TOWN OF SOUTHAMPTON
2022 COMMUNITY PRESERVATION FUND

APPLICATION ATTACHMENTS

INDEX

LIBRARY AVENUE OWNERS CORP. (HARBOUR HOUSE)
35 Library Avenue
Westhampton Beach, New York 11978

Responses to Application Questions

PROJECT OVERVIEW

The Library Avenue Owner's Corporation, d/b/a Harbour House proposes to install sanitary sewer infrastructure that will enable it to connect to the Village of Westhampton Beach Phase I Sewer Service System. Specifically, Harbour House will install upgraded on-site low-pressure piping, new gravity building connections, and duplex pump stations in order to convey sanitary wastewater from the community's 50 residential units and support buildings to Suffolk County Sewer District #24— Gabreski Sewage Treatment Plant (STP).

The entire property is located within the 0-2 year groundwater contributing area to surface waters, and is located in a high priority area for nitrogen reduction as defined by the Town of Southampton Water Quality Improvement Project Plan. When the project is complete, nitrogen loading due to sanitary wastewater to groundwater on the property will be reduced by 100%. The onsite systems will be abandoned and sanitary wastewater will be pumped to the STP. This equates to a reduction of 2,427 lbs. of Nitrogen per year from the property.

3. PROJECT DESCRIPTION

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

EXECUTIVE SUMMARY

The surface water bodies of the eastern portion of Moriches Bay, Moniebogue Bay, and Quantuck Bay that surround the Inc. Village of Westhampton Beach (Village) have experienced an increase in recurring red, brown and rust tides. Due to these conditions, the water bodies were 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. 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 recent study prepared by Dr. Christopher J. Gobler (Dr. Gobler) has also identified the high nutrient loading to be attributed to outdated onsite septic systems and cesspools serving the surrounding homes and businesses located within the Village of Westhampton Beach (Village). [1]

As a first 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 Suffolk County Sewer District No. 24 (SCSD #24) wastewater treatment plant located at Gabreski Airport, however, in order to realize the benefits the properties located within the Phase 1 area must first connect to the Village infrastructure and abandon their conventional on-site sanitary disposal systems. The sanitary wastewater flow from the Harbour House property is estimated at 12,265 gallons per day or approximately 20% of the total phase 1 flows. Prior to connecting to the Village system, Harbour House needs to install on-site low-pressure piping, new gravity building connections, and duplex pump stations in order to convey the flow from each unit and pump it off-site. Once the new systems are online and flow is being discharged to the Village sewer the existing on-site disposal systems will need to be abandoned in accordance with Suffolk County Office of Pollution Control requirements. The connection of Harbour House puts the goals identified under the Village's Phase 1 sewer plans a step closer to being achieved. By connecting the high-density residential units and support facilities the benefit is roughly equivalent to the connection of 50 single-family homes providing a major cost-per-gallon benefit for connection.

[1] Dr. Christopher J. Gobler, PhD. Quantifying Nitrogen Loading to from Village of Westhampton Beach to Surrounding Water Bodies and Their Mitigation by Creating a Sewer District. June 2017. Prepared for the Village of Westhampton Beach, Village Board of Trustees.

BACKGROUND

The existing Harbour House community, located at 35 Library Avenue in the Village of Westhampton Beach, New York is comprised of fifty (50) residential units in six (6) 3-story buildings, one (1) 2-story building, one (1) 1-story building, and one (1) maintenance building. The buildings are all located on a 5.24 acre property that borders Stevens Lane to the South, 23 Library Avenue co-op to the North, Library Avenue to the East, and Moniebogue Canal to the West. Occupancy of the units is a combination of seasonal and year-round residents. The parcel is located within the Phase 1 service area of the proposed Village Sewer System. The Village is currently in the process of constructing the sanitary wastewater collection and conveyance infrastructure for the Village's Phase 1 service area. The Village's sewer project is currently on schedule to be completed in the 4th quarter of 2022.

The entirety of the parcel is located within the 0-2 year groundwater contributing area to surface waters, as defined by Suffolk County's Subwatersheds Wastewater Plan, meaning that contaminants from on-site disposal systems discharging to groundwater in these areas will reach surface waters in as little as 0-2 years.[2] The property is also in a Town of Southampton Priority Area as defined by its Community Preservation Fund Water Quality Improvement Project Plan.[3] This proximity to surface water and the density of the existing units make this site an ideal candidate for connection to a centralized sewage treatment plant. Connection to a centralized sewer system is an important step towards preventing the degradation of water quality by reducing the quantity of nutrients and pollutants that can make their way to surface waters.

Existing On-Site Sanitary Disposal Systems

Each of the eight (8) existing buildings is served by a dedicated on-site sanitary disposal system. Each system consists of a septic tank and two (2) or three (3) cesspools, that discharge directly to ground. The existing systems for the six (6) 3-story buildings numbered 2 through 7 are located in a berm to the North side of the units, the existing systems for buildings 1 and 8 are located to the South of the respective buildings. In addition to the single family residential units there is an existing maintenance building that has two (2) separate disposal system: one (1) for four (4) laundry machines to the Southeast of the Building and one (1) for a single bathroom to the Northeast of the Building. The laundry machines are for resident use only. The pool filter backwash also has a separate disposal system.

Geological Conditions

The topography of the site generally slopes from north to south and east to west towards Moniebogue Creek. Ground surface elevations within this area generally range between approximately 10-feet to 5-feet above mean sea level (MSL) based on commercially available topographical mapping information through the New York State GIS Clearinghouse. Groundwater elevations at the site range between approximately 5-feet to 10-feet below ground surface (BGS) based on the Long Island Depth to Water Viewer hosted by USGS.[4] The frost line in Suffolk County can vary based on soil conditions from 3 to 4 feet below grade.

Environmental Resources

The closest limit of construction disturbances to surface water for the proposed work is approximately 50 feet from Moniebogue canal, approximately 0.9 miles upstream of where it discharges to Quantuck Canal, which feeds Quantuck Bay to the east and eastern portion of Moriches Bay to the west. As defined by the US Fish & Wildlife Service National Wetland Inventory, at the point of discharge, Moniebogue Bay and the downstream water bodies are classified as estuarine and marine deep-water habitat (E1UBL)[5]. The NYS DEC (6 CRR-NY X A 2 701) classifies these water bodies as Class SA, which is defined "as a saline surface water for shell fishing for market purposes,

[2] https://suffolkcountyny.gov/Portals/0/formsdocs/planning/CEQ/2019/Appendix%20B%20-20SWP%20Executive%20Summary%20August%202019.pdf?ver=2019-08-16-113254-687
[3] https://ny-southampton.civicplus.com/DocumentCenter/View/7318
[4] https://ny.water.usgs.gov/maps/li-dtw/
[5] Data was obtained from: https://www.fws.gov/wetlands/data/Mapper.html

primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival." [6]

Flood Plain Considerations

The entirety of the site is located within the 1% annual chance flood hazard zone (Zone AE) with a base flood elevation (BFE) of 8-ft as described by FEMA Flood Insurance Rate Map (FIRM) number 36103C0767H, effective on September 25, 2009.

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.

The Village sewer project will provide one (1) 2" Ø low-pressure sewer (LPS) stub to the property along the Library Avenue frontage. Low-pressure sewers are pressured sewer mains that convey flow through small diameter pipe through the use of grinder pump units (GPUs) at each property. The GPUs are owned and maintained by the individual property owners while the LPS main in the road will be operated and maintained by Suffolk County Department of Public Works. The on-site infrastructure required to connect to the low-pressure sewer will consist of on-site low-pressure piping, new gravity building connections, and duplex pump stations. All sewers will be designed a minimum of 4.5 feet below grade to prevent freezing. Any infrastructure installed, including pump stations, cleanouts, and manholes will be either installed above flood elevation or designed with flood proof covers.

Construction will be sequenced to both minimize site access impacts, maintain sanitary service to all units for duration of work and to prevent any unpermitted discharge of sanitary wastewater. To further minimize the impact of construction activities such as excavation and demolition, erosion and sediment control (E & SC) measures will be utilized during construction. Please see attached draft site plan.

Sanitary Flow Determination

The sanitary flow used for basis of design of the sewer connection is determined by using Suffolk County Department of Health Services Standards for Approval of Plans and Construction for Sewage Disposal Systems other than Single-Family Residences. Using Table 1 – Project Density Loading Rates the relevant density loadings are Housing Units between 601-1200 sq. ft. at 225 gpd/unit and Housing Units greater than 1200 sq. ft. at 300 gpd/unit. Flows from the maintenance building are determined using the process flow from the laundry machines. The flows from the pool filter backwash are not considered, as this discharge will continue via existing separate disposal system. See Table 1 and Table 2 below for breakdown of unit count per building and SCDHS flows.

Table 1 – Unit Count by Building

Building #	Unit Count	
	601-1200 SF	1200 SF
1	7	1
2	4	2
3	4	2
4	4	2
5	4	2
6	4	2
7	4	2
8	6	0
Total	37	13

[6] Data was obtained from: https://govt.westlaw.com/nycrr/Document/I4ed840c2cd1711dda432a117e6e0f345?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

Table 2 – SCDHS Design Sewage Flow

Criteria	Unit Count	SCDHS Density Load	Flow (gpd)
601-1200 sq. ft. Housing Unit	37 Units	225 gpd	8,325 gpd
> 1200 sq. ft. Housing Unit	13 Units	300 gpd	3,900 gpd
Maintenance Building*	1325 sf	0.03 gpd/sf	40 gpd
Total			**12,265 gpd**

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

On-Site Sanitary Infrastructure Improvements

The design plans for all on-site sanitary infrastructure will be completed in accordance with SCDHS and SCDPW requirements. The on-site low-pressure sewer grinder pump station(s) will be sized with sufficient capacity to accommodate peak flow generated by the subject site. The grinder pumps will be capable of providing a shut-off head no less than 80 psi (185 feet total dynamic head) and a flow rate not to exceed 11 gpm per grinder pump. The on-site pump station design will also include a control panel with remote alarm beacon and audible horn to alert owner personnel of pump station alarm conditions.

The on-site low-pressure sewer force main pipe will be a minimum of 1.25-inch diameter and constructed from buttfused HDPE DR-11 piping. In order to connect all eight (8) buildings to the proposed lateral stub at the property line a combination of 1.25-inch, 1.5-inch, and 2-inch piping will be required along with associated fittings and appurtenances. The building connections from each building will be intercepted and rerouted as required with minimum 6" Ø SDR-35 PVC pipe and will connect to the proposed GPUs. All proposed building connections will be constructed with a minimum slope of ¼" per foot or ~2%. Each GPU will have a control panel with audible and visual alarm condition indicators and an emergency generator connection for use in the case of power failure. In total six (6) GPUs are anticipated to replace the 9 (nine) dedicated on-site sanitary disposal systems.

The design of all sanitary infrastructure will be prepared in accordance with local regulatory requirements and adhere to Ten States Recommended Design Standards for Wastewater Facilities, Suffolk County Department of Health Services, and Suffolk County Department of Public Works design standards.

Suffolk County Sewer District #24 – Gabreski Sewage Treatment Plant

In April 2021, the Village of Westhampton Beach broke ground on its Phase 1 Sewer Service Area project. Under this project, the Village will 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 Suffolk County Sewer District No. 24 (SCSD #24) wastewater treatment plant located at Gabreski Airport in Westhampton Beach, New York. Treated effluent discharged from the existing wastewater treatment plant is reintroduced to the ground via subsurface leaching pools with the total nitrogen concentration reduced below the current drinking water standard and permit discharge limit of 10 mg/L. Therefore, the Village's sewer system will remove nitrogen-rich onsite wastewater point sources from continuing to discharge to groundwaters with less than 2-year travel time, thereby contributing to the improvement of water quality in the surrounding water bodies.

As part of this project, the Village received formal sewer connection approval from the Suffolk County Sewer Agency in 2017 and entered into a Connection Agreement with Suffolk County Department of Public Works in March 2021. Under this agreement, the Village will construct necessary upgrades to the STP that are necessary in order to accept the design flow of 60,000 GPD. Upon completion of the work, ownership of the system will be transferred to the County. The connection agreement is available from the Village upon request. The Village

commissioned an engineering report from engineering firm H2M which describes the upgrades and modifications to the STP that will be performed. This report, titled Inc. Village of Westhampton Beach (Phase 1 Sewer Service Area) Expansion of Suffolk County Sewer District No. 24 Sewage Treatment Plant (STP) Engineering Report was completed in May 2020 and provides detailed technical information regarding the upgrades. It is available upon request.

Materials of Construction

All materials used for construction of the on-site sanitary infrastructure improvements will be intended for use as part of a sanitary wastewater collection system. All low-pressure sewers will be constructed of butt-fusion welded DR-11 HDPE pipe suitably sized for transmission of sewage from the grinder pump units. Grinder pump units will be manufactured by E-one and consist of a duplex pumping system with a sentry plus control panel. Due to the flood plain considerations all grinder pump units will be installed with watertight covers and vents extended above the 500-year flood plain elevation. All gravity sewer piping/building connections will be constructed of minimum SDR-35 PVC piping. In the event of a power failure two (2) portable generators will be provided as well as a 10'x10' storage shed.

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).

Town of Southampton Water Quality Improvement Project Plan (WQIPP)[7]
In accordance with State Law Chapter 551, a "wastewater treatment improvement project," is a "water quality improvement project" that is eligible for CPF funding. Under the statute, "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." Therefore, the proposed project is eligible for CPF funding.

The WQIPP quotes the Suffolk County Comprehensive Water Resources Management Plan (2015), which states that, "nitrogen pollution from septic systems has clearly emerged as the most widespread and lease well addressed of the region's growing list of water pollutants." The plan goes on to say that "nitrogen loading to watersheds of Southampton must be reduced in order to restore ecological health and maintain drinking water standards."

Harbour House is located in a WQIPP High Priority area (P. 54). See attached map.

Suffolk County Subwatershed Plan[8]
Quantuck Bay, Quantuck Canal, and Moniebogue Bay are identified as a Priority 1 subwatershed for nitrogen reduction via wastewater management (p. 2-74).

Suffolk County Water Resources Management Plan[9]
The proposed project supports Nitrogen recommendation 1.15, "Seek ways to remediate existing nitrogen pollution and its impacts." Key Milestone b., "Advance sewer expansion projects as funding becomes available," is also supported. (Table 9-1)

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).

[7] https://www.southamptontownny.gov/DocumentCenter/View/7318/Water-Quality-Improvement-Plan-CPF-Referendum-PDF?bidId=
[8] https://suffolkcountyny.gov/Portals/0/formsdocs/planning/CEQ/2020/RevisedComplete%20SWP2-21-20.pdf
[9] https://www.suffolkcountyny.gov/Portals/0/FormsDocs/Health/EnvironmentalQuality/ComprehensiveWaterResourceManagementPlan/Section%209%20Plan%20Implementation.pdf

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 will service the 50 existing units and support buildings in the Harbour House cooperative community. No increase in density will be accommodated by the project.

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

The pollutant load reduction from the connection of Harbour House to the Village collection system can be estimated based on the current level of treatment through the on-site systems and the future level of treatment when connected to Suffolk County Sewer District #24 – Gabreski Sewage Treatment Plant. The pollutant of concern for surface water on Long Island is Nitrogen, which has been linked to harmful algae blooms and water quality degradation. Typical Nitrogen concentration from residential sanitary wastewater without treatment is 65 mg/L. Once connected to the collection and conveyance system the wastewater will be conveyed to the Gabreski STP and be treated to a Nitrogen concentration of 10 mg/L. This is a reduction of 55 mg/L of Nitrogen or roughly 85% reduction. The reduction on the actual site is even greater because the wastewater is being pumped off-site, and therefore the Nitrogen loading due to sanitary wastewater to groundwater on the Harbour House property will be reduced to 0 mg/L. This equates to a reduction of 2,427 lbs. of Nitrogen per year from the site itself.

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

Harbour House will be supportive of partnerships with the Village of Westhampton Beach, Stony Brook University School of Marine and Atmospheric Sciences, or other community partners with regard to ongoing water quality monitoring efforts.

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 proposed low pressure pumping system force main is to be made of PVC – a durable material expected to have a minimum 50-year service life. Fittings, valves, grinder pumps and other ancillary equipment associated with the force main would be expected to have a 15-20 year service life.

The Village of Westhampton Beach Engineering Design Report (Volume 2) presents a 30-year life cycle for upgrades to occur at the STP.

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.

Harbour House has retained the firm H2M architects + engineers to prepare engineering designs for this project. The firm is optimally situated to perform this work, as it is also the consulting engineer for the Village of Westhampton Beach for its Phase 1 Sewer Service System Collection and Conveyance System and the Gabreski STP expansion. It is also the engineer of record for other residential owners in the Phase I Sewer Service Area. H2M's staff of engineers and other professionals are highly qualified and experienced in design and implementation of wastewater treatment systems. The cost estimate attached to this proposal is based on detailed engineering investigation and reflects current knowledge of market costs. As such, there is high confidence in the quantities indicated. No extraneous items are included.

5b. Describe any matching funds to be provided.

Harbour House will support costs relating to the following aspects of the project:

1. Repurpose existing cesspools as roof leader recharge. This will allow the cesspools to remain in place after being pumped and connected to a building roof leader(s). By repurposing the leaching pools the amount of drainage runoff that leaves the site is reduced, further benefiting water quality in the area. The projected cost of this work is $44,000.
2. Repair and restore parking areas to be disturbed during sewer system installation. The projected cost of this work is $165,116.
3. Additional topographic survey.
4. Additional soil borings and related geotechnical report.
5. Invasive investigation (i.e., test pits).
6. Fees to be paid to permitting agencies associated with required permits and approvals including but not limited to Village of Westhampton Beach SCDPW, SCDHS, and NYS DEC permit fees.
7. Operation and Maintenance of grinder pump units.
8. Construction observation beyond 80 hours.
9. Treatment and/or removal of contaminated soils and groundwater.
10. Legal counsel.
11. Grant assistance.

In addition, Harbour House has paid nearly $5,000 for engineering fees to H2M to date.

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.

CPF support is critical in order for the project to move forward this year, and for it to be completed at the estimated cost.

- Harbour House is planning to resurface its parking areas, which are currently in a deteriorated state. The improvements will involve ground disturbance, paving and installation of curbing in the same areas where sewer mains and grinder pumps will be installed for the sewer connection.
- Installing the sewer infrastructure before the site improvements will be cost beneficial for both Harbour House and the CPF. The benefit to the CPF is that funds will not be requested for restoration costs, as these are part of the paving project. Phasing the two projects together will produce a cost savings compared to the cost that would be incurred if the sewer installation occurred as a standalone initiative.
- If Harbour House does not install the sewer before the site improvements are completed, sewer system installation will be more expensive due to higher repair/restoration costs.

By funding the improvements this year, the community will be ready to connect to the Village sewer system shortly after it is placed into service, allowing the Village and Town to realize intended benefits of the sewer system at the earliest possible opportunity.

Absent CPF funding, the project would be delayed until adequate funds can be identified. During this time the existing onsite systems would continue to be utilized, and the benefits of sewering would be delayed until project funding is secured.

6. MANAGEMENT, EXPERIENCE, ABILITY

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

Members of the Harbour House HOA board will oversee the project with professional support provided by consulting engineer H2M architects + engineers. Harold Levine, President of Harbour House HOA, is a former hospital administrator who is familiar with management of major institutional construction projects. Derrick Grieco, Vice President, has 25 years' experience with an engineering consulting firm with deep experience in

managing design production schedules, MEP systems, and is an experienced project manager. Other members of the HOA will provide support as needed for the procurement and administrative tasks required to advance the project, including grant award administration.

H2M is supporting all aspects of engineering and design for the sewer project, and will provide construction observation and administration services. Please see their attached statement of qualifications.

Prior capital projects managed and successfully completed by the HOA Board include:

- 2016-2018: Resurfaced building roofs in a phased, multiyear effort at an approximate cost of $435,000.
- 2018: Pool upgrade – $22,000.
- 2017: oil tank removals for a total of $3,500; new fencing $17,000.
- 2016: Rebuilt six (6) building support structures to eliminate risk of failure of cantilevered decks – $225,000.
- 2012: completed boiler plant upgrade – transition from diesel to natural gas. The system feeds hot water and heating systems for 7 of 9 buildings. The project cost was $70,000, and produced cost savings estimated at $50,000 annually.
- General dock replacements each year

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

The HOA Board has secured professional engineering services to advance the project and has presented the initiative to the community to ensure that costs, scope of work and timelines are understood. When the project was discussed at a resident meeting in Summer 2021, residents were supportive and provided positive feedback. No opposition was noted. In December 2021, as part of the HOA Board's annual report to the community, the sewer project was presented. Feedback from residents was positive and there was no opposition.

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

The following permits are required and are expected to be secured by October 2022.

- Suffolk County Department of Public Works
- Suffolk County Department of Health Services

The Suffolk County Department of Public Works approval is contingent on completion and approval of the Village's Phase I Sewer Service Area improvements (both the collection/conveyance system and STP upgrades).

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.

All improvements will occur within the common areas of the property. As such, all ongoing maintenance will be managed by existing staff employed by Harbour House through common charges paid by the community. A schedule of maintenance and associated costs will be provided by H2M as part of the engineering design.

8. DURATION OF PROJECT

8a. Provide a projected project timeline.

