of the project to be too speculative and further notes that Phase 4 is likely to be functionally independent from the Phase 1 Service Area; and

WHEREAS, accordingly, while the Map and Plan prepared by H2M Architects + Engineers covers the entire Village, it focuses on the implementation of Phase 1 of the sewer system; and

WHEREAS, the Board of Trustees intends to certify its intention to temporarily omit and defer portions of the sewer system to the Commissioner of Health for approval, in accordance with Village Law §14-1400; and

WHEREAS, pursuant to Article 14 of the Village Law, the Board of Trustees may determine upon the construction of the whole or any part of the sewerage system at the joint expense of the village and of the property benefitted; and

WHEREAS, the Board of Trustees finds that, as set forth in the Map and Plan, the implementation of the Phase 1 Service Area will benefit all property within the Village because groundwater contamination and poor water quality within Moniebogue Bay and surrounding surface waters are a Village-wide problem that all properties are responsible to protect, and that all properties will begin to realize an improvement following the initial sewering of the Phase 1 Service Area; and

WHEREAS, however, because properties located inside of the Phase 1 Service Area will have the added benefit of connecting to the sanitary infrastructure, the Board of Trustees has decided to distribute the capital cost differently for properties located inside the Phase 1 Service Area relative to properties located outside the Phase 1 Service Area; and

WHEREAS, in accordance with Village Law §14-1410, and as set forth in the Map and Plan: (1) the Board of Trustees intends to construct and maintain the portion of the sewer system designated as the Phase 1 Service Area at the joint expense of the property located within the Phase 1 Service Area which will be directly benefitted thereby, as a local assessment on said property, and the Village at large; (2) the estimated maximum cost of construction for the Phase 1 Service Area is $16,750,000; and (3) the Board of Trustees intends to apportion the capital cost for the sewer system across all properties within the Village by requiring properties within the Phase 1 Service Area to pay 70% of the annual debt service and properties located outside of the Phase 1 Service Area to pay the remaining 30% of the annual debt service; and WHEREAS, the Board of Trustees intends to designate the Phase 1 Service Area as a "proposed area of local assessment," in accordance with Village Law §14-1416; and

WHEREAS, Article 14 of the Village Law contemplates the establishment of a Village "Board of Sewer Commissioners" to manage the operation of any Village sewer system, and the Board of Trustees finds that the Board of Sewer Commissioners should be comprised of the members of the Board of Trustees; and

NOW, therefore, be it resolved that;

1. The Board of Trustees finds that the establishment of a complete sewerage system for the Village, and the implementation of Phase 1 of the sewer system, will be in the best interests of the public, and will benefit all property owners both within the Phase 1 Service Area and the Village at large.

2. The Board of Trustees further finds that the establishment of a complete sewerage system for the Village is in the interest of public health and will improve the environment.

3. The Board of Trustees hereby establishes a complete sewerage system for the Village, to be known as the Incorporated Village of Westhampton Beach Sewer System.

4. The Board of Trustees accepts and adopts the Map and Plan prepared by H2M Architects + Engineers, dated October 2017.

5. The Board of Trustees shall cause the Map and Plan to be submitted to the State Commissioner of Health for approval, and to any other governmental agency having jurisdiction over the establishment of the sewerage system for the Village, and shall certify to the State Commissioner of Health any portions of the sewer system it desires to temporarily omit and/or defer.

6. The Board of Trustees determines that the estimated maximum cost of Phase 1 of the sewerage system is $16,750,000.00.

7. The Board of Trustees determines that the capital cost of Phase 1 of the sewerage system shall be at the joint expense of the Village at large (30%) and the properties located in the Phase 1 Service Area which will be benefitted thereby (70%).

8. The Board of Trustees hereby establishes a "Board of Sewer Commissioners" for the Incorporated Village of Westhampton Beach Sewer System to be composed of five members, one of whom shall be the Chairperson.

9. The Board of Trustees determines that the Mayor and members of the Board of Trustees shall constitute the Board of Sewer Commissioners for the Incorporated Village of Westhampton Beach Sewer System, and that the Mayor shall be the Chairperson thereof.

10. The Mayor, in her capacity as Mayor and as Chairperson of the Board of Sewer Commissioners for the Incorporated Village of Westhampton Beach Sewer System, is hereby authorized to submit the Map and Plan and related documents to any and all agencies and entities that offer monetary grants to municipalities for sewerage systems so as to reduce the maximum estimated cost of the Phase 1 Service, and to execute all documents necessary for the establishment of said system.

Seconded by Trustee Rubio and unanimously approved 3 Ayes, 0 Nays

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Respectfully Submitted,

Elizabeth Lindtvit
Village Clerk

Agency Use Only [If Applicable]

Project:

Date:

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:

To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

See Attached.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☑ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information
An Expanded Environmental Assessment has been prepared to provide additional project information.

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the Village of Westhampton Beach Board of Trustees as lead agency that:

☑ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.d).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Village of Westhampton Beach Sewer System

Name of Lead Agency: Village of Westhampton Beach Board of Trustees

Name of Responsible Officer in Lead Agency: Maria Moore

Title of Responsible Officer: Mayor

Signature of Responsible Officer in Lead Agency: Date: 11/20/2017

Signature of Preparer (if different from Responsible Officer) Date: 11/14/2017

For Further Information:

Contact Person: Nicolas F. Bono, P.E.

Address: 538 Broad Hollow Road, 4th Floor East, Melville, NY 11747

Telephone Number: 631-756-8000 ext. 1428

E-mail: nbono@h2m.com

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

Village of Westhampton Beach Sewer System
ENVIRONMENTAL ASSESSMENT FORM PART 3

The Village of Westhampton Beach Board of Trustees (Village) is Lead Agency for this Type 1 Action. The Village's consultants have prepared an Environmental Assessment Form (EAF) and Expanded Environmental Assessment supplement for the proposed action. In determining the significance of this proposed action, the Village has considered the technical review of the EAF, Expanded Environmental Assessment and preliminary Map and Plan for the Formation of the Village of Westhampton Beach Sewer System, as well as public feedback collected at meetings of the Village Board of Trustees.

BACKGROUND

The proposed project involves the establishment of the Incorporated Village of Westhampton Beach Sewer System. The proposed Map and Plan for the District is separated into four phases. Phase 1 focuses on the area surrounding Main Street and includes the Moniebogue Bay watershed – which has been identified by the New York State Department of Environmental Conservation (NYSDEC) as an impaired waterbody. Moniebogue Bay is also the only water body that is located fully within the Village's watershed. Phase 2 (north of Main Street) and Phase 3 (centered on Montauk Highway/CR 80) have been identified as future sewer service areas within the Village. Phase 4 comprises all tax parcels located within the Village that are not located within the Phase 1, 2 or 3 Service Areas and would be served by innovative advanced on-site nitrogen removal systems.

The existing Gabreski Airport Sewage Treatment Plant (STP) has been identified as the preferred treatment location for sewage flow from the proposed service area. The Gabreski Airport STP would be modified to provide the additional capacity to support the Village's flow for its Phase 1 Service Area. It is anticipated that existing equipment at the facility would be replaced to increase capacity without requiring expansion outside of the footprint of the facility or any additional tankage. It is anticipated that following construction of the proposed Phase 1 Sewer System, the new sewer service area would become part of the existing Suffolk County Sewer District No. 24 - Gabreski-Municipal.

ENVIRONMENTAL CONSIDERATIONS

No potentially moderate to large adverse impacts were reported in the Environmental Assessment Form (Part 2) and Expanded Environmental Assessment prepared for the Village by Cameron Engineering & Associates, LLP. Overall, the project will provide a range of positive environmental benefits, most notably the reduction of nitrogen loading to local waterbodies. The existing use of individual on-site septic systems, along with the area's shallow groundwater, are key contributors to poor water quality in local waterbodies – particularly Moniebogue Bay, which is the only local waterbody wholly located within the Village's watershed. Given these existing conditions, the New York State Department of Environmental Conservation (NYS DEC) classifies Moniebogue Bay as an impaired waterbody. Phase 1 of the proposed project, would remove nearly 5,000 pounds of nitrogen from Moniebogue Bay Watershed or approximately 22% of current loading.

A few potentially small impacts were identified in Part 2 of the EAF. The following section describes the nature and extent of these potential small environmental impacts:

1. Impact on Land

a. The proposed action may involve construction on land where depth to water table is less than 3 feet.

While the proposed Phase 1 Service Area includes areas where the depth to water table is less than 3 feet, these locations are limited to the rear of residential properties located along Library Avenue. The proposed project would involve minimal disturbances (likely only related to the abandonment of existing septic systems) to these shallow groundwater locations. Additionally, the abandonment of septic systems located within shallow groundwater areas would represent a significant environmental benefit to an area plagued by local water quality issues.

e. The proposed action may involve construction that continues for more than one year or in multiple phases.

A 24-month construction period is anticipated for the Phase 1 sewers, pump stations, force mains and treatment facility improvements. This schedule anticipates multiple contracts being performed simultaneously. It has been determined by the Village that the collection system construction activities will be suspended during the summer season, between Memorial Day to Labor Day, to avoid significant disruption to business and available parking during this high traffic time of year.

Although Phases 2, 3 and 4 of the proposed project have been included in the Map and Plan to show the overall plan for future sewer service/nitrogen reduction in the Village, these future phases have yet to be designed or appropriated for funding. For example, although the Gabreski Airport STP is capable of providing additional capacity to support the sewage flow for the Phase 1 Service Area, it is anticipated that expansion of the existing footprint of the Gabreski Airport STP would be required to accommodate the Phase 2 and 3 Service Areas of the proposed sewer system. A plan to accommodate the sewage flow for Phases 2 and 3, and the implementation of those phases has not been determined by the Board of Trustees as yet. Due to these outstanding questions regarding their design and funding, there are no current plans to implement Phases 2 and 3 of the project. As such, the information on these potential future phases is too speculative to properly analyze the environmental impacts of Phases 2 and 3 at this time.

2. Impact on Geological Features

No small or moderate to large impacts identified.

3. Impacts on Surface Waters

k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.

The proposed action would require expansion of the existing Gabreski Airport Sewage Treatment Plant (STP). The STP would be upgraded to provide the additional capacity to support the Village's flow for its Phase 1 Service Area. It is anticipated that existing equipment at the facility would be replaced to increase capacity without requiring expansion outside of the footprint of the facility or any additional tankage. Expansion of the Gabreski STP (rather than constructing a new facility) greatly reduces potential construction and operation impacts. Overall, the expansion of the Gabreski STP (to accept the Village's flow) would result in positive environmental benefits to surface waters and reduce the amount of potential land disturbance that would be required to construct a new treatment plant.

