

VILLAGE OF SAUGERTIES – LIGHTHOUSE RESTORATION
Environmental Assessment



New York Governor's Office of Storm Recovery

July 25, 2017

Village of Saugerties – Lighthouse Restoration

Environmental Assessment

July 25, 2017

Project Name: Village of Saugerties – Lighthouse Restoration

Project Location: 168 Lighthouse Drive
Village of Saugerties, Ulster County, NY

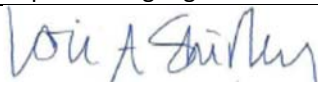
Federal Agency: U.S. Department of Housing and Urban Development
Responsible Entity: New York State Homes and Community Renewal

**Responsible Agency's
Certifying Officer:** Lori A. Shirley, Certifying Officer

Project Sponsor: Village of Saugerties

Primary Contact: William Murphy, Mayor
43 Partition Street, Saugerties, NY 12477-1134
845.246.7669, bmurphy@villageofsaugerties.org

Project NEPA Classification: 24 CFR 58.36 (Environmental Assessment)

Environmental Finding:	<input checked="checked" type="checkbox"/> Finding of No Significant Impact - The project will not result in a significant impact on the quality of the human environment.
	<input type="checkbox"/> Finding of Significant Impact - The project may significantly affect the quality of the human environment.
Certification	The undersigned hereby certifies that New York State Homes and Community Renewal has conducted an environmental review of the project identified above and prepared the attached environmental review record in compliance with all applicable provisions of the National Environmental Policy Act of 1969, as amended (42 USC Sec. 4321 et seq.) and its implementing regulations at 24 CFR Part 58.
Signature	 Lori A. Shirley, Certifying Officer

Environmental Review Prepared By: The Louis Berger Group, Inc.
48 Wall Street, 16th Floor
New York, NY 10005

CERTIFICATION OF NEPA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2017 NYS CDBG-DR project, Village of Saugerties – Lighthouse Restoration, are:

Check the applicable classification.

- ☐ Exempt as defined in 24 CFR 58.34 (a).
- ☐ Categorically Excluded as defined in 24 CFR 58.35(b).
- ☐ Categorically Excluded as defined in 24 CFR 58.35(a) and no activities are affected by federal environmental statutes and executive orders [i.e., exempt under 58.34(a)(12)].
- ☐ Categorically Excluded as defined in 24 CFR 58.35(a) and some activities are affected by federal environmental statutes and executive orders.
- ☒ "Other" neither exempt (24 CFR 58.34(a)) nor categorically excluded (24 CFR 58.35).
- ☒ Part or all of the project is located in an area identified as a floodplain or wetland. For projects located in a floodplain or wetland, evidence of compliance with Executive Orders 11988 and/or 11990 is required.

For activities excluding those classified as "Other," attached is the appropriate Classification Checklist (Exhibit 2-4) that identifies each activity and the corresponding citation.



Signature of Certifying Officer

Lori A. Shirley

Print Name

July 25, 2017

Date

Certifying Officer

Title

CERTIFICATION OF SEQRA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2017 NYS CDBG-DR project, Village of Saugerties – Lighthouse Restoration, are:

Check the applicable classification:

- ☒ Type I Action (6NYCRR Section 617.4)
- ☐ Type II Action (6NYCRR Section 617.5)
- ☐ Unlisted Action (not Type I or Type II Action)

Check if applicable:

- ☐ Environmental Impact Statement (EIS) Prepared
- ☐ Draft EIS
- ☐ Final EIS



Signature of Certifying Officer

Lori A. Shirley

Print Name

July 25, 2017

Date

Certifying Officer

Title

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:

The Village of Saugerties is proposing a restoration project at the Saugerties Lighthouse that will repair existing support structures including bulkheads, docks, a pier, and seawall adjacent to the lighthouse. The Village of Saugerties is bordered on the north, south, and west by the Town of Saugerties, and east by sections of Esopus and the Hudson River (see **Figure 1**). The Saugerties Lighthouse is located at the confluence of the Esopus Creek and Hudson River, at 168 Lighthouse Drive, in the Village of Saugerties, Ulster County, New York (see **Figure 2**). The site is accessible from land via a half-mile nature trail at the end of Lighthouse Drive or by water via a small dock. The lighthouse was constructed in 1869, is the oldest surviving lighthouse residence on the Hudson River, and is listed on the National Register of Historic Places. The lighthouse is a National Registered Historic Place (Reference #79001642). The project area encompasses approximately 0.73 acres.