- May 2022: Proceed to Design
- August 2022: Submit Plans for Permits & Approvals
- October 2022: Receive Approvals/Permits
- November 2022: Solicit bids from contractors
- December 2022: Award bids
- February 2023: Construction Start
- May 2023: Construction Completion

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

N/A

BASIS OF DESIGN REPORT

Westhampton Beach Harbour House Co-Op Low-Pressure Sewer Connection and On-Site Sanitary Disposal System Abandonment

Westhampton Beach, New York

H2M Project No.
WHHH 2101

MARCH 2021
REVISED MAY 2021
REVISED OCTOBER 2021
REVISED MARCH 2022

Prepared for:

Harbour House HOA
35 Library Avenue
Westhampton Beach, NY 11978

Prepared by:

H2M architects + engineers
538 Broad Hollow Road, 4th Floor East
Melville, New York 11747

TABLE OF CONTENTS

TABLES

FIGURES

0.0 EXECUTIVE SUMMARY

The surface water bodies of the eastern portion of Moriches Bay, Moniebogue Bay, and Quantuck Bay that surround the Inc. Village of Westhampton Beach (Village) have experienced an increase in recurring red, brown and rust tides. Due to these conditions, the water bodies were 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. 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 recent study prepared by Dr. Christopher J. Gobler (Dr. Gobler) 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 (Village) [1].

As a first 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 Suffolk County Sewer District No. 24 (SCSD #24) wastewater treatment plant located at Gabreski Airport, however, in order to realize the benefits the properties located within the Phase 1 area must first connect to the Village infrastructure and abandon their conventional on-site sanitary disposal systems. The sanitary wastewater flow from the Westhampton Harbor House property is estimated at 12,265 gallons per day or ~20% of the total phase 1 flows. Prior to connecting to the Village system, the Co-Op needs to install new low-pressure sewer lines, and new grinder pump units in order to convey the flow from each unit and pump it off-site. Once the new systems are online and flow is being discharged to the Village sewer the existing on-site disposal systems will need to be abandoned in accordance with Suffolk County Office of Pollution Control requirements. The connection of Harbour House Property puts the goals identified under the Village's Phase 1 sewer plans a step closer to being achieved. By connecting the high-density residential units the benefit is roughly equivalent to the connection of 50 single-family homes providing a major cost-per-gallon benefit for connection.

1.0 BACKGROUND

The existing Westhampton Beach Harbour House co-op community located at 35 Library Avenue in the Village of Westhampton Beach, New York is comprised of fifty (50) units in six (6) 3-story buildings, one (1) 2-story building, one (1) 1-story building, and one (1) maintenance building. The buildings are all located on a 5.24 acre property that borders Stevens Lane to the South, 23 Library Avenue co-op to the North, Library Avenue to the East, and Moniebogue Canal to the West. Occupancy of the units is a combination of seasonal and year-round residents. The parcel is located within the Phase 1 service area of the proposed Village Sewer System. The Village is currently in the process of issuing a Notice to Proceed to commence the construction of the sanitary wastewater collection and conveyance infrastructure for the Phase 1 service area. The Village's sewer project is currently on schedule to be completed in the 4th quarter of 2022. All properties served by the Phase 1 sewer area will be required to connect to the collection system within the first 12-months of sewer availability in accordance with Suffolk County Code section 740-44 B.

The entirety of the parcel is located within the 0-2 year groundwater contributing area to surface waters, as defined by Suffolk County's Subwatersheds Wastewater Plan, meaning that contaminants from on-site disposal systems discharging to groundwater in these areas will reach surface waters in as little as 0-2 years.[2] This proximity to surface water and the density of the existing units make this site an ideal candidate for connection to a centralized sewage treatment plant. Connection to a centralized sewer system is an important step towards preventing the degradation of water quality by reducing the quantity of nutrients and pollutants that can make their way to surface waters.

[1] Dr. Christopher J. Gobler, PhD. Quantifying Nitrogen Loading to from Village of Westhampton Beach to Surrounding Water Bodies and Their Mitigation by Creating a Sewer District. June 2017. Prepared for the Village of Westhampton Beach, Village Board of Trustees.

[2] https://suffolkcountyny.gov/Portals/0/formsdocs/planning/CEQ/2019/Appendix%20B%20-%20SWP%20Executive%20Summary%20August%202019.pdf?ver=2019-08-16-113254-687

1.1 Existing On-Site Sanitary Disposal Systems

Each of the eight (8) existing buildings are served by a dedicated on-site sanitary disposal system. Each system consists of a septic tank and two (2) or three (3) cesspools, that discharge directly to ground. The existing systems for the six (6) 3-story buildings numbered 2 through 7 are located in a berm to the North side of the units, the existing systems for buildings 1 and 8 are located to the South of the respective buildings. In addition to the condo units there is an existing maintenance building that has two (2) separate disposal system: one (1) for four (4) laundry machines to the Southeast of the Building and one (1) for a single bathroom to the Northeast of the Building. The laundry machines are for resident use only. The pool filter backwash also has a separate disposal system. See Figure 1 for overview of existing site and existing on-site sanitary disposal system configuration.

1.2 Geological Conditions

The topography of the site generally slopes from north to south and east to west towards Moniebogue Creek. Ground surface elevations within this area generally range between approximately 10-feet to 5-feet above mean sea level (MSL) based on commercially available topographical mapping information through the New York State GIS Clearinghouse. Groundwater elevations at the site range between approximately 5-feet to 10-feet below ground surface (BGS) based on the Long Island Depth to Water Viewer hosted by USGS.[3] The frost line in Suffolk County can vary based on soil conditions from 3 to 4 feet below grade.

1.3 Environmental Resources

The closest limit of construction disturbances to surface water for the proposed work is approximately 50-feet from Moniebogue canal, approximately 0.9 miles upstream of where it discharges to Quantuck Canal, which feeds Quantuck Bay to the east and eastern portion of Moriches Bay to the west. As defined by the US Fish & Wildlife Service National Wetland Inventory, at the point of discharge, Moniebogue Bay and the downstream water bodies are classified as estuarine and marine deep-water habitat (E1UBL)[4]. The NYS DEC (6 CRR-NY X A 2 701) classifies these water bodies as Class SA, which is defined "as a saline surface water for shell fishing for market purposes, primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival."[5]

1.4 Flood Plain Considerations

The entirety of the site is located within the 1% annual chance flood hazard zone (Zone AE) with a base flood elevation (BFE) of 8-ft as described by FEMA Flood Insurance Rate Map (FIRM) number 36103C0767H, effective on September 25, 2009.

2.0 BASIS OF DESIGN

The Village sewer project will provide one (1) 2" Ø low-pressure sewer (LPS) stub to the property along the Library Avenue frontage. Low-pressure sewers are pressured sewer mains that convey flow through small diameter pipe through the use of grinder pump units (GPUs) at each property. The GPUs are owned and maintained by the individual property owners while the LPS main in the road will be operated and maintained by Suffolk County Department of Public Works. The on-site infrastructure required to connect to the low-pressure sewer will consist of on-site low-pressure piping, new gravity building connections, and duplex pump stations. All sewers will be designed a minimum of 4.5 feet below grade to prevent freezing. Any infrastructure installed, including pump stations, cleanouts, and manholes will be either installed above flood elevation or designed with flood proof covers.

Construction will be sequenced to both minimize site access impacts, maintain sanitary service to all units for duration of work and to prevent any unpermitted discharge of sanitary wastewater. To further minimize the impact of

[3] https://ny.water.usgs.gov/maps/li-dtw/
[4] Data was obtained from: https://www.fws.gov/wetlands/data/Mapper.html
[5] Data was obtained from: https://govt.westlaw.com/nycrr/Document/I4ed840c2cd1711dda432a117e6e0f345?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

construction activities such as excavation and demolition, erosion and sediment control (E & SC) measures will be utilized during construction.

2.1 Sanitary Flow Determination

The sanitary flow used for basis of design of the sewer connection is determined by using Suffolk County Department of Health Services Standards for Approval of Plans and Construction for Sewage Disposal Systems other than Single-Family Residences. Using Table 1 – Project Density Loading Rates the relevant density loadings are Housing Units between 601-1200 sq. ft. at 225 gpd/unit and Housing Units greater than 1200 sq. ft. at 300 gpd/unit. Flows from the maintenance building will need to be determined using the process flow from the laundry machines. For the purpose of this report the flows from the pool filter backwash are not considered, and it is assumed this discharge will continue via existing separate disposal system. See Table 1 and Table 2 below for breakdown of unit count per building and SCDHS flows.

Table 1 – Unit Count by Building

Building #	Unit Count	
	601-1200 SF	1200 SF
1	7	1
2	4	2
3	4	2
4	4	2
5	4	2
6	4	2
7	4	2
8	6	0
Total	37	13

Table 2 – SCDHS Design Sewage Flow

Criteria	Unit Count	SCDHS Density Load	Flow (gpd)
601 - 1200 sq. ft. Housing Unit	37 Units	225 gpd	8,325 gpd
> 1200 sq. ft. Housing Unit	13 Units	300 gpd	3,900 gpd
Maintenance Building*	1325 sf	0.03 gpd/sf	40 gpd
Total			**12,265 gpd***

*Flows from maintenance building exclude flows from laundry machines. Machines are for resident use only and typical flows are included in SCDHS density load for residential units, so no additional flow allocation is required. Process flow will need to be determined during preliminary design phase to size grinder pump station basin.

2.2 Pollutant Load Reduction

The pollutant load reduction from the connection of Westhampton Harbour House Co-op to the Village collection system can be estimated based on the current level of treatment through the on-site systems and the future level of treatment when connected to Suffolk County Sewer District #24 – Gabreski Sewage Treatment Plant. The pollutant of concern for surface water on Long Island is Nitrogen, which has been linked to harmful algae blooms and water quality degradation. Typical Nitrogen concentration from residential sanitary wastewater without treatment is 65 mg/L. Once connected to the collection and conveyance system the wastewater will be conveyed to the Gabreski STP and be treated to a Nitrogen concentration of 10 mg/L. This is a reduction of 55 mg/L of Nitrogen or roughly 85% reduction. This equates to 2,053 lbs of Nitrogen a year being eliminated from entering the 0-2 groundwater recharge area. The reduction on the actual site is even greater because the wastewater is being pumped off-site,

and therefore the Nitrogen loading due to sanitary wastewater to groundwater on the Westhampton Harbour House Property will be reduced to 0 mg/L. This equates to a reduction of 2,427 lbs of Nitrogen per year from the site itself.

$$55\,\frac{mg}{L} * 0.012265\ MGD * 8.34 = 5.63\ lbs\,\frac{N}{Day}$$

$$5.63\ lbs\,\frac{N}{Day} * 365\,\frac{Days}{Year} = 2{,}053\ lbs\,\frac{N}{Year}$$

2.3 Required On-Site Sanitary Infrastructure Improvements

The design plans for all on-site sanitary infrastructure will be completed in accordance with SCDHS and SCDPW requirements. The on-site low-pressure sewer grinder pump station(s) will be sized with sufficient capacity to accommodate peak flow generated by the subject site. The grinder pumps must be capable of providing a shut-off head no less than 80 psi (185 feet total dynamic head) and a flow rate not to exceed 11 gpm per grinder pump. The on-site pump station design must also include a control panel with remote alarm beacon and audible horn to alert owner personnel of pump station alarm conditions.

The on-site low-pressure sewer force main pipe must be a minimum of 1.25-inch diameter and constructed from butt-fused HDPE DR-11 piping. In order to connect all eight (8) buildings to the proposed lateral stub at the property line a combination of 1.25-inch, 1.5-inch, and 2-inch piping will be required along with associated fittings and appurtenances. The building connections from each building will be intercepted and rerouted as required with minimum 6" Ø SDR-35 PVC pipe and will connect to the proposed GPUs. All proposed building connections will be constructed with a minimum slope of ¼" per foot or ~2%. Each GPU will have a control panel with audible and visual alarm condition indicators and an emergency generator connection for use in the case of power failure. In total six (6) GPUs are anticipated to replace the 9 (nine) dedicated on-site sanitary disposal systems.

The design of all sanitary infrastructure will be prepared in accordance with local regulatory requirements and adhere to Ten States Recommended Design Standards for Wastewater Facilities, Suffolk County Department of Health Services, and Suffolk County Department of Public Works design standards.

2.3.1 Materials of Construction

All materials used for construction of the on-site sanitary infrastructure improvements shall be intended for use as part of a sanitary wastewater collection system. All low-pressure sewers will be constructed of butt-fusion welded DR-11 HDPE pipe suitably sized for transmission of sewage from the grinder pump units. Grinder pump units will be manufactured by E-one and consist of a duplex pumping system with a sentry plus control panel. Due to the flood plain considerations all grinder pump units will be installed with watertight covers and vents extended above the 500-year flood plain elevation. All gravity sewer piping/building connections will be constructed of minimum SDR-35 PVC piping.

In the event of power failure two (2) portable generators will be provided as well as a 10' by 10' storage shed.

2.4 On-Site Sanitary Disposal System Abandonment

Upon completion of on-site sanitary infrastructure work the existing on-site sanitary disposal systems, consisting of septic tanks and associated cesspools, will need to be abandoned in accordance with SCDHS Office of Pollution Control requirements. If required by SCDHS, sampling of septic systems may be needed prior to abandonment to identify any contamination. If contamination is identified additional work will be required to remove and properly disposed of contaminated materials. For the purpose of this report it is assumed that no contamination is present.

There are two (2) options for abandonment of the existing on-site system. The first is typically abandonment where the top slabs are removed, any solid and liquid waste is pumped, and the structures are filled with crushed stone. For septic tanks, the bottom slab needs to be punctured to allow water to drain. The second option is to repurpose the existing cesspools as roof leader recharge, septic tanks would still need to be abandoned as described above. This

option allows the cesspools to remain in place after being pumped and connected to a building roof leader. The contractor performing the abandonment or repurposing work will need to provide a certification of sanitary disposal system abandonment form to SCDHS. (Form WWM-080)

3.0 PROJECT ENGINEERING TASK LIST

The project can be broken down into three (3) general phases: Design, Bid, and Construction. The design phase includes preliminary design, detailed design (i.e., design plans), and regulatory review and approval. The bid phase occurs when the project is opened to bid to contractors who submit their costs to perform the work identified on the design plans. The construction phase consists of the physical work done on the site by the selected contractor as well as construction administration and inspection in which a design professional oversees and/or reviews that work conforms to the detailed design documents. See Table 3 below for breakdown of project tasks from preliminary design to project closeout.

Table 3 – Project Engineering Task List

Task	Description		Start Date	End Date
1	Preliminary Design		May 2022	June 2022
	1a	Verify location of existing on-site disposal systems		
	1b	Confirm existing process water load from maintenance building		
	1c	Layout preliminary site plan		
	1d	Coordinate with manufacturers for equipment sizing and specifications		
2	Detailed Design		June 2022	August 2022
	2a	Prepare existing site plan in accordance with SCDHS Wastewater Management and Pollution Control standards for future abandonment of on-site sanitary disposal system		
	2b	Prepare low-pressure sewer connection plan(s) to coordinate layout of pump stations, on-site collection system, and electrical connections		
	2c	Prepare detail plan sheet(s) to detail installation and restoration work associated with sanitary system abandonment and connection to low-pressure sewer.		
3	Regulatory Submissions and Approvals		August 2022	October 2022
	3a	SCHDS WWM Approval		
	3b	SCHDS Pollution Control Approval		
	3c	SCDPW Sewer Connection Approval		
4	Contract Bid		November 2022	December 2022
	4a	Solicit bids from Contractors		
	4b	Review bids		
5	Construction Administration/Observation		February 2023	May 2023
	5a	Notice to Proceed and Kick-off Meeting		
	5b	Review Contractor shop drawings		

	5c	Certification of Sanitary Sewer Connection		
	5d	As-built documents		
	5e	Project Closeout		

4.0 PROJECT COST OPINION

Table 4 presents the cost opinion for the engineering design, and construction for the Westhampton Beach Harbour House Co-ops Low-Pressure Sewer Connection and On-Site Sanitary Disposal System Abandonment.

The cost opinion is the approximation of the cost of the project as it has been defined herein this document, which may change during the design due to unanticipated conditions. The cost opinion is the product of a cost estimating process that attempts to consider the following elements:

1. Difficulty to construct the project,
2. Anticipated means and methods of qualified and competent contractors who have the prerequisite experience with the size and complexity of the project,
3. Escalation for labor and fringe benefits necessary to construct the project,
4. Insurance and cost of obtaining bonds and warranties that are in accordance with industry standards,
5. A construction schedule that considers the optimum time to gain regulatory approvals, advertise for bids, timely award and execution of the construction contract(s), and the season, weather and other site-specific conditions that impact the construction period,
6. Inflation and the economic climate (bidding environment) when the project is to be undertaken,
7. Estimated quantities and projected unit prices for items that will be incorporated into the project,
8. An approximation of the detailed design elements that are usually added during consultation with the client, regulatory agencies, and stakeholder input,
9. Direct costs for contractor general requirements, which includes such items as project management and coordination, quality control, temporary facilities and controls, cleaning and waste management.
10. Reasonable and customary indirect costs for profit, overhead and contractor contingencies are used by the bidder,
11. And, an adequate contingency based on the degree of assumptions and unknowns involved with implementing the construction.

The cost opinion is predicated on the project consistently moving forward without delays that are out of the control of the designer. The following assumption are made in regard to cost estimate:

1. H2M will utilize the existing conditions site survey with metes and bounds of property lines prepared by H2M for Village sewer project. Private utility markout will be required to identify on-site utilities.
2. Existing onsite wastewater disposal system and piping locations to be based on utility mapping made available by the Westhampton Beach Harbour House.
3. Existing onsite soil boring and boring log depicting soil classifications and depth to groundwater in Village ROW fronting the property will be utilized. Additional soil borings or Geotech, if required, is excluded.

4. Final restoration or improvements beyond asphalt and grass restoration in-kind to be furnished by Westhampton Beach Harbour House.

5. No new electrical service will be required at site for power to the GPU's.

Table 4 – Project Cost Estimate

No.	Cost Element	Total ($) - 2021
1	On-site Sanitary Infrastructure and Existing System Abandonment	$ 319,000.00
2	Alt. 1A - Full Parking Lot Restoration	$ 165,116.00
3	Alt. 1B - Trench Restoration Only	$ 25,000.00
4	Alt. 2A - Repurpose Cesspools for Drainage	$ 44,000.00
5	Alt. 2B - Abandon Cesspools	$ 120,000.00
Construction Sub-total Alt. 1A and Alt. 2A . . .		**$ 528,116.00**
Construction Sub-total Alt. 1A and Alt. 2B . . .		**$ 604,116.00**
Construction Sub-total Alt. 1B and Alt. 2A . . .		**$ 388,000.00**
Construction Sub-total Alt. 1B and Alt. 2B . . .		**$ 464,000.00**
5	Preliminary Design	$6,800
6	Detailed Design	$17,300
7	Regulatory Submissions and Approvals	$3,500
8	Bid Phase	$2,200
9	Construction Administration and Observation (Part-time)	$15,200
10	Topographic Survey & Subsurface Utility Investigation	$10,000
Engineering Sub-total . . .		***$55,000***
Permitting & Sampling Fees . . .		***$20,000***
Sub-total Alt. 1A and Alt. 2A . . .		**$ 603,116.00**
Sub-total Alt. 1A and Alt. 2B . . .		**$ 679,116.00**
Sub-total Alt. 1B and Alt. 2A . . .		**$ 463,000.00**
Sub-total Alt. 1B and Alt. 2B . . .		**$ 539,000.00**
Escalation to Midpoint of Construction in 2023 Alt. 1A and Alt. 2A . . .		**$ 645,000.00**
Escalation to Midpoint of Construction in 2023 Alt. 1A and Alt. 2B . . .		**$ 726,000.00**
Escalation to Midpoint of Construction in 2023 Alt. 1B and Alt. 2A . . .		**$ 495,000.00**
Escalation to Midpoint of Construction in 2023 Alt. 1B and Alt. 2B . . .		**$ 576,000.00**

This cost estimate specifically excludes the following:

1. Additional topographic survey,

2. Additional soil borings and related geotechnical report,

3. Invasive investigation (i.e., test pits)

4. Fees associated with required permits and approvals including but not limited to Village of Westhampton Beach, SCDPW, SCDHS, and NYS DEC permit fees for construction and review,

5. Operation and Maintenance of grinder pump units,

6. Construction observation beyond 80 hours,
7. Treatment and/or removal of contaminated soils and groundwater;
8. Legal counsel,
9. And grant assistance.