4. Impact on Groundwater

d. The proposed action may include or require wastewater discharged to groundwater.

Currently, the existing septic systems within the proposed service area are producing septic discharge that contains a nitrogen concentration of approximately 37 mg/L. Estimated wastewater generation under existing conditions is approximately 60,000 gallons per day. This overall quantity of wastewater is not expected to change after project implementation as the proposed design flow is also 60,000 gallons per day. While the proposed action would continue to discharge wastewater to groundwater, the proposed project will result in a wastewater nitrogen concentration level of approximately 10 mg/L. This represents a significant improvement in the quality of wastewater discharged to groundwater.

5. Impact on Flooding

b. The proposed action may result in development within a 100 year floodplain.
c. The proposed action may result in development within a 500 year floodplain.

The proposed Phase 1 Service Area is located within the 100 and 500 year floodplains. However, given the planned system design capacity, the proposed Phase 1 collection system will not introduce any additional capacity to this area. Current wastewater flow is estimated at 60,000 gpd, which would also serve as the design flow for this portion of the project. The main purpose of the sewer system project is not to increase flow capacity in the Village but to re-direct sewage flow that is currently being disposed of via on-site septic systems to the proposed sewer system, thereby decreasing nitrogen loading in local waterbodies. As minimal additional flow capacity is planned at this time, overall development potential within the service area would remain similar to existing conditions.

6. Impacts on Air

No small or moderate to large impacts identified.

7. Impact on Plants and Animals

No small or moderate to large impacts identified.

8. Impact on Agricultural Resources

No small or moderate to large impacts identified.

9. Impact on Aesthetic Resources

No small or moderate to large impacts identified.

10. Impact on Historic and Archeological Resources

a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places.

The proposed action is located adjacent to the US Post Office-Westhampton Beach (Listed on State and National Registers of Historic Places) and the St. Mark's Church (eligible for listing on State and National Registers of Historic Places). In a letter dated October 13, 2017, the New York State Office of Parks, Recreation, and Historic Preservation indicated that, "Based upon the project description and area of potential effect, it is OPHRP's opinion that the proposed work will have No Adverse Impact upon historic resources. If the proposed work will involve the two noted historic properties, consultation with our office should resume."
The proposed project will not involve any work at these historic properties.

No archeological resources were identified within or adjacent to the proposed project area.

11. Impact on Open Space and Recreation

No small or moderate to large impacts identified.

12. Impact on Critical Environmental Areas

No small or moderate to large impacts identified.

13. Impact on Transportation

No small or moderate to large impacts identified.

14. Impact on Energy

No small or moderate to large impacts identified.

15. Impact on Noise, Odor, and Light

No small or moderate to large impacts identified.

16. Impact on Human Health

a. The proposed action is located within 1500 feet of a school, hospital, licensed daycare center, group home, nursing home or retirement community.

The proposed project is located within 1,500 feet of Family Counseling Services (40 Main St. Westhampton Beach, NY). This facility is located outside of the proposed project area and project implementation will not result in any disturbances to the facility or its operations.

16. Consistency with Community Plans

g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action).

Based on the planned system design capacity, the proposed Phase 1 collection system will not introduce any additional capacity to this area. Current wastewater flow is estimated at 60,000 gpd, which would also serve as the design flow for this portion of the project. The main purpose of the sewer system project is not

to increase flow capacity in the Village but to re-direct sewage flow that is currently being disposed of via on-site septic systems to the proposed sewer system, thereby decreasing nitrogen loading in local waterbodies. As minimal additional flow capacity is planned at this time, overall development potential within the service area would remain similar to existing conditions. The Village is not contemplating any zoning changes in association with the sewer system project, either in terms of dimensional, use, density, or parking requirements. Any growth induced by this project is therefore consistent with the applicable zoning and the Village's adopted comprehensive plan, and would be viewed as a positive impact that has been planned for, and beneficial to the Village.

17. Consistency with Community Character

No small or moderate to large impacts identified.

CONCLUSIONS

Formation and construction of the Village of Westhampton Beach Sewer System would have no significant adverse environmental impacts within the proposed service area or surrounding area. The proposed wastewater treatment system would introduce numerous environmental benefits, including a significant reduction in nitrogen loading to Moniebogue Bay – one of the most polluted/environmentally-degraded waterbodies on Long Island.

SUFFOLK COUNTY SEWER AGENCY

RESOLUTION NO. 51 - 2017

GRANTING FORMAL APPROVAL FOR THE CONNECTION OF THE VILLAGE OF WESTHAMPTON BEACH (SH-1687) TO SUFFOLK COUNTY SEWER DISTRICT NO. 24 – GABRESKI MUNICIPAL

WHEREAS, the Village of Westhampton Beach is an existing business district, located in the Town of Southampton, New York, situated on property identified on the Suffolk County Tax Map as District 0905, Section 011.00, Block 01.00, Lots 001.000 through District 0905, Section 011.00, Block 03.00, Lot 005.000 and District 0905, Section 012.00, Block 03.00, Lots 015.000 through District 0905, Section 012.00, Block 04.00, Lot 052.000, and

WHEREAS, the parcels are not located within the boundaries of Suffolk County Sewer District No. 24 – Gabreski Municipal (the "District"), or within the boundaries of any other municipal sewer district, and

WHEREAS, the Village of Westhampton Beach (the "Village") received a Conceptual Certification from this Agency on August 21, 2017 (Resolution 43-2017) to connect Sixty Thousand gallons per day (60,000 GPD) to the sanitary sewerage facilities of the District, and

WHEREAS, for the proposed flow of Sixty Thousand Gallons per day (60,000 GPD), the District's sewage treatment plant currently has Ten Thousand gallons per day (10,000 GPD) of available capacity and will require modifications to the treatment plant to accept the additional Fifty Thousand Gallons per day (50,000 GPD) of sewage from the Village of Westhampton Beach, and

WHEREAS, the connection fee for the proposed flow of 60,000 GPD will be used by the District to offset the cost of the future modifications to the District's sewage treatment plant required to create the additional 50,000 GPD of District's capacity, and

WHEREAS, the connection of the Village of Westhampton Beach to the District will be financially beneficial to the District, and environmentally beneficial to Suffolk County, and

WHEREAS, pursuant to Title 6 NYCRR Part 617.5(c) (11) and (20), this project involves the extension of utility distribution facilities, including gas, electric, telephone, cable, water and sewer connections to render service in approved subdivisions or in connection with any action on this list; and routine or continuing agency administration and management, not including new programs or major reordering of priorities that may affect the environment. No further action under SEQRA should be taken by the Sewer Agency,

NOW, THEREFORE, IT IS

1st RESOLVED, that SEQRA requirements for this project have been met, and the Board of Trustees of the Village of Westhampton Beach has adopted a resolution establishing the action as Type 1 with negative declaration under SEQRA, and requires no further action, now, therefore, be it further

2nd RESOLVED, that the Village of Westhampton Beach be permitted to connect to the sanitary sewerage facilities of the District, upon such terms and conditions as the Administrative Head of the District may impose, subject to the terms and conditions hereof, and it is further

3rd RESOLVED, that Sixty Thousand gallons per day (60,000 GPD) of capacity in the District's sewage treatment plant be allocated to the Village of Westhampton Beach, and it is further

4th RESOLVED, that the connection authorized herein is subject to the approval of the Suffolk County Legislature and the New York State Department of Environmental Conservation, and it is further

5th RESOLVED, that the connection authorized herein is subject to the execution of an agreement (the "Connection Agreement") between the Village of Westhampton Beach, the District, the Suffolk County Department of Public Works ("DPW"), the Suffolk County Department of Health Services, the County of Suffolk, and this Agency, which agreement shall contain such terms and conditions as the Administrative Head of the District shall determine, and it is further

6th RESOLVED, that the connection fee to be paid by the Village of Westhampton Beach shall be paid upon the execution of the Connection Agreement at the rate of $30.00 per gallon of flow per day for a total of One Million Eight Hundred Thousand Dollars ($1,800,000.00), and it is further

7th RESOLVED, that if the cost of the future modifications to the District's sewage treatment plant required to create the additional 50,000 GPD of District's capacity exceeds the aforementioned amount of connection fee to be paid by the Village of Westhampton Beach (i.e., $1,800,000.00), the Village will be required to pay the difference, and it is further

8th RESOLVED, that the Village shall, at his sole cost, expense and effort, construct a sewage collection facility for the Village of Westhampton Beach and shall offer to dedicate the said facility to this Agency, or to this Agency's nominee, at no charge, and it is further

9th RESOLVED, that the Village shall furnish a Letter of Credit, in form, wording and amount, and on such terms and conditions, as determined by this Agency's staff, as security for the construction of the sewage collection facility for the Village of Westhampton Beach, as well as for all of the Village's obligations under the Connection Agreement, and it is further

10th RESOLVED, that this resolution shall become null and void, and of no further force or effect, without any further action by this Agency or notice to the Village of Westhampton Beach if, within one (1) year from the date of the adoption hereof, an agreement in furtherance of the authorization granted herein (the Connection Agreement), in form and content satisfactory to the Chairman of this Agency, has not been negotiated and fully executed by all parties thereto.

(Suffolk County Sewer Agency Meeting December 18, 2017)

The Board of Trustees of the Village of Westhampton Beach held their Regular Meeting on Thursday, December 6, 2018 at 5 p.m. in the Municipal Building, 165 Mill Road, Westhampton Beach

PRESENT: Mayor Maria Z. Moore
Deputy Mayor Ralph Urban
Trustee Stephen Frano
Trustee Brian Tymann
Trustee Rob Rubio

Clerk-Treasurer Elizabeth Lindtvit
Village Attorney – Stephen Angel

Approve Proposal for Professional Engineering Services for Sewer Project

Motion made by Trustee Frano:

RESOLVED, that the Board of Trustees hereby accepts the proposal submitted by H2M Engineers for professional engineering services to prepare Detailed Plans and Specifications for the sanitary collection and conveyance system associated with the Phase 1 Sewer System Service Area of the Incorporated Village of Westhampton Beach in the amount of $1,040,000.00 from Capital fund G/L account code H9900 Sewer-Main Street Project.

Seconded by Trustee Rubio and unanimously approved 4 Ayes, 0 Nays

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DATED: December 6, 2018

Elizabeth Lindtvit
Village Clerk-Treasurer

I HEREBY CERTIFY that the within is a true and correct copy of the original on file in my office and of the whole thereof.

Clerk
Village of Westhampton Beach
Dated: February 13, 2019

Team Description

TEAM INFORMATION

H2M architects + engineers (H2M) has been providing consulting engineering services to municipalities across Long Island for over 80 years. Our local experience, qualifications and professional expertise in wastewater planning and project development are important to assist the Village with the successful formation of the Village of Westhampton Beach Sewer System.