During Hurricane Irene, Tropical Storm Lee, and Superstorm Sandy, the Saugerties Lighthouse experienced flooding caused by overflows of Esopus Creek and its tributaries, as well as storm surges from the Hudson River. During Superstorm Sandy, storm surge from the Hudson River damaged the dike that protects the harbor channel, which has exposed and endangered the historic lighthouse's stone foundations through exposure to the Hudson River's wave action. The storm also damaged bulkheads, piers, and the dock that serves the lighthouse. The Saugerties Lighthouse was constructed in 1869, is the oldest surviving lighthouse residence on the Hudson River, and is listed on the National Register of Historic Places.

The proposed project would repair damaged public facilities that suffered impacts from storm events and help mitigate future impacts of tidal and coastal flooding to the Saugerties Lighthouse historic property. The rising and falling tidal waters in the Hudson River have created voids within the perimeter of the sea wall. The design will develop a grouting plan to fill the void areas. A new wooden bulkhead will be designed along the south side of the sea wall to replace the former wooden bulkhead which is deteriorated and no longer providing any protection to the sea wall. The subsurface soil/rock conditions in the vicinity of the former bulkhead will be defined by installing soil borings. The large concrete pier located on the south side of the deck area has been undermined over the years by water and wave action. The base under the concrete pier will be restored and broken sections of the concrete pier secured. The floating wooden dock located to the southwest of the Lighthouse will be repaired. The scope of the wooden floating dock repairs will be dependent on the construction monies. The wooden floating dock is in need of repairs to its framing, the pipe anchors supporting the floating dock and the wooden deck.

The above-described restoration work at the Saugerties Lighthouse would be prioritized as follows:

- Stabilize the sea wall by filling in the voids that have developed inside the perimeter of the sea wall and repointing the stones of the sea wall.
- Rebuild the bulkhead on the south side of the sea wall
- Stabilize the concrete pier located on the south side of the deck area
- Make repairs to the floating dock including repairs to the framing, anchors and deck.

All work will be completed in accordance with local and federal permit requirements.

The proposed project will be funded under the Community Development Block Grant-Disaster Recovery (CDBG-DR) program as well as the Hurricane Sandy Disaster Relief Assistance Grant for Historic Properties, which is funded by the National Park Service and administered by the New York

State Historic Preservation Office, in partnership with the National Heritage Trust. A detailed description of what the proposed project would entail follows.

Seawall Restoration

The Saugerties Lighthouse seawall restoration scope of work includes 1) filling the void areas within the seawall and 2) repointing the mortar joints in the stacked granite seawall blocks. The seawall restoration work will be designed and constructed in a manner that will preserve the visual and physical integrity of the historic masonry structure.

Bulkhead Restoration

The bulkhead restoration will have to involve replacement of the existing deteriorated timber pile bulkhead. To provide protection of the seawall foundation from erosion forces, the replacement bulkhead will be designed to encircle the entire south side of the side of the seawall.

Bank Stabilization

The design for bank stabilization calls for breaking up the existing concrete piers and removing approximately fifty percent (50%) of the broken concrete pier material from the site for offsite to a concrete recycling facility. The remaining broken up concrete pier material will be covered with medium riprap stone (heavier than 100 pounds) to approximately Elevation 6.0 feet, which is the elevation of the adjacent wooden picnic deck area. The sloped mound of riprap stone will be arranged to provide long term bank stabilization on the south side of the Lighthouse site.

Dock Repairs

The existing stationary wooden dock will be left in place and new steel pipe piles will be installed for use on a future stationary dock. A total of thirteen (13) eight-inch-diameter steel pipe piles will be set with top elevations of 12 feet to provide a vertical allowance for floatation above the 100 year flood elevation (9 feet) if floatation of the stationary dock were to occur.

