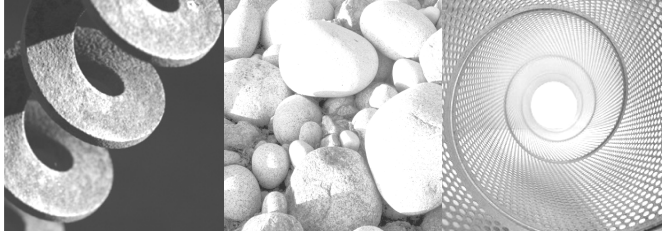

GEI Consultants

Consulting
Engineers and
Scientists

Interim Remedial Measure Work Plan
Clocktower Site

45 Lumber Road
Roslyn, NY 11576
Site No. C130246

Prepared for:
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Halesite, NY 11743

Submitted to:
New York State Department of Environmental Conservation
Division of Environmental Remediation
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Albany, NY 12233

Submitted by:
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April 2022
Project 2101863

George Holmes, P.G.
Project Manager

Gary A. Rozmus, P.E.
Senior Consultant

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Certification

I, Gary A. Rozmus, certify that I am currently a NYS registered professional engineer and that this Interim Remedial Measure Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

NYS Professional Engineer # 056744 — April 21, 2022 (Date)

1. Introduction

GEI Consultants, Inc. P. C. (GEI) has prepared this Interim Remedial Measure Work Plan (IRMWP) for the Site located at 45 Lumber Road (Section 6, Block 53, Lot 1031) in Roslyn, New York (the "Site" or the "Clocktower Site"). The Site (Site No. C130246) was accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) on October 12, 2021, with Lumber Road Roslyn, LLC, i.e., the Applicant, participating in the BCP as a Volunteer pursuant to Brownfield Cleanup Agreement ("BCA") Index No. C130246-10-21.

The Site is currently vacant but was historically used as a marina, by New York Telephone (Verizon) as a work center and garage and was most recently used by an industrial scale producer of Cannabidiol (CBD) ingredients. Prior to development, the Site was originally wetlands associated with Hempstead Harbor. A bulkhead, which has collapsed in an area where stormwater catch basins discharge to the harbor, is present along Hempstead Harbor. Previous reports and limited investigations identified exceedances of applicable standards for compounds in soil and groundwater directly behind the bulkhead, including in the collapsed area, as well as in the stormwater catch basins that discharge to the harbor. The source of the contaminations impact is remaining from NYSDEC Spill No. 9001558 and former gasoline underground storage tanks (USTs), and pump islands located upgradient of the bulkhead, and impacts remaining from NYSDEC Spill No. 0003559 and former hydraulic lifts, and a former oil interceptor/concrete pit located in the building on-Site. Petroleum sheens have been observed on the soil and groundwater on-Site, predominantly in the former gasoline USTs and pump islands, in the stormwater catch basins within the same area on- Site, and in Hempstead Harbor emanating from the Site. A more detailed history of the previous environmental work completed on-Site is included below as well as in the Remedial Investigation Work Plan (RIWP) dated January 2022.

Based on information collected during the previous investigations on-Site, petroleum-impacted soils and groundwater are present directly behind the bulkhead on-Site and are entering Hempstead Harbor through the collapsed portion of the bulkhead and possibly through other areas of the bulkhead. Contamination is also entering Hempstead Harbor from the stormwater catch basins located within the area of the former gasoline USTs and pump islands on-Site where impacts from NYSDEC Spill No. 9001558 remains, which discharge through a collapsed outfall pipe in the collapsed bulkhead area. The purpose of this IRMWP is to replace the bulkhead at the Site and remove the petroleum-impacted soil directly behind the bulkhead to prevent the impacts from entering Hempstead Harbor as well as removing the stormwater catch basins that are discharging impacted soil and water. This IRMWP presents the planned interim remedial steps that will be implemented at the Site to address the bulkhead replacement, the soil excavation and removal, and the stormwater catch

basin removal. This IRMWP calls for the removal and proper disposal of approximately 350-cubic yards (CYs) of petroleum-impacted soils directly behind the collapsed portion of the bulkhead, the replacement of the bulkhead, and the removal of the stormwater catch basins. Dewatering will not be necessary because the excavation will be coordinated with low tide when the groundwater level along the bulkhead will drop due to Hempstead Harbor completely draining in this area.

Following the performance of the IRM, an IRM Construction Completion Report (CCR) will be submitted to the NYSDEC. The remaining contamination on-Site will be addressed as part of the full Site Remedial Action (RA).

1.1 Project Background

The Site is located in Roslyn, New York and is identified as Section 6, Block 53, and Tax Lot 1031 on the Nassau County Tax Map. A United States Geological Survey (USGS) topographical quadrangle map (Figure 1) shows the Site location. The 1.39-acre Site currently contains an approximately 5,700-square-foot one-story commercial building and is bounded by commercial properties to the north, west, and south, and Hempstead Harbor to the east. A Site plan is shown on Figure 2.

The Site was formerly operated as a marina and the current Site building was developed in 1971 and was occupied by New York Telephone (Verizon) as a work center and garage. The Site is currently vacant and was most recently occupied by an industrial scale producer of CBD ingredients until January 2022. Prior to development, the Site was originally wetlands associated with Hempstead Harbor. Potable water is supplied to the Site by the Roslyn Water District. The current Site building is going to be demolished as a component of the RIWP.

Previous Phase I Environmental Site Assessments (ESAs), a Phase II ESA, and a Phase II Environmental Subsurface Investigation (ESI) have identified four former 4,000-gallon gasoline USTs and pump islands, one former 275-gallon waste oil UST, two former underground hydraulic lifts, former floor drains connected to an oil/water separator and a drywell, an oil interceptor/concrete pit, and a potential oil/water separator and drywells. Two former spills, NYSDEC Spill No. 9001558 related to the former gasoline USTs and pump islands, and NYSDEC Spill No. 0003559 related to the former hydraulic lifts and a former oil interceptor/concrete pit, have also occurred at the Site. In addition, fill material was also used to fill in the wetlands that were historically located at the Site.

1.2 Previous Investigation Findings

Two Phase I ESAs, a Phase II ESA, and a Phase II ESI have been conducted for the Site. These assessments and investigations are summarized below, and a more detailed summary is provided in the RIWP. Copies of these reports were included as an appendix to the RIWP.

1.2.1 ATC Phase I ESA September 27, 2012

ATC Associates Inc. (ATC) conducted a Phase I ESA of the Site on behalf of Verizon Global EH&S Compliance as part of its due diligence prior to Verizon's termination of lease. Two Lexicon Environmental Associated, Inc. (Lexicon) reports were summarized in the ATC Phase I ESA, but the Lexicon reports were not provided to GEI. The environmental issues identified at the Site in the ATC Phase I ESA, which included the removal of the four gasoline USTs and the two underground hydraulic lifts, are summarized as follows:

- The *Underground Tank Closure Report, prepared by Lexicon dated, June 9, 1998,* documented the removal of two 4,000-gallon gasoline USTs (Tank 5 and Tank 6) and their associated dispensers from the property on October 21, 1997. No odor or staining was observed around the fill material of the two USTs and no odor or sheen was present in the groundwater encountered at 5 feet below ground surface (ft bgs). The remaining fill was removed from within the excavation down to 10 ft bgs where the bottom concrete pad was located for these USTs. As a result of the high groundwater table, no post-excavation soil samples were collected; however, no visual staining or odor was noted.

  The Lexicon report indicated that these USTs had two 4,000-gallon gasoline UST predecessors (Tank 1 and Tank 3) that were removed and replaced in May of 1990. During their replacement, petroleum-impacted soil and free product in groundwater were observed and NYSDEC issued Spill No. 9001558. Following the excavation, 100 CYs of impacted soil were removed, and four groundwater monitoring wells were installed to evaluate groundwater quality at the property from 1991 through 1996. In February 1997, NYSDEC declared Spill No 9001558 inactive, requiring no additional monitoring or remedial activity.

- The *Hydraulic Lift Closure Report/NYSDEC Spill No. 0003559, prepared by Lexicon, dated September 1, 2000,* documented the closure and removal of two underground hydraulic lifts between June 21 and 23, 2000. Groundwater was encountered in both the north excavation and south excavation at approximately 6.5 ft bgs. Soil below the groundwater table in the north excavation exhibited heavy visible staining and moderate motor oil odor. Approximately one ton of visibly impacted soil was removed from the north excavation. Additional excavation of impacted soil was not possible due to the proximity of the foundation and a nearby load-bearing wall.

NYSDEC Spill No. 0003559 was issued. The post-excavation soil samples were non-detect for volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs). The petroleum constituents were fingerprinted and closely resembled waste oil. NYSDEC closed this spill case on October 1, 2002.

1.2.2 Envirotrac Phase II ESA January 20, 2015

The Envirotrac Environmental Services (Envirotrac) Phase II ESA was conducted in response to recognized environmental conditions (RECs) and potential environmental concerns identified in the ATC 2012 Phase I ESA. Envirotrac focused their Phase II ESA on a 275-gallon waste oil UST and two floor drains and one trench drain, as well as an oil/water separator inside the building that were depicted to discharge to a dry well outside the southwestern side of the building. The findings of the Phase II ESA are summarized as follows:

- A ground penetrating radar (GPR) survey did not identify evidence of the waste oil UST. A soil sample collected in the area was non-detect for VOCs and semi-volatile organic compounds (SVOCs) and no photoionization detector (PID) readings were identified. Envirotrac concluded that the 275-gallon waste oil UST had been removed and no further action was recommended.
- Envirotrac indicated that the former floor drains and oil/water separator were determined to be abandoned with concrete and that no anomalies were detected by GPR in the garage area. The drywell that was reportedly utilized as a discharge point for the former oil/water separator was "snaked" to determine its terminus, which was the outside edge of the garage portion of the building, which indicates that the piping on the interior of the garage was abandoned or sealed. Envirotrac stated that the depth to the bottom sediments within the dry well was approximately 11 ft bgs. No visual or olfactory evidence of contaminants was identified, and no PID readings indicative of contamination were detected. A sediment sample collected from the base of the drywell was non-detect for VOCs and SVOCs. Metals were detected; however, the results were below the Title 6 New York Codes, Rules, and Regulations (6NYCRR) Part 375-6.8 Protection of Groundwater Soil Cleanup Objectives (PGSCOs). Envirotrac recommended no further action.

1.2.3 GEI Phase I ESA February 2021

In addition to the environmental concerns noted above, GEI's February 2021 Phase I ESA identified the following additional RECs:

- Historical on-Site fill used to fill in the former wetlands. Based upon a review of historical topographic maps, it appears that prior to 1900, the project Site was located in a wetland area associated with Hempstead Harbor. Subsequently, the 1947 map shows the Site to have been filled in and a small structure is depicted on the Site. Based upon the fact that fill was brought in to increase the elevation of the Site, this is considered a potential REC.
- Depiction of a gasoline island pump off the northeastern corner of the building on a historic plan. There were no associated USTs depicted and it is unknown whether the pump island was ever installed.
- An oil interceptor/concrete pit formerly located within the building. GEI obtained historical building plans which indicated that trench drains were located within the garage area where the hydraulic lifts were located, as well as an "oil interceptor in a concrete pit with a 55-gallon waste tank adjoining" located within the shop area adjoining one of the hydraulic lifts. Given that the "fingerprinting" method indicated that the petroleum constituents closely resembled waste oil, it is possible that these former drains and oil interceptor/concrete pit may have impacted the underlying soils within the garage area where the hydraulic lifts were located.
- Oil/water separator and drainage structures identified on historic plans. Based upon a 1994 historical plan, an exterior oil/water separator and an associated holding tank were depicted to be located in the southwestern portion of the Site. This exterior oil/water separator and holding tank were to replace an already existing oil/water separator that was located within the building. This system appeared to discharge to a dry well outside the building in the vicinity of the oil/water separator and holding tank.
- A trench drain line that is depicted on a 1971 plan as discharging to a drywell off the eastern side of the building, but the exact location of this dry well is not shown.

1.2.4 GEI Supplemental Phase II ESI April 20, 2021

GEI's April 2021 Phase II ESI, which was conducted to further investigate all of the environmental concerns noted above, identified the following:

- The geophysical survey identified the tank grave for former gasoline Tanks 1 and 3 along with two concrete pads likely associated with pump islands. The two suspected dry wells on the Site that possibly received discharges from former oil/water separators were not identified; however, a solid manhole that was filled to the surface with soil/fill was identified off the southwest side of the building

and an asphalt patch was identified off the east side of the building. An asphalt patch was identified in the area of the former waste oil UST off the east side of the building. Concrete patches were identified in the garage area of the building in the area of the former oil/water separator and the north and south former hydraulic lifts. The location of former gasoline Tanks 5 and 6, the suspected former oil/water separator and holding tank off the southwest side of the building, and the suspected former gasoline pump island off the northeast side of the building were not identified.

- Two lines of stormwater catch basins, oriented east-west, were identified to the south and the north of the building. Each catch basin had a solid bottom that was approximately 3.5 ft bgs. The catch basins in each line were interconnected by inlet/outlet piping at the base of each catch basin. These catch basins discharge to Hempstead Harbor. Groundwater was encountered at approximately 3 ft bgs at high tide, so the base of each catch basin was below the water table at high tide conditions. A sheen was noted on the water in catch basins CB-1 and CB-2 in the southern line of catch basins, which were located in close proximity to the former gasoline USTs and pump islands, where visual impacts including sheens, strong gasoline odors, black soil staining, and a maximum PID reading of 960 parts per million (ppm) were identified during the investigation. The sediment in catch basin CB-2 had a gasoline odor and a maximum PID reading of 19.9 ppm. A sheen was also noted on pooled water in the area of the collapsed outfall/bulkhead from the southern line of catch basins, as well as on the bed of Hempstead Harbor adjoining the bulkhead in proximity to this outfall. Based upon these observations, sediment and water samples were collected (CB-1W, CB-2W, CB-2S, PW, and PW-S).
- A total of 21 soil borings (B-1 through B-21) were advanced and nine test pits (TP-1 through TP-9) were excavated across the Site to investigate former structures of environmental concern and to assess the fill on-Site. Visual impacts (e.g., staining, odors, and sheens) were generally observed in two areas on-Site; within and downgradient of the area of the former gasoline USTs and pump islands off the southeast side of the building, and in the northeast portion of the garage area of the building where contamination from NYSDEC Spill No. 0003559 (associated with the former north hydraulic lift and former oil interceptor/concrete pit) was left in place. These sample locations along with a summary of the relevant findings are shown on Figure 3.
- In the area of the former gasoline pump island, strong gasoline odors, sheens, black soil staining, and elevated PID readings (max 960 ppm) were generally observed in the 2 to 10 ft bgs soil interval. While excavating the test pits in this area, the gasoline odors were noticeable across the Site. Downgradient of the former

gasoline pump island, gasoline odors, black soil staining, and elevated PID readings (max 65 ppm) were generally observed in the 2 to 10 ft bgs soil interval. A faint sheen was also noted on the groundwater in test pit TP-5. A pipe was observed in test pit TP-6 connecting the former gasoline pump island to the tank grave of former Tanks 1 and 3.