H2M understands the intricacies of planning for sanitary infrastructure in Suffolk County, and has the ability to carefully integrate affordability, environmental improvement, protection of public health and support of long-term economic stability into projects of this type - all while complying with the regulatory requirements of: Suffolk County Department of Health Services (SCDHS), United States Environmental Protection Agency (USEPA), New York State Department of Environmental Conservation (NYSDEC), New York State Environmental Facilities Corporation (NYSEFC), New York State Municipal Law, and the New York State Health Commissioner.

H2M is a privately owned, multi-disciplined professional consulting firm providing architectural and engineering services to private industry, municipalities and governmental agencies in the New York metropolitan area.

H2M has its headquarters located at 538 Broad Hollow Road, 4th Floor East in Melville, New York, as well as offices in New York City, White Plains, New City, Suffern and Albany, New York and in Parsippany and Howell, New Jersey. H2M is a NYS Design Professional Corporation, licensed by the NYS Department of Education to provide professional engineering services in New York. H2M also has a fully owned subsidiary, H2M Associates Inc., and H2M Architects & Engineers Inc., as affiliated companies that can provide engineering and architecture services in New Jersey, respectively.

Founded in 1933, H2M was initially oriented towards the planning and design of municipal infrastructure projects. The company's capabilities have since grown to include full professional services in architecture, engineering and environmental consulting.

H2M currently has staff resources of 290 employees, including wastewater, chemical, civil, electrical, environmental, mechanical and structural engineers, architects, planners, geologists, hydrogeologists, environmental scientists, surveyors, industrial hygienists, construction managers and related technical support personnel. All projects are carried out under the direction of one or more of the firm's officers and managed by senior staff professionals. As a result of the multi-disciplined nature of the firm, H2M is able to assign project teams composed of staff specialists in the appropriate discipline(s) to meet the specific needs of our clients and their projects.

Operating Philosophy

The operating philosophy at H2M is based on the following core values:

Respect: We respect each other's ideas and contributions and are committed to open, honest communication.

Team Description

Dedication: We are responsive to our clients' needs and go above and beyond to get the job done.

Integrity: We are honest and ethical in our business practices and build trust with our clients and staff.

Teamwork: We cooperate, collaborate and work together as part of a team.

Community: We are committed to the health of our local communities and our legacy.

Creativity: We believe in the importance of innovation and seek new, creative and sustainable project solutions.

Practicality: We are dedicated to providing efficient, cost-effective solutions to our clients' problems.

Opportunity: Our success begins with our people. We value organic growth, empowering our employees and fostering their development.

Experience

QUALIFICATIONS IN WASTEWATER ENGINEERING

H2M provides cost-effective and practical solutions to public and private sector clients for wastewater and other environmental challenges. The Clean Water Act, enacted in 1972, specifies regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment plant facilities, and manage polluted runoff. Some of the critical issues the law addresses are the requirement for states to develop Total Maximum Daily Loads (TMDL) to restore polluted waters and the need to construct, upgrade, repair, or replace wastewater facilities and sewage collection and conveyance systems to meet the provisions of the law. H2M is experienced in developing compliance strategies that meet both existing rules and anticipated changes. Success in navigating these regulatory issues and other wastewater challenges requires a strong team of engineers with insight, wisdom and experience gained through exceptional completion of successful projects. Our wastewater division includes wastewater engineers, wastewater treatment plant operators, LEED APs and specialists in the field of collection, conveyance, and treatment systems. Based on client needs and project requirements, H2M offers the following services:

Services

- Wastewater Treatment
- Biological Nutrient Removal
- Wastewater Collection/Conveyance
- Wastewater Reuse
- Scavenger Waste Treatment
- Sewer System Evaluations
- Sewer Use Regulations
- Wastewater Treatment
- Wastewater Characterization
- Residuals Management
- Facility Planning
- Operation Consulting
- Operation and Maintenance Manuals
- Discharge Monitoring
- Odor Control
- Health and Safety Programs
- Energy Audits and Commissioning
- Emergency Planning
- Security System
- Emergency Power Systems
- SCADA
- GIS
- Permitting
- Grant and SRF Loan Applications
- Construction Administration/Inspection
- Asset Management

At H2M we strive to fully understand the requirements of our clients and follow a unique problem solving approach that creates efficient and cost effective solutions that result in capital and operating cost savings for our clients.

Sewer District Formation Planning

H2M has extensive experience preparing Map and Plan documents for the formation of new sewer systems in Suffolk County. Most recently, H2M completed sewer capacity analyses and Map and Plan reports for Suffolk County Department of Public Works (SCDPW) to identify sewer systems to service unsewered areas in Bellport, Sayville, Ronkonkoma Hub, Mastic/Shirley and Southampton. In addition to preparing these reports for SCDPW, H2M was also retained by the Incorporated Villages of Bellport, Mastic Beach and Southampton to prepare Map and Plans specifically tailored to provide sanitary infrastructure in unsewered areas of need within each Village. H2M's responsibilities during the preparation of each report included finalizing the service area boundaries, calculating sanitary wastewater flow projections, planning for preliminary wastewater collection, conveyance and treatment infrastructure, and determining project cost opinions, associated scheduling components, cost escalation and financing alternatives and public outreach/education. In addition to the Map and Plan preparation, H2M was also retained by each Village to prepare an Environmental Assessment Form (EAF) to initiate the State Environmental Quality Review Act (SEQRA) compliance process.

H2M has also prepared numerous Map and Plan reports to facilitate out-of-district connections to existing sanitary facilities. These reports include evaluations of existing infrastructure; identify necessary infrastructure improvements, consisting of sewer improvements, pump station upgrades and treatment facility expansion, to accommodate the additional sanitary flow from the connecting areas as well as determine cost opinions associated with the connections. Specifically, H2M has prepared Map and Plan reports to connect to existing facilities within the Village of Patchogue Sewer District, Town of Riverhead Sewer District, Town of Huntington Sewer District, Calverton Sewer District, Oyster Bay Sewer District and various connections to existing Suffolk County sewer districts.

Suffolk County Sewer Capacity Study

H2M was one member of a multi-faceted consultant team where the main objective was to provide the client (SCDPW) with a comprehensive Sanitary Wastewater Infrastructure Feasibility Study evaluating different; sewage collection systems, treatment technologies and possible locations for the plant, and capital costs for seven unsewered areas under the Suffolk County Sewer Capacity Study. Implementation of sanitary wastewater infrastructure to these communities was identified as critical to bringing numerous economic, environmental and social benefits to each area. Sewering each of these areas is anticipated to reduce nitrogen loadings to groundwater, volatile organic compounds (VOC's), and pharmaceuticals and personal care product (PPCP's) from continuing to degrade present environmental conditions.

- Bellport Area

The Bellport study area includes two geographically distinct areas; the downtown area of Bellport Village and properties surrounding the Long Island Railroad (LIRR) Bellport Station. The first portion, of the study area consists of 57 individual lots covering approximately 21 acres. The second portion of the study area consists of 74 individual lots covering approximately 35 acres. Thus the total Bellport study area is 56 acres.

To estimate the generation of sanitary flow, the analysis was divided in two. The first analysis evaluated the Bellport Village where the projected average daily flow is approximately 60,000 gallons per day (gpd).The second analysis, for the North Bellport part, the projected generation of sanitary flow was estimated to be 100,000 gallons per day (gpd).

For the collection and conveyance system, a combination of gravity sewers and low-pressure sewers is recommended for the study area. The collection systems will meet at a proposed pumping station which then will convey wastewater to the Village of Patchogue Advanced Wastewater Treatment Facility (AWTF). The decision of pumping wastewater to the Village of Patchogue (AWTF) was made after evaluating different vacant publicly owned parcels and failing to identify an appropriate location. The additional flow to the Village of Patchogue AWTF will require upgrades in the process, and these required upgrades were also evaluated in the study.

The total anticipated project cost was estimated to be approximately $38,204,000. This cost opinion includes the Construction, Engineering and Soft Costs. The report was finalized and accepted by Suffolk County in the second quarter of 2014.

- Sayville Area

The Sayville study area includes and approximately one-mile reach along Montauk Highway and Rail Road Avenue, and it is bounded by the Long Island Rail Road to the north, Hiddink Street to the east, Sunset Drive to the west. It includes 167 individual tax lots summing up to 71 acres.

The area of study has no plans to redevelop, therefore wastewater flow projections were based upon 2010 Suffolk County Water Authority (SCWA) and estimated to be 130,000 gallons per day (gpd). In order to collect and convey this volume of wastewater, low-pressure system is proposed. This system will convey to a suggested pumping station that later will convey wastewater to the Village of Patchogue Advanced Wastewater Treatment Facility. The treatment facility will require to increase capacity. H2M proposed additional infrastructure that should be implemented at the plant.

The total anticipated project cost was estimated to be approximately $35,301,000. This cost opinion includes the Construction, Engineering and Soft Costs. The report was finalized and accepted by Suffolk County in the second quarter of 2014.

- Ronkonkoma Hub Area

The Ronkonkoma Hub study area is defined by

Union Avenue to the north, Village Plaza Drive to the east, the Long Island Rail Road to the south and County Route 29 to the west. It includes fifty four (54) individual tax lots covering approximately 58.

were the most appropriate option to convey the 500,000 gallons per day (gpd) that will be generated in the area. The identified the collection system will drain to a submerged pumping station and later to the wastewater treatment facility. The wastewater treatment technology selected for this area was the most cost effective option considering effluent limits and space requirements. A Modified Ludzack-Ettinger (MLE) process using; the STM-Aerotor for secondary treatment, and membrane-bioreactors to allow solids separation and filtration to sidestep final clarifiers.

The anticipated project costs were estimated to be approximately $6,895,000 for the collection and conveyance system, and $23,640,000 for the wastewater treatment facility. These costs include Construction, Engineering and Soft Costs.

The draft report was finalized in July 2012. This document was subsequently revised during the detailed Engineering Design phase of the project by SCDPW to replace the treatment facility with a pump station and force main connection to Suffolk County Sewer District No. 3 – Southwest where all sanitary wastewater would be treated at the Bergen Pont Wastewater Treatment Plant. This project is currently in the detailed engineering design phase of work, and is anticipated to move into construction within the next 12-18 months.

- Mastic/Shirley Area

The purpose of this project was to provide Suffolk County with a comprehensive Feasibility Study that identifies the environmental, economic and/or social factors associated with sewering the Mastic/Shirley area and a that could be used to move forward with the formation of the sewer district.