Westhampton Beach Harbour House LPS Connection and On-site System Abandonment
Budgetary Cost Estimate

Description	Unit	Quantity	Duration	Unit Cost	Cost
1.25" Ø IPS SDR11 HDPE	LF	15	-	$ 1.05	$ 17.33
1.5" Ø IPS SDR11 HDPE	LF	500	-	$ 1.28	$ 704.00
2" Ø IPS SDR11 HDPE	LF	700	-	$ 1.54	$ 1,185.80
45 Deg Elbow 1.5" Ø, DR11	EA	5	-	$ 10.32	$ 56.76
45 Deg Elbow 2" Ø, DR11	EA	2	-	$ 10.56	$ 23.23
Reducer 1.5" IPS x 1.25" IPS	EA	6	-	$ 7.56	$ 49.90
Reducer 2" IPS x 1.5" IPS	EA	2	-	$ 9.24	$ 20.33
Wye 2" IPS DR11	EA	4	-	$ 26.04	$ 114.58
316 SS 1-1/4" FPT Tranistion	EA	6	-	$ 84.20	$ 555.72
12" Flex 316 SS Hose 1-1/4" Ø, MPT x MPT	EA	6	-	$ 76.33	$ 503.78
6" Ø DR-18 C900 PVC	LF	350	-	$ 5.66	$ 2,180.06
6" C900 45 Bend GxG	EA	8	-	$ 107.49	$ 945.87
6" C900 Clean-out Plug	EA	8	-	$ 1.00	$ 8.80
6" C900 Cleanout Adapter	EA	8	-	$ 120.66	$ 1,061.81
Wye 6" C900 GxGxG	EA	3	-	$ 381.84	$ 1,260.07
1" Ø SCH 80 PVC Conduit	LF	300	-	$ 0.93	$ 305.25
2" Ø SCH 40 PVC	LF	360	-	$ 0.92	$ 363.13
2" Ø 90 Deg Elbow SCH 40 PVC	EA	12	-	$ 2.68	$ 35.38
2" Ø SCH 40 PVC Return Bend	EA	12	-	$ 10.13	$ 133.72
2" 304SS Pipe Strap	EA	24	-	$ 4.19	$ 110.62
DH152-93 (flood proof) w/ CP (3,000 gpd)	EA	6	-	$ 13,485.00	$ 89,001.00
1.25" SS Lateral Kit with Curb Box	EA	6	-	$ 365.00	$ 2,409.00
GE TH3221R Disconnect	EA	6	-	$ 159.60	$ 1,053.36
KLNR RK1 30A Fuses	EA	12	-	$ 25.69	$ 339.11
#10 AWG	LF	300	-	$ 0.33	$ 108.90
3/4" Stone	CY	4	-	$ 30.75	$ 135.30
Screened TopSoil	CY	50	-	$ 25.00	$ 1,375.00
Grass Seed	SF	2700	-	$ 0.04	$ 118.80
Concrete Ballast	CY	8	-	$ 160.16	$ 1,409.41
Liquid Waste Hauler	GAL	15000	-	$ 0.40	$ 6,600.00
Heavy Duty CO Casting	EA	6	-	$ 700.00	$ 4,620.00
10' x 10' Storage Shed	EA	1	-	$ 5,737.40	$ 6,311.14
Emergency Generator	EA	2	-	$ 949.00	$ 2,087.80
Material Subtotal					**$ 125,204.93**
Street Saw	Day		1		$ 152.90
Excavator	Weeks		5		$ 9,740.50
Track Loader	Weeks		3		$ 3,544.20
Vibratory Plate Compactor	Weeks		7		$ 3,726.80
Trash Pump	Weeks		5		$ 1,699.50
Generator	Weeks		3		$ 1,281.77
Butt Fusion Machine	Weeks		3		$ 1,029.60
Dump Truck	Weeks		5		$ 7,518.50
Mini-Excavator	Weeks		2		$ 2,090.00
Roller	Days		3		$ 1,481.70
Equipment Subtotal					**$ 32,265.47**
Foreman	Hr		288		$ 17,926.51
Laborer	Hr		304		$ 18,922.43
Plumber	Hr		168		$ 9,717.97
Teamster	Hr		39		$ 1,594.89
Class A Operator	Hr		248		$ 22,661.54
Class B Operator	Hr		152		$ 12,988.63
Electrician	Hr		80		$ 3,092.53
Labor Subtotal					**$ 86,904.50**
Construction Cost Subtotal					**$ 244,374.91**
Contractor Overhead (10%)					$ 24,437.49
Subtotal					**$ 268,812.40**
Contractor Profit (10%)					$ 26,881.24
Subtotal					**$ 295,693.64**
Bonds & Insurances (3%)					$ 8,870.81
Subtotal					**$ 304,564.44**
NYS Sales Tax (8.625%) - Equipment & Material					$ 13,581.82
Base Bid					**$ 319,000.00**
Alt. 1A - Full Pavement Restoration					**$ 165,116.00**
Alt. 1B - Trench Restoration Only					**$ 25,000.00**
Alt. 2A - Repurpose Cesspools					**$ 44,000.00**
Alt. 2B - Abandon Cesspools					**$ 120,000.00**

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. 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.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information

Name of Action or Project:
Westhampton Beach Harbor House LPS Connection and On-site System Abandonment

Project Location (describe, and attach a location map):
23 Library Avenue, Westhampton Beach NY

Brief Description of Proposed Action:
The Village sewer project will provide one (1) 2 ” Ø low-pressure sewer (LPS) stub to the property along the Library Avenue frontage. Low-pressure sewers are pressured sewer mains that convey flow through small diameter pipe through the use of grinder pump units (GPUs) at each property. The GPUs are owned and maintained by the individual property owners while the LPS main in the road will be operated and maintained by Suffolk County Department of Public Works. The on-site infrastructure required to connect to the low-pressure sewer will consist of on-site low-pressure piping, new gravity building connections, and duplex pump stations. All sewers will be designed a minimum of 4.5 feet below grade to prevent freezing. Any infrastructure installed, including pump stations, cleanouts, and manholes will be either installed above flood elevation or designed with flood proof covers.

Name of Applicant or Sponsor:	Telephone:
Westhampton Beach Harbour House	E-Mail:

Address:

City/PO:	State:	Zip Code:
q		

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: Approvals from Suffolk County Department of Health Services, Suffolk County Department of Public Works, and NYSDEC	☐	☑

3. a. Total acreage of the site of the proposed action? 5.24 acres
   b. Total acreage to be physically disturbed? 0.5 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 5.24 acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

5. ☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☑ Residential (suburban)
   ☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other(Specify):
   ☐ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☐	☐
b. Consistent with the adopted comprehensive plan?	☐	☐	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☑	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation services available at or near the site of the proposed action?	☑	☐
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☑	☐

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies:		
Proposed action is not applicable to energy codes. No structures or buildings will be altered. _____	☑	☐
_____		

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____		
Potable water already connected to site. No change to potable water supply will be made as part of this project.	☑	☐
_____		

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____	☐	☐
_____		

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☑	☐
b. 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?	☑	☐

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☑	☐
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____		
_____		
_____		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional

☑ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☑	☐
16. Is the project site located in the 100-year flood plan?	☐	☑
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☑	☐
If Yes,		
a. Will storm water discharges flow to adjacent properties?	☐	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☐
If Yes, briefly describe: _____		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)?	☑	☐
If Yes, explain the purpose and size of the impoundment: _____		
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?	☑	☐
If Yes, describe: _____		
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?	☑	☐
If Yes, describe: _____		

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

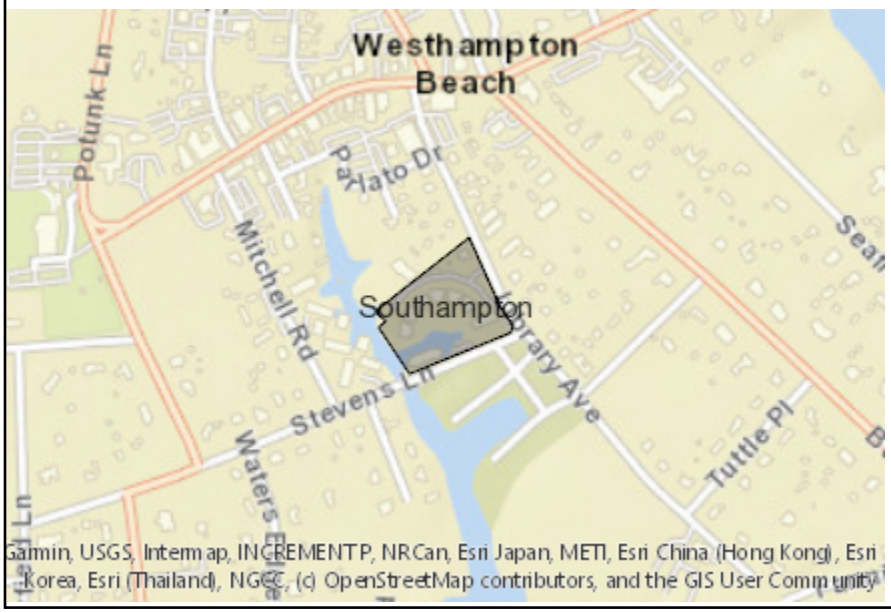
Applicant/sponsor/name: Harold Levine Date: 4/9/22

Signature: Harold Levine Title: President

PRINT FORM

EAF Mapper Summary Report

Monday, December 6, 2021 4:34 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	No
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	No
Part 1 / Question 16 [100 Year Flood Plain]	Yes
Part 1 / Question 20 [Remediation Site]	No

H2M was organized in 1933 and founded on the principles of professional excellence, hard work, and integrity.

Practical Approach. Creative Results.

H2M is a multi-disciplined professional consulting, and design firm, proud of our long history of client service and consistent ability to meet tough architectural, engineering, and environmental challenges head-on. Since 1933, H2M has helped plan, design, and build many of our local communities: from water treatment facilities to firehouses, schools to road reconstruction, and Environmental Site Assessments (ESAs) to groundwater remediation. Since our early roots, our focus has remained steadfast: to provide quality service with sound judgment and serve our clients as an honest and professional resource. We offer a practical approach with creative results.

Our Staff

H2M prides itself on the breadth of its comprehensive in-house service capabilities. With a diverse staff of over 480 engineers, architects, surveyors, scientists, planners, landscape architects, and technical support specialists, we offer our clients the benefit of a full "under one roof" consulting network.

- **60** Registered Architects
- **93** Professional Engineers
- **02** Registered Landscape Architects
- **07** Professional Geologists
- **06** Professional Planners
- **02** Professional Land Surveyors
- **39** LEED Accredited Professionals
- **14** LEED Green Associates
- **05** Licensed Site Remediation Professionals

OPERATING PHILOSOPHY

MISSION

Our People
We commit to developing our people and rewarding hard work with growth opportunities in an inclusive professional environment.

Our Clients
We commit to being trusted advisors for our clients and delivering problem solving value and quality on every project.

Our Communities
We commit to creating thriving and healthy communities by giving of ourselves and developing sustainable solutions that benefit everyone.

VISION

We exist to improve the quality of life for everyone in our reach by empowering our diverse talent to sustainably solve the challenges of the built environment.

VALUES

We Stand as One H2M
Inclusive. Supportive. Collaborative. No matter where you are.

We Challenge One Another
We show up curious and push boundaries.

We Do the Right Thing
Our character is built on doing what is right and ethical.

We Work Safely
We care for the lives of our people and their families.

We Own it
We hold ourselves accountable for team success and personal achievement.

We Embrace Diversity
We acknowledge and honor the fundamental value and dignity of all individuals.

Architecture

- Architectural design
- Comprehensive grant programs
- LEED design processes
- Interior design
- Removal of barriers to the handicapped
- Master plans and revisions
- Needs assessments
- Planning studies
- Building conditions surveys
- Restoration of historic structures
- Restaurant and kitchen design
- Zoning ordinance review
- Educational facilities design
- Assisted living facilities design

Civil/Site & Structural Engineering

- Roadway reconstruction and resurfacing
- Site plan design
- Street lighting
- Flood control and drainage
- Irrigation systems
- Sidewalks and curbs
- Storm drainage systems
- Water mains
- Local roadway study and design
- Subdivision design
- Streetscape design and improvements
- Parks, playgrounds, athletic fields
- Parking fields
- Highway planning studies
- Intersection design and improvements
- Visual impact analyses
- Resident engineering inspections
- Geographic Information Systems (GIS)
- Green infrastructure design
- Structural conditions assessments
- Structural building design
- Structural renovations/alterations
- Cause and origin investigations
- Retaining walls, bulkhead, and culvert design
- Storm hardening/resiliency
- Expert testimony

Construction Phase Services

- Inspection
- Shop drawing review
- Scheduling
- Construction administration
- Site safety plans
- Grant administration
- MWBE/SDVOB compliance
- Startup
- Commissioning
- Drone progress photos
- O&M manuals
- Utility coordination
- Response to RFIs
- Job progress meetings
- Prepare punch list
- Project closeout
- Record drawings

Environmental Services

- Air and water pollution control
- Hazardous waste management
- Hazardous materials storage design
- Waste minimization
- Environmental Impact Statements (EISs)
- Wetland delineation
- Environmental Site Assessments (ESAs)
- Environmental compliance audits
- Environmental permitting
- Site investigations
- Brownfield assessments
- Remedial investigations/feasibility studies
- Risk assessments
- Above and underground tank management
- Soil and groundwater remediation
- Soil vapor intrusion studies
- Regulatory compliance programs
- Industrial hygiene
- Indoor air quality
- CM/LBP/mold inspections and abatement
- Computer modeling
- Asbestos investigation and removal
- Geographic Information Systems (GIS)

Land Surveying

- Boundary and title surveys
- Topographical surveys
- Horizontal and vertical control surveys
- Hydrographic surveys
- Route surveys
- Subdivision planning
- Sanitary and drainage study maps
- Legal descriptions
- Construction layout services
- As-built surveys
- Architectural surveys
- Structural surveys
- Under-construction inspection surveys
- Easement survey and description

Landscape Architecture

- Tree inventory and assessment
- Tree mitigation
- Landscape design and restoration
- Conceptual site design
- Landscape planning
- Illustrative renderings
- Landscape architectural detailing
- Streetscape and urban design
- Parks and playgrounds design
- Campus landscape design
- Private estate and residential design
- Planting design
- Wetlands mitigation
- Green infrastructure

MEP Services

- Electrical systems design
- Feasibility and implementation studies
- Power supply
- Exterior and interior building services
- Closed-circuit television security systems
- Emergency power generation
- Site/systems and load evaluations
- Energy studies
- Site lighting design
- Fire and security systems
- SCADA systems
- Utility company rebates and incentives
- HVAC systems design
- Heat and cooling load analysis
- Steam systems
- Hydronics
- Heat recovery systems
- Chillers and cooling towers
- Laboratory ventilation systems
- Site/systems evaluations
- Feasibility/implementation studies
- Energy conservation
- Cost/benefit analysis
- Commissioning/testing

Planning

- Comprehensive Master Planning
- Parks, Open Space and Recreation Planning
- Environmental and Natural Resource Planning
- SEQRA and EIS Documentation and Process Support
- Community Visioning
- Zoning Ordinances and Analysis
- Redevelopment Studies and Plans
- Geographic Information Systems (GIS)
- Urban Design
- Design Guidelines
- Renderings
- Feasibility Studies and Conceptual Plans
- Downtown Revitalization
- Expert Private Testimony
- Municipal Board Representation

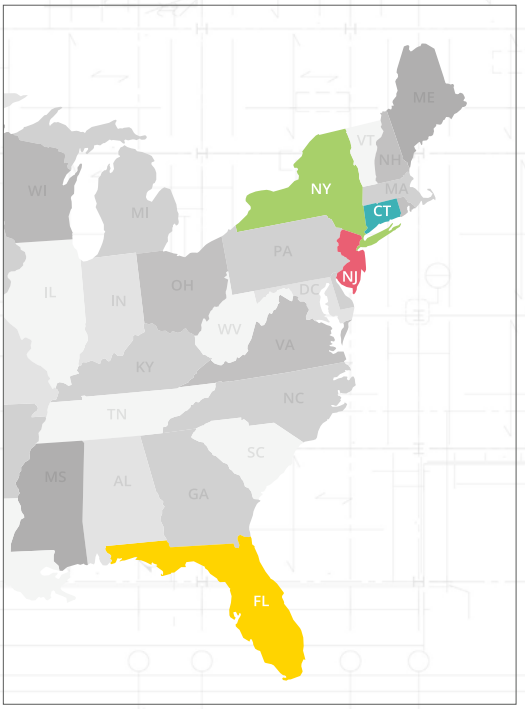
Wastewater Engineering

- Characterization/quantification of waste
- Treatment facility evaluation
- Scavenger waste facility design
- Outfalls and leaching systems design
- Chemical feed systems design
- Monitoring and control systems
- Nutrient removal treatment systems design
- Facility planning studies
- Wastewater treatment studies
- Wastewater treatment plant design
- Wastewater reuse design
- Standby power systems
- Sludge thickening, dewatering
- Sludge treatment, disposal
- Odor control
- UV and chemical disinfection systems
- Sewer system extension planning
- User cost analysis
- Sanitary sewer design
- Sewer rehabilitation studies and design
- Infiltration/Inflow evaluation
- Pump station evaluations and design
- Odor control
- Security systems
- Geographic Information Systems (GIS)
- Discharge monitoring reports
- Plant performance monitoring
- Preparation of O&M manuals
- Facility start-up and operations
- Groundwater/effluent monitoring programs
- Operator training
- Industrial pretreatment programs
- Prepare/revise sewer use ordinance

Water Engineering

- Supply well design
- Plant rehabilitation design
- Water treatment systems
- Water filtration systems design
- VOC removal treatment systems design
- Distribution system analysis and design
- Distribution hydraulic modeling
- Automated mapping/facilities mapping
- Storage tank rehabilitation/repainting
- Storage tank design
- Tank and coatings inspection
- Instrumentation and computer control designs
- Comprehensive groundwater modeling
- Geographic Information Systems (GIS)
- Aquatics and park design
- Public swimming pool design
- O&M programs
- Training programs
- Asset management

H2M Office Locations | New York Offices



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

127 West 30th Street, 9th Floor
New York, NY 10001

737 Roanoke Avenue
Riverhead, NY 11701

2 Executive Boulevard, Suite 401
Suffern, NY 10901

2700 Westchester Avenue, Suite 415
Purchase, NY 10577

3 Lear Jet Lane, Suite 205
Latham, NY 12110

119 Cherry Hill Road, Suite 110
Parsippany, NJ 07054

4810 Belmar Boulevard
Wall Township, NJ 07753

360 Bloomfield Avenue, Suite 301
Windsor, CT 06095

880 SW 145th Avenue, Suite 106
Pembroke Pines, FL 33027

The Core of Excellence is an H2M exclusive initiative that sets us apart from the competition with a focus on excellence and quality as a core element of our services. It's a firm-wide commitment to deliver excellence through innovative and best-in-class service to our clients, colleagues, and ourselves. H2M's Core of Excellence is comprised of four key components:

QA/QC

We demonstrate our commitment to ensuring quality at the corporate level through our appointment of a full-time Director of Corporate QA/QC to lead the development, implementation, and oversight of H2M's Quality Management System (QMS). This commitment is further reinforced by established quality assurance team members who, independent of the project design team, assure that H2M's components of quality are incorporated. H2M's QMS is comprised of a combination of processes, tools and resources available to all H2M staff. These include Quality Control Checklists, established QA/QC communication channels, and templates all made accessible thorough H2M's comprehensive Project Management Framework.

SCHEDULING

We recognize the importance of timely project delivery and take great pride in our ability to quickly mobilize, assign staff, and complete projects on time. H2M developed a custom scheduling interface allowing for consistent data inputs from the entire firm on a bi-weekly basis. This is transitioning to a centralized scheduling database that allows real-time total team scheduling updates and awareness, allowing H2M to actively adapt our resources to meet the needs of even the most demanding project schedules. We can share detailed , easy to read graphic schedules with our clients, allowing them to always have their finger on the pulse of their project's timeline.

SPECIFICATIONS

Our focus and commitment to excellence and quality is further reflected in our Master CSI-based Specifications Library. A dedicated, full-time Specifications Manager oversees the continual development, standardization, and maintenance of our Master Specifications. H2M utilizes a cloud-based specification software platform that allows all users direct access to our Master Specifications Library to develop project-specific spec books. This process ensures that our project specifications include the latest updates in product data and reference standards.

BIM/CAD

Building Information Modeling (BIM) has revolutionized the A/E/C industry. By using intelligent 3-D digital models to generate our designs, H2M can achieve a higher level of quality, consistency, and efficiency in our production process, minimizing the potential for change orders during construction. We employ a full-time, dedicated, and independent team comprised of design professionals and BIM-CAD specialists whose primary responsibilities are to create, deploy, and maintain company-wide standards, templates, procedures, and workflows. Our adoption of BIM has been the single most important change in how we design and manage our projects.

CLIENT BENEFITS

- ★ Well-coordinated construction documents that reduce project change orders and minimize cost overruns
- ★ Consistent quality and proven performance
- ★ Optimized resource allocation to meet project demands
- ★ Increased compliance with the latest industry and regulatory standards
- ★ Enhanced project visualization via 3D modeling
- ★ Improved collaboration among all project stakeholders

H2M Health and Safety Program Overview

H2M is committed to protecting the health and safety of our employees. H2M is currently implementing management systems for ISO 45001 Occupational Health and Safety certification. The goal of our Health, Safety and Environmental (HSE) program is to develop a corporate safety mindset to ensure the safety of site personnel, the general public, and the environment on all projects on a day to day basis. Health and Safety is an H2M fundamental value and provides a framework for our business operations.

Our employees are our most important assets and their safety at the worksite is our greatest responsibility. H2M management provides all mechanical and physical facilities required for the personal safety and health of each of its employees. Inherent to H2M's HSE program is our employee's proper attitude toward injury and illness prevention which is driven from the firm's corporate leadership. It also requires cooperation in all safety and health matters, not only between corporate management, our safety team members, supervisors and employees, but also between employees and their co-workers.

H2M's HSE program is dynamic and continually evolving to meet or exceed requirements detailed in the Code of Federal Regulations (CFR) Parts 1910 and 1926 and now ISO 45001. The program includes the following components and/or highlights:

- **Participation in a third-party HSE contractor and supplier management service (ISNetworld)**
- **Formal safety committee and designated safety representatives**
- **H2M general safety training required for all personnel that conduct field work or construction site visits**
- **Mandatory OSHA 40-hour HAZWOPER and 10-hour construction safety training for H2M environmental staff**
- **Corporate Health and Safety Plan (HASP)**
- **Corporate employee manual with HSE framework and commitment**
- **Corporate HASP subcommittee to periodically review and update HASP**
- **Standardized HSE incident reporting forms**
- **Corporate ladder safety plan**
- **Corporate bloodborne pathogen plan**
- **Corporate respiratory protection plan**
- **Medical surveillance program**
- **Commitment to ensuring all personnel have necessary PPE, including hardhats, safety vests, gloves, and safety glasses at no cost to the employee**
- **Reimbursement program for other safety equipment, as needed, including ASTM/ANSI-rated safety shoes/boots**
- **Implementation of evacuation plans for all H2M offices**
- **Safety orientation for all new employees and interns**
- **Installation of AEDs in all offices**
- **CPR/AED/first aid training to all employees on a voluntary basis**

"H2M management provides all mechanical and physical facilities required for the personal safety and health of each of its employees."

Low Pressure Sewer System

Inc. Village of Patchogue

Patchogue, NY

Construction Cost: $0 million or N/A

SERVICES PROVIDED

- Bid Services
- Collection System
- Hydraulic Modeling
- Construction Observation
- Cost Estimates and Opinions
- Design Engineering

AWARDS

- ♦ ASCE L.I. Branch - Quality of Life Award
- ♦ ACEC New York - Platinum Award

The Inc. Village of Patchogue needed to prepare a map and plan and construction bid documents for installation of drainage improvements in conjunction with the installation of a low pressure sewer system with a grinder pump station at each home along River Avenue (south of Price Street), Sunset Lane, Price Street and Maple Avenue.