- In the northeast portion of the garage area, where contamination from NYSDEC Spill No. 0003559 was left in place, petroleum odors, sheens, black soil staining, and a maximum PID reading of 2.1 ppm were identified in the approximately 7 to 9 ft bgs soil interval. A faint sheen was noted on the groundwater in test pit TP-3, which is downgradient of this area. No other visual impacts, odors, or PID readings above background were noted in the soil borings. Groundwater was encountered at approximately 3 to 5 ft bgs.
- SVOCs exceeded various SCOs in the CB-2S catch basin sediment sample, including benzo(a)pyrene and dibenzo(a,h)anthracene above 6NYCRR Part 375 Industrial Use Soil Cleanup Objectives (IUSCOs); benzo(a)anthracene and benzo(b)fluoranthene above 6NYCRR Part 375 Commercial Use Soil Cleanup Objectives (CUSCOs); and benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene above 6NYCRR Part 375 Restricted-Residential Use Soil Cleanup Objectives (RRUSCOs). Chrysene also exceeded the 6NYCRR Part 375 Residential Use Soil Cleanup Objectives (RUSCO) and PGSCO in the B-15(3-4) sample, which was downgradient of catch basin CB-2 and near the bulkhead. These exceedances are potentially related to the former gasoline USTs and pump islands based on the gasoline odors noted in the sediment.
- The metal arsenic exceeded the IUSCOs in the PW-S sample, which was a sample collected from the sediment in the pooled water adjoining the collapsed outfall pipe and bulkhead.
- VOCs exceeded the 6NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) and PGSCOs in several soil samples, including gasoline-related compounds 1,2,4-trimethylbenzene, n-propylbenzene, ethylbenzene, and xylenes, as well as methylene chloride, acetone, and 2-butanone.
- Various VOC or SVOC tentatively identified compounds (TICs) were identified in eight of the nine test pit samples, including TP-1 and TP-3 through TP-9.
- Metals and/or pesticides exceeded the UUSCOs in 16 soil/sediment samples. Arsenic exceeded the IUSCOs in TP-4(4-5), mercury exceeded the CUSCOs in TP-9(3-5), and lead exceeded the RRUSCOs in TP-4(4-5). These exceedances are likely related to the on-Site historic fill.

- Total polychlorinated biphenyls (PCBs) exceeded the UUSCOs in the TP-2 sample, adjoining the eastern wall of the building where contamination from NYSDEC Spill No. 0003559 was left in place.
- Three groundwater samples (GW-1 through GW-3) were collected from temporary groundwater monitoring wells and water samples were also collected from stormwater catch basins CB-1 and CB-2 (CB-1W and CB-2W), as well as the pooled water (PW) adjoining the collapsed outfall pipe and bulkhead. The GW-3 groundwater sample was collected from the B-15 soil boring location which was located downgradient of catch basin CB-2 and near the bulkhead. A sheen was observed on the groundwater at the GW-1 and GW-2 locations as well as on the water in catch basins CB-1 and CB-2 and the pooled water. Various VOCs exceeded the 6NYCRR Part 703.5 Ambient Water Quality Standards and Guidelines for Class GA Waters (AWQS) in the GW-1, GW-2, and CB-2W samples, and various SVOCs and metals exceeded the AWQS in all the water samples. Total PCBs exceeded the AWQS in the GW-3, CB-1W, and CB-2W samples.
- The AWQS were exceeded by several orders of magnitude for the gasoline-related VOCs 1,2,4-trimethylbenzene and n-propylbenzene in the GW-2 sample; the SVOCs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and/or indeno(1,2,3-cd)pyrene in the GW-2, GW-3, CB-1W, CB-2W, and PW samples; and the total metals chromium, copper, and/or lead in the GW-1, GW-2, and GW-3 samples. The exceedances generally increased in the downgradient portion of the Site, where the GW-3 and CB-2W samples were collected, which was near the bulkhead. The groundwater compounds with significant exceedances of the AWQS were also detected above various SCOs in the soil/sediment on-Site. The VOCs 1,2,4-trimethylbenzene and n-propylbenzene exceeded the UUSCOs and PGSCOs in the soil sample collected from the GW-2 location, B-10(6-7), and test pit samples collected from this area including TP-1(7-8) and TP-7(6-7), as well as TP-8(5-6) for n-propylbenzene. The SVOCs were detected above various SCOs in the CB-2S sample, and chrysene exceeded the RUSCOs and PGSCOs in the soil sample collected from the GW-3 location, B-15(3-4). Lead exceeded the RRUSCOs in the TP-4(4-5) sample, arsenic exceeded IUSCOs in the TP-4(4-5) and PW-S samples, and copper and zinc exceeded the UUSCOs in several soil samples. Since the samples were slightly turbid and the metals samples were unfiltered, it is possible that the metals detections are partially the result of entrained sediment in the samples.
- Six soil vapor samples (SV-1 through SV-6) were collected at locations across the Site to determine if the soil vapor was impacted by past operations at the Site. Elevated concentrations of n-heptane (56,000 micrograms per cubic meter

[$\mu g/m^3$]) and n-hexane (220,000 $\mu g/m^3$), both gasoline-related compounds, were noted in the SV-3 sample, collected in the area of the former gasoline pump island. Detections of several other VOCs were noted in each sample, including gasoline related BTEX compounds. BTEX compounds were also detected above UUSCOs and PGSCOs in several soil/sediment samples and above AWQS in several water samples.

1.3 Project Organization and Responsibility

Approval of this IRMWP by the NYSDEC Project Manager will be obtained prior to the commencement of field activities. GEI will coordinate with the NYSDEC, at minimum, 10 business days prior to implementing the IRM field activities.

The bulkhead replacement/excavation contractor will be responsible for all excavation activities to include, but not be limited to, compliance with all applicable Occupational Safety and Health Administration (OSHA) regulations, personnel health and safety, and the installation of support of excavation as necessary.

GEI will be responsible for project management, excavation oversight, IRMWP compliance, determination of corrective measures when needed, monitoring for health and safety, perimeter-air monitoring activities, and collection of analytical samples. GEI will also serve as the Site Health and Safety Officer.

The following are the key personnel or agencies involved with IRMWP activities at the Site:

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2. Interim Remedial Measure Work Plan

This IRMWP is based on the review of the data collected during the previous investigations conducted at the Site. A Remedial Alternatives Analysis will be performed as part of the Remedial Action Work Plan (RAWP). The full Site RA will be selected as part of the RAWP. The scope of work for the proposed IRM Work Plan is as follows, with work details provided in the subsequent subsections:

- Replacement of the bulkhead.
- Removal of the stormwater catch basins throughout the Site.
- Removal of approximately 350-CY of material directly behind the bulkhead for off-Site disposal or treatment at a regulated facility.
- Use of documentation end-point soil samples collected along the excavation sidewalls and bottom to document the concentrations of the various analytical parameters in the remaining soil.
- Import of soil onto the Site from a NYSDEC-approved source for use as backfill that meets the UUSCOs.

Field work will follow the health and safety protocols detailed in the Site-specific Health and Safety Plan (HASP), which was included as appendix of the January 2022 RIWP. During excavation activities a Community Air Monitoring Plan (CAMP) will be implemented to monitor and potentially mitigate any odors or fugitive dust that may be generated. This document is included as Appendix A.

Prior to initiating subsurface work, a licensed New York State professional land surveyor will be responsible for establishing a temporary benchmark on-Site for use in determining excavation depth. The surveyor will also survey elevations across the work area prior to and subsequent to excavation that will be used to determine excavation and backfill quantities.

2.1 Execution of the Work Plan

Site work will commence no earlier than 7:00 a.m. Monday through Friday. All work must be completed, and the work area closed for the evening at 5:00 p.m., unless otherwise authorized by the property owner. During working hours, the bulkhead replacement/excavation contractor will make every effort to minimize potential community impacts. These include, but are not limited to, noise, traffic concerns associated with the execution of the IRMWP and general housekeeping items including tarping and cleaning trucks prior exiting the site to avoid tracking soil offsite.

The bulkhead replacement/excavation contractor's work will be performed in accordance with OSHA, state, and industry safety standards. All on-Site personnel performing intrusive activities that have the potential to come in contact with impacted materials will have the requisite 1910.120 OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) Training, as well as Site-specific training prior to intrusive activities. All personnel performing work associated with this IRMWP will be required to have both general and Site-specific training. The general training includes all applicable OSHA and state required training, such as 40-hour HAZWOPER and the 8-hour Refresher Training. Supervisory personnel will also have supervisory training. All personnel will be in a medical surveillance program. Also, Site-specific training will be given to all personnel performing fieldwork at the Site on a daily basis. This Site-specific training will include a review of potential Site hazards, required personal protective equipment (PPE), and Site warning and evacuation procedures.

The property owner will provide access to the Site for the IRMWP activities.

The bulkhead replacement/excavation contractor will be responsible for contacting New York 811 to request that all utilities on the adjacent public rights-of-way be located and marked. The location of on-Site utilities has been previously marked and will be confirmed prior to the start of intrusive activities. The contractor is responsible for resolving all potential conflicts. Underground utility protection, if necessary, will be the responsibility of the selected contractor. When all utilities have been verified/confirmed/protected, then intrusive excavation activities may be initiated.

The selected bulkhead replacement/excavation contractor will mobilize all necessary labor, equipment, supplies and materials to complete the IRMWP. Lay down areas for equipment, supplies and materials, the appropriate exclusion zone(s) and support area(s) will be identified to conduct the planned activities safely and effectively. All equipment will be inspected prior to utilization for the IRMWP and checked periodically for performance and corrective repair. All equipment will be cleaned prior to arrival on the project Site.

2.2 Bulkhead Replacement

The bulkhead will be replaced in accordance with all applicable rules and regulations. The new bulkhead will be installed directly in front of the existing bulkhead and then the existing bulkhead will be removed. Tiebacks will be installed and will extend approximately 20 feet behind the bulkhead. Soil will be excavated to approximately three to five ft bgs to install each of the tiebacks. GEI will be on-Site to inspect the excavated soil for visual impacts (i.e., odors, staining, PID readings) and will implement the Site-specific CAMP as required. Outside of the area requiring excavation and off-Site disposal due to the contaminated soil, the soil excavated for the tieback installations will be sampled in accordance with DER-10 Table 5.4(e)4 and Table 5.4(e)10 and reused as backfill with NYSDEC approval in the

excavation in which it originated if the sample results meet the UUSCOs. If the excavated soil cannot be reused on-Site, it will be properly disposed off-Site and the excavation will be backfilled with fill material from a NYSDEC-approved source meeting the UUSCOs.

The bulkhead design plans are included as Appendix B.

2.3 Stormwater Catch Basin Removal

There are currently eight stormwater catch basins on-Site, three in the southern portion of the Site located around the former gasoline USTs and pump islands that discharge through a collapsed outfall pipe around the collapsed bulkhead, and five in the northern portion of the Site that discharge through a separate outfall pipe. The three southern stormwater catch basins will be removed. Any sediment within the catch basins will be removed, containerized, and characterized for proper off-Site disposal. The catch basins will then be removed and disposed of as construction and demolition (C&D) debris. No soil excavation for the soil surrounding the stormwater catch basins is planned as part of the IRM. Excavation of petroleum-impacted soil around catch basins CB-1 and CB-2 will be conducted during the full Site RA. The excavations left from the removal of the catch basins will be lined with orange snow fencing or equivalent material as a demarcation layer and backfilled with fill material from a NYSDEC-approved source meeting the UUSCOs.

The locations of the stormwater catch basins are shown on Figure 4.

2.4 Soil Excavation

Petroleum-impacted soil has been identified during the previous investigations at the Site, and these impacts, specifically from the contamination remaining from NYSDEC Spill No. 9001558 and the former gasoline USTs and pump islands, extends to the bulkhead and is entering Hempstead Harbor. The proposed excavation, which will occur before the bulkhead is replaced, will include the removal and off-Site disposal of the impacted soil directly behind the bulkhead so that the bulkhead can be replaced and prevent further contamination from entering Hempstead Harbor. The remaining contamination upgradient of the bulkhead area will be addressed as part of the full Site RA.

The area requiring excavation is approximately 45 feet along the bulkhead and extends approximately 20 feet off the bulkhead to allow for the installation of the tiebacks. During the excavation a GEI representative will screen the removed material for visual and olfactory observations and for vapors with a PID. The excavation will be extended along the length of the bulkhead if visual contamination is observed or if endpoint samples exceed the UUSCOs; however, any contamination present that is more than approximately 20 feet off the bulkhead will be addressed as part of the full Site RA. The excavation will extend to a depth of approximately 10 ft bgs where an organic clay layer is located. The excavation will likely be

done in sections, approximately 15 feet wide along the length of the bulkhead, so as not to further weaken the existing bulkhead and the supporting tiebacks. Each section will then be backfilled as discussed in Section 2.8 before moving to the adjoining section along the bulkhead. The existing grade and final excavation depths are to be verified via Global Positioning System (GPS) survey.

The approximate area requiring excavation and off-Site disposal is shown on Figure 4.

2.4.1 Support of Excavation

Appropriate management of structural stability of on-Site or off-Site structures during on-Site activities including excavation is the sole responsibility of the Volunteer and its bulkhead replacement/excavation contractor. The Volunteer and its bulkhead replacement/excavation contractor are solely responsible for safe execution of all invasive and other work performed under this IRMWP. The Volunteer and its bulkhead replacement/excavation contractor must obtain any local, State or Federal permits or approvals that may be required to perform work under this Plan. Further, the Volunteer and its bulkhead replacement/excavation contractor are solely responsible for the implementation of all required, appropriate, or necessary health and safety measures during performance of work under the approved IRMWP.

2.4.2 Excavated Soil Management

The excavated soils will be screened, stockpiled, and sampled in accordance with disposal facility requirements prior to being loaded onto trucks for off-Site disposal. The stockpiled excavated soil will be placed on and covered during non-working hours by a minimum of double 6-mil polyethylene sheeting which is sufficiently anchored to prevent any wind and water erosion. The cover will be inspected at least once per day, with corrective action taken as needed. The inspections and any corrective actions will be documented in the daily field reports and will occur until the materials have been properly removed and disposed off-Site.

During excavation, the soils removed will be screened for visual and olfactory impacts as well as with a PID prior to stockpiling.

2.4.3 Material Transport Off-Site

The estimated quantity of soil/fill expected to be excavated and disposed off-Site is 350 CY or approximately 525 tons. Excavated soils will be stockpiled prior to loading into dump trucks for off-Site disposal. Care will be taken to minimize dust formation during loading, and the excavation equipment will have sufficient boom length to allow for placement of soils into the truck bed. Side dumping (i.e., with a front-end loader) will only be permitted if fugitive dust can be consistently controlled within the CAMP action limits.

For each disposal facility to be used in the IRM, a letter from the developer/Qualified Environmental Professional (QEP) to the receiving facility requesting approval for disposal and a letter back to the developer/QEP providing approval for disposal will be obtained prior to any transport and disposal of soil at a facility. These documents will be included in the IRM CCR.

A self-contained decontamination station of sufficient size to decontaminate the largest piece of equipment leaving the Site will be established on-Site (if deemed necessary). The decontamination station will be lined with 60-mil high density polyethylene (HDPE) and a protective geotextile fabric. The perimeter will be bermed approximately six inches above existing grade and sloped for collection and pumping of decontamination water. Decontamination will be performed with a high-pressure washer located within the decontamination basin. Decontamination water will be pumped to drums for off-Site disposal.

Excavation equipment that remains at the Site during the week and weekends will be left within the temporary fenced areas within the work zone. Alternately, for security purposes, equipment may be decontaminated and removed from the Site for temporary storage at a secured area. Area streets will also be cleaned if necessary to mitigate dust or mud from vehicles entering/leaving the Site.

2.5 Excavation Dewatering

Dewatering will not be necessary because the excavation will coordinate with low tide when the groundwater level along the bulkhead will drop due to Hempstead Harbor completely draining in this area.

2.6 Erosion and Sediment Controls

Soil erosion and sediment control measures for management of storm water will be installed in accordance with the New York Guidelines for Urban Erosion and Sediment Control and the bulkhead replacement permits. Erosion and sediment control measures (e.g., haybales, silt fencing, etc.) will be installed as necessary around the entire perimeter of the IRM area and inspected daily and after any significant storm events to ensure that they are operating appropriately. Discharge locations will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the erosion control measures functional. The following measures shall be implemented as a component of the erosion and sediment controls:

- Efforts will be made to minimize the amount of soil exposed during the IRM. Erosion control measures will be implemented as necessary to keep soil in place.