The existing land-based steel structure and the two existing pipe piles that are used to support the floating wooden dock will be removed. Two eight inch diameter steel pipe piles will be installed with three inch diameter steel stiff-arm assemblies to support the floating dock. The location of the proposed steel pipe piles for the floating dock would be on the land-side of the existing wood timber piles.

Schedule Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. Project-related construction would begin no earlier than late July 2017, and all construction activity is expected to be completed in 4 to 6 months. In-water work will be performed between September 1 and October 31 to avoid impacts to bass and sturgeons.

The estimated duration of the proposed work is as follows:

- Seawall restoration – 1 month
- Bulkhead restoration – approximately 2 months
- Pier stabilization – 1 month
- Dock repairs – 1 month

Overall, project benefits would include disaster risk reduction through shoreline stabilization, which would increase the storm resiliency of this public amenity and reduce the risk of flooding and flood

damage from future storms. The bulkhead and seawall need reinforcement to improve storm resiliency, a goal of the Village of Saugerties' Local Waterfront Revitalization Plan.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:

As a riverine community, the Village of Saugerties experiences flooding from overflows from the lower Esopus Creek and its tributaries during intense rain events as well as Hurricane Irene, Tropical Storm Lee and Superstorm Sandy. As a coastal community, the Village also absorbed the impact of storm surges through the Hudson River during Superstorm Sandy. These events damaged structures associated with the historic lighthouse. Low-lying tidal areas are most impacted by flooding due to wave action from the Hudson River and/or heavy flows from Esopus Creek. The proposed project would mitigate flooding through repairs to deteriorating bulkheads.

The project is needed to stabilize and repair the dock, bulkhead, seawall, and pier associated with the historic lighthouse. These features of the site suffered impacts during storm events and the needed repairs would help to mitigate future impacts of tidal and coastal flooding to this public facility. Project goals include repairing the historic public facility, stabilizing the shoreline and supporting structures, and protecting aquatic species and habitat in the Hudson River during periods of high velocity flooding.

Existing Conditions and Trends [24 CFR 58.40(a)]:

The project would occur within the Village of Saugerties in Ulster County, New York. All statements and assumptions regarding the project's components are based on publicly available mapping. Specific permits required for project activities would be determined based on field verification of existing conditions, and delineations as necessary, during the permitting stage. Specific conditions and trends for the project site are as follows.

Location

As depicted in **Figures 1 and 2**, the project area is located on the Hudson River just east of the Village of Saugerties.

Land Use

The character of land use in the project area is predominantly open space, with the closest developed uses consisting of a nearby U.S. Coast Guard facility amid low density residential and commercial land uses typical of the surrounding community. Some aquatic commercial land uses, such as small marinas, can be found along Esopus Creek which serve the many boats docked in the community. The Saugerties Lighthouse is located in an area of Saugerties Village zoned as W ("Wetlands"). Within the Town of Saugerties, the site is contained within the Waterfront Overlay District, which includes properties located within 1,000 feet of the Hudson River's mean-high-water mark. The Town of Saugerties describes the purpose of the Waterfront Overlay District as "protect[ing] the water quality, floodways, shorelines, embankments and slopes of the Hudson River, Esopus Creek, and Plattekill Creek within the Town of Saugerties against erosion, filling, diversion or other land activities and development which will degrade property or public enjoyment of these unique resources".

Floodplain Management

Per Flood Insurance Rate Map (FIRM) Panel 36111C0310E, dated September 25, 2009, the lighthouse is located in the 100 year flood plain (see **Figure 10**). The Saugerties Lighthouse property contains NYSDEC Freshwater Wetland areas (S-2, Class 1). Surrounding these freshwater wetlands are Federal Wetland areas (R1UBV). The project area lies adjacent to the Hudson River, which is classified as Riverine in the National Wetlands Inventory and may contain wetlands along the edges of the main waterway (see **Figure 7**).

Coastal Zone Management

The project is located within the boundary of the New York State Coastal Zone (see **Figure 3**). The Village of Saugerties also participates in the Local Waterfront Revitalization Program. It has a Local Waterfront Revitalization Plan, adopted in 1985.