The final Mastic/Shirley study area boundary encompassed approximately 11,000 parcels across 3,300 acres. The average daily sanitary flow projection for this area was calculated to be 3.2 million gallons per day (MGD) based on maximum build-out of existing zoning and current Suffolk County Department of Health Services sanitary flow design criteria. The preliminary collection and conveyance system layout included 24 pump stations, 15 miles of force main and 111 miles of a combination of gravity and low pressure sewers. The treatment facility was based on using the Membrane Biological Reactor (MBR) process. The location of the treatment facility was identified to be on vacant lands at the southerly end of the Town of Brookhaven Calabro Airport. Provisions for odor control and compliance with FAA regulations for wildlife attractants and height restrictions were identified as key components to be considered during the detailed engineering design phase of the project should it move forward.

The total anticipated project cost opinion was estimated to be approximately $700,000,000. This cost opinion included construction, engineering, administration and inspection services. The report was finalized and accepted by Suffolk County in the second quarter of 2014.

This document was used by Suffolk County to procure federal funding assistance to move forward with this project. The County has since issued a Request for Proposal to retain the services of a design consultant to prepare detailed engineering design documents to construction sanitary collection, conveyance and treatment facilities to service the initial phases of the project identified in the Map and Plan. The County is expected to award the design project by end of 2015, which will require the consultant to complete the design services within 2 years of project start date.

- Southampton Area

The Southampton study area is bounded by Jaeger Lane to the north, Main Street and North Sea Road to the east, and Jobs Lane and Culver Street to the south, and Windmill Lane to the west. The 62 acre study area includes 151 individual lots located within the Village's business district.

The average daily flow that was projected for the community was estimated to be 145,052 gallons per day (gpd.). The recommended collection system based upon topography, relative depth to groundwater and because the study area is currently established, is a low-pressure collection system. In accordance with Suffolk County Department of Health and Services (SCDHS) requirements, it was determined that the wastewater treatment plant should be located on a 6.4 acre site that is owned by the Incorporated Village of Southampton Police. Since nitrogen loading is a major concern to the community because of its negative impact on water bodies, several technologies were evaluated to address this issue. A Membrane Biological Reactor (MBR) was selected to give solution to this problem not only because it allows an efficient removal, but also because it required less area which is an important consideration at this site.

The total anticipated project cost was estimated to be approximately $28,803,000. This cost opinion includes the Construction, Engineering and Soft Costs. The report was finalized and accepted by Suffolk County in the third quarter of 2014.

Village of Bellport

The Incorporated Village of Bellport (Village) determined that they would need a sanitary sewer system specifically tailored to improve public health and environmental quality in residential areas prone to tidal flooding and shallow groundwater, in addition to realizing their vision for a revitalized "Main Street" along South Country Road. The Village Board retained the services of H2M to prepare a Map and Plan for a sewer system. H2M's responsibilities included finalizing the service area boundary, calculating sanitary wastewater flow projections, planning for preliminary wastewater collection, conveyance and treatment infrastructure, and determining project cost opinions, associated scheduling components, cost escalation and financing alternatives. In addition to the Map and Plan, H2M also prepared an Environmental Assessment Form (EAF) to initiate the State Environmental Quality Review Act (SEQRA) compliance process.

The service area boundary encompasses approximately 235 parcels across 367 acres. The average daily sanitary flow projection

for this area was calculated to be 0.08 million gallons per day (MGD) based on maximum build-out of existing zoning and current Suffolk County Department of Health Services sanitary flow design criteria. The recommended preliminary collection and conveyance system was based on making an out-of-district connection to the Village of Patchogue Sewer District which currently has capacity available at the treatment plant. The proposed infrastructure required to connect the two municipalities included 1 pump station, 2.8 miles of force main, 3.0 miles of low pressure sewers and the replacement of 800 linear feet of existing gravity sewer within the Village of Patchogue. The Village must complete negotiations with the Village of Patchogue in parallel to moving forward with the final formation of the sewer system and subsequent detailed engineering design.

The total anticipated project cost opinion is approximately $17,300,000. This cost opinion included construction, engineering, administration and inspection services. The report was finalized in the second quarter of 2014.

Village of Mastic Beach

The Incorporated Village of Mastic Beach (Village) determined that they would need a sanitary sewer system to realize their vision for a revitalized "Main Street" along Neighborhood Road. In order to progress this project, the Village Board retained the services of H2M to prepare a for the formation of a sewer system. H2M's responsibilities included finalizing the service area boundary, calculating sanitary wastewater flow projections, planning for preliminary wastewater collection, conveyance and treatment infrastructure, and determining project cost opinions, associated scheduling components, cost escalation and financing alternatives. In addition to the , H2M also prepared an Environmental Assessment Form (EAF) to initiate the compliance process. The purpose of this project was to provide the Village of Mastic Beach with a Map and Plan document and associated SEQRA documentation that could be used to move forward with the formation of a sewer district.

The service area boundary encompasses approximately 367 parcels across 125 acres. The average daily sanitary flow projection for this area was calculated to be 0.15 million gallons per day (MGD) based on maximum build-out of existing zoning and current Suffolk County Department of Health Services sanitary flow design criteria. The preliminary collection and conveyance system layout included 1 pump station, 0.5 miles of force main, 1.4 miles of gravity sewers and 2.4 miles of low pressure sewers. The treatment facility was based on using the Membrane Biological Reactor (MBR) process. The location of the treatment facility was identified to be on vacant lands at the southerly end of the former Shirley Links Golf Course property, which was transferred to the Town of Brookhaven (Town). The Village must complete negotiations with the Town to use this site for their treatment facility before they can move forward with the final formation of the sewer system.

The total anticipated project cost opinion is approximately $24,600,000. This cost

opinion included construction, engineering, administration and inspection services. The report was finalized in the second quarter of 2014.

Village of Southampton

The Incorporated Village of Southampton (Village) determined that they would need a sanitary sewer system to reduce the total nutrient load into Lake Agawam (Lake) thereby improving the quality of the Lake and to support "smart" growth of the Village Business (VB) District, which was re-zoned in 2012. The Village Board retained the services of H2M to prepare a Map and Plan for a sewer system. H2M's responsibilities included finalizing the service area boundary, calculating sanitary wastewater flow projections, planning for preliminary wastewater collection, conveyance and treatment infrastructure, and determining project cost opinions, associated scheduling components, cost escalation and financing alternatives. In additional to the Map and Plan, H2M was also retained to prepare an Environmental Assessment Form (EAF) to initiate the State Environmental Quality Review Act.

Central Wastewater Collection Design

Wyandanch Rising

The Wyandanch Rising is committed to the development of a viable downtown and business district in the hamlet of Wyandanch. A significant obstacle to redevelopment is the lack of a central sewer collection system for the disposal of wastewater. The Wyandanch Commercial and Industrial Corridor planning area is located in Groundwater Management Zones I and VII. Suffolk County Sanitary Code Article 6 limits the discharge of wastewater through conventional on-site sanitary systems in these zones to 600 gallons per day per acre. On-site sanitary systems contribute to the degradation of groundwater quality of Long Island's sole source groundwater supply. It is a direct benefit of the community residents, Town, and county that this study be conducted. The goal is to determine if a cost effective, environmentally accepted alternative exists to aid its revitalization and to improve environmental conditions.

H2M conducted a study for the Town to evaluate if a cost effective, environmentally accepted alternative exists to sewering the Wyandanch Commercial/Industrial corridor to aid its revitalization and improve environmental conditions. Regulatory and permit requirements associated with installation of a wastewater collection and conveyance systems were identified. Potential financing sources were also discussed. Based on SCDHS guidelines, H2M determined that the study area has an average daily design wastewater flow of 380,000 gpd. Three wastewater collection and conveyance systems alternatives to SCSD No. 3-Southwest were evaluated. The construction cost opinion including the current SCSD connection charge for the recommended alternative was $24.72 million. To eliminate the current practice of transporting leachate from the Town Solid Waste Management Facilities, sewer connection was also evaluated. The average daily design wastewater flow based on leachate generation data over a 14-year period was determined to be

36,000 gpd. The construction cost opinion for the leachate sewer connection including the current SCDPW connection charge was $3.48 million. The cost opinion for the leachate conveyance system considers that the gravity sewer associated with the Wyandanch corridor would be installed and that a portion of the corridor sewer system costs downstream of the leachate connection would be allocated on a design flow basis. Preparation of the DEIS was done concurrently with the Feasibility Study.

To assist in the evaluation, the Suffolk County GIS base map maintained by Suffolk County Real Property Tax Service was obtained. From the base map, different layers were overlaid to present different conditions. The planning area boundary was defined. A groundwater contour layer was used to aid in preparing the cost opinion for the conveyance system. The groundwater contours were used to identify locations where dewatering is considered to be needed. A layer with town, county, and state owned parcels was used to aid in identifying potential locations for the wastewater pump station. A separate layer was created to indicate the preliminary layout of the sewers, manholes and force mains for each of the wastewater conveyance system alternatives considered in this report. Other layers added to the report GIS included bus routes, bicycle routes, Water Authority wells, county and town parks, NYSDEC mapped wetlands, significant buildings and public facilities, preliminary sewer and force main layout, potential strategic sites within the boundaries of the Wyandanch Downtown Revitalization Plan.

Federal and state programs that may be available to fund or finance a portion of the work were described in the report. Implementation steps for a contract connection and those for a district extension were also presented in the report.

Smithtown and Kings Park Business Districts

H2M was commissioned by the (SCDPW) to prepare an Engineering Design Report and design for the sewerage systems of the . A feasibility study performed by a consultant to SCDPW was used to develop existing and future flow rates for each business district as well as guidance for layout of the proposed sewers, force mains and pump stations to convey the wastewater to Suffolk County Sewer District No. 6 (SCSD No. 6). Due to the distance between the areas, H2M has prepared two separate reports: one for the Smithtown Business District and one for Kings Park Business District.

Currently, all wastewater within both business districts is treated by onsite sanitary systems consisting of cesspools, septic tanks and leaching fields. The capacity of these onsite sanitary systems is limited by nitrogen loading and parcel acreage, thereby inhibiting the potential for future development of the area. Providing sewers to both Business Districts can benefit existing businesses and make future construction of apartments, medical offices/ practices and restaurants possible.

The Kings Park Business District consists of approximately 140 business establishments across a 65-acre area located along New York State Route 25A within the Town of Smithtown. The proposed sewer system will be serviced by

8,200 LF of gravity sewers and a conventional pump station with a 1.4 mile long force main. In order to service the entire business district the gravity sewer will require jacking underneath the LIRR. The projected average daily design wastewater flow from the Kings Park Business District is approximately 329,000 gallons per day. The proposed pump station and force main will convey wastewater collected within the service area to SCSD No. 6.