- Temporary stabilization measures will immediately be applied as necessary on all disturbed areas where work is delayed.

- Sediment control measures will be installed at any location where surface runoff from disturbed areas may flow off-Site to prevent sediment from being transported out of the designated work areas. Given the proposed sequencing of the IRM, the project location, width of ground disturbance, and duration of disturbance, significant surface runoff from the project area is not anticipated.

- Sediment tracked onto the roadway will be removed or cleaned as necessary.

A crushed stone path will be constructed as necessary by the bulkhead replacement/excavation contractor at all truck entrances/exits for the Site. All trucks will drive over this path prior to leaving to contain all Site soils on-Site and eliminate migration of soils onto nearby roadways from truck tires.

2.7 Documentation End-Point Sampling

Post-excavation documentation end-point soil samples will be collected from the sidewalls and bottom of the excavation in accordance with NYSDEC DER-10 guidelines to document the concentrations of the various analytical parameters, noted below, in the remaining soil. One sidewall sample will be collected for every 30-linear feet per excavation sidewall and one bottom excavation sample will be collected for every 900-square feet of bottom excavation. Laboratory analysis will be performed by a NYSDEC-approved Environmental Laboratory Approval Program (ELAP)- certified laboratory using the following methods:

- VOCs by United States Environmental Protection Agency (USEPA) Method 8260C.
- SVOCs by USEPA Method 8270D.
- TAL Metals by USEPA Method 6010C and 7471B.
- Pesticides by USEPA Method 8081B.
- Herbicides by USEPA Method 8151.
- PCBs by USEPA Method 8082A.
- 1,4-Dioxane by USEPA Method 8270D SIM.
- Per- and Polyfluoroalkyl Substances (PFAS) by USEPA Method Modified 537.

Proposed end-point sample locations are as shown on Figure 5.

2.8 Demarcation

After the completion of soil removal and prior to backfilling, a land survey will be performed by a New York State licensed surveyor. The survey will define the extent of the excavation. It is anticipated that all contaminated soil along the bulkhead will be removed, but contaminated soil will remain on-Site upgradient of the bulkhead that will be addressed as part of the full Site RA. Therefore, a physical demarcation consisting of orange snow fencing or equivalent material will be placed on the western wall of the excavation to provide visual reference.

2.9 Materials Reuse On-Site

Outside of the area requiring excavation and off-Site disposal due to the contaminated soil, the soil excavated for the tieback installations will be sampled in accordance with DER-10 Table 5.4(e)4 and Table 5.4(e)10, including 1,4-dioxane and PFAS, and reused as backfill with NYSDEC approval in the excavation in which it originated if the sample results meet the UUSCOs. If the excavated soil cannot be reused on-Site, it will be properly disposed off-Site and the excavation will be backfilled with fill material from a NYSDEC-approved source meeting the UUSCOs.

The Remedial Engineer will ensure that procedures defined for materials reuse in this IRMWP are followed and that unacceptable material will not remain on-Site. Organic matter (e.g., wood, roots, stumps, etc.) or other solid waste will not be reused on-Site.

2.10 Backfill from Off-Site Sources

All the soil excavated along the bulkhead and removed from the Site will be replaced with NYSDEC-approved backfill imported to the Site. All materials proposed for import onto the Site will be approved by the Remedial Engineer and will be in compliance with provisions in this IRMWP prior to receipt at the Site. The bulkhead replacement/excavation contractor will compact the backfill to make it satisfactory for the support of the new bulkhead and the tiebacks.

Material from industrial sites, spill sites, other environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The IRM CCR will include the following certification by the Remedial Engineer: “I certify that all import of soils from off-Site, including source evaluation, approval, and sampling, has been performed in a manner that is consistent with the methodology defined in the Interim Remedial Measure Work Plan”.

All imported soils will meet NYSDEC approved backfill or cover soil quality objectives for this Site. These NYSDEC approved backfill or cover soil quality objectives are the lower of the protection of groundwater or the protection of public health soil cleanup objectives for unrestricted use as set forth in Table 375-6.8(a) of 6 NYCRR Part 375. Non-compliant soils will not be imported onto the Site without prior approval by NYSDEC. Nothing in the approved IRMWP or its approval by NYSDEC should be construed as an approval for this purpose.

Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Nothing in this IRMWP should be construed as an approval for this purpose.

Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers.

2.11 Odor and Fugitive Dust Control

In accordance with NYSDEC and NYSDOH requirements, a CAMP will be implemented at the Site during excavation activities. The objective of the CAMP is to provide a measure of protection for the downwind community (i.e., off-Site receptors, including residences and businesses) from potential airborne contaminant releases as a direct result of intrusive IRM activities. Air monitoring stations will be placed upwind and downwind of the intrusive work area.

VOCs and respirable particulates (PM-10) will be monitored at the upwind and downwind stations on a continuous basis. In addition to the fixed stations, VOCs will be monitored in the work zone using hand-held equipment by the GEI air monitoring personnel. The Site-specific CAMP was included as an appendix of the January 2022 RIWP and will be implemented during invasive IRM activities. This appendix is included for reference purposes in this IRMWP as Appendix A.

Dust will be controlled by spraying water mist over the work area if perimeter action levels established in the CAMP are exceeded. The water mist will be generated by connecting a misting device to a hose, which will be connected to any potable water source. The degree to which these measures will be used will depend on particulate levels in ambient air at the Site perimeter as determined through implementation of the CAMP. Gravel will be used on roadways to provide a clean and dust-free road surface, and on-Site roads will be limited in total area to minimize the area required for water spraying.

A foam unit will be used, if necessary, to suppress vapors and odors that are generated during the excavation. Foam will be applied, if warranted, to stockpiled soil and excavation

sidewalls in an effort to maintain work zone and perimeter air monitoring criteria established in the HASP and CAMP. Tarps will also be employed to suppress vapor and odors from stockpiled soil in the staging area, if necessary.

3. Interim Remedial Measure Construction Completion Report (CCR)

The results of the IRMWP and supporting documentation will be compiled in an IRM CCR. The report will provide a summary of the fieldwork performed and an interpretation of the documentation end-point sample analytical data. Supporting documentation will consist of tables containing the analytical results; figures showing the size and location of IRM activities along with documentation end-point sample locations; pertinent photographic documentation of the activities completed; waste disposal documentation of the various material generated for disposal; documentation of the materials reused or imported to the Site for backfill; and findings, conclusions and recommendations resulting from the IRM work. The report will be submitted to NYSDEC for review.

To facilitate the interpretation of data generated during the investigation activities, the data will be tabulated in data summary tables. Figures showing sampling locations with the corresponding analytical results will be prepared to enhance the overall understanding of Site conditions regarding the magnitude and location of contamination that may remain on-Site following redevelopment.

3.1 Quality Assurance/Quality Control (QA/QC)

A Site-specific Quality Assurance Project Plan (QAPP) was generated and included as an appendix in the January 2022 RIWP. The QAPP presents the sampling procedures, analytical methods and QA/QC procedures associated with the activities planned for this BCP Site. Protocols for sample collection, sample handling and storage, Chain of Custody procedures, and laboratory and field analyses are described or specifically referenced to related investigation documents. Preparation of laboratory data for submittal to NYSDEC in the appropriate Electronic Data Deliverable (EDD) and third-party validation is also referenced in this document. All protocols outlined in the QAPP are applicable under the IRMWP.

4. Remedial Evaluation

The remaining contamination outside of the bulkhead IRM area will be addressed as part of the full Site RA. A draft RAWP will be submitted to NYSDEC for comment and approval. The RAWP will include an evaluation of remedial alternatives. Data obtained during previous investigations, the Remedial Investigation (RI), and the IRM will be utilized along with the planned end use to identify, select, and evaluate remedial action alternatives for the Site. Potential Site constituents and migration pathways will be categorized as follows:

- soil/fill.
- groundwater.
- indoor air and airborne dust.

Once the degree of contamination associated with these media and other Site characteristics are quantified, Remedial Alternatives for Site remediation will be defined. The Remedial Alternatives that are considered will include the "no action" measure as a baseline against which other remedial measures, if necessary, can be compared. The overall objective of the remedial alternatives evaluation process is to select a remedial action. The selected remedial action will exhibit the following characteristics:

- Protection of public health and the environment.
- Attains federal and state public health and environmental requirements identified for the Site.
- Utilizes permanent solutions and alternative treatment technologies to the most practical extent within proven technological feasibility and availability.
- Utilizes treatment to permanently reduce the toxicity, mobility, volume, or extent of contamination.
- Minimizes costs.

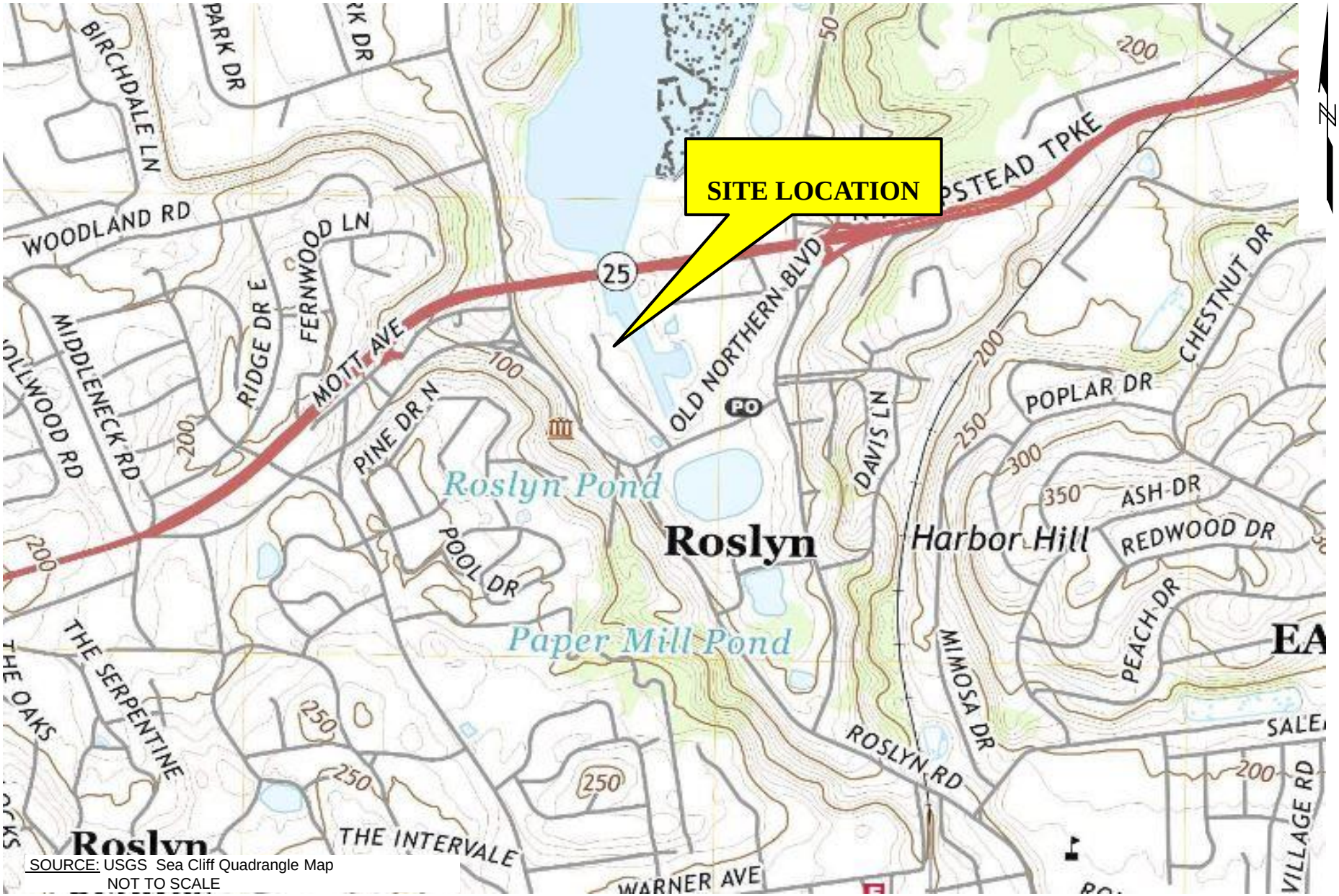
The RAWP will also include a Soil/Fill Management Plan, which will describe a plan for characterization and handling of excavated soil/fill based on NYSDEC Soil Cleanup Objectives as specified in 6 NYCRR Subpart 375-6.

5. Schedule

The proposed project schedule for implementation of the IRMWP activities is presented below. The schedule may be affected by regulatory review time periods, contractor response timeframes, timeframes necessary to negotiate access agreements with property owners, community issues, permit review and approval timeframes, or other unknown factors. In addition, if the scope of the proposed IRMWP changes because of negotiating access or regulatory review, then revisions to the work plan, and plans and specifications or change orders with the bulkhead replacement/excavation contractor, and/or GEI may be required and the schedule presented herein, may be impacted. Every effort, however, will be made to keep the project on the anticipated schedule.

MILESTONE	Time Frame (weeks)	
	Individual	Cumulative
Submittal of IRMWP for NYSDEC review	0	0
NYSDEC Approves IRMWP	4	4
IRMWP Implementation	8	12
Submittal of IRM CCR for NYSDEC review	4	16

Figures



SOURCE: USGS Sea Cliff Quadrangle Map
NOT TO SCALE

INTERIM REMEDIAL MEASURE WORK PLAN
CLOCKTOWER
45 LUMBER ROAD
ROSLYN, NEW YORK

LUMBER ROAD ROSLYN, LLC
HALESITE, NEW YORK

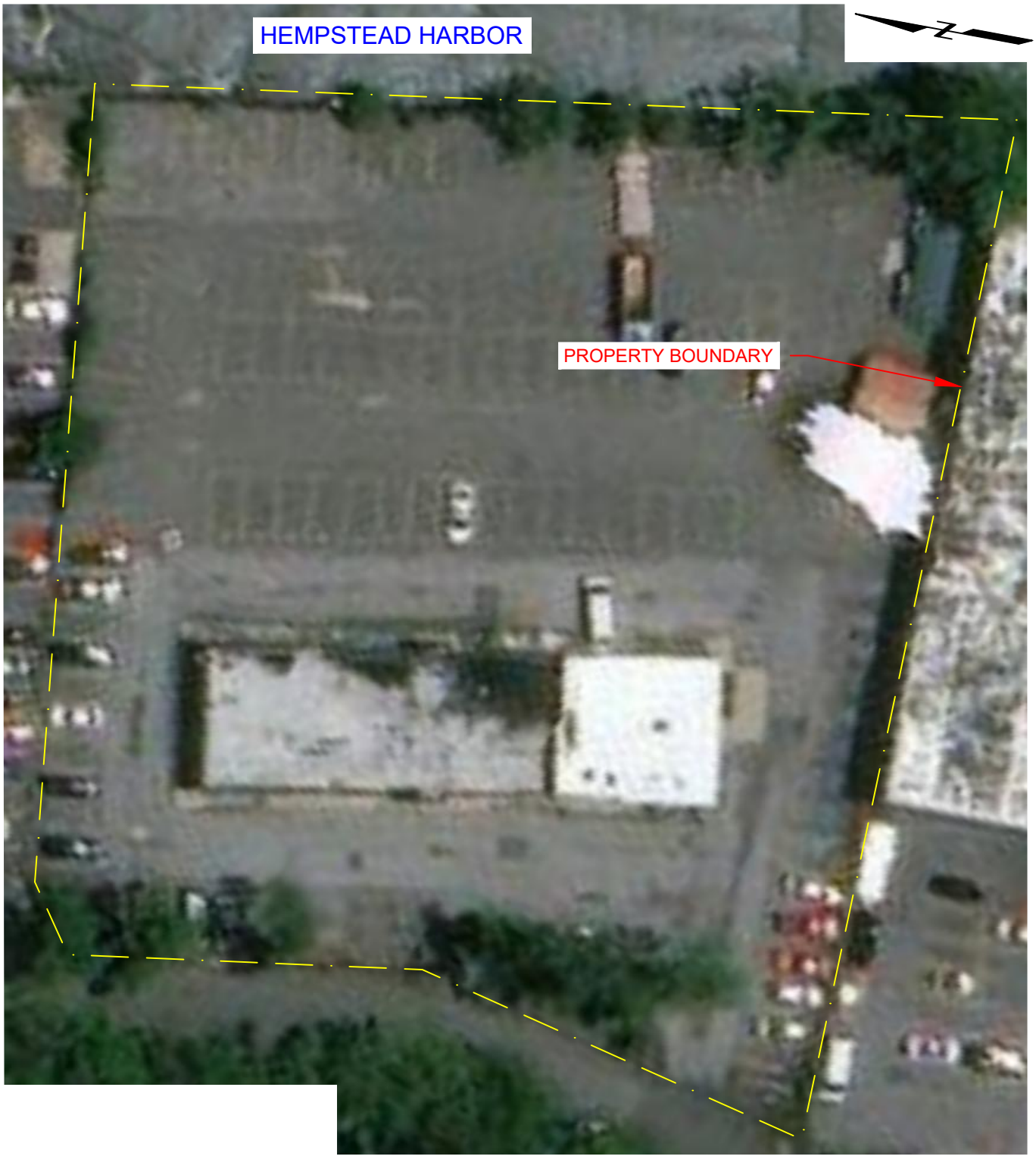
GEI Consultants

SITE LOCATION MAP

Project 2101863

April 2022

Fig. 1



0 40 80

SCALE: 1" = 40'