Cultural and Ecological Resources

Due to the very nature of the project itself being a restoration involving the historic Saugerties Lighthouse, effects would occur to historic resources from the proposed project. However, the New York State Historic Preservation Office (SHPO) concurred on May 1, 2017 the project would result in No Adverse Effect on the National Register listed property. The lighthouse is located within the Ulster-North Scenic Area of Statewide Significance (see **Figure 5**) in the Hudson River Valley. According to the EAF Mapper, the project site is adjacent to a designated significant natural community of Freshwater Tidal Marsh, Freshwater Tidal Swamp and Freshwater Intertidal Mudflats. The site is also located at the mouth of the Esopus Estuary, an approximately 970-acre area that includes the lower portion of Esopus Creek. Freshwater tidal marsh and intertidal flats are located upstream from the proposed project.

Funding Information

Estimated Total HUD Funded Amount: \$22,000.00

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]: \$322,000.00

Compliance with 24 CFR 58.5 and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	Based on HUD guidance in Fact Sheet #D1, the National Plan of Integrated Airport Systems (NPIAS) was reviewed for civilian, commercial service airports near the Project site, as projects within 2,500 feet of a civil airport or 15,000 feet of a military airport require consultation with the appropriate airport operator or confirmation that the site is not within a designated Runway Protection Zone/Clear Zone (RPZ/CZ). No active civil airports are within 2,500 feet of the Project site. The Project is not within 15,000 feet of any military airport No impacts would result. https://www.michigan.gov/documents/mshda/mshda_cd_nsp2_air_accident_315724_7.pdf
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project location is not located with the Coastal Barrier Resource Area or buffer zone. No impacts would result. http://www.fws.gov/ecological-services/habitat-conservation/cbra/Maps/index.html
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	Flood Insurance Rate Map 36111C0310E indicates that the proposed project activity site is located within Special Flood Hazard Area AE (see Figure 10). The Village of Saugerties is in good standing with the National Flood Insurance Program (NFIP), and proof of insurance is not a requirement for infrastructure projects (i.e., projects that do not involve a commercial or residential property holding flood insurance). A 5-step floodplain review has been conducted for the proposed project (see Appendix A) which determined that there would be no direct or indirect adverse impacts to the floodplain. https://msc.fema.gov/portal

STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5

<p>Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>The proposed project is located in Ulster County, which is within an attainment area for both particulate matter (PM_{2.5}) and the eight-hour ozone standard.</p> <p>Temporary emissions would result from construction equipment used during site preparation. A conformity analysis was made according to the requirements of 40 CFR 93, Subpart B (federal general conformity regulations) and a screening analysis was performed (see Appendix B) assuming that the emission intensity for the project would be similar to the average intensity of the construction sector in surrounding counties. Projects with projected construction expenditure substantially lower than the average construction <i>de minimis</i> expenditure would clearly not exceed <i>de minimis</i> emissions levels for general conformity purposes. The project would incorporate restrictions on construction equipment to reduce air emissions. Construction documents would restrict unnecessary idling on roadways, and on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., drilling machine) or otherwise required for the proper operation of the engine.</p> <p>Contract document would provide for utilization of newer equipment. EPA's Tier 1 through 4 standards for nonroad engines regulates the emission of criteria pollutants from new engines, including PM, CO, NO_x, and hydrocarbons (HC). All nonroad construction equipment with a power rating of 50 hp or greater would meet at least the Tier 2 emissions standard to the extent practicable. Non-road diesel engines with a power rating of 50 horsepower (hp) or greater would utilize the best available tailpipe (BAT) technology for reducing DPM emissions.</p> <p>Improvements to the lighthouse would generate an increase in visitation, with an associated incremental increase in traffic. However, the project is not anticipated to result in a significant adverse impact on air quality due to such a negligible increase in traffic associated with the lighthouse. No significant impacts on air quality would occur.</p> <p>http://www.epa.gov/airquality/greenbook/adden.html</p>
<p>Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)</p>	<p>Yes No <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p>The proposed project is located within the boundaries of the New York State Coastal Zone (see Figure 3). A New York State Coastal Consistency Assessment form and supporting documentation is attached (see Appendix C). The project is located with the Village of Saugerties Local Waterfront Revitalization Program (LWRP) boundary.</p>