The Smithtown Business District consists of approximately 350 business establishments across a 280-acre area located along New York State Route 25 (NYS Rt. 25) within the Town of Smithtown. A portion of this service area is within the Village of the Branch. Based upon topography of the area, the proposed sewer system will be serviced by 22,500 LF of low pressure sewer and 1,600 LF of gravity sewer, and a conventional pump station with a 3.2 mile long force main. The projected average daily design wastewater flow from the Smithtown Business District is approximately 538,000 gallons per day. The proposed pump station will be located along the westerly boundary of the business district to minimize the overall length of force main required to convey wastewater from the service area to SCSD No. 6.

The total anticipated project cost opinions are $24.9 million for the town of Smithtown $17.4 million for the town of Kings Park. These costs include construction, engineering, administration and inspection services.

Upon approval of the engineering reports, H2M will proceed with the design phase for both sewerage systems and begin the subsequent planning and design for the filter and effluent pump station upgrades to the SCSD No. 6 Sewage Treatment Plant as commissioned by SCDPW.

Village of Patchogue - 1998

The initiated a project to extend the boundaries of the The Village retained H2M to provide engineering services associated with the planning, design and construction of the sewers to serve the area.

The extension included properties along both sides of West Avenue between Division Street and Laurel Street. H2M prepared the planning report that included the calculation for the average daily design flow and a basis of design for the system. The design flow for the extension was 62,000 gallons per day. The report and plans were submitted to and approved by the Suffolk County Department of Health Services.

Due to the relatively shallow depth to groundwater, a low-pressure sewer system was designed to serve the area. Wastewater from the low pressure sewer was conveyed to a new wastewater pump station and force main to convey the flow from the district extension to the existing wastewater collection system. The project also included the design of conventional gravity sewers in Railroad Street to parallel the force main installation.

The project consisted of the installation of 1,500 feet of force main, 1,280 feet of gravity sewer and 2,400 feet of low-pressure sewer. To minimize the profile of the station, submersible wastewater cutter pumps were utilized within the wet well.

The pump station wet well was configured to allow for future expansion.

H2M received approvals from the health department for the installation of the backflow prevention device at the pump station and from the Long Island Railroad for the installation of a jacked crossing for the low pressure sewer under the railroad tracks near the pump station. H2M also provided construction observation and construction administration services to the Village during the construction phase.

The total anticipated project cost opinion is approximately $635,000. This cost opinion includes $555,000 for construction and $80,000 for engineering services.

Village of Patchogue - 2007

H2M prepared Map & Plan – Engineering Report for an out-of-district sewer connection to the collection system.

The proposed Bay Village Condominiums development is a 63-unit condominium project located on South Ocean Avenue approximately 100-feet north of the Great South Bay in the Village of Patchogue. The report is based upon a design for low-pressure sewers, as a gravity system is not possible and a single sanitary pump station with force main is too costly. The design flow is 19,500 gallons per day (gpd) from the development and H2M projected an additional future flow of 21,900 gpd from properties along the route of the connection pipe; for which connection point facilities were provided by the developer during construction. The low-pressure connection main is a 3-inch diameter HDPE pipe increasing to a 4-inch diameter HDPE pipe, 3,350 feet long and at an estimated cost of $565,000. Total project budget for the developer is $1,232,500 which includes design and construction administration fees.

Village of Patchogue - 2009

The is an existing marina located at the mouth of the Patchogue River on the Great South Bay in the Village of Patchogue, New York. The Town planned to expand the ferry terminal facilities. To provide wastewater disposal, an out-of-district sewer connection from the new terminal building to the Village Sewer District was required. A new duplex pump station was required to convey the marina's wastewater through this connection.

The report and design documents are based upon a low-pressure sewer system. A gravity system is not feasible due to the shallow depth to groundwater and coastal location. A single sanitary pump station with force main was determined to be not cost effective. The marina design flow is 11,000 gallons per day (gpd) with an additional future flow of 20,000 gpd from the properties along the route of the low-pressure sewer. Laterals will be installed to the property line for each property during construction. The low-pressure main consists of 2,600 feet of 2-inch and 3-inch diameter HDPE pipe. H2M prepared a topographic survey of the sewer route. H2M also provided administration and observation services during construction.

- Prepared Map and Plan – Engineering Report for an out-of-district sewer connection

to the Village of Patchogue's Sewer District collection system.

- Prepared Design Documents – Developed plans and specifications for the out-of-district sewer connection and a commercial, duplex pump station.
- Construction Administration and Observation – Coordinated bidding process and performed construction administration and inspection services during the installation of the sewer connection.

Total project budget for the developer is $1,261,000 which includes design and construction administration fees.

Village of Patchogue - 2013

H2M prepared bid documents for the replacement of the existing East Main Street pump station in the Inc. Village of Patchogue for the Town of Brookhaven. The East Main Street sanitary pump station has reached its useful life and also needed to increase capacity due to additions to the service area. The East Main Street Wastewater Pump Station provides conveyance for sanitary wastewater collected by in-district gravity sewers and out-of-district low pressure sewers located east of South Ocean Avenue

The project included the demolition of the existing pump station, installation of a new pump station, gravity sewer improvements, and installation of a low pressure sewer force main extension (900 feet of 6-inch diameter HDPE pipe, 150 feet of 3-inch diameter HDPE pipe and 150 feet of 2-inch diameter HDPE pipe). The average daily design flow (ADF) from the Village of Patchogue is 81,853 gallons per day, and the future ADF expected from the Town of Brookhaven Sewer Improvement Area No. 1 is 179,492 gallons per day. Therefore, the total ADF for the pump station is 261,345 gallons per day

In order to relocate the pump station from the shoulder of the road and to provide additional capacity, H2M worked with the Village and the Town to obtain a 17 foot x 20 foot area in the northwest corner of the adjacent United Stated Post Office site. To minimize visual impacts, a below grade precast wet well with two submersible pumps was designed. The existing handicap ramp to the Post Office was rebuilt. The standby generator and electric service were located remotely on a portion of a Village parking lot. The bid documents included the identification of work zone safety measures that the contractor needed to follow to ensure construction activities were isolated from the public.

The pump station's control panel, motor control center (MCC), electrical service and standby emergency power generator are located in a municipal parking lot approximately 200 feet south of the easement area. A public walkway provides access between the parking lot and pump station easement.

Both the pump station and MCC, electrical service and emergency standby power generator areas are enclosed by fencing. The pump station area is surrounded by a 4 foot tall black coated decorative steel fence. The control panel, MCC, electrical service and emergency standby power generator area is surrounded by an 8 foot tall green powder coated chain link fence with matching green privacy slats. Swing gates are

provided at both locations to facilitate access to each area for operation and maintenance purposes.

The total anticipated project cost opinion is approximately $1,235,000. This cost opinion included construction, engineering, administration and inspection services.

Village of Patchogue - 2015

H2M prepared a map and plan and bid documents for installation of low pressure sewer main, installation of the low pressure grinder pump station and sewer connection and drainage improvements on River Avenue, Sunset Lane, Price Street and Mapes Avenue for the

This design for the locating and connection of the forty-six (46) Low Pressure Grinder pumps for this project included a house to house field reconnaissance program that was develop with Village personnel to be implemented as the template for the Coastal Resiliency Nitrogen Mitigation Plan for the Patchogue River that utilized Trimble hand held GPS location device along with Newforma Capture App to document as existing field conditions of each home.

The design also included the installation of 680 feet of twin 3-inch diameter pipes, 1535 feet single 3-inch diameter pipe, 570 feet of single 2-inch diameter pipe and 53 connection spurs for potential use by properties along the route of this sewer.

During construction, H2M has been retained to provide construction observation, construction administration, review shop drawings, and review contractor payment requests.

Funding for the project was received through a number of sources including two (2) $500,000 Grants provide by the Dormitory Authority of the State of New York, and $577,500 from Infrastructure Program Grant provided by Suffolk County; $300,000 Village of Patchogue Sewer Fund. The remaining $761,500 will be bonded by the Village.

Heckscher State Park Low Pressure Sewer System Connection to SCSD No. 3

The

(NYSPRHP) retained H2M to prepare an Engineering Report to evaluate a sewer connection to Suffolk County Sewer District (SCSD) No. 3 for the facilities at Heckscher State Park.

Heckscher State Park has long served the region as an important recreation asset. The 1,600 acres of the park offer beach access as well as picnic tables, playgrounds, and playing fields, trails for hiking and biking, fishing, cross-country skiing, various recreation programs, a boat launch, and food concessions during summer daytime hours. The south and east side of the Park front the Great South Bay.

When preparation of the report was authorized, NYSPRHP was in the process of renovating the Field No. 1 comfort station. Associated with the renovation was the proposed replacement of the on-site sanitary system. The high groundwater elevation required a large area for effluent disposal. NYSPRHP wanted an evaluation of the

installation of a sewer connection for wastewater disposal instead of constructing a new on-site sanitary system. In addition to this comfort station, NYSDPRHP wanted an evaluation of a sewer connection that would serve all eighteen (18) Park facilities serviced by an individual on-site sanitary system under the SPDES Permit.

The Park is currently within the boundaries of SCSD No. 3. The nearest existing sewers where a connection could be made are located outside the northwesterly corner of the Park. Utilizing Suffolk County Department of Health Services standards, the design wastewater flow was calculated to be 73,915 gallons per day.

Flat topography, shallow depth to groundwater, and distance between wastewater systems in the Park are conditions that are not favorable to a gravity sewer system. Consequently, a low pressure sewer system was recommended for the sewer connection of each building to SCSD No. 3. To minimize restoration, the force main piping would be installed using directional drilling. Excluding the Park Office, Police Station and Park Superintendent Residence and the other not for public use buildings, the other park facilities are open seasonally.

Sewering the Park facilities will involve installing approximately 22,700 linear feet of low pressure sewer main and 6,600 linear feet of low pressure sewer laterals. Based on the design flow and pipe layout, H2M prepared a preliminary plan. The sizes of the low pressure sewer mains range from 1.5-inch diameter to 4-inch diameter piping.

Items addressed in the report included:

- An average daily design wastewater flow for the facilities in the Park.
- A preliminary layout and basis for design for the low pressure sewer system that would serve all existing buildings in the Park currently served by an on-site sanitary system.
- Sewer Connection application requirements that NYSPRHP would need to follow in order to make the proposed sewer connection for the Park.
- A construction cost opinion for the proposed wastewater conveyance system, and
- A cost opinion for the abandonment of existing on-site sanitary systems.