Existing drainage systems in the area were limited and not adequate to drain stormwater runoff. Streets were flooding regularly. Groundwater was approximately two feet below grade which limited the function of the on-site sanitary system for the homes. All parcels were within the zero to two year groundwater travel time to the Great South Bay. Over time, what was once an area of summer homes and beach bungalows transitioned to homes with full-time residencies. Several studies have documented the impacts of excessive nitrogen from sanitary systems in reducing dissolved oxygen levels to the detriment of aquatic life and in supporting harmful algal blooms. In conjunction with this study to extend the Village sanitary sewer system to serve 46 homes, we investigated the feasibility of making storm drainage-related improvements to help address existing flooding conditions related to the proposed sanitary sewer improvements. The report identified potential drainage improvements that could be implemented while the roadways were disturbed during the construction of the sanitary sewers.

During design, we conducted a utility coordination meeting with representatives of National Grid, the Village DPW and the Suffolk County Water Authority. Our personnel also met with homeowners to review the proposed installation location of the on-site pump station and low pressure sewer connection. Plans were submitted to and approved by the Suffolk County Department of Health Services.

The drainage improvements included the installation of approximately 4,750 linear feet of porous concrete gutter, along with drainage pipe and underground stone storage space along the shoulders of each of the roadways. In addition, a shallow vegetated stormwater management basin was proposed to temporarily store excess runoff during storm events. This system was incorporated to help alleviate flooding during storm events and improve drainage in this flat, low-lying section of Patchogue.

We worked with the Dormitory Authority of the State of New York (DASNY), Suffolk County and the Village of Patchogue in order to receive funding through two DASNY grants, an Infrastructure Program Grant provided by Suffolk County, and the Village of Patchogue Sewer Fund. Remaining funds were bonded by the Village.

We provided a resident engineer during construction. Construction phase services included full time construction inspection, shop drawing review, review of contractor payment requests and periodic meetings. During construction the project scope was expanded to include the abandonment of the existing on site sanitary system at each home.

The implementation of the project was so successful that aspects of the community outreach and design techniques are now being utilized by Suffolk County and the Village for the Suffolk County Patchogue River Watershed Sewer Project.

Investigation of Alternative On-Site Sewage Treatment Systems

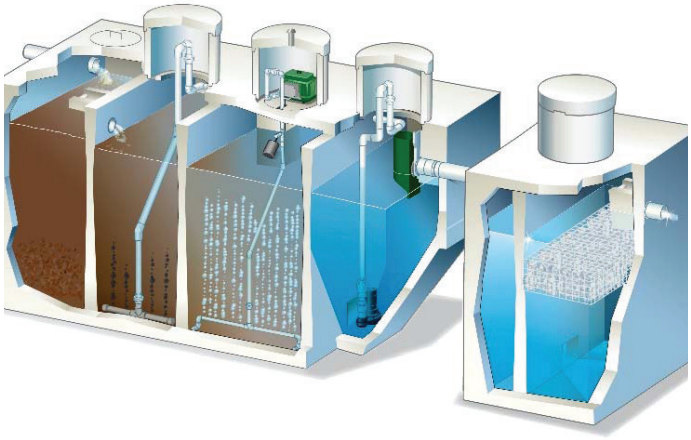
Suffolk County Dept. of Health ServicesEast
Yaphank, NY

Construction Cost: N/A

SERVICES PROVIDED

- Evaluation of Treatment Technologies
- Laboratory Analysis

H2M prepared a multi-report study for the Suffolk County Department of Health Services (SCDHS) on an investigation of alternate water resource recovery facilities that could possibly replace current systems, or be required for new construction.



The SCDHS undertook the investigation of alternative on-site water resource recovery facilities (OSWRRF) to better manage total nitrogen discharge to groundwater. The intent of the investigation was to evaluate systems that provide a viable, low cost, and environmentally acceptable means to protect public health. The overriding criterion of the study was that the alternative OSWRRF had to consistently achieve an effluent total nitrogen concentration of not greater than 10 mg/L. The investigation covered two different treatment categories. The first category was defined as single-family residential dwellings with flows from 300 to 1,000 gallons per day (GPD); the second category was defined as the other than single-family dwellings comprised of commercial or high-density residential properties, with flows from 1,000 GPD to 30,000 GPD.

The first report presented to the SCDHS consisted of the research performed by H2M. Over 60 websites were studied yielding over 150 downloads of information. Products developed for advanced on-site treatment were technically screened for further evaluation. Standards from national agencies such as the National Sanitation Foundation (NSF), the United States Environmental Protection Agency (EPA), and the states of New York, New Jersey, Massachusetts, Rhode Island and Washington were used as part of the screening process to determine the on-site wastewater alternatives that would be considered by Suffolk County.

Following the research of existing alternative OSWRRF, the list of acceptable technologies capable of reducing total nitrogen to 10 mg/L was significantly reduced. The subsequent report included the evaluation, selection, and sampling of these alternative systems. Two technologies were considered viable for residential use and four technologies were considered viable for commercial use. Two systems for each technology in each flow category were chosen to be field sampled. This phase also allowed for an independent evaluation of the manufacturer's claims of performance. H2M Labs was responsible for the analysis of the influent and effluent grab samples that were collected around the country by a subconsultant. The parameters analyzed included BOD, TSS, TKN, Total Nitrogen, alkalinity, and pH.

Following the sampling of the alternative OSWRRF for each flow category, a thorough assessment of each technology was undertaken. Each technology was evaluated for the ability to meet the design and operations criteria that were established by the SCDHS. A schematic depicting a typical installation in Suffolk County for each technology was provided.

In the next report of the study, H2M developed a cost/benefit analysis for the selected technologies using the established assessment criteria. The selected alternative systems are expected to reduce influent nitrogen concentrations by 87 percent compared to only a 50 percent reduction in a conventional system. The cost opinions presented included estimates for the design, construction, installation, and operation and maintenance for each alternative facility.

The fourth report presented the investigation and evaluation of the conditions and restrictions under which alternative on-site treatment systems are permitted in Massachusetts, Rhode Island, New Jersey, and Maryland. A description of the approval process and regulations set in each of these states was also described in this report.

Innovative Alternative On-site Wastewater Treatment System

Springs Union Free School District
East Hampton, NY

Construction Cost: $1.57 million

SERVICES PROVIDED

Engineering Design

Construction Services

ACEC New York
Diamond Award

H2M was retained by BBSA to prepare detailed design documents and engineering during construction services for the approval and installation of an Innovative Alternative Onsite Wastewater Treatment System (I/A OWTS) with supplemental nitrogen reducing biofilters at the Springs Union Free School District.

BBSA was looking to retain a qualified design profession with experience associated with the design and approval of I/A OWTS in Suffolk County. The objectives of this project were to replace the existing conventional onsite sanitary disposal system to allow for the construction of a planned building addition while improving the effluent water quality that is discharged from the school.

Springs UFSD wanted to go above and beyond the minimum requirements to replace their existing on-site sanitary disposal system. This required H2M to identify options for supplemental treatment in addition to the approved I/A OWTS. H2M reached out to the Stony Brook University Center for Clean Water Technology (SBU CCWT) and selected additional Nitrogen Reducing Biofilters (NRB) as the best alternative to meet the school's needs. These systems have shown promise in removing a high percentage of total nitrogen but have not been implemented on a large scale commercially. H2M worked with the CCWT to size and design the NRB to best fit the schools need. This required the development of details for NRB implementation within a leaching galley structure to minimum the area required to treat and dispose of the I/A OWTS effluent.

A major challenge H2M faced with this project was designing and sourcing an NRB system that would fit within the proposed sanitary disposal system without greatly increasing total project costs and minimizing the impact to the site. To accomplish this goal H2M designed an innovative NRB vessel that can be installed within SCDHS standard leaching galley. By combining the NRB and Leaching Galley into one unit the land area required for treatment and disposal is significantly reduced as well as the costs associated with clearing, excavating, and restoring that area.

H2M worked with the Client (BBSA) and the school to identify project goals above and beyond those required by the Suffolk County Department of Health Services (SCDHS). Using these strict limits H2M designed a unique system for the treatment and disposal of the sanitary waste generated by the school.

On-Site Wastewater Treatment Research Facility

NYS Center for Clean Water Technology

Stony Brook, NY

Construction Cost: N/A

SERVICES PROVIDED

Engineering Design

Construction Administration

H2M was selected to develop design concepts and construction bid documents to construct a research facility that would allow the client to test alternative technologies for on-site, household wastewater treatment systems.

The Center for Clean Water Technology selected H2M to assist them with the development of design concepts and construction bid documents to construct a research facility that would allow then to further their ongoing research by providing a location where they could test alternative technologies for on-site, household wastewater treatment systems, which pose a major threat to surface and groundwater resources. The Center for Clean Water Technology aims to find the most home-owner friendly on-site wastewater treatment system that will protect the greatest asset of our area, our water.

H2M worked with the research team and program directors, through in-office design meetings and various conversations, to design a user-friendly research facility that would be easily modifiable for various tests the researchers will perform. The research facility property was given to the Center for Clean Water Technology by the Suffolk County Dept. of Public Works (SCDPW). SCDPW's involvement was pivotal for success of this project as the facility location is adjacent to a County-owned sewage treatment plant (STP). With the working relationship H2M has with SCDPW, the design was based around using a side-stream of flow to the County facility for testing by the research team at the designed facility.

Coordinating the electric service to the research facility was difficult as SCDPW was required to keep the facility separate from their feed. The communication between H2M, SCDPW, the electric utility provider, and client was kept open through presenting multiple design options and agreed upon based on feasibility, cost and constructability.

Sanitary Evaluation and Repair

Springs Union Free School District
East Hampton, NY

Construction Cost: N/A

SERVICES PROVIDED

- Construction Administration
- Engineering Support
- Construction Inspection

H2M was a subcontractor to BBS Architects in providing engineering evaluation and repair oversight for the Springs Union Free School District's existing sanitary disposal system.

The school was facing issues with odors and sanitary backups that posed health risks to students and faculty. To minimize these risks, the school was paying to have their sanitary waste hauled away multiple times each week. The local community began to question the school administration and criticize for allowing students on campus with such a potential direct health hazard. With the school district planning a vote for a capital bond upgrade, they needed to ensure the community adequate lifespan of the existing sanitary system that would last until project approval, when they could upgrade to a SCDHS approved "Innovative/ Alternative Onsite Wastewater Treatment System" (IAOWTS).

H2M was subcontracted by BBS, along with a contractor, and held responsible as much as the contractor to give direction for the sanitary system exploratory dig through BBS to the contractor as the system was buried under the existing school parking area. We had calculated the number of pools required for the school to maintain compliance with SCDHS code and the exact total depth required for the existing system to handle sanitary flow from the school. We informed BBS of the system requirements and through clear communication were able to direct the contractor to find all the components of the system. We were also able to give BBS direction for the contactor to take for the necessary repairs to reconnect the existing system. We reviewed existing conditions, gathered information from school representatives, evaluated existing sanitary disposal system capacity, and provided oversight and direction to the contractor hired to perform exploratory digging and repair to the existing system.

H2M was objective, direct and exact with all aspects of the project, ranging from our measurements and calculations of the existing system to our discussions with BBS and interested school faculty on site during the dig.

The existing sanitary system was reconnected so that sanitary waste could flow to all leaching pools originally installed, saving the school district money that was planned to be spent on installing a nutrient reducing IAOWTS as a part of the capital bond upgrade. The project also resulted in improved relations with between the local community and school administration as the public health risks associated with exposure to sanitary waste and odors were eliminated.

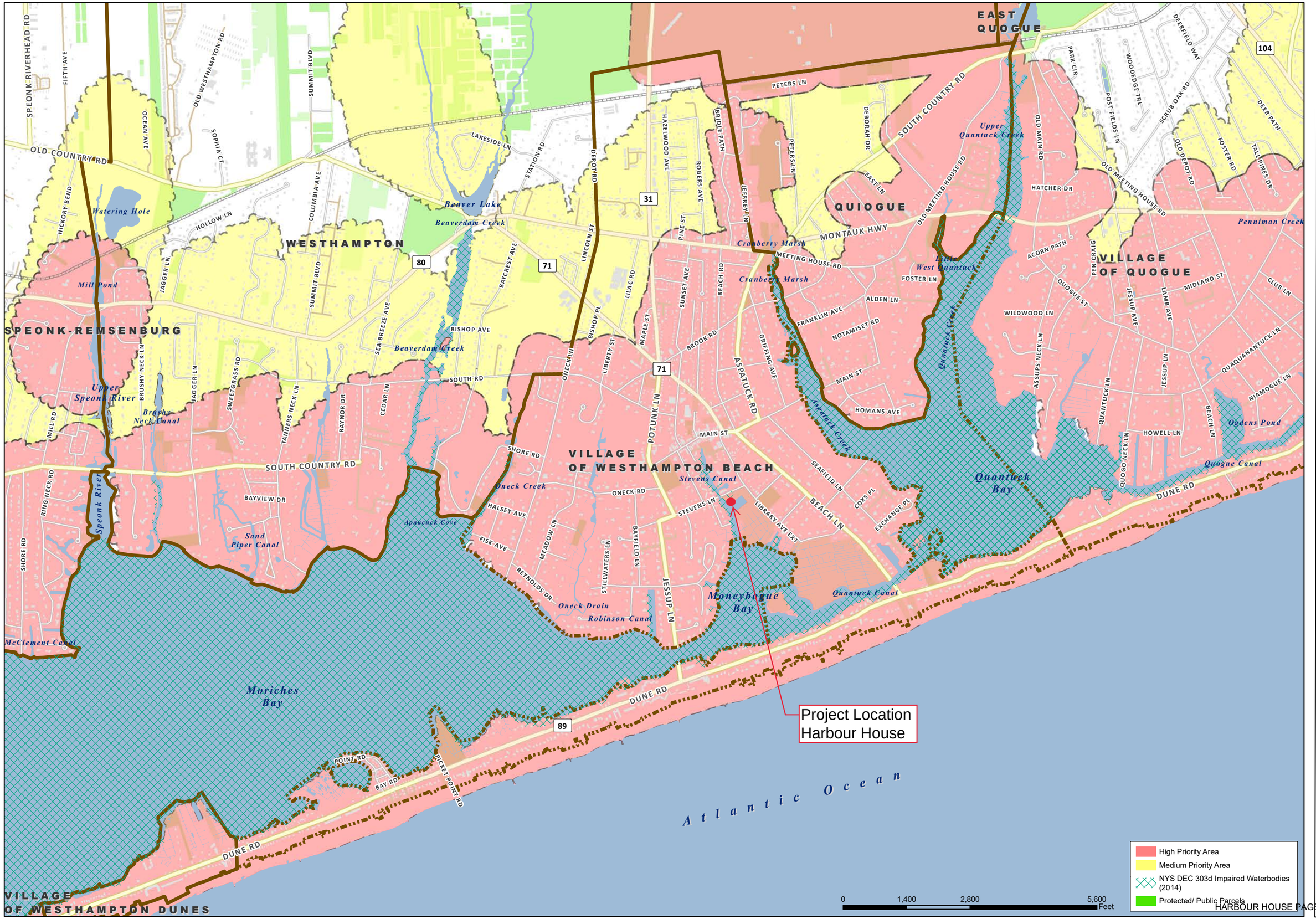
Harbour House
Town of Southampton Community Preservation Fund 2022
Location Map

Harbour House

Harbour House
Town of Southampton Community Preservation Fund 2022
Location Map

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

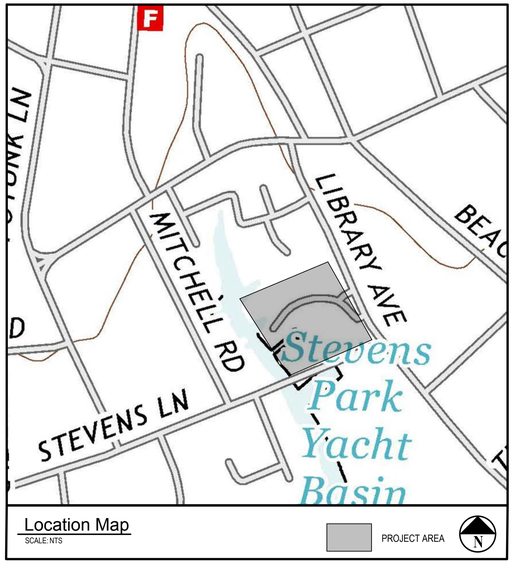
WESTHAMPTON BEACH HARBOUR HOUSE HOA

SANITARY SYSTEM PLAN

35 LIBRARY AVENUE
WESTHAMPTON BEACH, NY 11978

WHHH2101

APRIL 2022



DRAWING LIST

INFORMATIONAL DRAWINGS

G 000	COVER SHEET
G 100	GENERAL NOTES

CIVIL DRAWINGS

CD 100	SITE PLAN
CS 100	LOW PRESSURE SEWER SITE PLAN

DETAILS

C 500	DETAILS 1 OF 2
C501	DETAILS 2 OF 2

H2M architects + engineers

538 Broad Hollow Road, 4th Floor East
Melville, NY 11747
631.756.8000 • www.h2m.com

DESIGNED BY:	DRAWN BY:	CHECKED BY:	REVIEWED BY:

PROJECT No.	DATE:	SCALE:
WHHH 2101	APRIL 2022	

CLIENT
WESTHAMPTON BEACH HARBOUR HOUSE HOA

SANITARY SYSTEM PLAN

35 LIBRARY AVENUE
WESTHAMPTON BEACH, NY 11978

STATUS
NOT FOR CONSTRUCTION

DRAWING No.
G000

SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS DIVISION OF SANITATION SUBDIVISION/SEWER PROJECTS

GENERAL NOTES (REVISED 2-10-17)

1. NO CONSTRUCTION SHALL COMMENCE UNTIL THE FOLLOWING CONDITIONS ARE MET:

   A. THE OWNER, ENGINEER AND CONTRACTOR SHALL ATTEND A PRECONSTRUCTION MEETING WITH DEPARTMENT OF PUBLIC WORKS REPRESENTATIVES.

   B. A PERMIT TO CONSTRUCT AND DISCHARGE FOR THE WASTE DISPOSAL SYSTEM (NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION) AND AN APPROVAL TO CONSTRUCT ISSUED BY THE SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS (SCDPW) HAVE BEEN RECEIVED.

   C. THE OWNER OR HIS/HER REPRESENTATIVE HAS NOTIFIED SCDPW, IN WRITING, OF THEIR INTENTION TO COMMENCE CONSTRUCTION AND THEY SHALL SUBMIT AN ACCURATE SCHEDULE OF ANTICIPATED WORK PROGRESS AT LEAST 14 CALENDAR DAYS PRIOR TO ACTUAL COMMENCEMENT DATE. IF, FOR ANY REASON, CONSTRUCTION IS TEMPORARILY SUSPENDED, A WRITTEN NOTICE SHALL BE TRANSMITTED TO SCDPW. WRITTEN NOTICE OF RECOMMENCEMENT OF CONSTRUCTION, TOGETHER WITH A REVISED PROGRESS SCHEDULE, SHALL BE TRANSMITTED TO SCDPW AT LEAST THREE (3) WORK DAYS PRIOR TO ACTUAL RECOMMENCEMENT DATE.

   D. THE CONTRACTOR HAS FILED ALL NECESSARY APPLICATIONS WITH NYSDEC, THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES, SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS, SUFFOLK COUNTY FIRE MARSHAL, AND THE LOCAL TOWN AND HAS OBTAINED ALL NECESSARY APPROVALS.

2. ALL SEWER CONSTRUCTION INCLUDED IN THIS PROJECT SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE SCDPW'S GUIDELINES INCLUSIVE OF ALL REVISIONS AND ADDENDA THERETO. UNLESS OTHERWISE APPROVED BY SCDPW, ALL MATERIALS SHALL BE AMERICAN MADE. IN ALL CASES WHERE CONFLICTS EXIST BETWEEN THE CONTRACT DOCUMENTS AND THE LATEST REVISIONS OF THE SPECIFICATION FOR SEWER CONSTRUCTION, THE INTERPRETATION AND RULINGS OF THE SCDPW SHALL BE BINDING.

3. PRIOR TO THE INCORPORATION OF ANY MATERIAL OR EQUIPMENT INTO THE WORK, FIVE (5) COPIES OF SHOP DRAWINGS, CATALOG CUTS, CHARACTERISTIC CURVES, TEST RESULTS PERFORMANCE DATA, ETC. SHALL BE SUBMITTED TO THE SCDPW, DIVISION OF SANITATION. NO MATERIAL OR EQUIPMENT SHALL BE INCORPORATED INTO THE WORK UNTIL ALL REQUIRED SUBMITTALS ARE REVIEWED AND APPROVED, IN WRITING, BY THE SCDPW.

4. ALL SANITARY SEWER LINES SHALL BE LAID A MINIMUM DISTANCE OF 10.0' HORIZONTALLY AND 1.5' VERTICALLY BELOW ANY EXISTING OR PROPOSED WATER MAIN.

5. THE CONTRACTOR SHALL FURNISH AND INSTALL AN UNDERGROUND MARKING TAPE ALONG ALL SEWER LINES, FORCE MAINS AND HOUSE CONNECTIONS IN ACCORDANCE WITH SCDPW SPECIFICATIONS FOR SAME.

6. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES (INCLUDING EXISTING SEWERS) BY FIELD INVESTIGATION. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE ADEQUACY OF ALL EXISTING SEWERS TO ACCEPT CONNECTION OF THE PROPOSED WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY CONFLICTS BETWEEN EXISTING UTILITIES AND OF ANY INADEQUACY OF THE EXISTING SEWER LINES TO PROPERLY ACCEPT PROPOSED CONNECTIONS AND FLOWS.