		GOSR determined that that the Project was consistent with both State and Local policies. The New York Department of State, Division of Coastal Resources, concurred with the assessment that the proposed project would be consistent with the State General Concurrence Criteria on July 20, 2017 (See Appendix C). http://www.dos.ny.gov/opd/atlas/
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project site is located approximately 0.6 miles and across Esopus Creek from Saugerties MGP (Site Code V00694 and 356018) at 16 Ferry Street (See Figure 4). This site is a Voluntary Cleanup Program Site as well as a Superfund Site. Saugerties MGP has low levels of surface soil impacts and confirmed contamination in sub-surface soils. Temporary well points advanced to characterize groundwater underlying the site indicate the presence of a low-level plume contained entirely within the site. In addition, the area is served by a public water supply, which would not be affected by groundwater contamination on-site at Saugerties MGP. http://www.dec.ny.gov/chemical/8437.html
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>	<p>The U.S. Fish & Wildlife Service (USFWS) IPaC Tool identifies two species that are managed by the Endangered Species Program within the vicinity of the project site, the Endangered Indiana Bat (<i>Myotis sodalists</i>) and Threatened Northern Long-eared Bat (<i>Myotis septentrionalis</i>). In addition, there are several migratory birds of concern that could potentially utilize proposed project. A nesting bald eagle has also been documented 0.5 from the project area. However, there is no critical habitat for any species within the project area.</p> <p>The project consists of repairs to existing structures. Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. The proposed project does not include blasting or tree removal, and is at least 1,800 feet from the documented nesting bald eagle. There are no records of Indiana bat or NLEB maternity roost trees or hibernacula within the vicinity of the project area. The project area is subject to frequent disturbance from boating and visitors to the lighthouse.</p> <p>Consultation to USFWS on June 5, 2017 determined that there would be No Effect to endangered species, while specifying that Project-related construction will begin no earlier than late July 2017, and that all in-water work will be performed between September 1 and October 31 to avoid impacts to bass and sturgeons.</p>

		<p>USFWS concurred with this determination on June 12, 2017 (see Appendix D).</p> <p>Atlantic sturgeon (<i>Acipenser oxyrinchus oxyrinchus</i>) and shortnose sturgeon (<i>Acipenser brevirostrum</i>) occur in the Hudson River and lower portion of Hudson River Tributaries. However, while these species may occur within the vicinity of the action area, they are not expected to frequent shallow waters such as the action area. Furthermore, no dredging is proposed as part of the project, and there would be no risk of entrapment. Construction would not result in an increase in vessel traffic in the area; therefore, there the project would not increase the risk of interactions between vessels and sturgeon. Notice of a Not Likely to Adversely Affect Determination was sent to the National Marine Fisheries Service (NMFS) on May 23, 2017. Concurrence with this finding was received from NMFS on May 31st, 2017 (see Appendix E). Thus, the proposed project is not expected to result in adverse impacts to protected species or habitats.</p> <p>http://www.dec.ny.gov/imsmaps/ERM/viewer.htm http://ecos.fws.gov/ipac/</p>
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>This criterion is applicable to HUD-assisted projects that involve new residential construction, conversion of nonresidential buildings to residential use, rehabilitation of residential properties that increase the number of units, or restoration of abandoned properties to habitable condition. As the proposed project involves the rehabilitation of an existing historic lighthouse, there would be no associated increase in the number of people being exposed to hazardous operations by increasing residential densities, converting the type of use of a building to habitation, or making a vacant building habitable, the provisions of 24 CFR Part 51 Subpart C do not apply. No hazardous operations handling conventional fuels or chemicals of an explosive or flammable nature were identified in the vicinity of the project site. No impacts would result.</p>
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The lighthouse is not located on soils designated as Farmland of Statewide Importance per the US Department of Agriculture (USDA) soil classifications (see Figure 8). No impact would result.</p> <p>http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm</p>
Floodplain Management	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>	<p>Flood Insurance Rate Map 36111C0310E indicates that the proposed project activity site is located within Special Flood Hazard Area AE (see Figure 10). The proposed project would stabilize the shoreline and supporting</p>