Interim Remedial Measure Work Plan
Clocktower
45 Lumber Road
Roslyn, New York

Lumber Road Roslyn, LLC
Halesite, New York

GEI Consultants

Project 2101863

SITE PLAN

April 2022 Fig. 2

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HEMPSTEAD HARBOR

- Sheen on surface water and bed of Hempstead Harbor at low tide below southern outfall area

B-14

- VOCs exceeded PGSCOs

POOLED WATER

- Sheen on surface water
- VOCs exceeded PGSCOs
- Metals exceeded IUSCOs
- SVOCs and total metals exceeded AWQS

TP-4

- Black staining and strong gasoline odor
- Max PID = 13.1 ppm
- Metals exceeded RRUSCOs and IUSCOs

TP-6

- Some black staining, strong gasoline odor, and sheen on groundwater
- Max PID = 366 ppm
- VOCs exceeded PGSCO

TP-3/GW-1

- Sheen on groundwater
- VOCs, SVOCs, and total metals exceeded AWQS

TP-2

- Sheen on groundwater

B-5/B-6

- Black staining, petroleum odor, and sheen on groundwater
- Max PID = 2.1 ppm
- VOCs exceeded PGSCOs

B-4

- VOCs exceeded PGSCOs

B-15/GW-3

- SVOCs exceeded RUSCOs
- SVOCs, total metals, PCBs exceeded AWQS

CB-2/TP-5

- Some black staining, strong gasoline odor, and sheens on groundwater and in catch basin
- Max PID = 19.9 ppm
- VOCs exceeded PGSCO (CB-2S)
- SVOCs exceeded RRUSCOs, CUSCOs, and IUSCOs (CB-2S)
- VOCs, SVOCs, total metals, PCBs exceeded AWQS (CB-2W)

TP-7/B-20

- Some black staining, strong gasoline odor, and sheen on groundwater
- Max PID = 960 ppm
- VOCs exceeded PGSCOs

TP-1/B-10/GW-2

- Some black staining, strong gasoline odor, and sheen on groundwater
- Max PID = 447 ppm
- VOCs exceeded PGSCOs
- VOCs, SVOCs, total metals exceeded AWQS

SV-3

- n-heptane (56,000 µg/m^3) and n-hexane (220,000 µg/m^3)

CB-1/TP-8

- Some black staining, strong gasoline odor, and sheens on groundwater and in catch basin
- Max PID = 168 ppm
- VOCs exceeded PGSCOs (TP-8)
- SVOCs, total metals, PCBs exceeded AWQS (CB-1W)

TP-9

- Metals exceeded CUSCOs

LEGEND:

- SOIL BORING
- SOIL BORING/TEMPORARY MONITORING WELL
- SOIL VAPOR
- STORMWATER CATCH BASIN
- TEST PIT
- APPROXIMATE AREA LIKELY REQUIRING REMEDIATION

0 40 80

SCALE: 1" = 40'

Interim Remedial Measure Work Plan
Clocktower
45 Lumber Road
Roslyn, New York

Lumber Road Roslyn, LLC
Halesite, New York

GEI Consultants

SUMMARY OF
PHASE II FIELD OBSERVATIONS
AND SCO EXCEEDANCES

Project 2101863 | April 2022 | Fig. 3

LEGEND:

STORMWATER CATCH BASIN

0 40 80

SCALE: 1" = 40'

Interim Remedial Measure Work Plan Clocktower 45 Lumber Road Roslyn, New York	GEI Consultants	PROPOSED EXCAVATION LIMITS
Lumber Road Roslyn, LLC Halesite, New York	Project 2101863	April 2022 Fig. 4

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LEGEND:

- STORMWATER CATCH BASIN
- PROPOSED END-POINT SAMPLE LOCATIONS

0 40 80

SCALE: 1" = 40'

Interim Remedial Measure Work Plan Clocktower 45 Lumber Road Roslyn, New York	GEI Consultants	PROPOSED END-POINT SAMPLE LOCATIONS
Lumber Road Roslyn, LLC Halesite, New York	Project 2101863	April 2022 Fig. 5

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Appendix A

Community Air Monitoring Plan

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

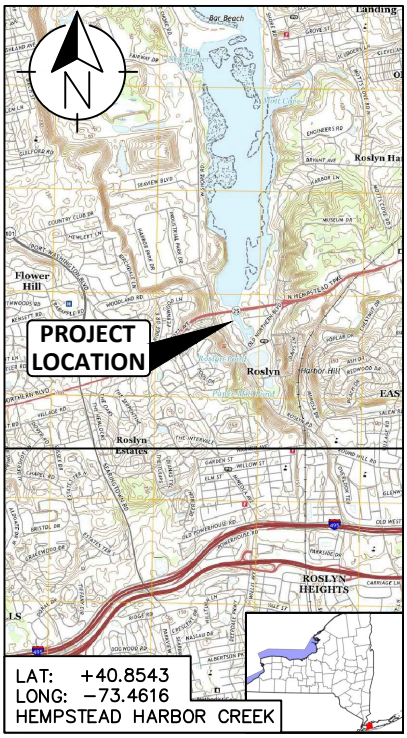
December 2009

Appendix B

Bulkhead Design Plans

WATERFRONT DEVELOPMENT
45 LUMBER ROAD
ROSLYN, NY 11576

LOCATION MAP



REF: SEA CLIFF QUADRANGLE NEW YORK 7.5−MINUTE SERIES

TIDAL CHART ELEVATION(S)			
POSITION	**MLW**	**NAVD88**	**DESCRIPTION**
SHW	+8.2	+4.4	SPRING HIGH WATER
MHHW	+7.6	+3.8	MEAN HIGHER HIGH WATER
MHW	+7.2	+3.4	MEAN HIGH WATER
MSL	+3.6	−0.2	MEAN SEA LEVEL
MLW	±0.0	−3.8	MEAN LOW WATER
MLLW	−0.2	−4.0	MEAN LOWER LOW WATER

NOTE: SHW IS SYNONYMOUS WITH MEAN HIGH WATER SPRING (NOAA NOS CO−OPS1)

PROJECT INFORMATION

LOCATION

COMMERCIAL PROPERTY AT 45 LUMBER ROAD, IN THE VILLAGE OF ROSLYN, NASSAU COUNTY, NEW YORK ALONG HEMPSTEAD HARBOR CREEK.

PROJECT NOTIFICATION

COMMENCEMENT NOTIFICATION TO REGULATORY AGENCY SHALL BE SUBMITTED, AS REQUIRED, BY SELECTED CONTRACTOR PRIOR TO THE START OF WORK.

GENERAL CONTACT INFORMATION

RISING TIDE WATERFRONT SOLUTIONS, PLLC
80 KILLIANS ROAD, #280
MASSAPEQUA, NY 11758
PHONE: 516−595−3483
EMAIL: PERMITS@RT−WS.COM

DEFINITION(S)

AUTHORITY: G2D CONSTRUCTION

ENGINEER: RISING TIDE WATERFRONT SOLUTIONS, PLLC

REVISION(S)

A:	PERMIT MODIFICATION	06−25−2021
B:	CONTRACTOR SOLICITATION	08−13−2021
0:	CONSTRUCTION	03−08−2022

SHEET INDEX

NOTE: CONSTRUCTION DETAILS PROVIDED FOR TOWN/VILLAGE REVIEW. DOCUMENTS EXCLUDED FOR GENERAL ARRANGEMENT PLANS SUBMITTED TO FEDERAL/STATE REGULATORY AGENCIES (DEC REGION 1 ONLY).

PROJECT DESCRIPTION

REMOVE AND REPLACE 281 LINEAR FEET OF FUNCTIONING AND LAWFULLY EXISTING BULKHEAD, INCLUDING RETURNS AND PARALLEL CAPPING BOARDWALKS, WITHIN THE LITTORAL ZONE (DEF: 6 NYCRR PART 661) IN−PLACE (WITHOUT SEAWARD EXPANSION). THE REPLACEMENT BULKHEAD SHALL BE 18−INCHES HIGHER THAN THE EXISTING BULKHEAD. PROJECT DOES NOT INCLUDE MAINTENANCE DREDGING.

SHEET NO. G-1.0	PROJECT NO. P210218.00	PROJECT: WATERFRONT DEVELOPMENT PREPARED FOR: G2D CONSTRUCTION LOCATED AT: 45 LUMBER ROAD ROSLYN, NY — HEMPSTEAD HARBOR CREEK — NASSAU COUNTY	SCALE: N/A	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY: JWK		DATE: 03−08−2022	SHEET: TITLE SHEET & LOCATION MAP
	CHECKED BY: AMA		REVISION NO.: 0	

GENERAL NOTE(S):

1. ALL WORK SHALL CONFORM TO ALL FEDERAL, STATE, COUNTY, OR LOCAL CODES HAVING JURISDICTION OVER THE PROJECT LOCATION.
2. ALL PROJECT WORK SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE AUTHORITY OR THE ENGINEER.
   A. CONTRACTOR SHALL FAMILIARIZE HIM(HER)SELF WITH THE ACTUAL SITE CONDITIONS AND SHALL BE RESPONSIBLE FOR FURNISHING A COMPLETED PROJECT AS REPRESENTED IN THE CONTRACT DOCUMENTS.
   B. ALL PROPOSED ALTERNATES TO THE ITEMS AND METHODS REPRESENTED IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED IN WRITING TO THE AUTHORITY AND THE ENGINEER FOR APPROVAL SEVEN (7) DAYS IN ADVANCE OF ANY CONTRACTOR WORK OR MATERIAL PURCHASE.
3. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF EXISTING AND PROPOSED CONDITIONS. THE CONTRACTOR SHALL PERFORM FIELD MEASUREMENTS PRIOR TO CONSTRUCTION, FABRICATION, AND/OR PURCHASE OF ANY MATERIAL.
4. DISCOVERY OF INCONSISTENT SITE INFORMATION OR CONDITIONS SHALL BE IMMEDIATELY CONVEYED TO THE AUTHORITY AND THE ENGINEER PRIOR TO COMMENCING OR CONTINUING CONSTRUCTION. CONFLICTS ARISING DUE TO THE LACK OF COORDINATION SHALL BE THE RESPONSIBILITY AND AT THE SOLE EXPENSE OF THE CONTRACTOR.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS, METHODS, AND SAFETY OF WORK.
6. CONTRACTOR SHALL NOT CAUSE ANY ADVERSE EFFECT ON NAVIGATION IN THE WATERBODY DURING THE PROJECT DURATION.
7. THE CONTRACTOR SHALL PREVENT DAMAGE TO EXISTING STRUCTURES OR OBJECTS BY OR AS A RESULT OF HIS OPERATIONS. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE AUTHORITY OR THE ENGINEER AT NO ADDITIONAL COST TO THE AUTHORITY OR THE ENGINEER.
8. AS-BUILT DRAWINGS - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TWO (2) SETS OF "AS-BUILT" DRAWINGS SHOWING ILLUSTRATIONS AND/OR NOTING ALL FIELD CHANGES AND MODIFICATIONS TO THE DRAWINGS ISSUED FOR CONSTRUCTION. UPON PROJECT COMPLETION AND PRIOR TO RELEASE OF FINAL PAYMENT THE CONTRACTOR SHALL SUBMIT BOTH SETS OF "AS-BUILT" DRAWINGS TO THE AUTHORITY AND THE ENGINEER.
9. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SUPERSEDE SCALED DIMENSIONS AND ARE SUBJECT TO REVISIONS AS PER ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS HEREIN SHOWN, AND ALL DISCREPANCIES ARE TO BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO COMMENCING WITH THE WORK.

PERMIT(S):

1. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING WORK COMPLYING WITH ALL REGULATORY PERMIT CONDITIONS.

GOVERNING DESIGN CODE(S):

1. ALL WORK SHALL BE IN CONFORMANCE WITH THE LATEST REVISION OF:
   A. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
   B. NEW YORK STATE BUILDING CODE (NYSBC)
   C. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

STRUCTURAL DESIGN CRITERIA:

1. STRUCTURAL DESIGN CRITERIA APPLIES TO PRESCRIPTIVE DETAILS. SEE DRAWINGS FOR PERFORMANCE BASED DESIGN ELEMENTS.
2. DEAD LOAD (DL) - DEAD LOADS COMPRISE THE STRUCTURE SELF-WEIGHT AND INCLUDE ALL PERMANENT ATTACHMENTS SUCH AS MOORING HARDWARE, FENDERS, UTILITIES, PLATFORMS, VAULTS, AND WATERFRONT BUILDINGS. UNLESS OTHERWISE SPECIFIED, MATERIAL WEIGHTS SHALL BE DETERMINED BY UNIT WEIGHT AND INCLUDE:
   A. STEEL OR CAST STEEL 490 PCF
   B. TIMBER (TREATED OR UNTREATED) 050 PCF
   C. NORMAL WEIGHT CONCRETE, REINFORCED 150 PCF
   D. NORMAL WEIGHT CONCRETE, UNREINFORCED 145 PCF
3. LIVE LOADS (LL) - LIVE LOADS COMPRISE APPLIED UNIFORM LOADING, TEMPORARY EQUIPMENT, AND VEHICULAR LOADS. LIVE LOADS INCLUDE:
   A. UNIFORMLY DISTRIBUTED 40 PSF
   B. EQUIPMENT N/A
   C. VEHICLE / CRANE N/A
4. SNOW LOADS (SL) - SNOW LOAD FORCES ARE NOT CONSIDERED FOR THE DESIGN.
5. WIND LOADS (WL) - WIND LOAD FORCES ARE NOT CONSIDERED FOR THE DESIGN.
   A. BASIC WIND SPEED N/A
   B. GUST N/A
   C. RETURN PERIOD N/A
   D. WIND IMPORTANCE FACTOR N/A
   E. OCCUPANCY CATEGORY N/A
   F. UNIFORM WIND PRESSURE 25 PSF
6. WAVE LOADS (FL1) - NONBREAKING WAVE LOAD VELOCITY OF 0.6 FT/S.
7. CURRENT LOADS (FL2) - CURRENT LOAD VELOCITY OF 1.2 FT/S
8. BERTHING LOADS (BL) - BERTHING LOAD FORCES ARE NOT CONSIDERED FOR THE DESIGN.
9. THERMAL LOADS (TL) - THERMAL LOAD FORCES ARE NOT APPLICABLE TO THE DESIGN.