7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RESTORE ALL AREAS DISTURBED BY HIS WORK, TO THE CONDITION AS BEFORE THE WORK COMMENCED.

8. DURING CONSTRUCTION, A REPRESENTATIVE OF THE SCDPW MUST BE PRESENT TO OBSERVE AND EXAMINE THE WORKMANSHIP AND MATERIALS BEING INCORPORATED IN THE PROJECT. THE DEPARTMENT SHALL BE THE SOLE JUDGE AS TO WHETHER THE CONSTRUCTION PROVIDED IS IN COMPLIANCE WITH DEPARTMENTAL REQUIREMENTS. AT ANY TIME DURING THE COURSE OF THE CONSTRUCTION THAT THE WORK IS DEEMED UNACCEPTABLE, A STOP WORK ORDER WILL BE ISSUED AND ANY WORK PERFORMED AFTER THE ISSUANCE OF SUCH AN ORDER SHALL NOT BE ACCEPTED OR APPROVED BY THE SCDPW. UNAPPROVED WORK AND/OR MATERIAL SHALL BE REMOVED AND REPLACED TO THE SATISFACTION OF THE SCDPW BEFORE APPROVAL TO RECOMMENCE WORK WILL BE GRANTED.

9. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION SITE IN A NON-HAZARDOUS CONDITION ALL IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEW YORK STATE DEPARTMENT OF LABOR, OSHA AND ALL OTHER AGENCIES HAVING JURISDICTION. UNLESS OTHERWISE APPROVED IN WRITING BY SCDPW, THE CONTRACTOR SHALL ERECT AND MAINTAIN ADEQUATE FENCING AROUND ALL OPEN EXCAVATIONS.

10. FINAL APPROVAL SHALL NOT BE GRANTED UNTIL ALL THE FOLLOWING REQUIREMENTS ARE FULFILLED TO THE SATISFACTION OF THE SCDPW.

    A. THE SYSTEM SHALL BE SUBJECTED TO TESTING TO ESTABLISH THE ADEQUACY OF INDIVIDUAL COMPONENTS AND OF THE OVERALL SYSTEM'S ABILITY TO MEET THE REQUIREMENTS OF THE APPROVED CONTRACT DOCUMENTS. ALL ACCEPTANCE TESTING SHALL BE PERFORMED AT NO COST TO THE DEPARTMENT AND NO ACCEPTANCE TESTING SHALL BE PERFORMED UNLESS WITNESSED BY A DULY AUTHORIZED REPRESENTATIVE OF THE SCDPW. THE DEPARTMENT SHALL BE THE SOLE JUDGE AS TO THE ADEQUACY OF THE ITEMS TESTED AND DEFECTS SHALL BE CORRECT TO THE SATISFACTION OF THE SCDPW.

    B. REPRODUCIBLE "AS-BUILT" RECORD DRAWINGS OF THE COMPLETED SEWAGE COLLECTION SYSTEM SHALL BE SUBMITTED TO THE SCDPW. "AS-BUILTS" MUST BE SIGNED AND SEALED BY A DULY LICENSED NEW YORK STATE LAND SURVEYOR AND MUST SUPPLY A SUITABLE PERMANENT RECORD OF THE EXACT LOCATION AND ELEVATION OF SEWER LINES, STRUCTURES, STUBS, HOUSE CONNECTIONS, WYES AND APPURTENANCES. "AS-BUILTS" SHALL BE PREPARED IN ACCORDANCE WITH SCDPW STANDARDS FOR "AS-BUILT" DRAWINGS FOR SEWER CONSTRUCTION AND MUST BE INK ON MYLAR OR EQUAL DRAFTING MEDIA AND DIGITAL (AUTOCAD), AS REQUIRED BY SCDPW. PLANS MUST BE IN THE FOLLOWING COORDINATE SYSTEMS:

    - HORIZONTAL COORDINATE SYSTEM: NAD 1983, STATE PLANE, NEW YORK, LONG ISLAND ZONE, US SURVEY FEET.
    - VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988

    ALL SHEETS OF THE AS-BUILT DRAWINGS SHALL INDICATE THE HORIZONTAL COORDINATE SYSTEM AND VERTICAL DATUM SYSTEM. ELEVATIONS OF POINTS OF CONTROL IN DIFFERING DATUM MUST NOTE THE ORIGINAL DATUM AND ITS CORRESPONDING ELEVATION AND 1988 (NAVD) DATUM AND ELEVATION ON PLANS.

    C. REPRODUCIBLE "AS-BUILT" RECORD DRAWINGS OF THE COMPLETED SEWAGE WORKS SHALL BE SUBMITTED TO THE SCDPW. "AS-BUILTS" MUST INCLUDE, BUT NOT BE LIMITED TO, SITE PLAN, OPERATION AND MAINTENANCE MANUALS SCHEMATICS AND ELEMENTARY DRAWINGS OF ELECTRICAL, MECHANICAL AND PROCESS SYSTEMS. DRAWINGS MUST BE SIGNED AND SEALED BY NEW YORK STATE LICENSED PROFESSIONAL ENGINEER, AND MUST BE INK ON MYLAR OR EQUAL DRAFTING MEDIA AND DIGITAL (AUTOCAD) AS REQUIRED BY SCDPW. PLANS MUST BE IN THE FOLLOWING COORDINATE SYSTEMS:

    - HORIZONTAL COORDINATE SYSTEM: NAD 1983, STATE PLANE, NEW YORK, LONG ISLAND ZONE, US SURVEY FEET.
    - VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988

    ALL SHEETS OF THE AS-BUILT DRAWINGS SHALL INDICATE THE HORIZONTAL COORDINATE SYSTEM AND VERTICAL DATUM SYSTEM. ELEVATIONS OF POINTS OF CONTROL IN DIFFERING DATUM MUST NOTE THE ORIGINAL DATUM AND ITS CORRESPONDING ELEVATION AND 1988 (NAVD) DATUM AND ELEVATION ON PLANS.

    D. A "CERTIFICATE OF COMPLIANCE" FOR ALL MATERIAL, WORK AND EQUIPMENT INCORPORATED INTO THE PROJECT MUST BE SUBMITTED TO THE SCDPW, IF NEEDED. THE CERTIFICATE MUST BE ATTESTED TO AND SIGNED BY A DULY COMMISSIONED NOTARY PUBLIC.

11. ALL MATERIAL AND METHODS OF CONSTRUCTION MUST COMPLY WITH THE TECHNICAL SPECIFICATIONS FOR THE CONSTRUCTION OF BUILDING SEWER CONNECTIONS.

12. TESTING OF FORCE MAIN - (METHOD I OR METHOD II MAY BE IMPLEMENTED):

    METHOD I:

    a) FORCE MAINS SHALL BE SUBJECTED TO A PRESSURE TEST OF TWO HUNDRED (200) PSI FOR A PERIOD OF THIRTY (30) MINUTES, MEASURED AT THE LOWER END OF THE SECTION. PUMPS, PIPE CONNECTIONS, GAUGES AND ALL NECESSARY APPARATUS WILL BE FURNISHED BY THE CONTRACTOR, AND ALL DEFECTIVE PIPE, COUPLINGS AND FITTINGS WILL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.

    b) THEN THE FORCE MAIN SHALL BE TESTED FOR LEAKAGE AT SEVENTY-FIVE (75) PSI FOR A PERIOD OF SIX (6) HOURS, MEASURE AT THE LOWER END OF THE SECTION. AT SUCH PRESSURE THE LEAKAGE SHALL NOT EXCEED FORTY-SIX (46) GALLONS PER INCH DIAMETER PER MILE PER TWENTY-FOUR (24) HOURS. ALL NECESSARY PUMPS, GAUGES AND OTHER APPARATUS WILL BE FURNISHED BY THE CONTRACTOR. IN THE EVENT THAT THE FORCE MAIN FAILS TO MEET THE LEAKAGE TEST, THE CONTRACTOR, AT HIS OWN EXPENSE WILL LOCATE AND REPAIR THE DEFECTIVE PIPE OR JOINTS UNTIL THE LEAKAGE IS WITHIN THE ALLOWABLE LIMIT.

    METHOD II:

    a) FORCE MAINS SHALL BE SUBJECTED TO A PRESSURE TEST OF TWO HUNDRED (200) PSI FOR A PERIOD OF TWO (2) HOURS MEASURE AT THE LOWER END OF THE SECTION. AT SUCH PRESSURE THERE SHALL BE NO LEAKAGE LOSS. ALL NECESSARY PUMPS, GAUGES AND OTHER APPARATUS WILL BE FURNISHED BY THE CONTRACTOR. IN THE EVENT THAT THE FORCE MAIN FAILS TO MEET THE LEAKAGE TEST, THE CONTRACTOR AT HIS OWN EXPANSE WILL LOCATE AND REPAIR THE DEFECTIVE PIPE ON JOINTS UNTIL THERE IS NO LEAKAGE LOSS.

13. TESTING OF GRAVITY SEWER

    A. EXFILTRATION TEST - ALL SANITARY SEWERS CONSTRUCTED IN LESS THAN TWO (2) FEET AND ABOVE THE GROUNDWATER ELEVATION, SHALL BE SUBJECT TO AN EXFILTRATION TEST. TOTAL EXFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS. EXFILTRATION TESTING SHALL BE IN ACCORDANCE WITH DEPARTMENT STANDARDS.

    B. INFILTRATION TEST - ALL SANITARY SEWERS CONSTRUCTED MORE THAN TWO (2) FEET BELOW THE GROUNDWATER ELEVATION, SHALL BE SUBJECT TO AN INFILTRATION TEST. TOTAL INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS. GROUNDWATER ELEVATION MUST BE AT LEAST TWO (2) FEET ABOVE CROWN OF PIPE AT THE UPSTREAM MANHOLE. INFILTRATION TESTS SHALL BE PERFORMED USING A CALIBRATED 90-DEGREE V-NOTCH WEIR SPECIFICALLY SIZED FOR THE SIZE SEWER BEING TESTED. INFILTRATION TESTING SHALL BE IN ACCORDANCE WITH DEPARTMENT STANDARDS.

    C. DEFLECTION TEST - ALL SANITARY SEWERS CONSTRUCTED OF PVC SDR 35 PIPING SHALL PASS A MANDRAL DEFLECTION TEST, SANITARY SEWERS CONSTRUCTED OF CLASS 53 DUCTILE IRON PIPE OR PVC DR-18 PIPING ARE EXEMPT FROM THIS REQUIREMENT. NO SECTION OF SEWER SHALL BE TESTED BEFORE AT LEAST 30-DAYS HAVE ELAPSED FROM THE DATE OF COMPLETED BACKFILL OVER THE SECTION. THE DEFLECTION, OR DEFORMATION OF THE PIPE DUE TO EXTERNAL LOADING, SHALL NOT EXCEED 5.0 PERCENT. THE MANDRAL SHALL BE SIZED FOR 95% OF THE AVERAGE INSIDE DIAMETER AS PRESENTED IN ASTM D3034, TABLE XI.I. FOR SDR PVC SEWER PIPE. IF ANY SECTION OF PIPE FAILS THE DEFLECTION TEST, THE OVERLY DEFLECTED PIPE SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR IN ACCORDANCE WITH DEPARTMENT STANDARDS.

14. TESTING OF AIR PIPING - BLOWER AIR PIPING SHALL BE TESTED AT 50 PSIG MINIMUM OR 200% OF THE WORKING PRESSURE. WHEN THE REQUIRED PRESSURE FOR THE TEST IS REACHED, SHUT OFF THE VALVE IN THE SUPPLY LINE FROM THE PUMP. MAINTAIN THE TEST PRESSURE LONG ENOUGH TO VISUALLY INSPECT ALL JOINTS OR A MINIMUM OF 10 MINUTES. THERE SHALL BE NO DROP IN THE TEST PRESSURE DURING THIS TIME.

15. ABOVE GROUND PIPING - ALL ABOVE GROUND PIPING SHALL BE SUBJECT TO PRESSURE AND LEAKAGE TESTING IN ACCORDANCE WITH DEPARTMENT STANDARDS. IF ANY SECTION OF PIPE FAILS, ALL REPAIRS SHALL BE MADE BY THE CONTRACTOR IN ACCORDANCE WITH DEPARTMENT STANDARDS.

16. STRUCTURAL DESIGN REQUIREMENTS - ALL STRUCTURAL REQUIREMENTS SHOULD BE INCORPORATED ON THE CONSTRUCTION PLANS. THESE DETAILS INCLUDE REINFORCING BAR SIZES AND LENGTHS, CONCRETE WALL THICKNESS (MINIMUM 15") AND CORNER DETAILS. ANY DESIGN DETAIL REQUIREMENTS, SUCH AS ABOVE, NOT INCORPORATED IN THE DESIGN DRAWINGS WILL HAVE TO BE PROVIDED PRIOR TO CONSTRUCTION. IF DESIGN DETAILS ARE PROVIDED BY A CONTRACTOR, THEY MUST BE REVIEWED AND STAMPED BY THE PROFESSIONAL DESIGN ENGINEER.

17. ALL PUMPING STATIONS SHALL HAVE A PREFABRICATED CONCRETE OR A MASONRY BLOCK BUILDING WHICH WILL BE USED TO HOUSE THE CONTROL PANELS, AND IF REQUIRED BY SCDPW, THE EMERGENCY GENERATOR. HEAT AND/OR AIR CONDITIONING SHALL BE PROVIDED AS REQUIRED FOR THE EQUIPMENT.

18. UNLESS OTHERWISE APPROVED BY SCDPW, ALL PUMPING STATION CONTROL BUILDINGS WILL BE REQUIRED TO BE EQUIPPED WITH AN ODOR CONTROL SYSTEM FOR THE OPERATION OF THE PUMP STATION/FORCE MAIN.

19. ANY WORK PERFORMED IN A PUBLIC RIGHT OF WAY SHALL REQUIRE A ROAD OPENING PERMIT FROM THE AUTHORITY HAVING JURISDICTION. CONTRACTOR TO SUBMIT A MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR APPROVAL PRIOR TO THE COMMENCEMENT OF ANY WORK IN A RIGHT OF WAY.

MARKING TAPE NOTES

A. SCOPE

THE CONTRACTOR SHALL FURNISH AND INSTALL AN UNDERGROUND MARKING TAPE ALONG ALL SEWER LINES, MAINS AND HOUSE CONNECTIONS.

B. MATERIALS

THE MATERIAL SHALL BE METALLIC DETECTABLE TAPE WITH A MINIMUM THICKNESS OF 4.5 MIL. THE TAPE SHALL BE RESISTANT TO ALKALIS, ACIDS AND OTHER DESTRUCTIVE ELEMENTS. THE TAPE SHALL BE GREEN IN COLOR, 3" MINIMUM WIDTH, MARKED WITH THE WORDS, "CAUTION-SANITARY SEWER". THE WARNING SHALL BE REPEATED EVERY 16" - 36".

C. INSTALLATION

AFTER PARTIALLY BACKFILLING AND LEVELING THE TRENCHES TO A HEIGHT OF 18" - 24" ABOVE THE CROWN OF PIPE, THE ROLL OF TAPE SHALL BE MOUNTED ON A WHEEL AND SPREAD ABOVE THE PREPARED SURFACE AS STRAIGHT AS POSSIBLE. THE TAPE SHALL BE HELD IN POSITION BY ADDING BACKFILL WITH HAND SHOVES BEFORE USING MECHANICAL EQUIPMENT TO FINISH THE BACK FILL.

IF THE SEWER LINE OR HOUSE CONNECTION DOES NOT END INTO A MANHOLE, THE TAPE SHALL BE EXTENDED AT LEAST THREE (3) FEET BEYOND THE PLUGGED END OF THE LINE.

GENERAL WORK NOTES

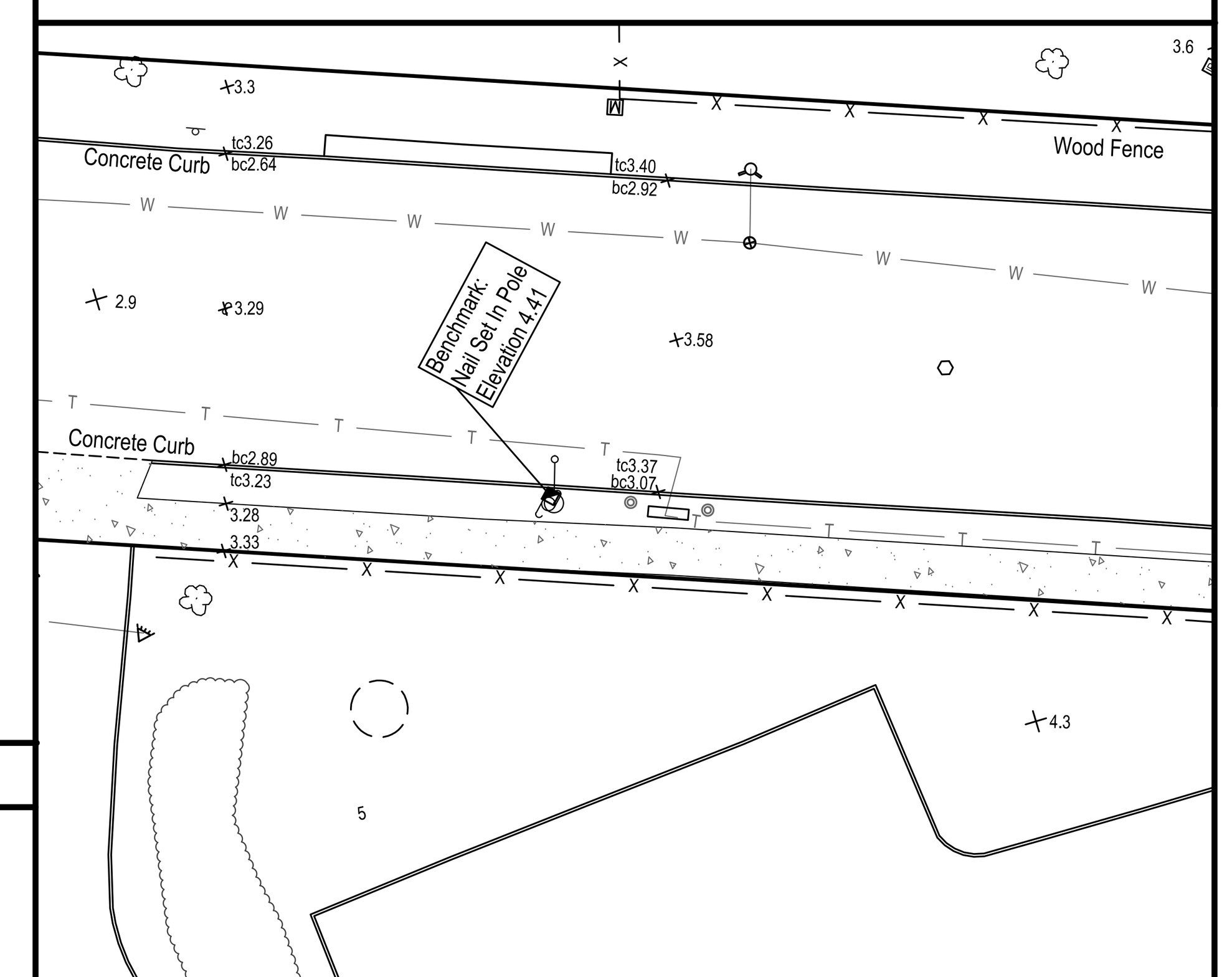
1. BIDS SHALL BE BASED ON NORMAL SEASONAL WORKING CONDITIONS WITH FROST PENETRATION OF NOT MORE THAN FOUR (4) INCHES.
2. MISCELLANEOUS WORK, INCLUDING PROTECTION OF EXISTING CURBING; HAND-DIGGING AROUND AND BRACING OF POLES AND SIGNS; REMOVING AND REPLACING MAILBOXES, SIGNS, PROTECTION OF UNDERGROUND UTILITIES, CROSSING UNDER, OVER OR ADJACENT TO UNDERGROUND UTILITIES; SURFACE OR SUB-SURFACE STRUCTURES; SHEETING REQUIRED DUE TO LOCATION OF SEWER OR BUILDING CONNECTIONS AND CLOSE PROXIMITY OF EXISTING UTILITIES, CURBS, AND IMPROVEMENTS; PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC, ETC., SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE COMPLETED AT NO ADDITIONAL COST TO THE OWNER.
3. RESTORE ALL AREAS DAMAGED/REMOVED DURING INSTALLATION OF THE SEWER. THESE AREAS INCLUDE, BUT ARE NOT LIMITED TO FOLLOWING; DRIVEWAY APRONS, DRIVEWAYS, WALKWAYS, TRAFFIC SIGNS, COMMERCIAL SIGNAGE, TRAFFIC SIGNAL LOOPS, PAVEMENT STRIPING AND MARKINGS, CURBING, SIDEWALKS, UTILITY POLES, FENCING, GUIDE RAILS, LANDSCAPING, TREES, MAILBOXES, POSTS, POLES, STEPS AND VEHICLES.
4. INSTALL PIPE TO PROVIDE A MINIMUM COVER TO FINISH GRADE OF 4.5 FEET.
5. THE TRAFFIC MAINTENANCE DETAILS CONTAINED IN THE SPECIFICATIONS REPRESENT MINIMUM REQUIREMENTS. THEY DO NOT IN ANY WAY LESSEN THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN VEHICULAR AND PEDESTRIAN TRAFFIC, AND TO PROTECT THE PUBLIC AND HIS OWN EMPLOYEES FROM ALL DAMAGE TO PERSON AND PROPERTY.
6. PROVIDE 72 HOURS ADVANCE NOTICE OF EXCAVATION TO EACH OPERATOR OF OVERHEAD AND/OR UNDERGROUND UTILITIES LISTED ON THE CENTRAL REGISTRY OF THE TOWN OF SOUTHAMPTON PER INDUSTRIAL CODE RULE No. 53.
7. PIPE AND MATERIAL SHALL NOT BE STOCKPILED IN ANY THOROUGHFARE OR BLOCKING ACCESS TO BUILDINGS..
8. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF UNDERGROUND UTILITIES, GAS MAINS, WATER MAINS, ELECTRIC CONDUITS, TELEPHONE CONDUITS, FIBER OPTIC CONDUITS, DRAINAGE LINES AND EXISTING SANITARY SEWER LINES. NO EXTRA COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR ANY INCONVENIENCE CAUSED HIM BY ENCOUNTERING THE AFOREMENTIONED UTILITIES. SHOULD IT BE NECESSARY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF ANY UNDERGROUND UTILITIES WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION, IN ACCORDANCE WITH THE "RULES AND REGULATIONS GOVERNING THE ACCOMMODATION OF UTILITIES WITHIN THE STATE HIGHWAY RIGHT-OF-WAY".
9. PERFORM DAILY CLEAN-UP OPERATIONS WHICH INCLUDE SWEEPING OF ROADWAYS AND REMOVAL OF DEBRIS AND EXCESS CONSTRUCTION MATERIAL TO THE SATISFACTION OF THE ENGINEER AND THE PROPER ROAD AUTHORITY.
10. WHERE THE SANITARY SEWER IS INSTALLED IN THE PAVEMENT AREA OR LAWN AREA, PROTECT THE ADJACENT LAWN OR PAVEMENT AREAS. ADJACENT AREAS DAMAGED DUE TO THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPLACED AS REQUIRED AT THE CONTRACTOR'S EXPENSE.
11. GRASSED AREAS DAMAGED DURING CONSTRUCTION SHALL RECEIVE TOPSOIL AND SOD.
12. THE CONTRACTOR MAY EXCAVATE AND STOCKPILE SOIL AT THOSE LOCATIONS APPROVED BY THE OWNER.
13. OBTAIN, AND HAVE ON THE JOB SITE AT ALL TIMES, THE PROPER ROAD OPENING AND OTHER PERMITS AS REQUIRED BY NEW YORK STATE, SUFFOLK COUNTY, THE TOWN OF SOUTHAMPTON, AND THE VILLAGE OF WESTHAMPTON BEACH OR ANY OTHER PERMITTING AGENCY. THE COST OF SUCH PERMITS SHALL BE SOLE RESPONSIBILITY OF THE CONTRACTOR.
14. MARK LOCATIONS WHERE EXISTING LAWN IRRIGATION SYSTEM IS ENCOUNTERED. RESTORE IRRIGATION PIPING DAMAGED DURING THE WORK.
15. COORDINATE STAGING AREA LOCATION WITH OWNER PRIOR TO COMMENCEMENT OF WORK.