Town of Huntington

Helen Keller Services is located on New York State Route 110 in the Town of Huntington. They requested to Huntington Sewer District (HSD) to abandon their on-site wastewater disposal system and connect to the HSD. Four other parcels located nearby are also in the HSD boundaries but were not connected. To provide connection to the HSD system, a new sewer main was required.

The report and design documents are based upon a low-pressure sewer system. A gravity system is not feasible due to the distance of the property to the existing sewer and the shallow depth of the existing sewer. The design flow for the five properties is 19,000 gallons per day (gpd). Laterals will be installed to the property line for each property during construction. The

low-pressure main consists of 640 feet of 2-inch diameter HDPE pipe, which was installed by directional drilling. H2M prepared a topographic survey of the sewer route. H2M also provided administration and observation services during construction. A strict deadline for construction completion was met to ensure eligibility for grant funds.

- Prepared Design Documents – Developed plans and specifications for the out-of-district sewer connection and a commercial duplex pump station.
- Construction Administration and Observation – Coordinated bidding process and performed construction administration and inspection services during the installation of the sewer connection.

The total anticipated project cost opinion is approximately $200,000. This cost opinion included construction, engineering, administration and inspection services.

Gabreski Airport Sewer System

H2M completed the design and construction phase engineering services of a 100,000-gallon per day (gpd) SBR plant with groundwater discharge for the Francis S. Gabreski Airport in Westhampton Beach. This facility serves the redevelopment of the airport and the New York Air National Guard base. The project was jointly undertaken by Suffolk County Department of Public Works (Division of Sanitation), and the New York Air National Guard. H2M was the planning, design, and construction engineering consultant selected by Suffolk County to implement this project and to design the new SBR sewage treatment plant, pump station and NYANG / airport sewage collection system. SCDPW staffed the project with county resident engineers that oversaw the entire construction. This $4 million project was completed under budget. H2M prepared the design documents for the sewage treatment plant, sanitary pump station, 6,900 foot force main and a 7,500 linear foot sanitary collection system according to a project schedule required by the federal government to remain eligible for fiscal year funding. The sewer design was complex due to the extensive degree of underground utilities that had to be avoided in order to service the NYANG buildings. H2M reviewed shop drawings, attended project meetings, prepared meeting minutes, provided a construction inspector for the sewer system installation and prepared an Operation and Maintenance Manual for the treatment facility.

THE SENATE
STATE OF NEW YORK

KENNETH P LAVALLE
SENATOR
1ST SENATE District
CHAIRMAN MAJORITY CONFERENCE
CHAIRMAN
COMMITTEE ON HIGHER EDUCATION

28 NORTH COUNTRY ROAD
MOUNT SINAI, NEW YORK 11766
(631) 473-1161

July 12, 2018

Honorable. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

I am pleased to write in support of two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund (CPF), and other funding sources as appropriate:

- **Main Street Improvement Project – Drainage Improvements**
- **Sewer System Phase I**

It is my understanding that these projects support objectives of the Southampton Town CPF Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan. In addition, because they will contribute to year round vitality and sustainability in the Village's downtown commercial district, they are also aligned with the New York State Downtown Revitalization Initiative and Long Island Regional Economic Development Council priorities.

The proposed projects will improve failing and insufficient stormwater infrastructure and reduce the flow of contaminated stormwater runoff into Moniebogue Bay watershed. The sewer system will allow for substantial reduction of nitrogen entering the watershed by eliminating onsite septic systems and installing a conveyance system for sewage treatment that will serve a projected 156 Suffolk County tax lots, primarily commercial. These projects are being undertaken in concert with extensive downtown revitalization plan that also encompasses traffic calming, beautification and pedestrian infrastructure improvements.

Sewage treatment is critically important for the Village and regional economy. These important projects will contribute to a revitalized, more economically and environmentally sustainable downtown business district that supports local and regional tourism and maritime industries. Thank you for allowing me the opportunity to write in support of these projects. I am hopeful that you will give them every consideration

Sincerely yours,

Kenneth P. LaValle

THE ASSEMBLY
STATE OF NEW YORK
ALBANY

COMMITTEES
Ways and Means
Education
Environmental Conservation
Oversight, Analysis and Investigation
Transportation

FRED W. THIELE, JR.
Assemblyman 1st District
CHAIR
Committee on Small Business

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Dear Mayor Moore,

I am writing to express my support for two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund (CPF), and other funding sources as appropriate:

- **Main Street Improvement Project – Drainage Improvements**
- **Sewer System Phase I**

These projects support objectives of the Southampton Town CPF Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan. In addition, because they will contribute to year round vitality and sustainability in the Village's downtown commercial district, they are also aligned with the New York State Downtown Revitalization Initiative and Long Island Regional Economic Development Council priorities.

The drainage improvements will improve failing and insufficient stormwater infrastructure and reduce the flow of contaminated stormwater runoff into Moniebogue Bay watershed, which is tributary to a NYS 303(d) waterbody. The sewer system will allow for substantial reduction of nitrogen entering the watershed by eliminating onsite septic systems and installing a conveyance system for sewage treatment that will serve a projected 156 Suffolk County tax lots, primarily commercial. These projects are being undertaken in concert with an extensive downtown revitalization plan that also encompasses traffic calming, beautification and pedestrian infrastructure improvements.

Sewage treatment is critically important for the Village and regional economy. Currently, commercial property owners suffer economic hardship from the constant pumping of failed systems and inability to incorporate uses allowable under current zoning due to inadequacy of septic capacity. If these issues are not addressed, they will no doubt have an overall negative impact on the Village. Tourism will likely suffer as well should water quality degradation continue unabated. Loss of the commercial enterprises will erode the tax base and negatively impact the attractiveness of the Village.

These important projects will contribute to a revitalized, more economically and environmentally sustainable downtown business district that supports local and regional tourism and maritime industries. I hope they will receive full consideration for funding support.

Sincerely,

Fred W. Thiele, Jr.
Member of Assembly

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COUNTY OF SUFFOLK

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Committee Member
Public Safety
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Public Works, Transportation and Energy

July 11, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

I write to express my strong support for two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund (CPF), and other funding sources as appropriate:

- **Main Street Improvement Project – Drainage Improvements**
- **Sewer System Phase I**

These projects support objectives of the Southampton Town CPF Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan. In addition, because they will contribute to year round vitality and sustainability in the Village's downtown commercial district, they are also aligned with the New York State Downtown Revitalization Initiative and Long Island Regional Economic Development Council priorities.

The drainage improvements will improve failing and insufficient stormwater infrastructure and reduce the flow of contaminated stormwater runoff into Moniebogue Bay watershed, which is tributary to a NYS 303(d) waterbody. The sewer system will allow for substantial reduction of nitrogen entering the watershed by eliminating onsite septic systems and installing a conveyance system for sewage treatment that will serve a projected 156 Suffolk County tax lots, primarily commercial. These projects are being undertaken in concert with extensive downtown revitalization plan that also encompasses traffic calming, beautification and pedestrian infrastructure improvements.

Sewage treatment is critically important for the Village and regional economy. Currently, commercial property owners suffer economic hardship from the constant pumping of failed systems and inability to incorporate uses allowable under current zoning due to inadequacy of septic capacity. If these issues are not addressed, they will no doubt have an overall negative impact on the Village. Tourism will likely suffer as

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Phone: (631) 852-8400 Fax: (631) 852-8404
Email: bridget.fleming@suffolkcountyny.gov

well should water quality degradation continue unabated. Loss of the commercial enterprises will erode the tax base and negatively impact the attractiveness of the Village.

These important projects will contribute to a revitalized, more economically and environmentally sustainable downtown business district that supports local and regional tourism and maritime industries. I hope they will receive full consideration for funding support.

Sincerely,

Bridget Fleming
Suffolk County Legislator
Second Legislative District

BF/car

75 Washington Street, P.O. Box 1827, Sag Harbor, NY 11963
Phone: (631) 852-8400 Fax: (631) 852-8404
Email: bridget.fleming@suffolkcountyny.gov

BMB ENTERPRISES, LLC
245 East 63rd Street
Suite 1202
New York, NY 10065

(212) 980-1212
Fax: (212) 980-0005
BarryBlaw@gmail.com

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

I write to express my strong support for two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund (CPF), and other funding sources as appropriate:

- **Main Street Improvement Project – Drainage Improvements**
- **Sewer System Phase I**

These projects support objectives of the Southampton Town CPF Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan. In addition, because they will contribute to year round vitality and sustainability in the Village's downtown commercial district, they are also aligned with the New York State Downtown Revitalization Initiative and Long Island Regional Economic Development Council priorities.

The drainage improvements will improve failing and insufficient stormwater infrastructure and reduce the flow of contaminated stormwater runoff into Moniebogue Bay watershed, which is tributary to a NYS 303(d) waterbody. The sewer system will allow for substantial reduction of nitrogen entering the watershed by eliminating onsite septic systems and installing a conveyance system for sewage treatment that will serve a projected 156 Suffolk County tax lots, primarily commercial. These projects are being undertaken in concert with extensive downtown revitalization plan that also encompasses traffic calming, beautification and pedestrian infrastructure improvements.

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Sincerely,

Barry M. Bernstein

NICHOLAS A. VERO, ARCHITECT
Architects and Professional Engineers

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

I wish to express my strong support for two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund (CPF), and other funding sources as appropriate:

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120 MILL ROAD • WESTHAMPTON BEACH, NEW YORK 11978 • 631-288-1404 FAX 631-288-0549
nveroarch@aol.com

These important projects will contribute to a revitalized, more economically and environmentally sustainable downtown business district that supports local and regional tourism and maritime industries. I hope that will receive full consideration for funding support.

Sincerely

NICHOLAS A. VERO, ARCHTIECT

Nicholas A. Vero

Joan Boyce, Ltd.
fine jewelry

116-118 Main Street Westhampton Beach, NY 11978

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

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Sincerely,

Allen Boyce

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Josephine Bebelle
East Quogue Deputy

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

John Bartelstein
East End Living Magazine

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Laurence Citarelli
WHB 50 MAIN, LLC

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Dave Millwood

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Lana Ciborelli
Interiors By Lana

149 Main Street Holdings LLC
DeeAngelo's "Pleasant Avenue" Cafe
149 Main Street
Westhampton Beach, NY 11978
631.288.2009

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Dean Lupo
owner

KERRIGAN
COUNTRY REALTY

KCR

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Dee Kerrigan Petrocelli
Owner/Broker

122 Main Street Westhampton Beach, NY 11978 T 631.288.9600 F 631-684-9311 www.kerriganrealty.com

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Antoinette Plaja-Minainger
Village Resident and Main Street Business Owner
516-527-2231-cell if needed.