SHEET NO. G-1.1	PROJECT NO. P210218.00	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE N/A	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY JWK		DATE 03-08-2022	
	CHECKED BY AMA		REVISION NO. 0	SHEET GENERAL NOTES I

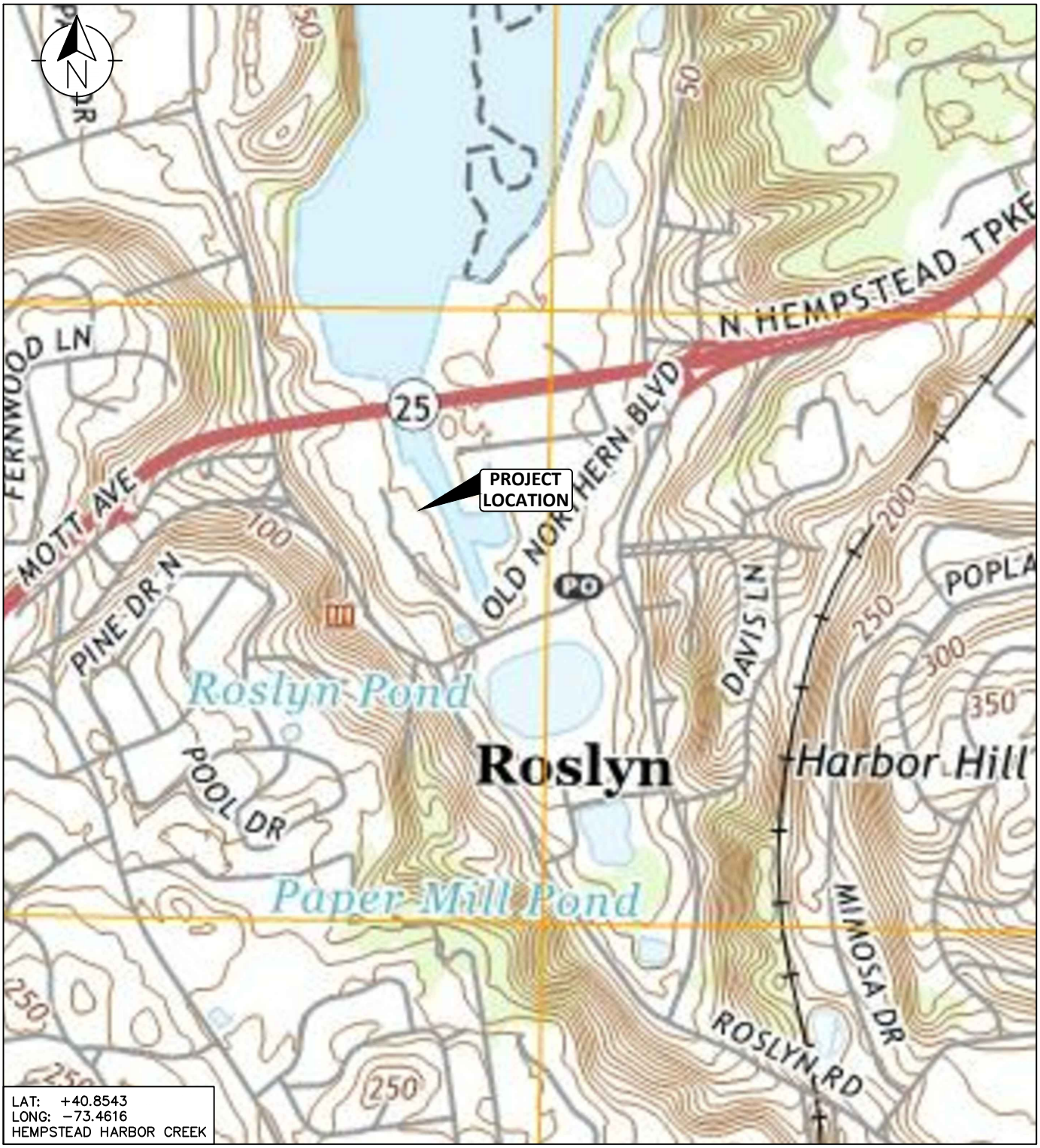
MATERIAL(S):

1. MATERIALS THAT ARE STORED ON SITE SHALL BE STORED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND LOCATED IN AN AREA THAT IS PROTECTED TO PREVENT ACCIDENTS, DAMAGE, AND ANY ADVERSE ENVIRONMENTAL EFFECTS. DAMAGED MATERIALS SHALL BE PROMPTLY REPORTED TO THE AUTHORITY AND THE ENGINEER. DAMAGED MATERIALS SHALL BE REMEDIED BY THE CONTRACTOR AT THE CONTRACTORS SOLE EXPENSE AND IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

MARINE BULKHEADING:

1. TIMBER PILES (BULKHEAD) – SOUTHERN YELLOW PINE DENSE STRUCTURAL GRADE 65 TREATED PILES IN ACCORDANCE WITH AWPA U1 COMMODITY SPECIFICATION G AND CONFORMING TO ASTM D25 AND OTHER SPECIFIED REQUIREMENTS.
   A. CIRCUMFERENCE – MINIMUM PILE CIRCUMFERENCES, MEASURED 3 FEET FROM THE BUTT END, MUST BE 36 INCHES FOR A SPECIFIED 12 INCH DIAMETER PILE.
   B. TAPER – THE PILE SHALL BE TAPERED AT A RATE NO GREATER THAN 1 IN PER 10 FT.
   C. PRESERVATIVE TREATMENT – TREAT PILES BASED ON USE CATEGORY AND SPECIES IN ACCORDANCE WITH AWPA U1 AND AWPA T1 TO THE RETENTION AND PENETRATION FOR MARINE PILING AND PRODUCE IN ACCORDANCE WITH WWPI MANAGEMENT PRACTICES. PILES PRESERVATIVE TREATMENT MUST BE WATERBORNE PRESERVATIVE FOR MARINE PILES IN ACCORDANCE WITH AWPA P5 – CHROMATED COPPER ARSENATE (CCA).
   D. FIELD TREATMENT – PILES MUST BE FIELD TREATED IN ACCORDANCE WITH AWPA M4. ALL CUTS, HOLES AND INJURIES SUCH AS HOLES FROM REMOVAL OF SPIKES OR NAILS WHICH MAY PENETRATE THE TREATED ZONE MUST BE FIELD TREATED WITH COPPER NAPHTHENATE CONFORMING TO AWPA P34.
2. TIMBERWORK – SOLID SAWN LUMBER AND TIMBERS OF SOUTHERN PINE WITH IDENTIFIABLE GRADE MARK OF A RECOGNIZED ASSOCIATION OR INDEPENDENT INSPECTION AGENCY USING THE SPECIFIC GRADING REQUIREMENTS OF AN ASSOCIATION RECOGNIZED AS COVERING THE SPECIES USED. THE ASSOCIATION OR INDEPENDENT INSPECTION AGENCY MUST BE CERTIFIED BY THE BOARD OF REVIEW, AMERICAN LUMBER STANDARDS COMMITTEE TO GRADE THE SPECIES USED. USE LUMBER OR TIMBERS RATED NO. 1 OR BETTER. USE COMMERCIAL GRADE LUMBER FOR DECKING MEMBERS.
3. COMPOSITE SHEET PILE – SHEET PILING SHALL BE MANUFACTURED FROM A RIGID, HIGH IMPACT, UV INHIBITED, AND WEATHER RESISTANT DURABLE FIBER REINFORCED POLYMER COMPOUND. SHEET PILING SHALL BE PROVIDED IN FULL–LENGTH SECTIONS OF THE DIMENSIONS SHOWN – SPLICING OF SHEET PILE IS PROHIBITED.
   A. COLOR – AS DIRECTED BY THE AUTHORITY OR ENGINEER BASED ON PROVIDED SHEET PILE COLOR SAMPLES.
   B. INTERLOCKS – INTERLOCKS OF SHEET PILING SHALL BE FREE–SLIDING, PROVIDE A SWING ANGLE SUITABLE FOR THE INTENDED INSTALLATION BUT NOT LESS THAN 5 DEGREES WHEN INTERLOCKED, AND MAINTAIN CONTINUOUS INTERLOCKING DURING AND AFTER INSTALLATION.
   C. UV PROTECTION – ALL SURFACES OF THE SHEET PILING SHALL BE UV RESISTANT AND COMPRISED OF VIRGIN MATERIAL.
4. TIMBER LAY LOG(S) – PROVIDE SOUTHERN YELLOW PINE DENSE STRUCTURAL GRADE 65 TREATED LAY LOGS IN ACCORDANCE WITH AWPA U1 COMMODITY SPECIFICATION G AND CONFORMING TO ASTM D25 AND OTHER SPECIFIED REQUIREMENTS. LAY LOGS MUST BE IN ONE PIECE FOR THE LENGTH(S) SHOWN – SPLICING OF TIMBER LOGS IS PROHIBITED. EACH TREATED LOG MUST BE BRANDED BY THE PRODUCER IN ACCORDANCE WITH AWPA M6.
   A. CIRCUMFERENCE – MINIMUM LOG CIRCUMFERENCES, MEASURED 3 FEET FROM THE BUTT END, MUST BE: 36 INCHES FOR A SPECIFIED 12 INCH DIAMETER LOG.
   B. PRESERVATIVE TREATMENT – FOR LUMBER IN CONTACT WITH BRACKISH WATER, SALT WATER, OR SALTWATER SPLASH, PRESERVATIVE TREATMENT SHALL BE WATERBORNE PRESERVATIVE IN ACCORDANCE WITH AWPA P5 – CHROMATED COPPER ARSENATE (CCA). FOR LUMBER NOT IN CONTACT WITH BRACKISH WATER, SALT WATER, OR SALT WATER SPLASH, TREATMENT MUST BE IN ACCORDANCE WITH AWPA U1 COMMODITY SPECIFICATION A: SAWN PRODUCTS WITH WATER–BORNE PRESERVATIVE (AWPA P5) EXCEPT THAT CHROMATED ZINC CHLORIDES, PENTACHLOROPHENOL–AMONIACAL SYSTEMS, AND ALKYL AMMONIUM COMPOUNDS ARE PROHIBITED.
   C. FIELD TREATMENT – ALL CUTS, HOLES AND INJURIES SUCH AS HOLES FROM REMOVAL OF SPIKES OR NAILS THAT PENETRATE THE TREATED ZONE MUST BE FIELD TREATED WITH COPPER NAPHTHENATE CONFORMING TO AWPA P34.
5. STEEL TIE ROD(S) – TIE RODS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 COVERING SHAPES, PLATES AND BARS OF STRUCTURAL QUALITY. TIE–RODS SHALL BE COMPLETELY GALVANIZED CONFORMING TO THE REQUIREMENTS OF ASTM A123 / ASTM A153. THE WEIGHT OF ZINC COATING PER SQUARE FOOT OF ACTUAL SURFACE SHALL AVERAGE NOT LESS THAN 22 OZ.
6. HARDWARE – HARDWARE CONSISTS OF BOLTS WITH NECESSARY NUTS AND WASHERS, TIMBER CONNECTORS, DRIFT PINS, DOWELS, NAILS, SCREWS, SPIKES, AND OTHER FASTENINGS. BOLTS AND NUTS MUST CONFORM TO ASTM A307. HARDWARE SHALL BE HOT–DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 OR ASTM A153, AS APPLICABLE.

SHEET NO. G-1.2	PROJECT NO. P210218.00	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE N/A	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY JWK		DATE 03-08-2022	
	CHECKED BY AMA		REVISION NO. 0	SHEET GENERAL NOTES II



REF: SEA CLIFF QUADRANGLE NEW YORK 7.5–MINUTE SERIES

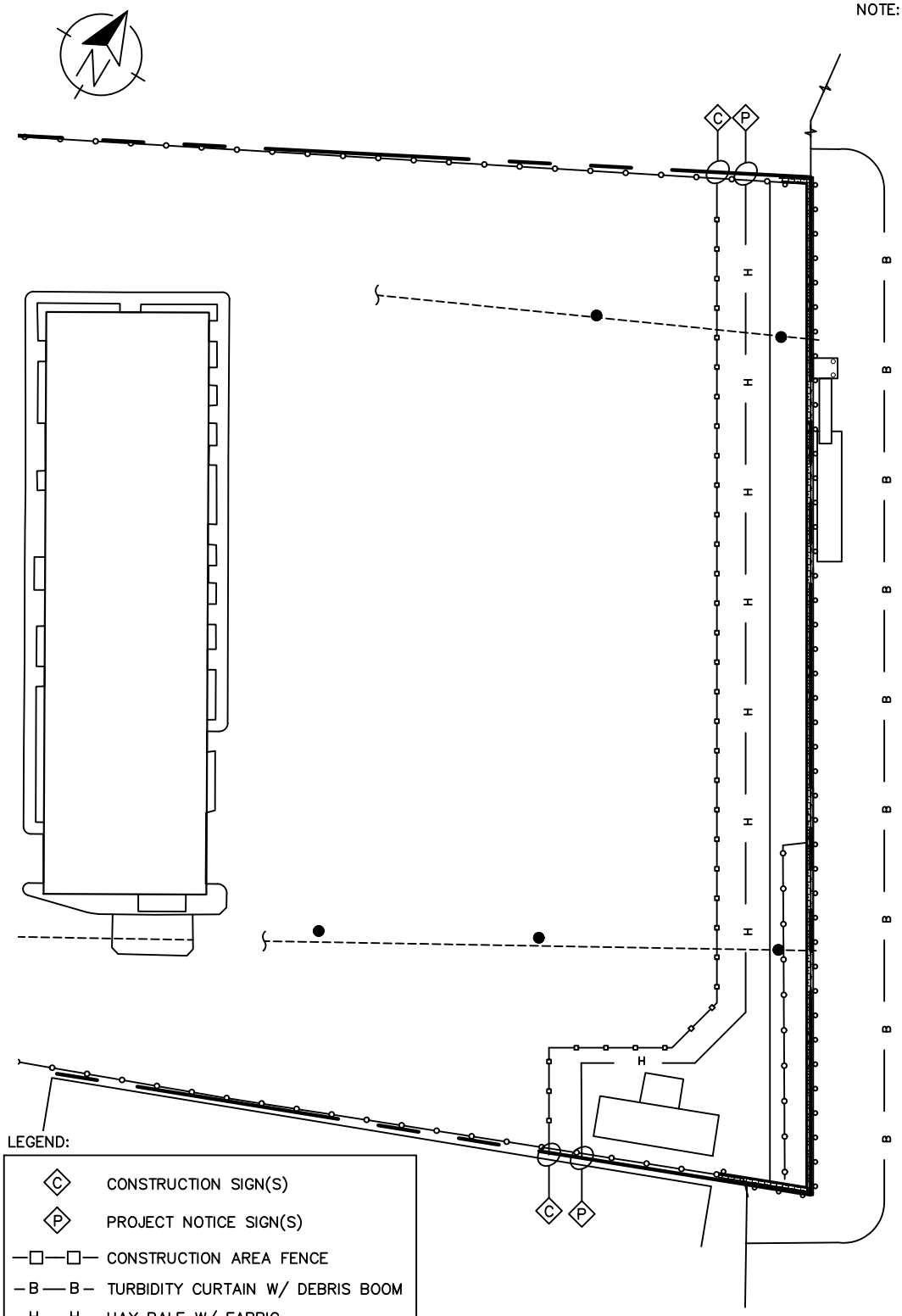
VICINITY MAP

SCALE: 1"=800'-0"

0 800' 1600'

SHEET NO. G-1.3	PROJECT NO. P210218.00	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE 1"=800'-0"	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY JWK		DATE 03-08-2022	SHEET VICINITY MAP
	CHECKED BY AMA		REVISION NO. 0	

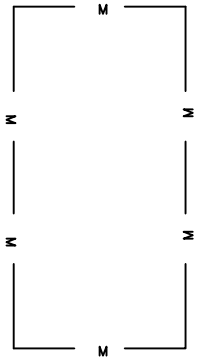
NOTE: DETAIL PROVIDED FOR ILLUSTRATION PURPOSE. CONTRACTOR RESPONSIBLE FOR PROVIDING PROTECTION PLAN. DRIVING OF PILES OUTSIDE OF TURBIDITY CURTAIN WITH DEBRIS BOOM PROHIBITED.