---

1. WORK SHOWN IS NEW UNLESS SPECIFICALLY NOTED OR OTHERWISE INDICATED AS EXISTING.
2. DO NOT SCALE MEASURE ANY DRAWING. VERIFY THE FIGURES, DIMENSIONS & DESIGN INTENTION SHOWN ON THE DRAWINGS BEFORE BEGINNING LAYOUT OF THE WORK AND REPORT ANY ERRORS, INACCURACIES, MISSING DIMENSIONAL REQUIREMENTS OR CONFLICTS TO THE ENGINEER IN WRITING BEFORE BEGINNING ANY WORK.
3. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, LAWS AND STATUTES AS REQUIRED. STRICTLY ADHERE TO MANUFACTURER'S PRINTED INSTRUCTIONS.
4. VERIFY EXACT LAYOUT COMPATIBILITY WITH ALL EXISTING CONDITIONS BEFORE BEGINNING WORK..
5. ALL WORK SHOWN IS INCLUDED AS WORK OF CONTRACT WHLC 2001 UNLESS OTHERWISE NOTED.
6. THE ENGINEER'S ROLE IS NOT TO SUPERVISE, DIRECT, OR HAVE CONTROL OVER THE MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES OF CONSTRUCTION SELECTED OR USED BY THE CONTRACTOR FOR SECURITY OR SAFETY AT THE SITE, FOR SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL TO THE CONTRACTOR'S WORK IN PROGRESS, NOR ANY FAILURE OF THE CONTRACTOR TO COMPLY WITH LAWS AND REGULATIONS APPLICABLE TO THE CONTRACTOR'S FURNISHING AND PERFORMING THE WORK AS SHOWN AND/OR SPECIFIED.
7. EXISTING UTILITIES AS LOCATED BY SINGER UTILITY ENGINEERING, P.C. LOCATED AT 668 STONY HILL ROAD, #105 YARDLEY, PA 19067 ON UTILITY DESIGNATING PLAN DATED JUNE 2019.

BENCHMARK

SCALE: 1"=20'



BENCHMARK LOCATED APPROXIMATELY 250 FEET NORTHWEST OF INTERSECTION OF LIBRARY AVENUE AND STEVENS LANE

---

1. INSTALLATION MUST START AT THE POINT IN THE SYSTEM WITH THE LOWEST ELEVATION OR THE CONNECTION TO THE EXISTING SYSTEM.
2. COMPONENTS OF AN EXISTING SEWER SYSTEM CANNOT BE DUG UP AND/OR EXPOSED FOR ANY REASON WITHOUT APPROVAL FROM THIS OFFICE. ANY EXCAVATION FOR ANY REASON THAT IS TO BE DONE WITHIN 10 FT. OF ANY COMPONENT OF A SEWER SYSTEM CANNOT BE COMMENCED WITHOUT APPROVAL FROM THE SCDPW.
3. A PLUG MUST BE INSTALLED AS CLOSE TO THE CONNECTION TO THE EXISTING SEWER SYSTEM AND AS SOON AS POSSIBLE. THE PLUG SHALL REMAIN UNTIL A REPRESENTATIVE OF THIS OFFICE GRANTS APPROVAL TO REMOVE IT. ALL PLUGS MUST BE SECURED TO PREVENT THE PLUG FROM GOING DOWN THE PIPE.
4. ALL MANHOLE LOCATIONS AND ELEVATIONS MUST BE LAID OUT BY A L.L.S. BEFORE ANY WORK PERTAINING TO THE INSTALLATION OF THE SEWER SYSTEM CAN BE COMMENCED.
5. ALL 8 IN. DIAMETER OR GREATER PIPE MUST BE SET WITH A PROPERLY CALIBRATED PIPE LASER. THE FIRST 2 FULL LENGTHS OF PIPE, THE MIDWAY POINT AND LAST FULL LENGTH OF PIPE IN EVERY RUN MUST BE CHECKED FOR PROPER SLOPE WITH A SIGHT LEVEL OR TRANSIT.
6. AT LEAST ONE MEMBER OF THE INSTALL CREW MUST BE ON SITE AND ABLE TO DEMONSTRATE TO THE SATISFACTION OF THIS OFFICE THE ABILITY TO PROPERLY SET A PIPE LASER, TAKE ELEVATION READINGS AND CALCULATE SLOPES BASED ON ELEVATIONS TAKEN ON SITE. IF THIS CANNOT BE DEMONSTRATED, THEN THE PRESENCE OF A L.L.S. OR P.E. WILL BE REQUIRED TO PERFORM THESE TASKS FOR THE REMAINDER OF THE INSTALL.
7. ALL OPEN INCOMPLETE PIPES MUST BE CAPPED OR PLUGGED BY THE END OF THE DAY IT IS INSTALLED. ALL STUBS, LATERALS AND HOUSE CONNECTIONS MUST BE CAPPED OR PLUGGED IMMEDIATELY UPON INSTALLATION.
8. PIPE MUST BE JOINED IN ACCORDANCE WITH MANUFACTURES SPECS. UNDER NO CIRCUMSTANCE CAN PIPE BE JOINED WITH THE AID OF A MACHINE OF ANY KIND OR JACK OF ANY KIND.
9. INSTALLS AT DEPTHS OF 5' OR GREATER THAT CANNOT ACCOMMODATE A 1:1 TRENCH SLOPE RATIO MUST USE OSHA COMPLIANT METHODS OF SHORING THE EXCAVATION AREA.
10. ALL PIPES MUST BE PLACED ON UNDISTURBED STABLE VIRGIN GROUND. IF UNSTABLE OR UNSUITABLE MATERIAL IS ENCOUNTERED IN THE SUB GRADE OF A PIPE IT MUST BE REMOVED TO THE SATISFACTION OF THE REPRESENTATIVE OF THE SCDPW AND REPLACED WITH 14 IN. BLUESTONE TO THE ELEVATION OF THE SPRING LINE OF THE PIPE.
11. THE BUCKET OF THE EXCAVATOR MUST BE EQUIPPED WITH A GRADE BAR. OVER EXCAVATION OF 4IN. OR MORE WILL BE CONSIDERED UNSTABLE SUB GRADE.
12. UNSTABLE OR UNSUITABLE MATERIALS ARE CLAY, BOG, SUPER SATURATED, ORGANIC OR DELETERIOUS MATERIALS.
13. ALL SEWER PIPE MUST HAVE THE HAUNCH PROPERLY COMPACTED WITH CLEAN COMPACTABLE FILL USING A HAUNCH COMPACTING TOOL OR THE HANDLE OF A SHORT-HANDLE SHOVEL. USING ONES FEET IS NOT ACCEPTABLE. IF IT IS NOT UNDERSTOOD ON HOW TO ACCOMPLISH THIS IT IS YOUR RESPONSIBILITY TO REQUEST A REPRESENTATIVE OF SCDPW TO DEMONSTRATE.
14. ALL PIPE INSTALLED IN A DAY MUST BE BACKFILLED WITH CLEAN FILL 2 FT. ABOVE THE PIPE BY THE END OF THE DAY IT IS INSTALLED. THE BACKFILL MUST BE TAMPED AND SEWER MARKING TAPE LAID AT THIS ELEVATION.
15. ALL MANHOLE TOP SLABS AND COVERS MUST BE SECURE AND PREVENT INFILTRATION OF ANY SOLIDS AND/OR LIQUIDS FROM THE TIME THEY ARE INSTALLED UNTIL THE TIME FINAL GRADING AND PAVING IS COMPLETE. MANHOLES MUST ALSO BE PROTECTED FROM TRAFFIC.
16. MANHOLE TROUGHS MUST BE SMOOTH AND SHAPED TO FACILITATE SEWAGE FLOW. BENCHES SHOULD BE SHAPED SO THAT THE ENTIRE MANHOLE WILL DRAIN INTO THE TROUGH, INCLUDING INSIDE THE BOOT. HOWEVER THE BOOT MUST REMAIN FLEXIBLE AND CONCRETE MUST NOT BE ABOVE THE BOTTOM HALF OF THE PIPE INSIDE THE BOOT.
17. PRELIMINARY AS-BUILTS MUST BE APPROVED BY THIS OFFICE BEFORE ANY SEWER TESTING MAY BEGIN.
18. ALL SEWER MAINS 8 IN. OR LARGER WILL BE LEAK TESTED AND LAMPED, AND IN THIS ORDER.
19. LEAK TESTING WILL BE AN EXFILTRATION OR INFILTRATION TEST. TO PERFORM AN EXFILTRATION TEST THE UPSTREAM STRUCTURE OF RUN BEING TESTED MUST BE FILLED WITH CLEAR WATER TO AT LEAST 2 FT. ABOVE THE DOWNSTREAM OPENING OF THE UPSTREAM STRUCTURE OF RUN BEING TESTED OR 2 FT. ABOVE GROUND WATER, WHICH EVER ELEVATION IS HIGHER. IF THIS CANNOT BE ACCOMPLISHED THAN AN INFILTRATION TEST MUST BE PERFORMED.
20. THE PIPE TO BE LEAK TESTED WILL HAVE THE UPSTREAM PENETRATIONS IN THE UPSTREAM STRUCTURE AND THE UPSTREAM PENETRATION IN THE DOWNSTREAM STRUCTURE WATER TIGHT PLUGGED.
21. LEAK TESTING STARTS AFTER A REPRESENTATIVE OF THIS OFFICE STARTS THE TESTS. THE TEST WILL LASTS FOR A MIN. OF 6 HOURS. DURING THE DURATION OF TEST ANY TAMPERING OR INTERRUPTION OF THE TEST WILL NEGATE THE TEST AND IT WILL HAVE TO BE RESET.
22. AFTER IT IS DETERMINED THAT TESTING IS COMPLETE, WATER MUST BE DROPPED FROM DOWNSTREAM STRUCTURE AND UPSTREAM PLUGS MUST BE REMOVED. ANY WATER BEHIND UPSTREAM PLUGS NEGATES TEST.
23. WATER USED FOR TESTING MAY NOT BE SENT INTO ACTIVE SEWERS.
24. LAMP TEST IS A VISUAL INSPECTION INSIDE THE PIPE. THIS TO VERIFY THAT THE PIPE IS FREE OF OBSTRUCTIONS, DEFECTS AND THE PIPE IS STRAIGHT AND TRUE.
25. IF SDR-35 PIPE IS INSTALLED THAN IT MUST BE INSTALLED, BACKFILLED, LEFT UNDISTURBED FOR 30 CALENDAR DAYS AND PASS A MANDREL TEST BEFORE LEAK TESTING CAN BEGIN.
26. NO EXCAVATION OR PREP WORK FOR FINAL CONNECTIONS MAY BE DONE WITHOUT APPROVAL FROM THE SCDPW.
27. NO HOUSE CONNECTION PLUGS CAN BE REMOVED WITHOUT APPROVAL FROM THE SCDPW.
28. HOUSE TRAPS AND/OR BUILDING SEWER OUTLETS MUST BE CAPPED OR PLUGGED TO PREVENT ANY DISCHARGE OF ANY KIND.
29. FINAL CONNECTION CANNOT BE MADE WITHOUT APPROVAL FROM THE SCDPW.

UTILITY NOTES

1. IN ACCORDANCE WITH THE STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA CI/ASCE 38-02 THE SUBSURFACE UTILITY ENGINEERING (SUE) QUALITY LEVELS OF SERVICE (ACCURACY) IS QL-D = QUALITY LEVEL D. UTILITY INFORMATION OBTAINED FROM RECORD INFORMATION.
2. LOCATION OF ALL UNDERGROUND UTILITIES, ELECTRIC AND TELEPHONE CONDUITS, STORM DRAINS, UNDERGROUND STRUCTURES, CESSPOOLS AND UNDERGROUND PIPING SHALL BE MARKED OUT BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF UNDERGROUND UTILITIES, GAS MAINS, ELECTRIC AND TELEPHONE CONDUITS. NO EXCAVATION SHALL COMMENCE UNTIL COMPLETE MARK-OUT HAS BEEN PERFORMED.
3. LOCATION OF ALL UNDERGROUND UTILITIES BOTH PUBLIC AND CUSTOMER OWNED, WERE OBTAINED FROM EITHER OLD MAPS, SURVEYS, DRAWINGS AND RECORDS SUPPLIED BY OTHERS. THE OWNER AND ENGINEER DO NOT GUARANTEE OR ACCEPT RESPONSIBILITY FOR ANY DAMAGE TO SUCH FACILITIES DUE TO DISCREPANCIES IN LOCATION AND SIZE SHOWN ON THE PLANS OR THOSE UTILITIES NOT SHOWN, NOR WILL ANY COMPENSATION BE MADE TO THE CONTRACTOR FOR ANY INCONVENIENCE CAUSED HIM BY ENCOUNTERING THE AFOREMENTIONED UTILITIES OR FOR THOSE UTILITIES WHICH ARE NOT SHOWN, OR ARE INCORRECTLY SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES.
4. CONTRACTOR SHALL HAND DIG TO LOCATE AND EXPOSE EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED IMMEDIATELY BY CONTRACTOR AT NO COST TO OWNER.

CIVIL LEGEND

Symbol	Description
FO	EXISTING FIBER OPTIC
CTV	EXISTING CABLE TELEVISION
TV	EXISTING TELEVISION
T	EXISTING TELEPHONE
D	EXISTING DRAINAGE
SL	EXISTING STREET LIGHT
W	EXISTING WATER
G	EXISTING GAS
OH	EXISTING OVERHEAD WIRE
OH/TR	EXISTING TRAFFIC SIGNAL
E	EXISTING UNDERGROUND ELECTRIC
S	EXISTING SEWER
LPS	EXISTING LOW PRESSURE SEWER
L	EXISTING ROOF LEADER
FM	EXISTING FORCEMAIN
S	NEW SEWER
LPS	NEW LOW PRESSURE SEWER
FM	NEW FORCE MAIN
E	NEW UNDERGROUND ELECTRIC
V	NEW VENT PIPE
X X	FENCE
	NEW SEWER MANHOLE
AMH	NEW AIR RELIEF MANHOLE
CO	NEW LOW PRESSURE CLEAN OUT OR FORCE MAIN CLEAN OUT
SB-3	SOIL BORING AND NUMBER
LP GPS	NEW LOW PRESSURE GRINDER PUMP STATION

TREE - DECIDUOUS
TREE - CONIFEROUS
SHRUB
BORING INSTRUMENTED WITH PIEZOMETER
BORING
TEST PIT
IRON PIN
CONTROL POINT
BENCHMARK
MARKER POST
RAILROAD SPIKE
SURVEY MONUMENT
PK NAIL
POST
WELL
WATER VALVE
WATER METER
WATER CURB BOX
FIRE HYDRANT
CLEANOUT
SPIGOT
DOWNSPOUT
STORM MANHOLE
STORM INLET
SANITARY MANHOLE
GRAVEL PARKING LOT

VENT
GAS VALVE
GAS METER
GAS CURB BOX
CABLE TV UTILITY BOX
TELECOMMUNICATIONS UTILITY BOX
TELECOMMUNICATIONS MANHOLE
ELECTRICAL MANHOLE
ELECTRICAL UTILITY BOX
LIGHT POST
UTILITY POLE
GUY WIRE
GUY POLE
MANHOLE - UNKNOWN UTILITY
JUNCTION BOX
MAILBOX
SIGN
STUMP
WEIR
WATER MANHOLE
GAS MANHOLE
SEWER VENT
UNKNOWN VALVE

H2M architects + engineers

538 Broad Hollow Road, 4th Floor East
Melville, NY 11747
631.756.8000 ▪ www.h2m.com

CONSULTANTS:

MARK	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	CHECKED BY:	REVIEWED BY:

PROJECT No.:	DATE:	SCALE:
WHHH 2101	APRIL 2022	

CLIENT

Westhampton Beach Harbour House HOA

Westhampton Beach Harbour House Sanitary System Plan

35 Library Avenue Westhampton Beach, NY 11978

CONTRACT

CONTRACT S SEWERS

STATUS

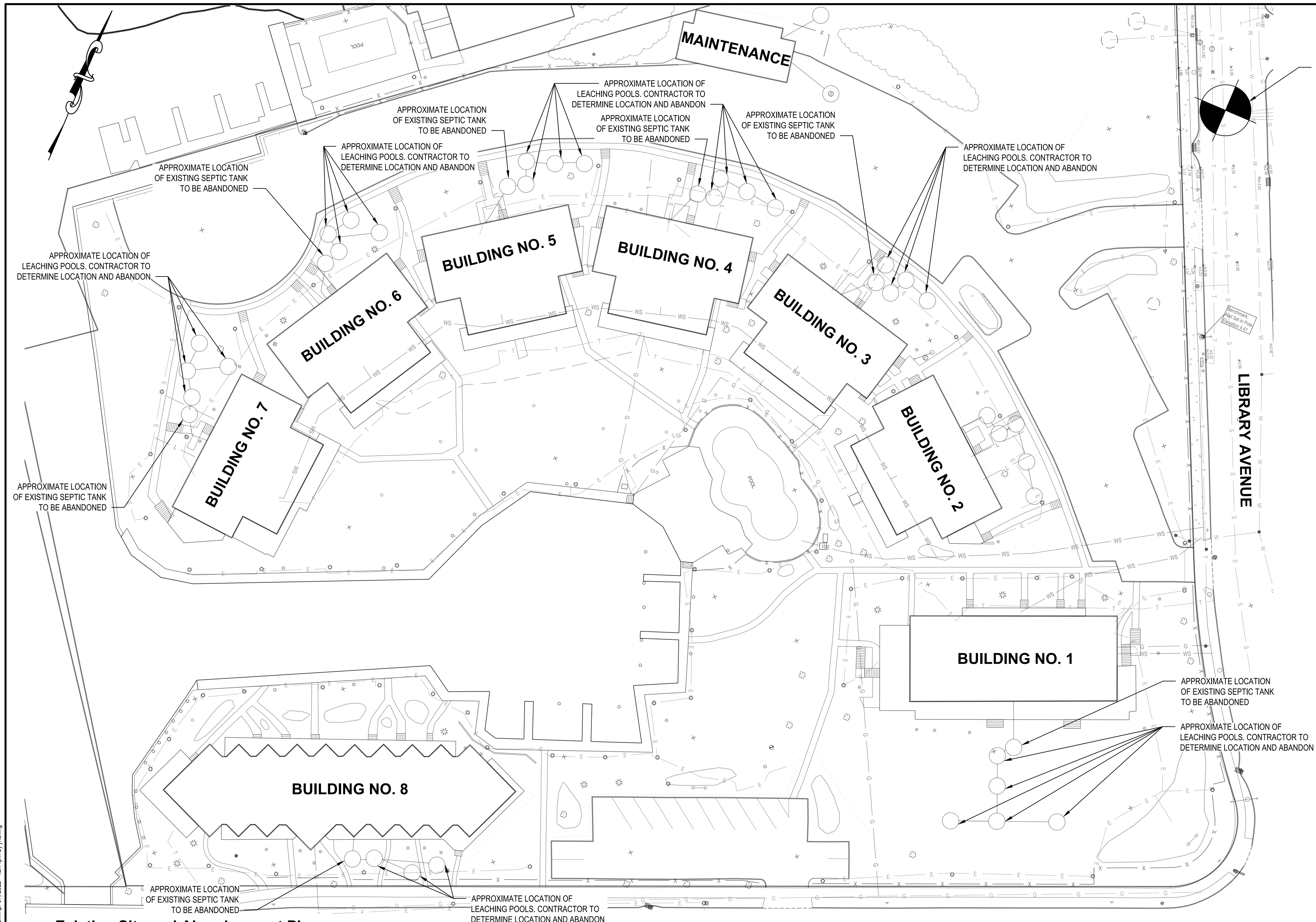
NOT FOR CONSTRUCTION

SHEET TITLE

DRAWING CONVENTIONS, ABBREVIATIONS AND NOTES

DRAWING No.