WHB PAC 20 years

WESTHAMPTON BEACH PERFORMING ARTS CENTER

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

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Sincerely,

Stanley Zinberg
Chairman of the Board
WHBPAC

Marcus Stinchi
Board Member
WHBPAC

THE GREATER Westhampton CHAMBER OF COMMERCE

7 Glovers Lane
Westhampton Beach, NY 11978

Email info@whbcc.org
Website westhamptonchamber.org

Phone 631.288.3337
Fax 631.288.3322

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore:

On behalf of the Greater Westhampton Chamber of Commerce I write to express my strong support for two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund (CPF), and other funding sources as appropriate:

Main Street Improvement Project – Drainage Improvements

Sewer System Phase I

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Yours truly,

Philip Grossman
Vice President

WHB
Where the Hamptons Begin

7 LIBRARY AVE • WESTHAMPTON BEACH, NY 11978
PHONE: 631-288-3335 • FAX: 631-288-5716

Danielle Waśkiewicz
Library Director

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

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In addition, this project is vital to our community, our patrons. The Westhampton Free Library itself will benefit from the sewer system and it will reduce nitrogen entering the watershed from its visitors each day. Recently, the Library had to obtain Pine Barren Credits, by resolution, for our current renovation project.

The drainage improvements will improve failing and insufficient stormwater infrastructure and reduce the flow of contaminated stormwater runoff into Moniebogue Bay watershed, which is tributary to a NYS 303(d) waterbody. The sewer system will allow for substantial reduction of nitrogen entering the watershed by eliminating onsite septic systems and installing a conveyance system for sewage treatment. These projects are being undertaken in concert with extensive downtown revitalization plan that also encompasses traffic calming, beautification and pedestrian infrastructure improvements. These improvements allow the Library to see more patrons and more visitors and allow us to serve the community where and when needed.

Sewage treatment is critically important for the Village and the Library. Our tourism relies on clean water, which directly relates to the health of the Library during the tourist season. The Library does receive donations from tourists and our summer residents that help support our commitment to the community. Without clean waters, the visits will be less, the funds will be less and service will be impacted.

7 LIBRARY AVE • WESTHAMPTON BEACH, NY 11978
PHONE: 631-288-3335 • FAX: 631-288-5715

Danielle Waśkiewicz
Library Director

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Sincerely,

Danielle Waśkiewicz, Director

Westhampton Beach Historical Society
P.O. Box 686
Westhampton Beach, NY 11978
Serving the Greater Westhampton Area

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

July 12, 2018

Re: Village of Westhampton Beach Downtown Infrastructure Projects

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Sincerely,

Jon Stanat
President
Westhampton Beach Historical Society

59 Lilac Road
Westhampton Beach, NY 11978
July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

I write to express my strong support for two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund (CPF), and other funding sources as appropriate:

- **Main Street Improvement Project – Drainage Improvements**
- **Sewer System Phase I**

These projects support objectives of the Southampton Town CPF Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan. In addition, because they will contribute to year round vitality and sustainability in the Village's downtown commercial district, they are also aligned with the New York State Downtown Revitalization Initiative and Long Island Regional Economic Development Council priorities.

The drainage improvements will improve failing and insufficient stormwater infrastructure and reduce the flow of contaminated stormwater runoff into Moniebogue Bay watershed, which is tributary to a NYS 303(d) waterbody. The sewer system will allow for substantial reduction of nitrogen entering the watershed by eliminating onsite septic systems and installing a conveyance system for sewage treatment that will serve a projected 156 Suffolk County tax lots, primarily commercial. These projects are being undertaken in concert with extensive downtown revitalization plan that also encompasses traffic calming, beautification and pedestrian infrastructure improvements.

Sewage treatment is critically important for the Village and regional economy. Currently, commercial property owners suffer economic hardship from the constant pumping of failed systems and inability to incorporate uses allowable under current zoning due to inadequacy of septic capacity. If these issues are not addressed, they will no doubt have an overall negative impact on the Village. Tourism will likely suffer as well should water quality degradation continue unabated. Loss of the commercial enterprises will erode the tax base and negatively impact the attractiveness of the Village.

These important projects will contribute to a revitalized, more economically and environmentally sustainable downtown business district that supports local and regional tourism and maritime industries. I hope they will receive full consideration for funding support.

Sincerely,

Diane S. Mullen

Diane S. Mullen

36 Lilac Road
Westhampton Beach, NY 11978
July 9, 2018

Hon. Jay Schneiderman
Southampton Town Supervisor
116 Hampton Road
Southampton, NY 11968

Re: Town Board support for full CPF funding of Village of Westhampton Beach WQIPP

Dear Supervisor Schneiderman:

15%

Our village has made substantial contributions to the Community Preservation Fund (CPF) beginning in 1999 and continuing to date. An examination of the expenditure of CPF funds reflects that through June 30, 2017 residents of the Village of Westhampton Beach have paid $30,783,296.40 into the fund. Of this CPF money only 15% has been expended in the village.

143%

The Village of Sagaponack has had 143% of the revenues it has paid returned to it and expended in the Village of Sagaponack for a total of $72,250,177.98. This difference has been understandable because the original purpose of the CPF was exclusively farmland preservation. That has changed.

In the 2016 referendum, residents supported the amendment of the Community Preservation Fund to provide funding for water quality improvement projects with 80% voting in favor of the amendment. Nothing is more efficient at removing nitrogen from wastewater than a sewer treatment facility like the one that is available to our village through a cooperative agreement with Suffolk County. Our village desires to connect existing businesses and residences that are in a priority zone in the Town's Water Quality Improvement Project Plan. The efficacy and priority of this proposal is not in dispute.

100%

I urge the Board to *authorize the complete funding* of the Village of Westhampton Beach wastewater infrastructure project and so much of the drainage infrastructure project that is eligible for CPF water quality funds *with only a contingent reduction from full funding* for any amounts secured by the village from other state and federal grants.

It is the exclusive responsibility of the Town Board, our elected officials, to ensure that CPF revenues are put to the best use and distributed fairly.

Thank you

Thomas F. Moore

Thomas F. Moore

cc: Town Board and Village Board

Patti Schaefer
67 Lilac Road
Westhampton Beach, NY 11978

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

I am writing to express my strong support for two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund and other funding sources as appropriate:

- **Main Street Improvement Project – Drainage Improvements**
- **Sewer System Phase I**

The drainage improvements will improve the failing storm water infrastructure identified in the engineers' report and mitigate the flow of contaminated runoff into Moniebogue Bay, a vital tributary to a NYS 303(d) waterbody. The sewer system will eliminate onsite septic systems, which we now know are responsible for up to 75% of the region's nitrogen pollution, and serve a projected 156 primarily commercial County tax lots. These projects are being undertaken in concert with appropriate downtown revitalization plans that also encompass traffic calming, beautification and pedestrian infrastructure improvements.

Sewage treatment is critically important for the Village and regional economy. Currently, commercial property owners suffer economic hardship from the constant pumping of failed systems and inability to incorporate uses allowable under current zoning due to inadequacy of septic capacity. If these issues are not addressed, they will have an overall negative impact on the Village. Tourism will suffer as water quality degradation continues unabated and the loss of the commercial enterprises will erode the tax base and negatively impact the attractiveness of the Village.

As an east end resident and chair of the Village's Conservation Advisory Committee, I was proud to vote for the extension of CPF funds that also included the 20% provision for water quality improvements. In my opinion, the projects being undertaken by the Village fall squarely within the Town's criteria for use of these funds. More broadly, they also support the objectives of the County's Water Resources Management Plan and Harmful Algal Bloom Action Plan. Because they will promote year-round vitality in the Village's downtown commercial district, they also align with the State's Downtown Revitalization Initiative and REDC priorities.

These important projects will contribute to a revitalized, more economically and environmentally sustainable downtown business district that supports local and regional tourism and maritime industries. I hope they will receive full consideration for funding support.

Sincerely,

Patti Schaefer

Patti Schaefer

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Camden Ackerman
52 Main St #2
Westhampton Beach NY

July 9, 2018

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Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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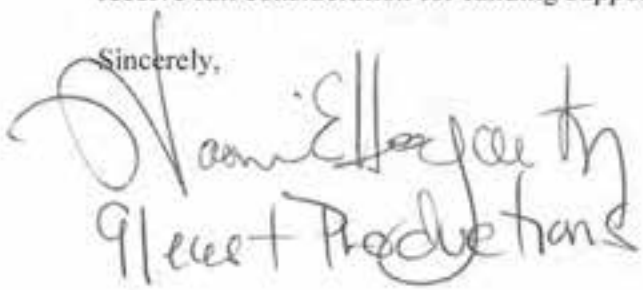

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Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Jim Badzik
27 Sunswyck Lane
WHTB NY 11978

MAUREEN L. JONES
220 MAIN STREET
WESTHAMPTON BEACH, NY 11978

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

I write to express my strong support for two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund (CPF), and other funding sources as appropriate:

- **Main Street Improvement Project – Drainage Improvements**
- **Sewer System Phase I**

These projects support objectives of the Southampton Town CPF Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan. In addition, because they will contribute to year round vitality and sustainability in the Village's downtown commercial district, they are also aligned with the New York State Downtown Revitalization Initiative and Long Island Regional Economic Development Council priorities.

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Sincerely,

Maureen L. Jones

Maureen L. Jones
220 Main Street
Westhampton Beach, NY 11978

July 11, 2018

Hon. Maria Moore
Village of Westhampton Beach
165 Mill road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

As a full time resident of Westhampton Beach and one who Is concerned about our Village business district, as well as our water quality, I am in total support of the two proposals submitted by the Village of Westhampton Beach. These issues have been talked about for years, but have never been addressed as they are now by our current Board and Mayor Moore. I refer to the two proposals submitted to the Town of Southampton Community Preservation Fund (CPF) and other funding sources as appropriate:

1) Main Street Improvement Project-Drainage Improvements
2) Sewer System Phase 1

Both of these projects support the objectives of the Southampton Town CPF Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan. In addition, because they will contribute to year round vitality and sustainability in our downtown commercial district they are also aligned with the NYState Downtown Revitalization Initiative and Long Island Regional Economic Development Council priorities.

I don't believe I need to extol the virtues of what drainage improvements mean or the importance of sewage treatment. Suffice it to say, our Village is in dire need of upgrading so that we can revitalize our downtown business district and continue to attract local and regional tourism and maritime industries.

I hope both of these initiatives will receive full consideration for funding support.