FLOOD
EBB

HEMPSTEAD HARBOR CREEK

BARGE TEMPORARY MOORING AREA
(BEACHING OF BARGE IS PROHIBITED)



LEGEND:

- C — CONSTRUCTION SIGN(S)
- P — PROJECT NOTICE SIGN(S)
- —□—□— CONSTRUCTION AREA FENCE
- —B—B— TURBIDITY CURTAIN W/ DEBRIS BOOM
- —H—H— HAY BALE W/ FABRIC
- —M—M— BARGE MOORING BOUNDARY

0 30' 60'

PLAN
SITE PROTECTION

SCALE: 1"=40'-0"

0 40' 80'

SHEET NO. G-1.4	PROJECT NO. P210218.00	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE 1"=40'-0"	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY JWK		DATE 03-08-2022	
	CHECKED BY AMA		REVISION NO. 0	SHEET SITE PROTECTION PLAN

SITE ACCESS AND STAGING AREA(S):

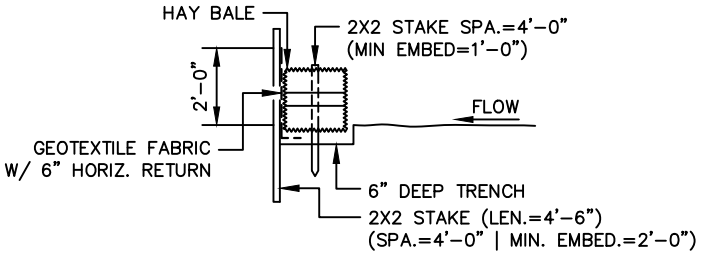
1. CONTRACTOR STAGING AREA SHALL BE LIMITED WITHIN THE LIMITS LOCATED IN THE CONTRACT DOCUMENTS. NO MATERIALS SHALL BE STORED OUTSIDE THE LIMITS SHOWN UNLESS APPROVED, IN WRITING, BY THE AUTHORITY OR ENGINEER.
2. THE CONTRACTOR IS RESPONSIBLE FOR SITE SECURITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL JOB SAFETY. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL & STATE REGULATIONS. THE CONTRACTOR SHALL:
   A. IMPLEMENT A SAFETY PROGRAM INSURING COMPLIANCE WITH REGULATIONS.
   B. POST ON-SITE, ALL EMERGENCY PHONE NUMBERS.
   C. TRAIN ALL EMPLOYEES AND SUBCONTRACTORS IN THE RECOGNITION AND AVOIDANCE OF UNSAFE WORK CONDITIONS.
   D. IMMEDIATELY RECTIFY ALL SAFETY EXPOSURES AND VIOLATIONS.
4. A SEQUENCE OF CONSTRUCTION SHALL BE SCHEDULED AND COORDINATED, IN WRITING, WITH THE ENGINEER AND THE AUTHORITY PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY CHANGES TO THE SEQUENCE SHALL BE PROVIDED TO THE ENGINEER AND THE AUTHORITY, IN WRITING, SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CHANGE.
5. THE PROJECT AREA SHALL BE KEPT, AT ALL TIMES, FREE OF DEBRIS AND EXCESS MATERIAL TO THE SATISFACTION OF THE AUTHORITY AND THE ENGINEER.
6. ALL CONSTRUCTION AND RELATED ACTIVITIES SHALL BE CONDUCTED DURING NORMAL DAYTIME WORKING HOURS AS APPROVED, IN WRITING, BY THE AUTHORITY OR THE ENGINEER.

TEMPORARY SOIL & EROSION CONTROL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES. CONTRACTOR SHALL SUBMIT SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR SHALL PREVENT CONTAMINATION OF THE WATERWAY BY SILT, SEDIMENT FUELS, SOLVENTS, LUBRICANTS, EPOXY COATINGS, CONCRETE LEACHATE, OR ANY OTHER POLLUTANT ASSOCIATED WITH THE PROPOSED CONSTRUCTION.
3. ERODED SOIL SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERCOURSES (SEE TYPICAL DETAILS). TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL MEASURES DETAILED IN THE PLANS SHALL BE CONSIDERED AS THE MINIMUM REQUIRED.
4. ALL SOIL AND EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLACED PRIOR TO STARTING ANY CONSTRUCTION WORK AND SHALL REMAIN IN PLACE UNTIL SLOPES ARE STABILIZED WITH SEEDING AND/OR OTHER SLOPE PROTECTION.
5. MAINTENANCE OF TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL DEVICES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND PAID FOR UNDER THE GENERAL CONDITIONS OF THE CONTRACT.

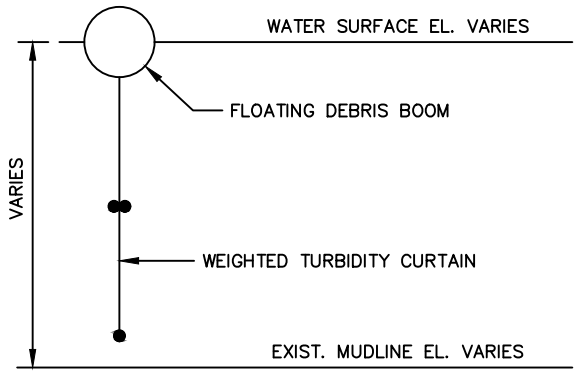
SITE SAFETY:

1. CONTRACTORS, CONSTRUCTION MANAGERS, AND SUBCONTRACTORS ENGAGED IN THE PROJECT WORK SHALL INSTITUTE AND MAINTAIN SAFETY MEASURES AND PROVIDE ALL EQUIPMENT OR TEMPORARY CONSTRUCTION NECESSARY TO SAFEGUARD ALL PERSONS AND PROPERTY AFFECTED BY SUCH CONTRACTOR'S OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PEDESTRIANS DURING ALL CONSTRUCTION ACTIVITIES. PEDESTRIAN PROTECTION SHALL BE MAINTAINED IN PLACE AND KEPT IN GOOD ORDER FOR THE ENTIRE LENGTH OF TIME PEDESTRIANS MAY BE ENDANGERED.
2. THE CONTRACTOR SHALL DESIGNATE A SITE SAFETY MANAGER WHO SHALL BE PRESENT DURING ALL CONSTRUCTION ACTIVITIES, INCLUDING BUT NOT LIMITED TO THE MOBILIZATION AND DEMOBILIZATION OF EQUIPMENT, LABOR AND MATERIALS THROUGH SHORT BEACH.
3. INSPECTIONS – THE SITE SAFETY MANAGER SHALL BE RESPONSIBLE FOR THE INSPECTION OF OPERATIONS FOR COMPLIANCE WITH THE PROVISIONS HEREIN. ALL INSPECTION REPORTS SHALL BE MAINTAINED BY THE PERMIT HOLDER AND BE MADE AVAILABLE TO THE ENGINEER UPON REQUEST.
   A. SITE INSPECTION(S). THE SITE SAFETY MANAGER SHALL INSPECT THE SITE AT THE START AND CONCLUSION OF EACH DAY AND/OR ANY ACTIVITY THAT COMMENCES DURING THE DAY. RECORDS OF PERIODIC INSPECTIONS, CONDITIONS DEEMED AS UNSAFE AND ACTIONS TO CORRECT UNSAFE CONDITIONS SHALL BE KEPT AT THE SITE FOR THE DURATION OF THE WORK.
4. SIGNS – THE CONTRACTOR IS RESPONSIBLE FOR POSTING OF ALL SIGNS REQUIRED BY LAW. ALL POSTED SIGNS SHALL BE MAINTAINED SO THAT THEY REMAIN LEGIBLE, SECURELY FASTENED, AND FREE OF SHARP EDGES, PROTRUDING NAILS, OR SIMILAR HAZARDS
5. TEMPORARY FENCING – ALL CONSTRUCTION ACTIVITIES, INCLUDING TEMPORARY AND/OR OVER-NIGHT STORAGE AREAS, SHALL BE ENCLOSED BY FENCES. FENCES SHALL BE AT LEAST EIGHT (8) FT HIGH AND BE OF SUITABLE MATERIAL. FENCES SHALL BE BUILT SOLID FOR THEIR ENTIRE LENGTH, EXCEPT FOR OPENINGS WITH SOLID SIDING OR IN SWINGING GATES AS REQUIRED FOR THE PROPER PROSECUTION OF THE WORK.



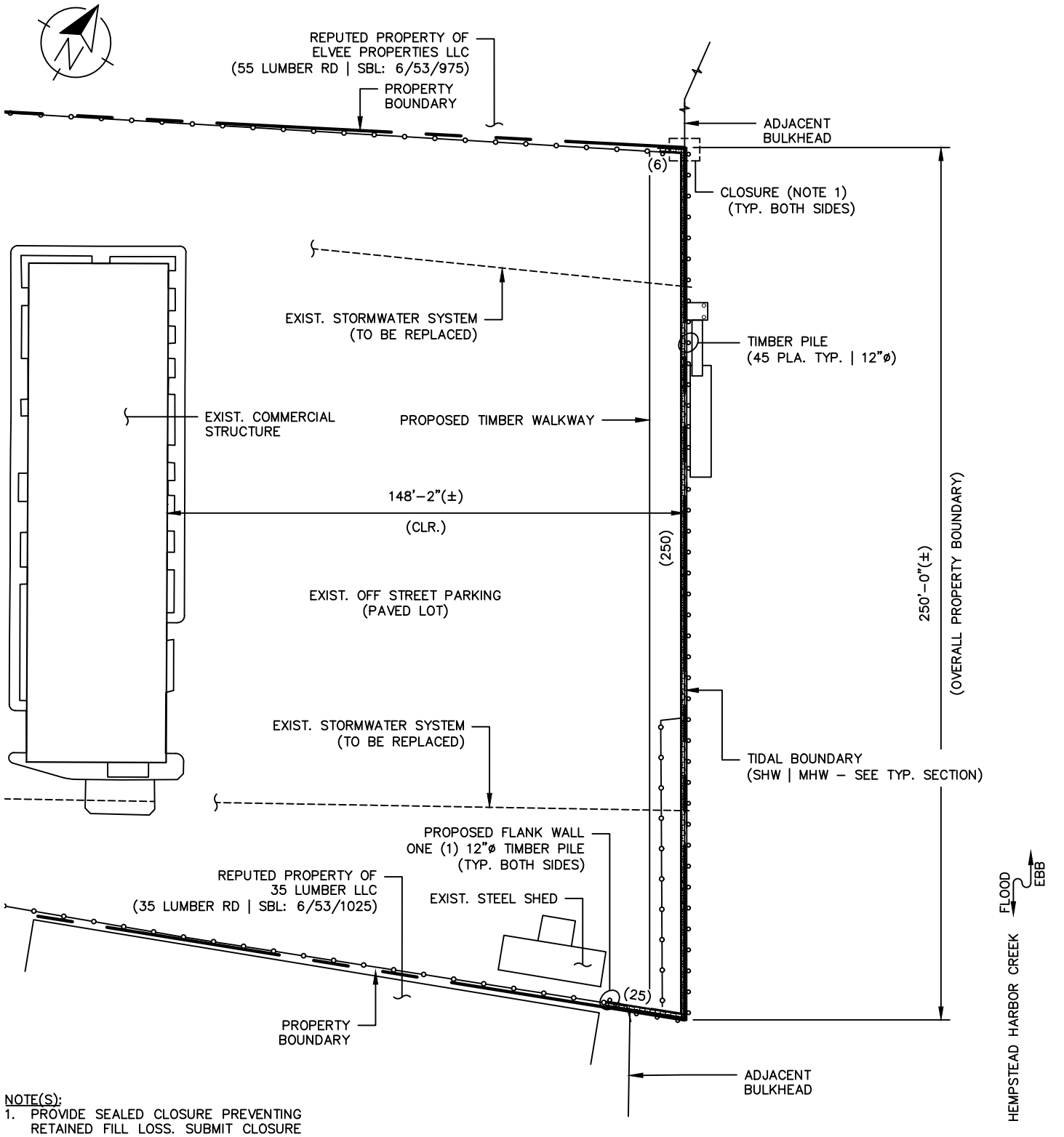
NOTE: INSTALL PROTECTION 5'-0" FROM DISTURBED AREA OR STOCKPILED FILL MATERIALS.

TYP DETAIL
SILT FENCE W/ HAY BALE N.T.S.



TYP DETAIL
TUBIDITY CURTAIN W/ DEBRIS BOOM N.T.S

SHEET NO. G-1.5	PROJECT NO. P210218.00 DRAWN BY JWK CHECKED BY AMA	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE N.T.S. DATE 03-08-2022 REVISION NO. 0	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758 SHEET EROSION CONTROL NOTES & DETAILS



NOTE(S):
1. PROVIDE SEALED CLOSURE PREVENTING RETAINED FILL LOSS. SUBMIT CLOSURE DETAIL TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

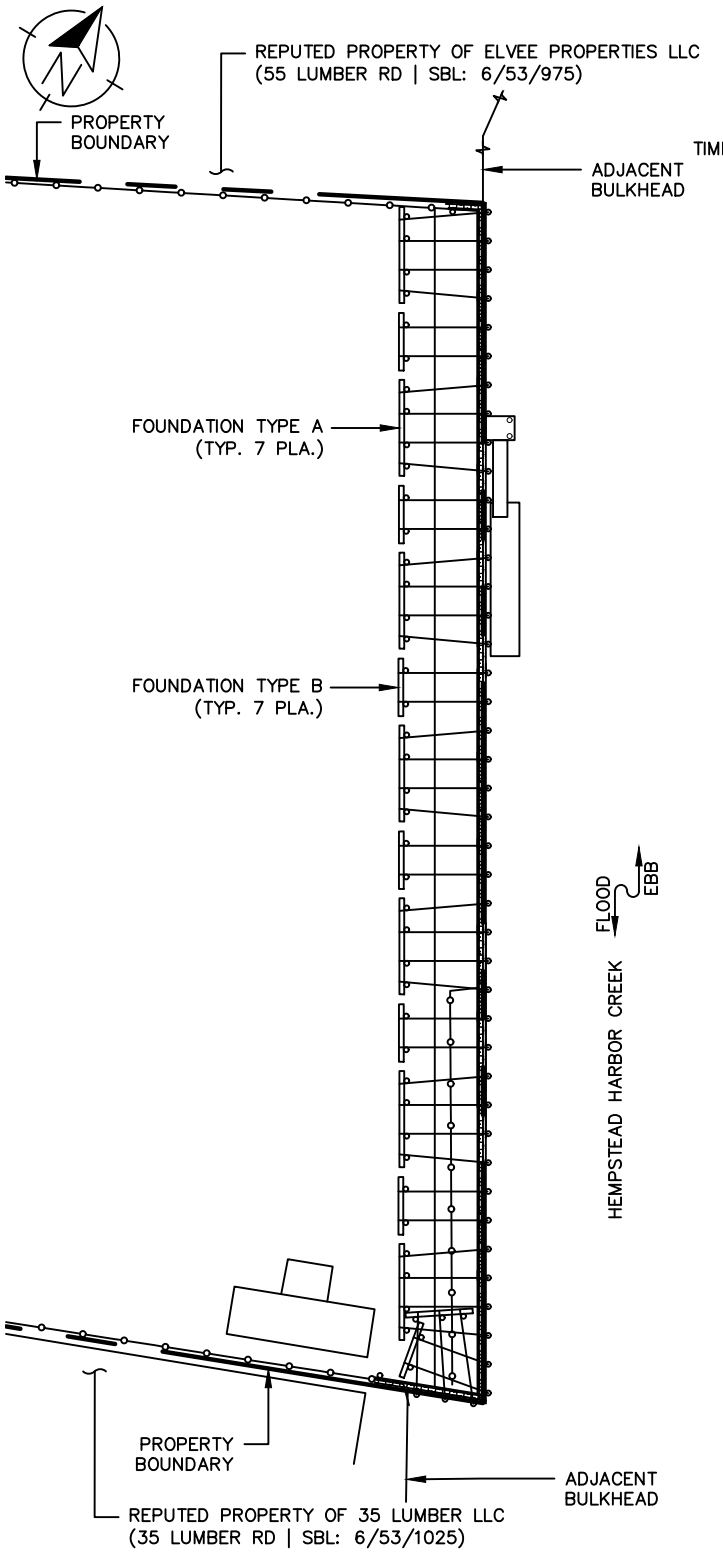
LEGEND:
(XX) BULKHEAD SEGMENT LENGTH IN FEET