G100



Existing Site and Abandonment Plan

SCALE: 1"= 30'

GENERAL NOTES:

1. VERIFY ALL EXISTING STRUCTURES ELEVATIONS AND COORDINATE INVERT ELEVATIONS OF NEW STRUCTURES AND PIPES PRIOR TO INSTALLATION OF NEW WORK AND REUSE OF EXISTING STRUCTURES IDENTIFIED TO REMAIN ON PLANS.
2. CONFIRM LOCATION OF ALL LEACHING POOLS AND SEPTIC TANKS PRIOR TO ABANDONMENT.
3. OBTAIN A PRIVATE UTILITY MARK OUT ON THE PROPERTY BEFORE PERFORMING ANY EXCAVATION WORK.
4. THE CONTRACTOR SHALL REPAIR AND RESTORE ALL AREAS DISTURBED AND/OR DAMAGED BY WORK ACTIVITIES TO MATCH PRE-EXISTING CONDITIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND OFFSITE DISPOSAL OF ALL WASTE MATERIALS GENERATED FROM WORK SPECIFIED HEREIN.
6. COORDINATE AND FILE FOR SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES FORM WWM-080 TO CERTIFY THE ABANDONMENT OF THE EXISTING LEACHING POOLS UPON COMPLETION OF THE NEW WORK.
7. CONTRACTOR RESPONSIBLE FOR ANY SHEETING DESIGN & DEWATERING AS NECESSARY WITHIN THE EXCAVATION AREA FOR THE PROPOSED SYSTEM.
8. ALL EXISTING LEACHING STRUCTURES ABANDONED IN PLACE SHALL BE PUMPED, HAVE TOP SLAB REMOVED AND DISPOSED OF, FILLED WITH PEA GRAVEL, AND HAVE THE CHIMNEYS AND CAST IRON COVERS REMOVED AND DISPOSED OF.
9. SEPTIC TANKS TO BE ABANDONED IN PLACE SHALL BE PUMPED OUT, HAVE TOP SLABS REMOVED AND HOLES PUNCHED THROUGH THE BASE SLAB BEFORE FILLING WITH PEA GRAVEL. CHIMNEYS AND COVERS TO BE REMOVED AND DISPOSED OF.
10. RETAIN A NYSDEC PART 364 LICENSED LIQUID WASTE TRANSPORTER TO PUMP OUT ALL LEACHING POOLS AND SEPTIC TANKS.
11. SEQUENCE WORK SUCH THAT SANITARY SERVICE IS MAINTAINED TO ALL UNITS FOR THE DURATION OF THE PROJECT. PROVIDE SANITARY SEWER BYPASS AS REQUIRED TO COMPLETE WORK.
12. REMOVE AND DISPOSE OF ALL EXISTING MANHOLES, GRAVITY PIPE, AND ASSOCIATED APPURTENANCES OFF-SITE.
13. LOCATION OF EXISTING ON-SITE SANITARY DISPOSAL SYSTEMS IS APPROXIMATE AND BASED ON 1961 PLUMBING SITE PLAN PROVIDED BY WESTHAMPTON BEACH HARBOUR HOUSE ASSOCIATION.
14. POOL BACKWASH WATER DISPOSAL SYSTEM NOT SHOWN AND IS EXCLUDED FROM SEWER CONNECTION.

SEWAGE DISPOSAL CALCULATIONS:

SCDHS DESIGN FLOW CALCULATIONS

LOT AREA:	5.24 ACRES
LAND USE CODE:	210

SANITARY FLOW IS BASED ON THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES STANDARDS FOR APPROVAL OF PLANS AND CONSTRUCTION FOR SEWAGE DISPOSAL SYSTEMS FOR OTHER THAN SINGLE-FAMILY RESIDENCES DATED JULY 21, 2020.

FLOW DENSITY ANALYSIS

NUMBER OF UNITS:		13 CONDO UNITS > 1200 SQ. FT 37 CONDO UNITS 601 - 1200 SQ.FT 1 MAINTENANCE BUILDING 1325 SQ.FT
STRUCTURE USE:		HOUSING UNIT > 1,200 SQ. FT. 601 - 1200 SQ. FT. HOUSING UNIT MAINTENANCE BUILDING
DENSITY LOAD:		
	HOUSING UNIT > 1,200 SQ. FT	300 GPD/UNIT
	601 - 1200 SQ. FT. HOUSING UNIT	225 GPD/UNIT
	MAINTENANCE BUILDING	0.03 GPD/SQ. FT.
KITCHEN/GRAY LOAD:		0 GPD/UNIT
DESIGN FLOW:		13 UNITS X 300 GPD/UNIT = 3,900 GPD 37 UNITS X 225 GPD/UNIT = 8,325 GPD 1325 SQ. FT. X 0.03 GPD/ SQ. FT. = 40 GPD
		TOTAL = 12,265 GPD

PWGC

PROJECT #:	LAW1907		
SITE ADDRESS:	Village of Westhampton Beach		
BORING ID:	SB-009	BORING DEPTH (FT): 22	BORING DIAMETER (IN): 4
DRILLING CONTRACTOR:	LAWES	DATE STARTED: 10/02/2019	DATE FINISHED: 10/02/2019
DRILLING METHOD:	Direct Push	TIME STARTED: 10:45	TIME FINISHED: 11:35
DRILLING EQUIPMENT:	Geoprobe 7800	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Split Spoon	PROJECT MANAGER: Brian Heflich	LOGGED BY: Jayce Acevedo

DEPTH (feet)	DESCRIPTION NAME (USCS): saturation, color, texture, plasticity, minor components	ELEVATION (feet)	SPT BLOWCOUNTS	SPT, N-values
0	Asphalt			
	Moist, loose, brown medium to fine grained SAND, little clay, little dark brown topsoil (SP)	-2	[illegible]	5
2	Wet, brown medium to fine grained SAND (SP)	-4	[illegible]	12
4	Wet, light brown medium to fine grained SAND, trace gravel (SP)	-6	[illegible]	10
		-8	[illegible]	12
8	Wet, light brown coarse to fine grained SAND, trace gravel (SP)	-10	[illegible]	19
10	Wet, loose, light brown medium to fine grained SAND (SP)	-12	[illegible]	8
		-14		
15	Wet, light brown medium to fine grained SAND (SP)	-16	[illegible]	23
		-18		
		-20		
22		-22	[illegible]	22

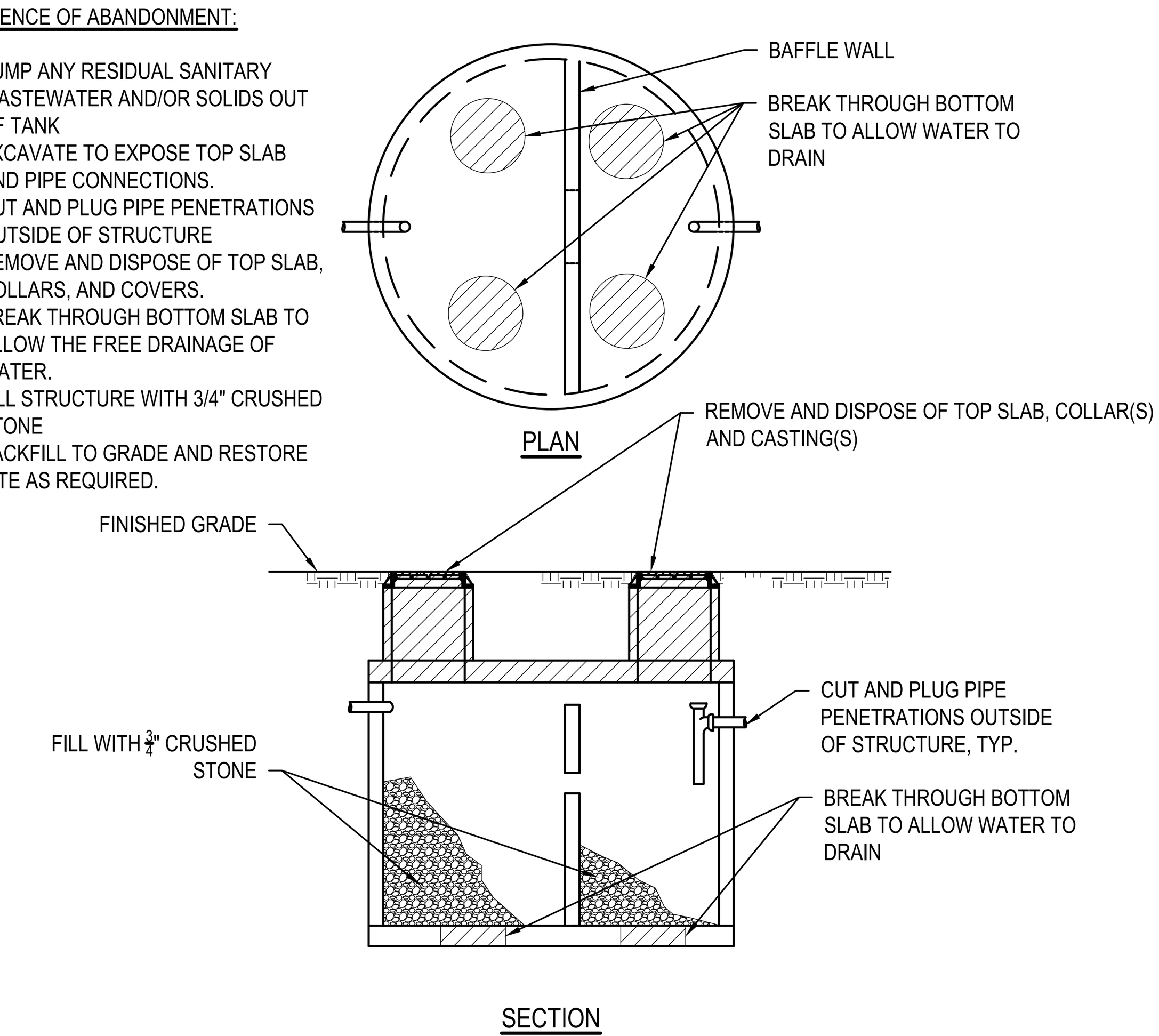
P.W. Grosser Consulting	End of Boring Depth (feet): 22	Water Table Symbol: ▼	Page 1 of 1

SOIL BORING NOTES:

1. THE FOLLOWING DATA IS OFFERED SOLELY FOR THE PURPOSE OF PLACING BIDDERS IN RECEIPT OF INFORMATION AVAILABLE, AND IN NO EVENT IS TO BE CONSIDERED AS PART OF THE CONTRACT DOCUMENTS. THE BIDDER MAY INTERPRET SUCH DATA ACCORDING TO THEIR OWN JUDGEMENT AND ACKNOWLEDGES THAT THEY ARE NOT RELYING UPON THE SAME ACCURATELY DESCRIBED SUBSURFACE CONDITIONS, WHICH MAYBE FOUND TO EXIST. THE BIDDER FURTHER ACKNOWLEDGES THAT THEY ASSUME ALL RISK CONTINGENT UPON THE NATURE OF SUBSURFACE CONDITIONS TO BE ACTUALLY ENCOUNTERED BY HIM/HER PERFORMING THE WORK OF THE CONTRACT, EVEN THOUGH SUCH ACTUAL CONDITIONS MAY RESULT IN THE BIDDER PERFORMING MORE OR LESS WORK THAN THEY ORIGINALLY ANTICIPATED.
2. THE BORING LOG(S) REFLECT THE SUBSURFACE CONDITIONS AS IDENTIFIED DURING THE SOIL BORINGS CONDUCTED BY LAND, AIR, WATER, ENVIRONMENTAL SERVICES, INC. WITH OFFICE AT 32 CHICHESTER AVENUE, CENTER MORICHES, NY 11934 ON 10/02/2019.
3. THE BORING LOG(S) WERE PREPARED BY P.W. GROSSER CONSULTING, INC. WITH OFFICES AT 630 JOHNSON AVENUE, SUITE 7, BOHEMIA, NY 11716.

SEQUENCE OF ABANDONMENT:

1. PUMP ANY RESIDUAL SANITARY WASTEWATER AND/OR SOLIDS OUT OF TANK
2. EXCAVATE TO EXPOSE TOP SLAB AND PIPE CONNECTIONS.
3. CUT AND PLUG PIPE PENETRATIONS OUTSIDE OF STRUCTURE
4. REMOVE AND DISPOSE OF TOP SLAB, COLLARS, AND COVERS.
5. BREAK THROUGH BOTTOM SLAB TO ALLOW THE FREE DRAINAGE OF WATER.
6. FILL STRUCTURE WITH 3/4" CRUSHED STONE
7. BACKFILL TO GRADE AND RESTORE SITE AS REQUIRED.

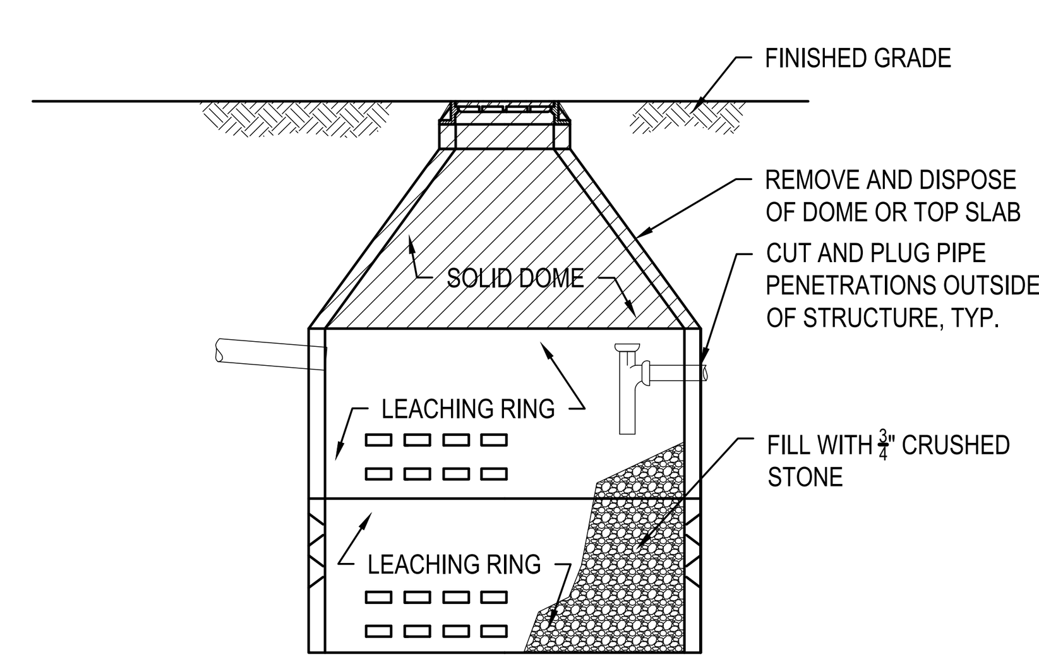


1 Septic Tank Abandonment Detail

SCALE: NTS

SEQUENCE OF ABANDONMENT:

1. PUMP ANY RESIDUAL SANITARY WASTEWATER AND/OR SOLIDS OUT OF POOL
2. EXCAVATE TO EXPOSE TOP SLAB OR DOME AND PIPE CONNECTION(S)
3. CUT AND PLUG PIPE PENETRATIONS OUTSIDE OF STRUCTURE
4. REMOVE AND DISPOSE OF TOP SLAB/DOME, COLLAR, AND COVER.
5. FILL STRUCTURE WITH 3/4" CRUSHED STONE
6. BACKFILL TO GRADE AND RESTORE SITE AS REQUIRED.



2 Leaching Pool Abandonment Detail

SCALE: NTS

811 1-800-272-4480 Dig Safely. New York Call811 before you dig www.digsafelynewyork.com

GRAPHIC SCALE

30 0 15 30

(IN FEET)
1 inch = 30 ft.

H2M architects + engineers
538 Broad Hollow Road, 4th Floor East
Melville, NY 11747
631.756.8000 ▪ www.h2m.com

CONSULTANTS:

MARK	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	CHECKED BY:	REVIEWED BY:

PROJECT No.:	DATE:	SCALE:
WHHH 2101	APRIL 2022	

CLIENT

Westhampton Beach Harbour House HOA

Westhampton Beach Harbour House Sanitary System Plan

**35 Library Avenue
Westhampton Beach, NY 11978**

CONTRACT

CONTRACT S SEWERS

STATUS

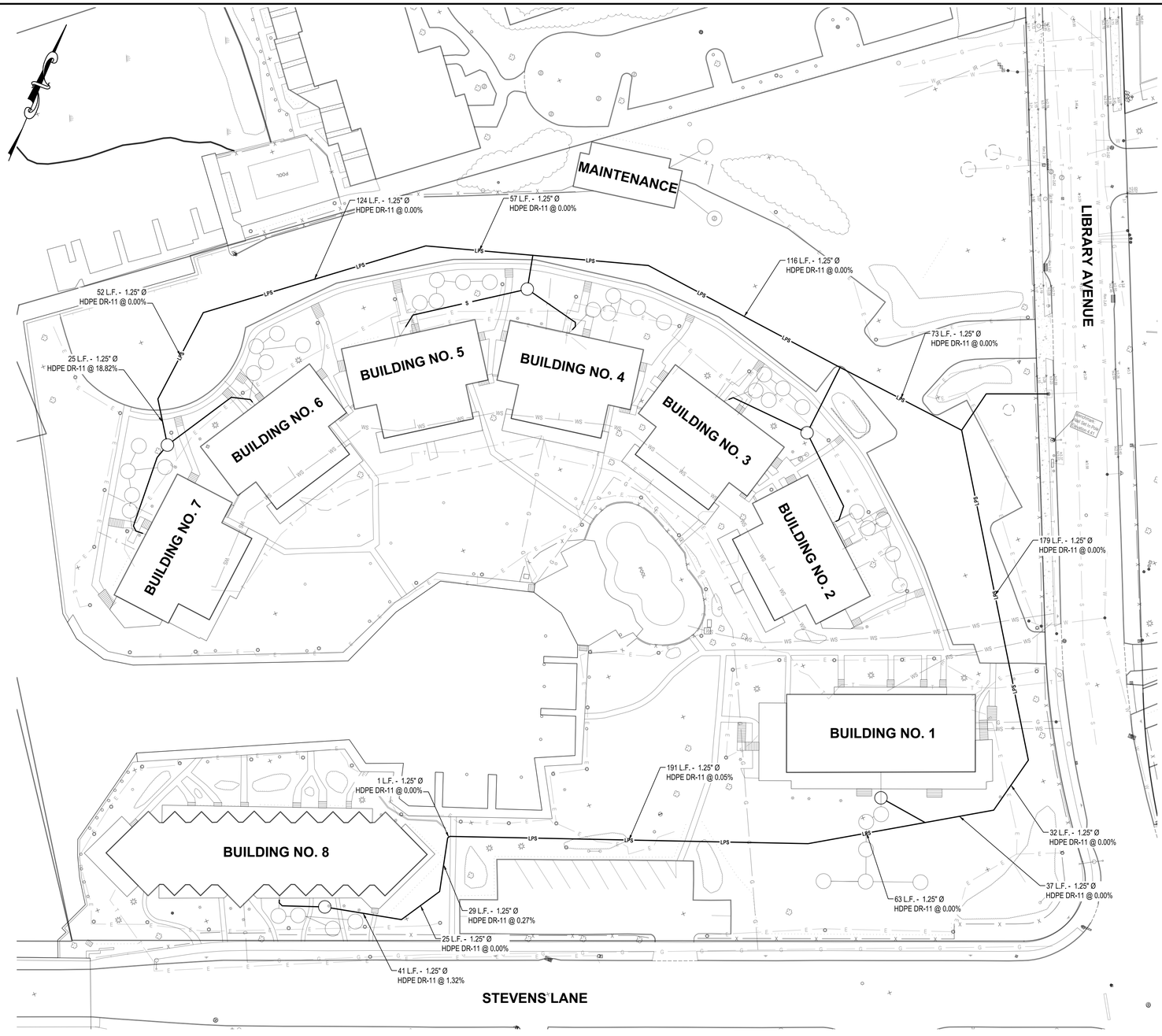
NOT FOR CONSTRUCTION

SHEET TITLE

EXISTING SITE AND SANITARY SYSTEM ABANDONMENT PLAN

DRAWING No.

CD 100



Proposed Sanitary Site Plan

SCALE: 1"= 30'

811 1-800-272-4480
Dig Safely. New York
Call811
before you dig
www.digsafelynewyork.com

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

H 2 M architects + engineers

538 Broad Hollow Road, 4th Floor East
Melville, NY 11747
631.756.8000 • www.h2m.com

CONSULTANTS:

MARK	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	CHECKED BY:	REVIEWED BY:

PROJECT No.:	DATE:	SCALE:
WHHH 2101	APRIL 2022	

CLIENT

Westhampton Beach Harbour House HOA

Westhampton Beach Harbour House Sanitary System Plan

35 Library Avenue
Westhampton Beach, NY 11978

CONTRACT

CONTRACT S
SEWERS

STATUS

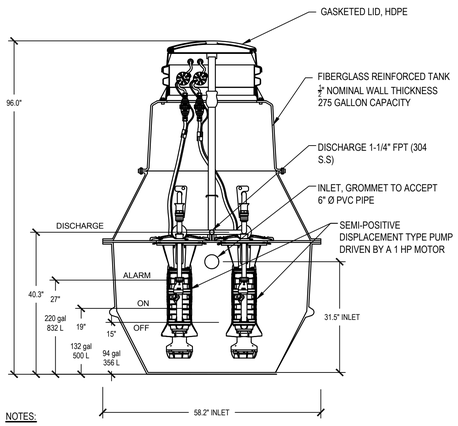
NOT FOR CONSTRUCTION

SHEET TITLE

LOW PRESSURE SEWER SANITARY SITE PLAN

DRAWING No.