Executive Order 11988, particularly section 2(a); 24 CFR Part 55		<p>structures at the historic lighthouse in the Village of Saugerties, which is in good standing in the Regular Program of the NFIP. Specific actions would include restoration of the existing seawall and bulkhead, stabilization of the pier and repairs to the floating docks located on the west side of the lighthouse. No structural footprints would be expanded and there would be no alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area.</p> <p>Therefore, the action does not meet the thresholds for 'substantial improvement' under 24 CFR 55.2(b)(8), and a five-step decision making process applies (24 CFR 55.12(a)). The five-step floodplain management decision making process was followed and found that the proposed project would not have an impact on floodplain values (see Appendix A). Prior to construction, the Village of Saugerties must apply for and receive a Floodplain Development Permit from the appropriate local floodplain administrator.</p> <p>https://msc.fema.gov/portal</p>
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800; Tribal notification for new ground disturbance.	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>On May 1 2017, SHPO concurred with the opinion that the project would result in No Adverse Effect on the National Register listed property (See Appendix F). Given that the lighthouse constitutes an area of preexisting disturbance, tribal consultation was not undertaken. In the event that a concentration of artifacts is discovered and/or human remains are accidentally unearthed during the course of the project activities, all work would be halted until appropriate tribal entities are notified and the site would be evaluated by a qualified archaeologist.</p>
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The policies of 24 CFR 51.101(a)(3) do not apply to any action or emergency assistance under disaster assistance provisions or appropriations which are provided to save lives and protect public health and safety. The proposed activity involves restoration, stabilization and repairs to an historic lighthouse. The restoration of this public amenity would not result in a new facility that would generate noise on the project site, nor would it introduce any new or rehabilitate any existing noise sensitive uses. The proposed project would cause temporary increases in noise levels during construction that will be mitigated by complying with local noise ordinances using construction best practices.</p> <p>Improvements to the lighthouse would also generate an increase in visitation, with an associated increase in traffic. However, the project is not anticipated to result in a significant contribution to existing noise levels.</p> <p>Therefore, no significant noise impacts would occur as a result of the proposed project.</p>

Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The proposed activity is not located in an area identified as a sole or principal source aquifer (see Figure 12). Therefore, the proposed activity is in compliance with the Safe Drinking Water Act; 40 CFR Par 149. http://www.dec.ny.gov/lands/36151.html
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>	<p>There would be short-term direct impacts during the construction period, but no long-term impacts to wetlands. Saugerties Lighthouse is located within an area containing NYSDEC Freshwater Wetland areas (S-2, Class 1). Surrounding these freshwater wetlands are Federal Wetland areas (R1UBV) of the Hudson River (see Figure 7), which may contain wetlands along the edges of the main waterway. While the proposed restoration activity involves bulkhead replacement and seawall stabilization, construction best management practices would be utilized to avoid or minimize potential impacts to waters. In order to avoid impacts to wetlands, the work area would be minimized and temporary fencing/barricades would be installed at the perimeter of the dock to contain potential impacts to adjacent waters. Because activities associated with the Project are located either within or immediately adjacent to Esopus Creek, which is classified by the NYSDEC as a Class C stream, the following environmental permits will have to be obtained:</p> <ul style="list-style-type: none"> • NYSDEC Article 15, Title 5, Stream Disturbance Permit to physically disturb the bed and banks of the Esopus Creek; • NYSDEC Article 24, Freshwater Wetlands Permit for work within the 100 foot protected wetland buffer area. • NYSDEC under Section 401 of the Clean Water Act, Water Quality Certification; <p>The proposed improvements would disturb less than one acre of land and therefore the Village would not need to apply for coverage under NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-15-002.</p> <p>Given adherence to these permitting requirements and best management practices, the proposed project will not have an effect on wetlands and is in compliance with Executive Order 11990. http://www.fws.gov/wetlands/ http://www.dec.ny.gov/eafmapper/</p>
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The proposed activity is not in proximity of a listed Wild and Scenic River. A ten and one-half mile stretch of the Hudson River (from the confluence of the Cedar River to the confluence with the Boreas River) is considered a New York State wild river, but this stretch is greater than 10 miles north of the project site.