FACILITY PLAN

SCALE: 1"=40'-0"

0 40' 80'

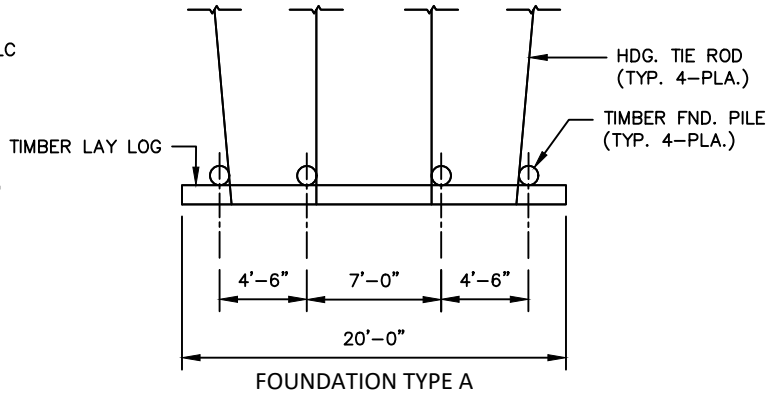
SHEET NO. G-1.6	PROJECT NO. P210218.00	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE 1"=40'-0"	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY JWK		DATE 03-08-2022	
	CHECKED BY AMA		REVISION NO. 0	SHEET FACILITY PLAN



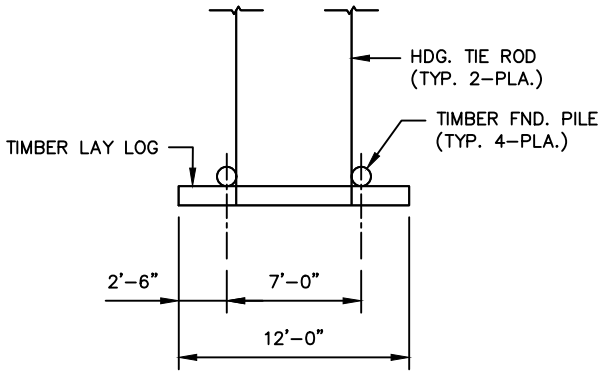
FOUNDATION LAYOUT

SCALE: 1"=40'-0"

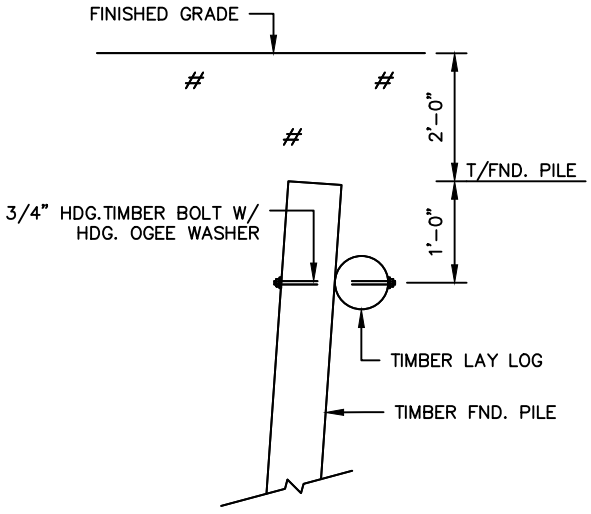
0 40' 80'



FOUNDATION TYPE A



FOUNDATION TYPE B



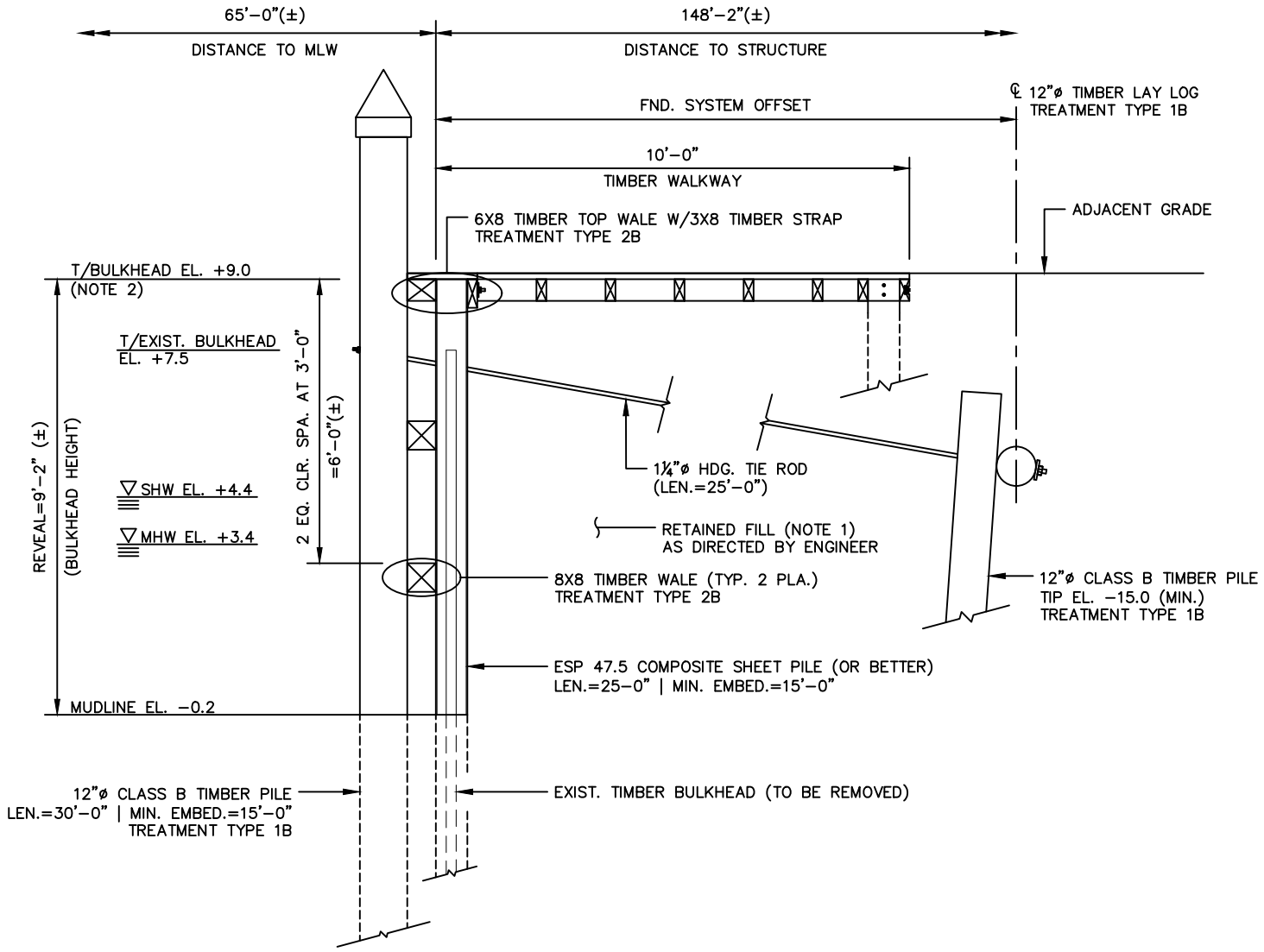
SECTION

SHEET NO.	PROJECT NO.	PROJECT	SCALE	Rising Tide | Waterfront Solutions
S-1.0	P210218.00	WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD	1"=40'-0"	80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY JWK		DATE 03-08-2022	
	CHECKED BY AMA		REVISION NO. 0	SHEET FOUNDATION LAYOUT
		ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY		

NOTE(S):
1. FILL: ALL ADDITIONAL FILL WILL BE CLEAN FREE DRAINING FREE OF CONTAMINANTS AND REGULATED WASTES INCLUDING CONSTRUCTION DEBRIS THAT IS SOURCED FROM NYS DEC APPROVED SITE.
2. BULKHEAD ELEVATION: T/PROPOSED BULKHEAD TO BE RAISED 18 INCHES HIGHER THAN EXISTING T/BULKHEAD ELEVATION.

TIMBER TREATMENT

TREATMENT TYPE	ELEMENT	RETENTION	DESCRIPTION
1A	PILES	1.5	CCA TREATED PER LATEST AWPA STANDARDS, COMMODITY SPECIFICATION A.P 3.0
1B		2.5	
2A	FRAMING	1.5	CCA TREATED PER LATEST AWPA STANDARDS, COMMODITY SPECIFICATION A.P 3.0
2B		2.5	
3A		1.5	ACQ TREATED PER AWPA ACQ-D
3B		2.5	



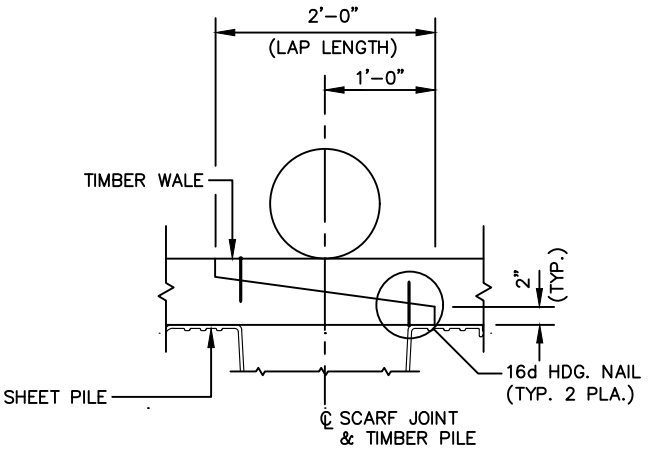
TYP SECTION

SCALE: 1"=3'-6"

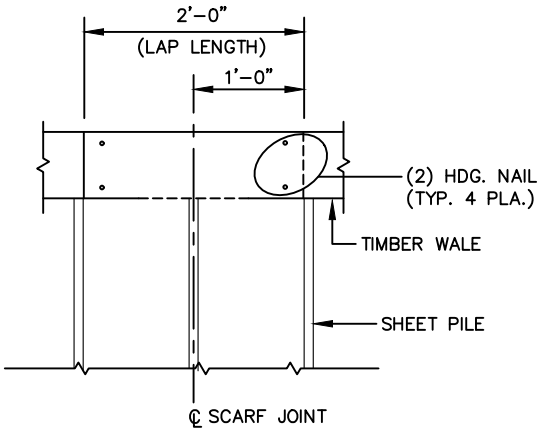
0 3.5' 7'

ALL ELEVATIONS IN NAVD 88

SHEET NO. S-1.1	PROJECT NO. P210218.00	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE 1"=3'-6"	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY JWK		DATE 03-08-2022	
	CHECKED BY AMA		REVISION NO. 0	SHEET TYP. BULKHEAD SECTION



PLAN

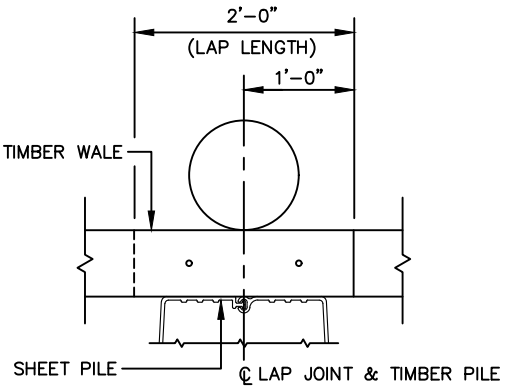


ELEVATION

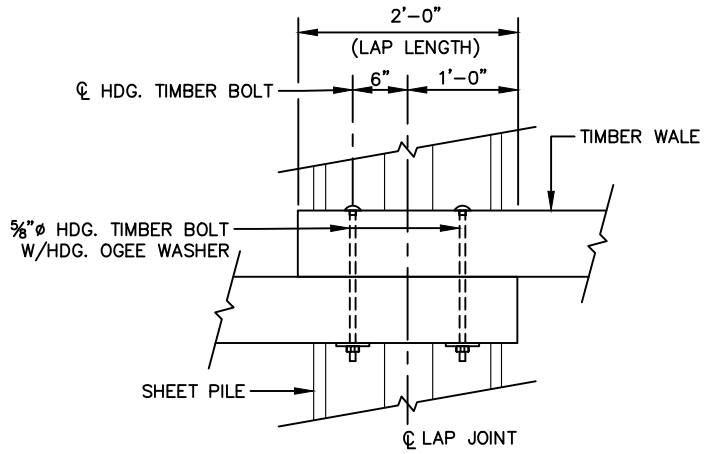
NOTE: PILE NOT SHOWN FOR CLARITY

TYP **DETAIL**
SCARF JOINT NOTE: SEE TYPICAL CONNECTIONS FOR ADDITIONAL FASTENERS (NOT SHOWN)

N.T.S.



PLAN

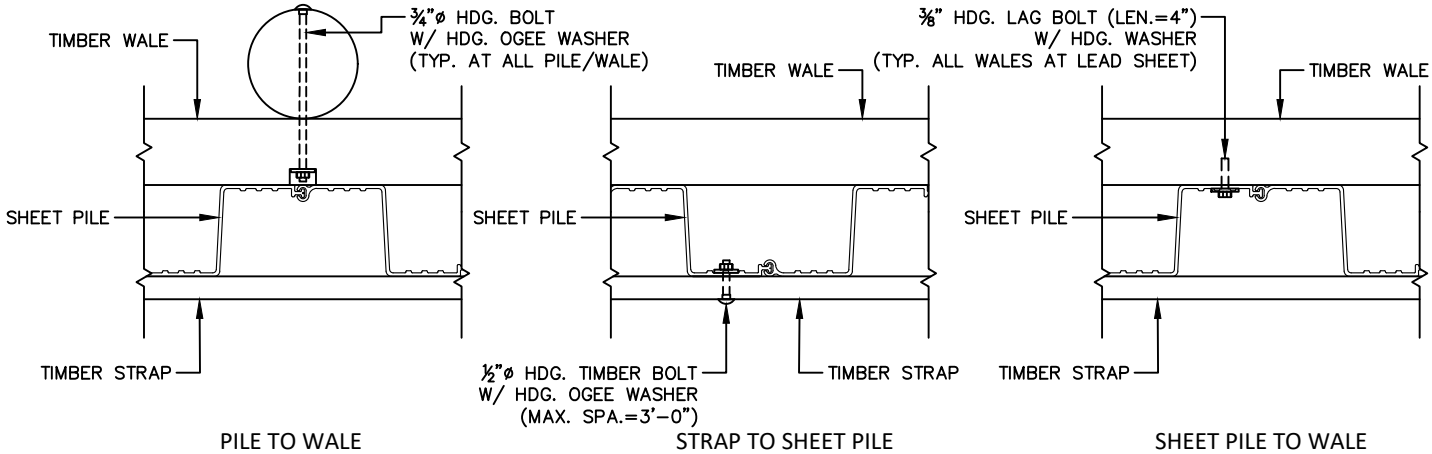


ELEVATION

NOTE: PILE NOT SHOWN FOR CLARITY

TYP **DETAIL**
LAP JOINT

N.T.S.