CS 110



NOTES:

1. 61" INVERT DEPTH
2. 50" COVER OVER DISCHARGE

E/One Model DH272 Duplex Grinder Pump Station Section

1 SCALE: No Scale

EONE D272 DUPLEX GPU BUOYANCY FORCE CALCULATIONS:

BUOYANCY FORCE

BUOYANCY FORCE:	(DENSITY OF WATER) X (GPU VOLUME)
DENSITY OF WATER:	62.4 LB/CU FT.
GPU VOLUME:	78 CU.FT.
BUOYANCY FORCE:	4,867.2 LB
BUOYANCY FORCE - NET:	BUOYANCY FORCE - WEIGHT OF GPU
WEIGHT OF GPU:	705 LB
BUOYANCY FORCE - NET:	4,162.2 LB

BALLAST FORCE

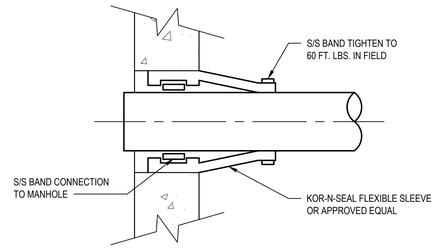
AREA OF SOIL ACTING ON GPU: (HEIGHT) X (WIDTH) + (TRAPEZOIDAL AREA) + (TOP AREA)	
HEIGHT:	41.5 IN.
WIDTH:	3.74 IN.
TRAPEZOIDAL AREA:	287.8 SQ. IN.
TOP AREA:	233.2 SQ. IN.
AREA OF SOIL:	676.2 SQ. IN.
VOLUME OF SOIL: (AREA OF SOIL) X (AVG PERIMETER)	
AVG PERIMETER:	138.9 SQ. IN.
VOLUME OF SOIL:	54.3 CU. FT.

BALLAST SOIL: (VOLUME OF SOIL) X (DENSITY OF SATURATED SOIL)

DENSITY OF SATURATED SOIL:	70 LB/CU.FT.
BALLAST SOIL:	3,801 LB

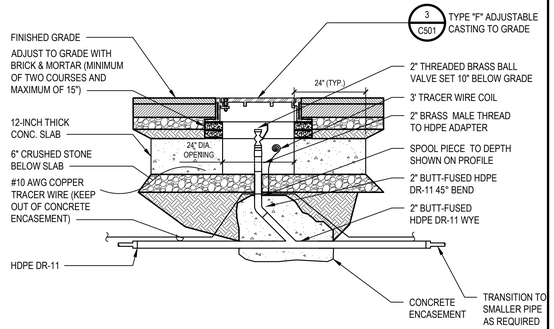
FINAL BUOYANCY FORCE: (BALLAST FORCE) - (BUOYANCY FORCE - NET)
FINAL BUOYANCY FORCE: -361.2 LB *STRUCTURE WILL FLOAT

CONCRETE BALLAST REQUIREMENT
GOAL FOR FS: 1.25
FS = 1.25= (3,801 LBS + 705 LBS + WEIGHT OF CONCRETE)/4867.2LB
WEIGHT OF CONCRETE: (1,578 LBS) / (87.6 LB/CU.F.T) = 18 CU.F.T = 0.67 CU.YD.



Pipe to Manhole Flexible Connection

2 SCALE: NTS 330561



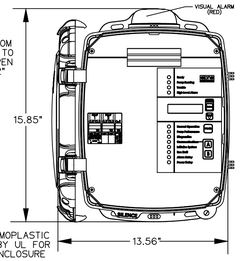
2 Inch Ø Inline Flushing Cleanout Schematic for Low Pressure Sewer

3 SCALE: NTS 333126

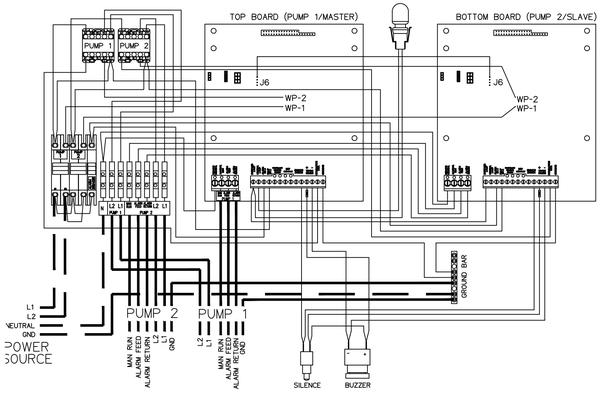
SENTRY PROTECT PLUS DUPLEX

EXTERNAL VISUAL & AUDIBLE ALARM
REMOTE SENTRY DRY CONTACTS FOR
OPTIONAL POWER LOSS HIGH LEVEL
ALARM (POWER LOSS ALARM FOR WIRELESS)
MANUAL ALARM SILENCE
MANUAL RUN
STATUS LED'S: NORMAL, PUMP RUNNING, HIGH LEVEL
TROUBLE INDICATIONS: RUN DRY, OVERPRESSURE, BROWNOUT, VOLTAGE, EXTENDED RUN TIME
DRY CONTACTS
CONFORMAL COATED CIRCUIT BOARD (BOTH SIDES)
PADLOCK
DEAD FRONT
PREDICTIVE ALARMS
REAL TIME PUMP PERFORMANCE
ADJUSTABLE ALARM DELAY
ADJUSTABLE RUN TIME DELAY
HOUR/CYCLE COUNTER
NEMA 4X ENCLOSURE ASSEMBLY

DIMENSION FROM BACK PANEL TO FRONT OF OPEN DOOR = 18.02"



ENCLOSURE:
CORROSION PROOF THERMOPLASTIC POLYESTER APPROVED BY UL FOR ELECTRICAL CONTROL ENCLOSURE



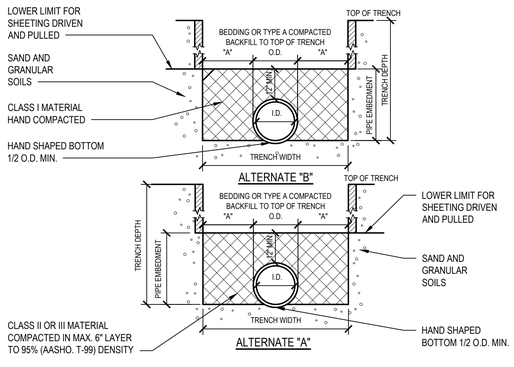
PIN	FUNCTION	EXTREME
1	MANUAL RUN	BROWN
2	L1	RED
3	L2	BLACK
4	GND	GRN/YEL
5	ALARM FEED	YELLOW
6	ALARM RETURN	BLUE

LEGEND
FROM CORE
SUPPLY CABLE
FACTORY INSTALLED

CONTROL CABLE:
TYPE TC; DIRECT BURIAL, SIX CONDUCTOR

E/One Sentry Protect Plus Panel Duplex 240V, 60 Hz Double Pole

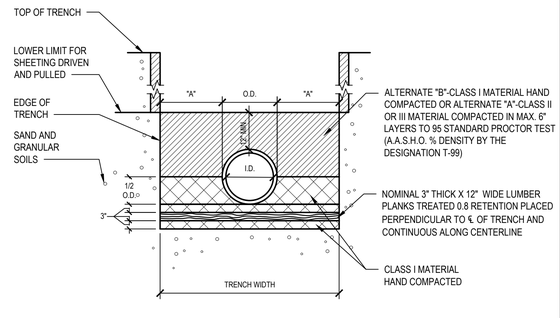
4 SCALE: No Scale



I.D.	"A" (MAX)
1-1/2" Ø TO 36" Ø	12"
42" Ø TO 84" Ø	18"
96" Ø TO 144" Ø	24"

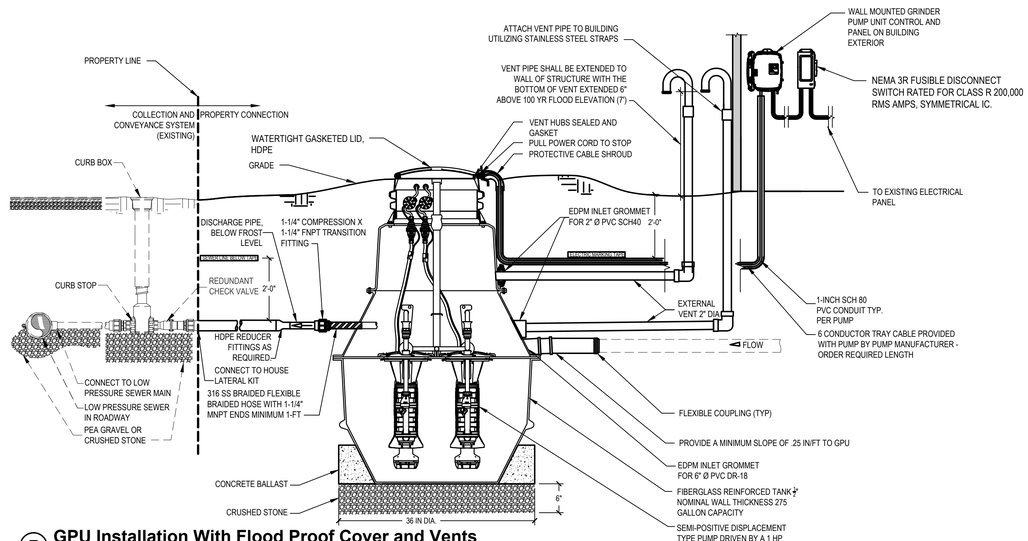
Sewer Foundation in Granular Soils All Trench Depths

5 SCALE: NTS 333000



Sewer Foundation in Organic Soils

6 SCALE: NTS 333000



GPU Installation With Flood Proof Cover and Vents

7 SCALE: NTS

H 2 M architects + engineers
538 Broad Hollow Road, 4th Floor East
Melville, NY 11747
631.756.8000 • www.h2m.com

CONSULTANTS:

MARK	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	CHECKED BY:	REVIEWED BY:

PROJECT No.:	DATE:	SCALE:
WHHH 2101	APRIL 2022	

CLIENT
Westhampton Beach Harbour House HOA

Westhampton Beach Harbour House Sanitary System Plan

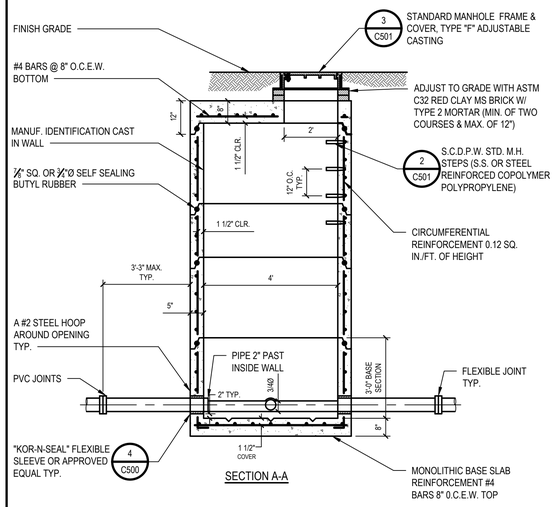
35 Library Avenue Westhampton Beach, NY 11978

CONTRACT
CONTRACT S SEWERS

STATUS
NOT FOR CONSTRUCTION

SHEET TITLE
DETAILS 1 OF 2

DRAWING No.
C500

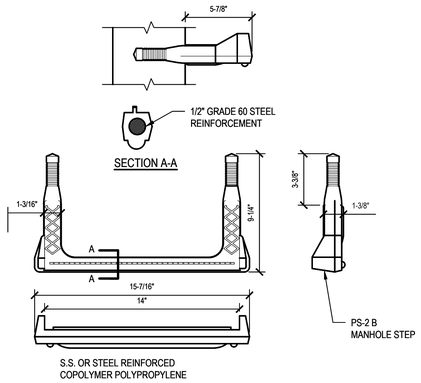


1 4-Foot Dia. Sanitary Sewer Manhole

SCALE: NTS 330561

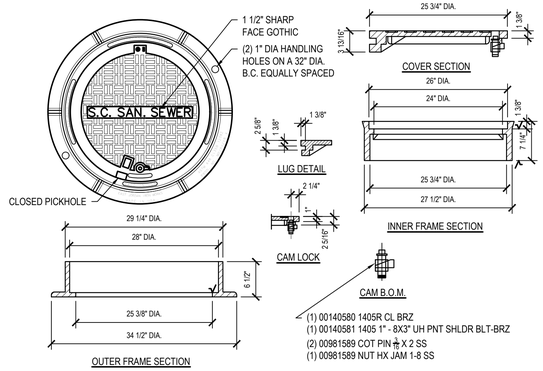
NOTES:

1. ALL MANHOLES SECTIONS SHALL CONFORM TO A.S.T.M. C-478, LATEST REVISION STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE M.H. SECTIONS.
2. FURNISH MANHOLE RISER SECTION IN 1', 2', 3', OR 4' HEIGHTS AS REQUIRED.
3. MANUF. TO CERTIFY THAT MANHOLES DELIVERED MEET ALL REQUIREMENTS OF S.C.D.P.W. SPECS.
4. LOADING SHALL CONFORM TO AASHTO H-20 LOADING.
5. REBAR ASTM A-615-60 Fs=60,000PSI.
6. WELDED WIRE REINFORCEMENT ASTM A1064
7. CONCRETE 4000 PSI MINIMUM @ 28 DAYS.
8. FLAT SLAB TOPS (NO JOINT) SHALL HAVE TOP & BOTTOM STEEL.



2 Structural Manhole Step Detail

SCALE: NTS 330561

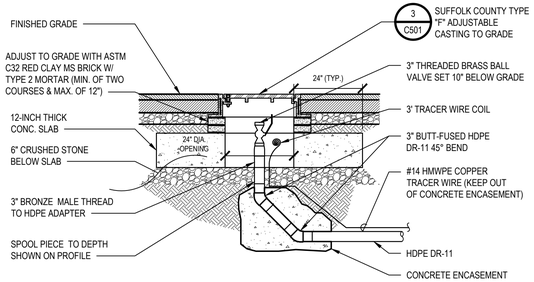


NOTES:

1. MATERIALS: GRAY CAST IRON IN ACCORDANCE WITH ASTM A-48 CLASS 35B
2. DESIGN LOAD: HEAVY DUTY. CONFORMING TO AASHTO M306
3. COATING MILL FINISH (√ ; DENOTES MACHINED SURFACE)
4. COUNTRY OF ORIGIN: USA
5. PROVIDE INFILTRATION AND INFLOW REDUCING MANHOLE COVER INSERTS

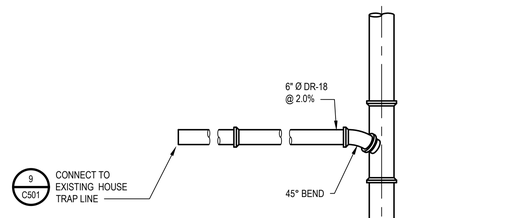
3 Suffolk County Type "F" Adjustable Manhole Castings

SCALE: NTS 330561



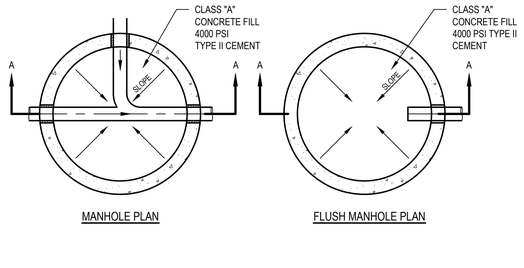
4 Terminal Flushing Cleanout for Low Pressure Sewer

SCALE: NTS 333126



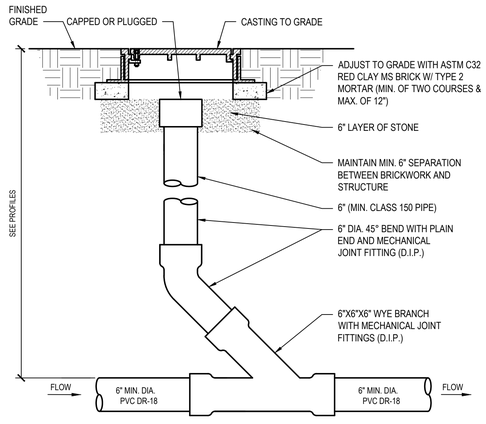
8 Sanitary Building Connection Detail

SCALE: NTS 333111



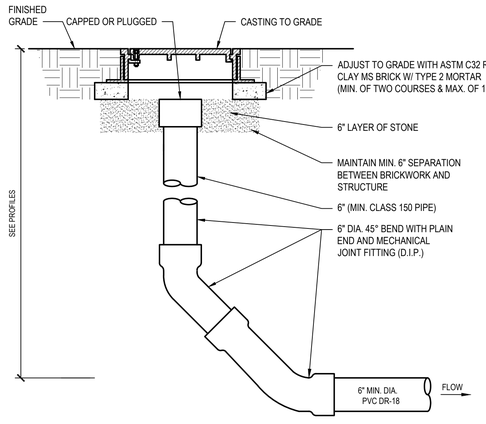
NOTES:

1. ALL MANHOLES SECTIONS SHALL CONFORM TO A.S.T.M. C-478, LATEST REVISION STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE M.H. SECTIONS.
2. FURNISH MANHOLE RISER SECTION IN 1', 2', 3', OR 4' HEIGHTS AS REQUIRED.
3. MANUF. TO CERTIFY THAT MANHOLES DELIVERED MEET ALL REQUIREMENTS OF S.C.D.P.W. SPECS.
4. LOADING SHALL CONFORM TO AASHTO H-20 LOADING.
5. REBAR ASTM A-615-60 Fs=60,000PSI.
6. WELDED WIRE REINFORCEMENT ASTM A1064
7. CONCRETE 4000 PSI MINIMUM @ 28 DAYS.
8. FLAT SLAB TOPS (NO JOINT) SHALL HAVE TOP & BOTTOM STEEL.



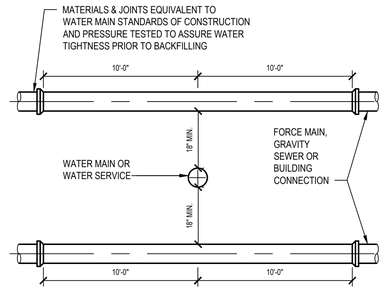
5 Gravity House Connection Paved Area Cleanout Detail

SCALE: NTS 333111



6 Gravity House Connection Paved Area Terminal Cleanout Detail

SCALE: NTS 333111

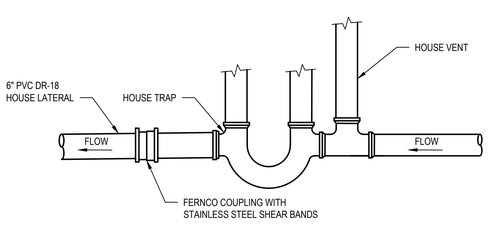


NOTES:

1. HORIZONTAL SEPARATION BETWEEN SANITARY FORCEMAIN, GRAVITY SEWER, OR BUILDING CONNECTION AND WATER LINES SHALL BE 10 FOOT MINIMUM

7 Water Crossing Detail

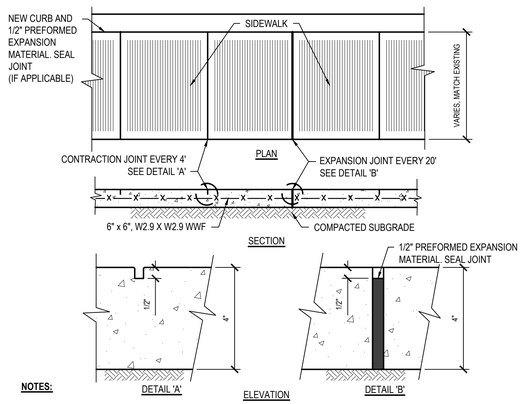
SCALE: NTS 333000



COUPLING PART NO.	I.D.	MATERIAL
1051-44	4"Ø TO 4"Ø	AC TO PVC DI TO PVC
1051-54	5"Ø TO 4"Ø	AC TO PVC DI TO PVC
1051-64	6"Ø TO 4"Ø	AC TO PVC DI TO PVC
1056-44	4"Ø TO 4"Ø	PVC TO PVC CI TO PVC
1056-54	5"Ø TO 4"Ø	PVC TO PVC CI TO PVC
1056-64	6"Ø TO 4"Ø	PVC TO PVC CI TO PVC

9 Gravity House Connection Transition Detail

SCALE: NTS 333111



NOTES:

1. CONCRETE 4000 PSI MINIMUM STRENGTH AT 28 DAYS
2. COMPACT SUBGRADE TO 92% MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D1557 AND/OR COMPACT SUBGRADE TO 95% MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
3. APPLY BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAVEL.
4. WHERE A CHANGE IN SIDEWALK WIDTH OCCURS, PLACE A CONSTRUCTION JOINT PERPENDICULAR TO THE ROADWAY.

10 Concrete Sidewalk

NTS

H 2 M architects + engineers

538 Broad Hollow Road, 4th Floor East
Melville, NY 11747
631.756.8000 • www.h2m.com

CONSULTANTS:

MARK	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	CHECKED BY:	REVIEWED BY:

PROJECT No.:	DATE:	SCALE:
WHHH 2101	APRIL 2022	

CLIENT

Westhampton Beach Harbour House HOA

Westhampton Beach Harbour House Sanitary System Plan

35 Library Avenue
Westhampton Beach, NY 11978

CONTRACT

CONTRACT S SEWERS

STATUS

NOT FOR CONSTRUCTION

SHEET TITLE

DETAILS 2 OF 2

DRAWING No.

C501