Sincerely,

Joan Levan

Joan Levan
17 Oneck Rd.
Westhampton Beach, NY 11978

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

I write to express my strong support for two proposals submitted by the Village of Westhampton Beach to the Town of Southampton Community Preservation Fund (CPF), and other funding sources as appropriate:

- **Main Street Improvement Project – Drainage Improvements**
- **Sewer System Phase I**

These projects support objectives of the Southampton Town CPF Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan. In addition, because they will contribute to year round vitality and sustainability in the Village's downtown commercial district, they are also aligned with the New York State Downtown Revitalization Initiative and Long Island Regional Economic Development Council priorities.

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Sincerely,

Robert Lilley
23 church Lane
Westhampton Beach, NY 11978

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

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Sincerely,

July 9, 2018

Hon. Maria Z. Moore
Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

Re: Village of Westhampton Beach Downtown Infrastructure Projects

Dear Mayor Moore,

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Sincerely,

Teresa Citarella

July 9, 2018

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Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Susan Connolly

July 9, 2018

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Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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Sincerely,

Richard Conolly

July 9, 2018

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Village of Westhampton Beach
165 Mill Road
Westhampton Beach, NY 11978

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- **Sewer System Phase I**

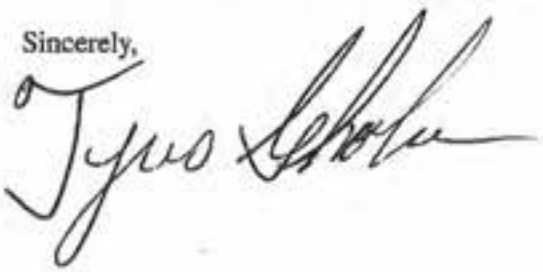
These projects support objectives of the Southampton Town CPF Water Quality Improvement Project Plan, Suffolk County Water Resources Management Plan, and Suffolk County Harmful Algal Bloom Action Plan. In addition, because they will contribute to year round vitality and sustainability in the Village's downtown commercial district, they are also aligned with the New York State Downtown Revitalization Initiative and Long Island Regional Economic Development Council priorities.

The drainage improvements will improve failing and insufficient storm water infrastructure and reduce the flow of contaminated storm water runoff into Moniebogue Bay watershed, which is tributary to a NYS 303(d) waterbody. The sewer system will allow for substantial reduction of nitrogen entering the watershed by eliminating onsite septic systems and installing a conveyance system for sewage treatment that will serve a projected 156 Suffolk County tax lots, primarily commercial. These projects are being undertaken in concert with extensive downtown revitalization plan that also encompasses traffic calming, beautification and pedestrian infrastructure improvements.

Sewage treatment is critically important for the Village and regional economy. Currently, commercial property owners suffer economic hardship from the constant pumping of failed systems and inability to incorporate uses allowable under current zoning due to inadequacy of septic capacity. If these issues are not addressed, they will no doubt have an overall negative impact on the Village. Tourism will likely suffer as well should water quality degradation continue unabated. Loss of the commercial enterprises will erode the tax base and negatively impact the attractiveness of the Village.

These important projects will contribute to a revitalized, more economically and environmentally sustainable downtown business district that supports local and regional tourism and maritime industries. I hope they will receive full consideration for funding support.

Sincerely,



Publication: The Southampton Press

Mar 19, 2018 11:10 AM

Bellone Authorizes Westhampton Beach Village To Utilize County's Sewage Treatment Plant

PHOTO GALLERY

POST A COMMENT

UPDATED Mar 19, 2018 12:05 PM

By Kate Riga

Suffolk County Executive Steve Bellone joined County Legislator Bridget Fleming, Southampton Town Supervisor Jay Schneiderman, Westhampton Beach Mayor Maria Moore and other elected officials at Village Hall on Sunday, March 18, to sign legislation that allows Westhampton Beach to connect its future sewer district, as well as two condominium complexes, to the county's wastewater treatment plant at nearby Francis S. Gabreski Airport.

... MORE

UNLOCK ARTICLE

Incorporated Village of Westhampton Beach
165 Mill Road, Westhampton Beach, New York 11978
Phone: (631) 288-1654 * Fax: (631) 288-4332
clerk@westhamptonbeach.org

April 30, 2019

Lisa Kombrink, Esq.
Community Preservation Manager
Town of Southampton
24 W. Montauk Highway
Hampton Bays, New York 11946-1867
Via email: lkombrink@southamptontownny.gov and jscherer@southamptontownny.gov

Re: Inc. Village of Westhampton Beach - Sewer System Phase 1 Additional Information for the Community Preservation Fund Water Quality Improvement Project Plan Grant

Dear Ms. Kombrink,

The Incorporated Village of Westhampton Beach (Village) has prepared this letter as follow-up to our meeting held at Southampton Town Hall on April 23, 2019. Per our discussion, the Village sewer system is a water quality improvement project and not intended to stimulate development and increased density. The main objective of the Village is to promote the protection of public health and improve water quality by removing onsite wastewater disposal system point loads from continuing to enter the environment. To achieve this objective, the Village must install sewers, pump stations and force main infrastructure to collect and convey wastewater to the nearby Suffolk County (County) owned and operated sewage treatment plant (STP) located adjacent to Gabreski airport. A formal agreement between the County and Village, issued on December 18, 2017 by Suffolk County Sewer Agency (SCSA), stipulated the Village could connect 60,000 gallons per day (gpd) of wastewater to this STP.

To maximize the effect on water quality improvement, the Village defined the boundary of their sewer system service area to encompass the highest density of existing onsite wastewater point loads equal to the 60,000 gpd wastewater flow. The final boundary included 156 tax lots comprised of mixed uses, mainly consisting of commercial and high-density residential build-out. The existing mixed-use build-out is equated to 200 single-family residences based on a 300 gpd/SFE (single-family equivalent) conversion factor (i.e. 60,000 gpd ÷ 300 gpd/SFE) that was confirmed by the Town of Southampton Assistant Town Engineer.

The Village kindly requests the Community Preservation Fund (CPF) Water Quality Advisory Committee consider the information provided in this letter when making their final determination on whether the construction costs associated with the Village sewer system project are eligible for grant subsidence. Should the Committee deem the Village eligible, the Village would like to suggest the grant amount be based on the current maximum rebate for an I/A OWTS equal to $20,000 per single family residence, which would equate to a total grant amount of $4,000,000 (i.e. 200 SFE x $20,000/SFE) in an effort to maintain fair and equitable disbursement of CPF grant funding.

Your attention to this matter is greatly appreciated and will help our effort moving forward with this very important project for the Village.

Please do not hesitate to contact the Village and/or our consultant, H2M architects + engineers, with any questions regarding this request. The contact at H2M is Nicholas Bono, P.E. and can be reached via email at NBono@H2M.com or phone at (631) 756-8000 extension 1428.

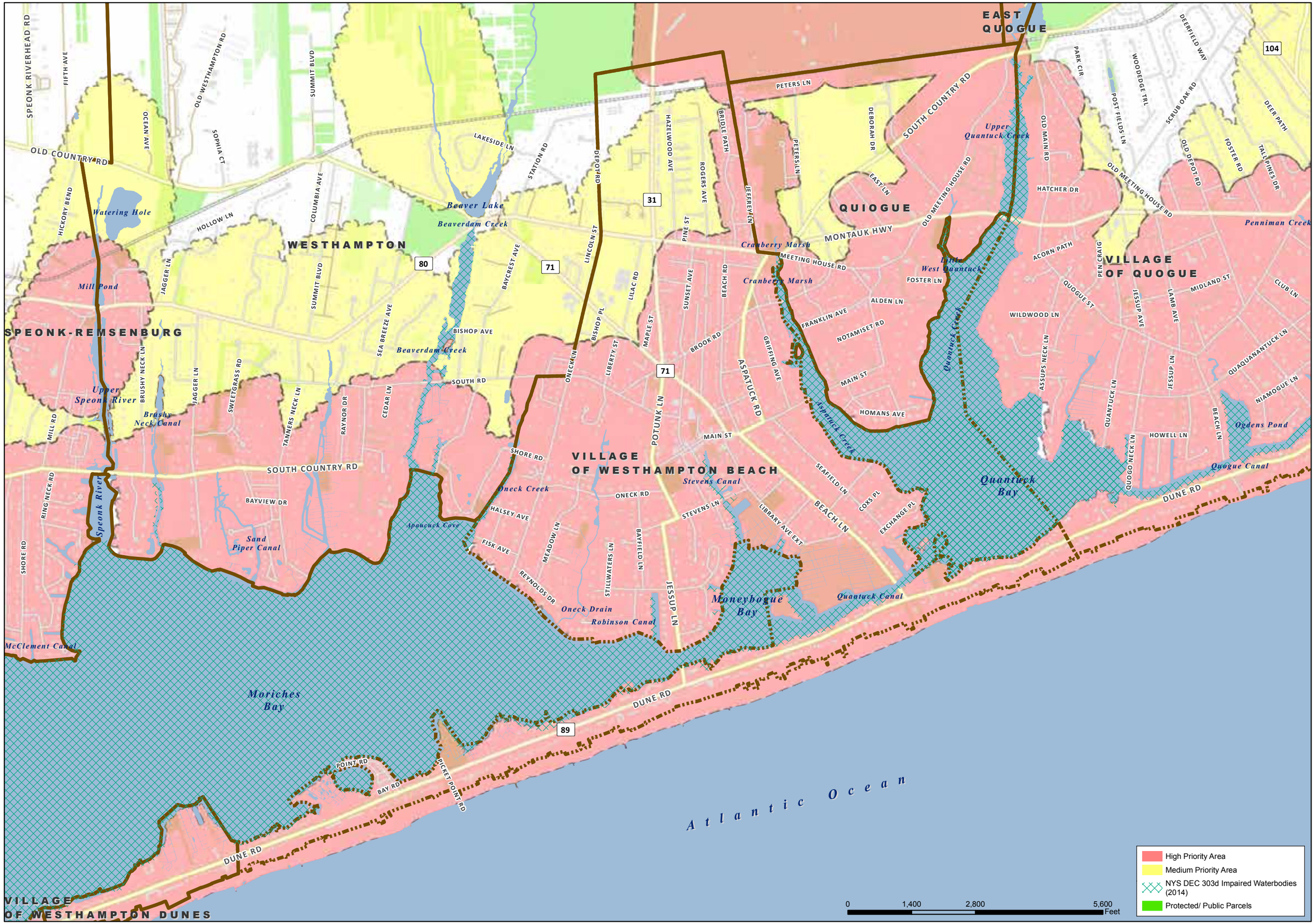
Very truly yours,

Maria Z. Moore, Mayor
Inc. Village of Westhampton Beach

A-162

Town of Southampton CPF Water Quality Improvement Project Plan

VILLAGE OF WESTHAMPTON BEACH



Prepared By:The Town of Southampton Dept of Geographic Information Systems Date: 7/5/2016 - MAP ID: 2514