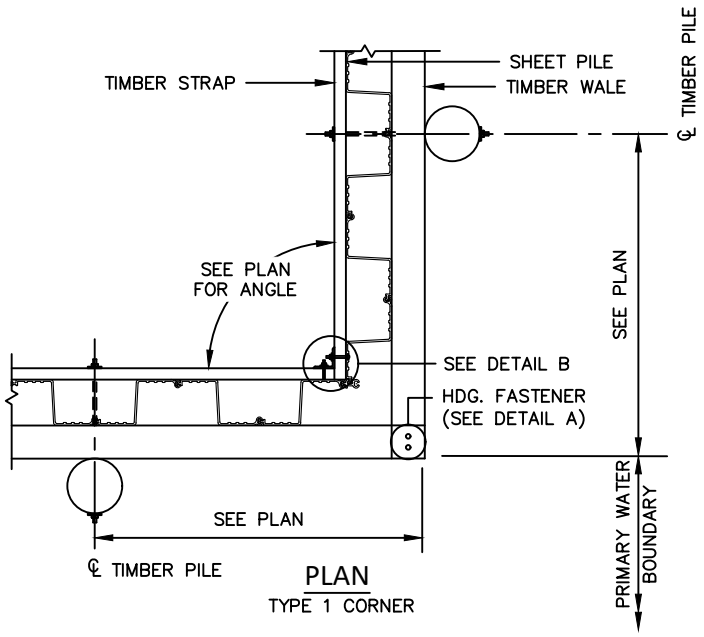


PILE TO WALE | STRAP TO SHEET PILE | SHEET PILE TO WALE

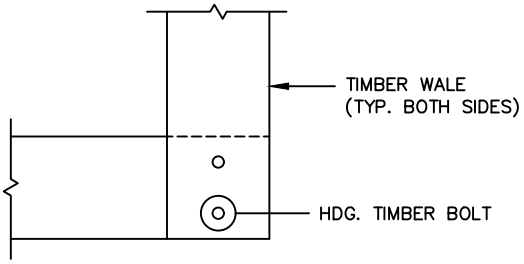
TYP **DETAIL**
MISCELLANEOUS CONNECTION(S)

N.T.S.

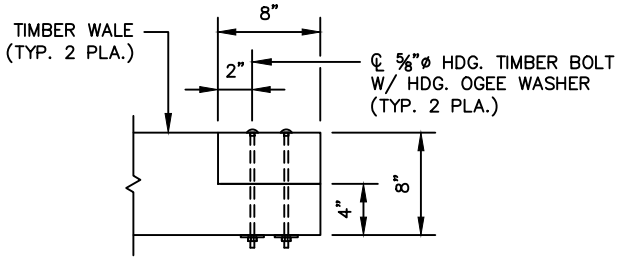
SHEET NO. S-1.2	PROJECT NO. P210218.00	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE N.T.S.	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY JWK		DATE 03-08-2022	SHEET BULKHEAD CONNECTION DETAILS
	CHECKED BY AMA		REVISION NO. 0	



PLAN
TYPE 1 CORNER

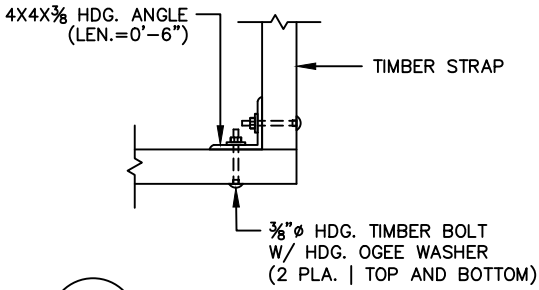


PLAN



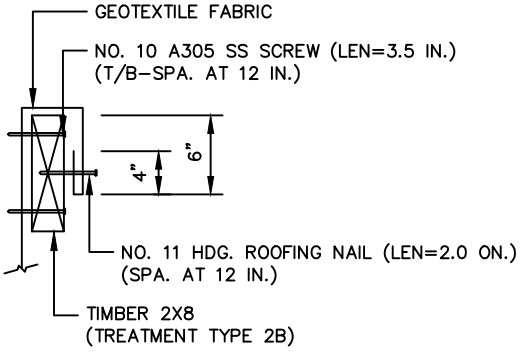
ELEVATION

A DETAIL
N.T.S.

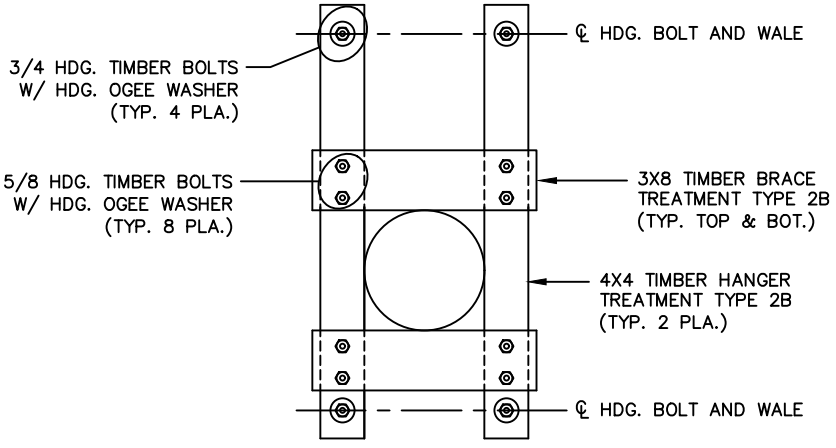


B DETAIL
N.T.S.

TYP DETAIL
BULKHEAD CORNER - STD. NAVY
N.T.S.

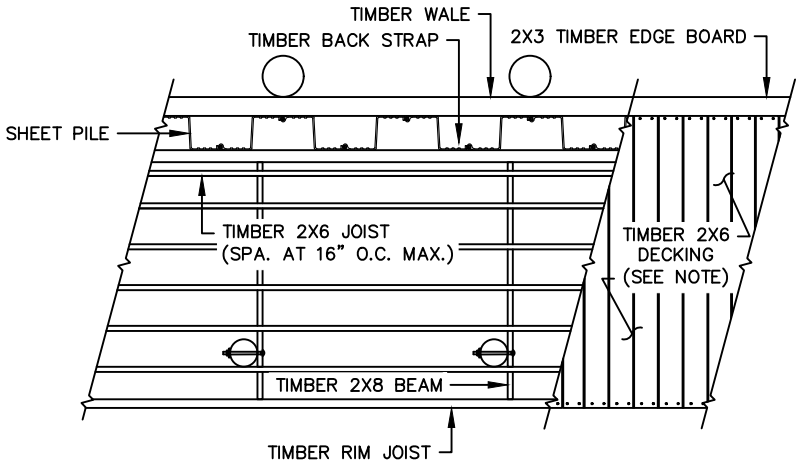


TYP DETAIL
GEOTEXTILE FABRIC AT STRAP
N.T.S

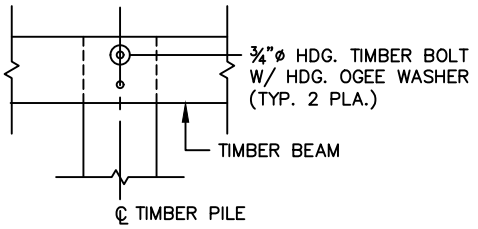


TYP DETAIL
OUTFALL FRAMING
N.T.S.

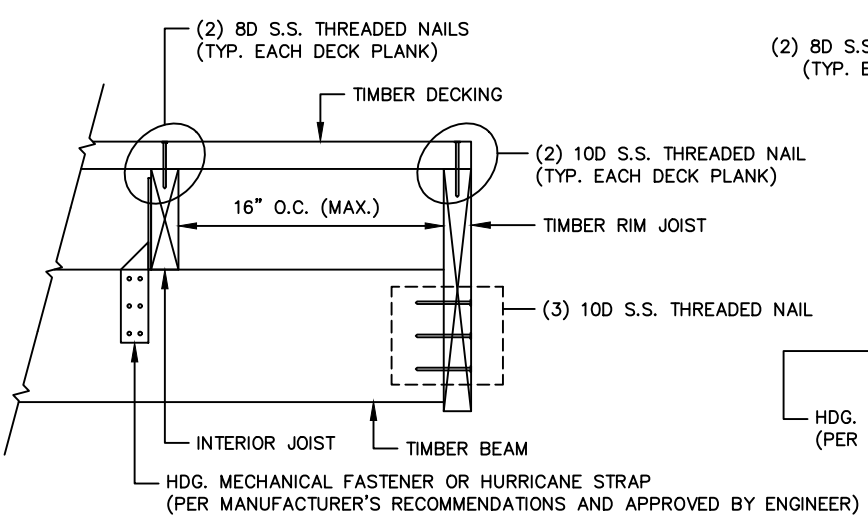
SHEET NO. S-1.3	PROJECT NO. P210218.00 DRAWN BY JWK CHECKED BY AMA	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE N.T.S. DATE 03-08-2022 REVISION NO. 0	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758 SHEET BULKHEAD CORNER DETAILS

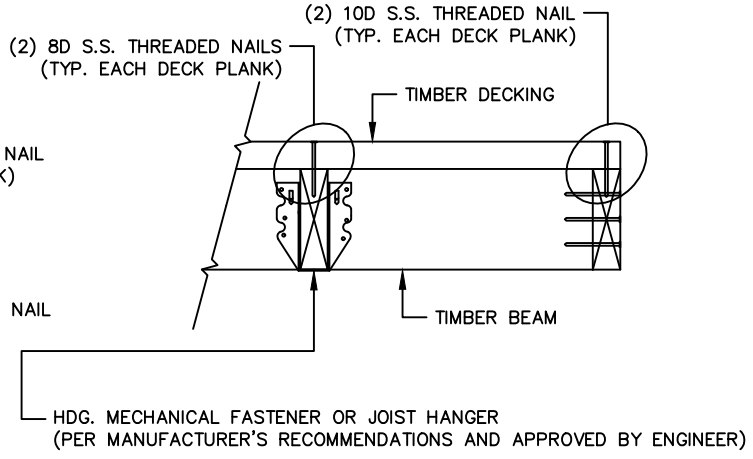


TYP DETAIL
TIMBER WALKWAY FRAMING
SCALE: 1"=3'-6"



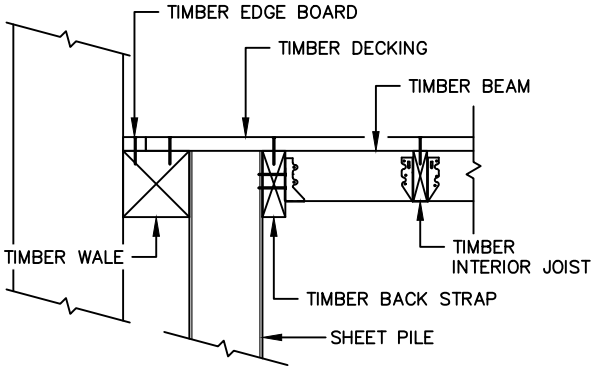
TYP DETAIL
PILE CONNECTION
SCALE: 1"=3'-6"





NOTE: 3–IN EQUIVALENT 10D S.S. SCREWS CAN BE USED IN LIEU OF THREADED NAILS FOR ALL CONNECTIONS.

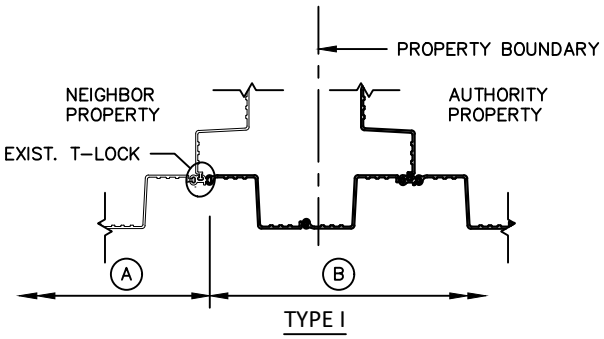
TYP DETAIL
TIMBER WALKWAY CONNECTION(S)
SCALE: 1"=3'-6"



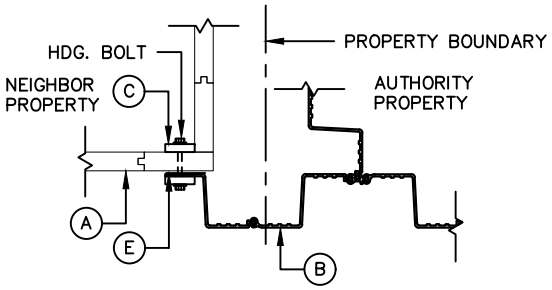
STANDARD NAVY BULKHEAD

TYP DETAIL
TIMBER WALKWAY CONNECTION(S)
SCALE: 1"=3'-6"

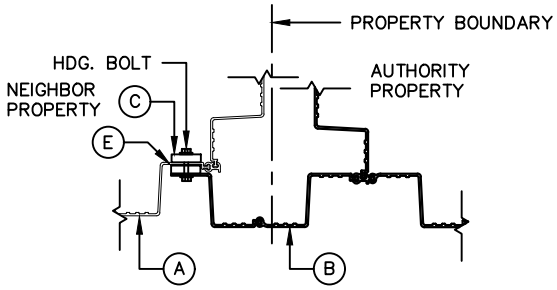
SHEET NO. S-1.4	PROJECT NO. P210218.00 DRAWN BY JWK CHECKED BY AMA	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE N.T.S. DATE 03-08-2022 REVISION NO. 0	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758 SHEET TIMBER WALKWAY DETAILS



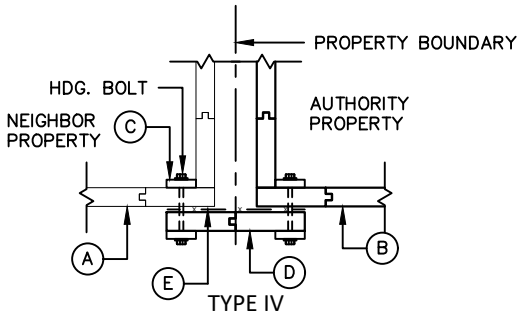
TYPE I



TYPE III



TYPE II



TYPE IV

BILLING SCHEDULE:

A. EXIST. NEIGHBOR SHEET PILE
B. PROPOSED SHEET PILE BULKHEAD
C. 2X6 TREATED SYP. TIMBER CLAMP
D. 3X10 T/G TREATED SYP. TIMBER SHEET PILE
E. GEOTEXTILE FABRIC (US 203 OR BETTER)

NOTE(S):

1. ALL FASTENERS TO BE 1/2" DIA. HDG BOLT W/ HDG. WASHER.
2. EMBED VERTICAL TIMBER MEMBERS 3 FT. INTO BOTTOM.

TYP — DETAIL
BULKHEAD CLOSURE
N.T.S

SHEET NO. S-1.5	PROJECT NO. P210218.00	PROJECT WATERFRONT DEVELOPMENT PREPARED FOR G2D CONSTRUCTION LOCATED AT 45 LUMBER ROAD ROSLYN, NY HEMPSTEAD HARBOR CREEK NASSAU COUNTY	SCALE N.T.S.	Rising Tide | Waterfront Solutions 80 KILLIANS ROAD, #280 MASSAPEQUA, NY 11758
	DRAWN BY JWK		DATE 03-08-2022	
	CHECKED BY AMA		REVISION NO. 0	SHEET TYP. BULKHEAD CLOSURE DETAILS