		http://www.rivers.gov/maps/conus.php
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The proposed project is not located in or adjacent to potential environmental justice areas identified by the New York State Department of Environmental Conservation (see Figure 11). This project would not raise environmental justice issues and has no potential for new or continued disproportionately high and adverse human health and environmental effects on minority or low-income populations. http://www.dec.ny.gov/public/899.html

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

- (1) Minor beneficial impact
- (2) No impact anticipated
- (3) Minor Adverse Impact – May require mitigation
- (4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	2	No impacts would occur. The proposed project would conform to land use regulations and zoning designations at and adjacent to the site. The lighthouse is located in an area of Saugerties zoned as R1 ("Single Family Residential"). No change in land use or zoning would occur as a result of the project.
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	1	Beneficial impacts are anticipated. The proposed project involves the rehabilitation of bulkheads and other structures supporting the existing lighthouse on order mitigate future impacts of tidal flooding and erosion.
Hazards and Nuisances including Site Safety and Noise	3	Minor adverse impacts would occur during construction, but these impacts would be temporary and would be mitigated. The development of the proposed project would consist of typical construction practices associated with structural upgrades. The proposed project would cause temporary increases in noise levels during construction that will be mitigated by complying with local noise ordinances using construction best practices. While it is unlikely that hazardous materials would be encountered during project activities, measures would be implemented to minimize the exposure of workers and public to hazardous materials present on the site.
Energy Consumption	2	No impacts would occur. The proposed project would connect to existing energy utilities serving the area and would meet New York State energy requirements. During operation, the proposed project would not result in increased energy demand beyond current conditions at the site, nor would it impact electrical generation or distribution. No impacts would result.

SOCIOECONOMIC		
Employment and Income Patterns	2	No impacts would occur. The actions comprising the proposed project are limited to the rehabilitation of an existing public amenity and have no potential to affect employment opportunities or income patterns. Short-term, localized beneficial effects to employment may occur as the result of temporary construction jobs related to the project. Moreover, although no permanent jobs are expected to be added, the proposed project has the potential to allow for a more pleasant waterfront, attracting additional tourists to the park and promoting the local tourism economy.
Demographic Character Changes, Displacement	2	No impacts would occur. The proposed project is being undertaken to rehabilitate an existing public amenity. The project is not expected to induce any change in the demographic character of the adjoining neighborhood. In addition, the proposed project would not result in any new residential units and would therefore not change the demographic character of the area.
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	2	No impacts would occur. The proposed project would not result in any new residential units. Therefore, the proposed project would not result in impacts to educational facilities. The proposed project would not adversely impact cultural facilities. On May 1, 2017, the New York State Historic Preservation Office (SHPO) concurred with the opinion that there would be No Historic Properties Affected as a result of the proposed project (See Appendix F).
Commercial Facilities	2	No impacts would occur. The proposed project is limited to the rehabilitation of structures associated with the historic lighthouse and would not introduce any new development that would require retail services or other commercial facilities.
Health Care and Social Services	2	No impacts would occur. The proposed project is limited to the rehabilitation of structures associated with the historic lighthouse and would not introduce any new development that would affect the current availability of existing health care or social services, nor would it generate additional demand for these community services.
Solid Waste Disposal / Recycling	2	No impacts would occur. The proposed project would involve the renovation of existing bulkhead and seawall. Site preparation activities would result in the generation of small quantities of solid waste in the form of construction debris on site. The quantity of solid waste generated during construction activities would present a negligible increase in solid waste compared to existing conditions.
Waste Water / Sanitary Sewers	2	No impacts would occur. The proposed project would not affect the capacity of the existing sanitary sewer system in the Village of Saugerties. The proposed improvements would not generate increased demand for wastewater treatment because no additional wastewater would be generated.
Water Supply	2	No impacts would occur. The proposed project is limited to the rehabilitation of bulkheads and other infrastructure associated with the lighthouse and would not generate increased demand for water.

Public Safety - Police, Fire and Emergency Medical	2	No impacts would occur. The proposed project would result in the rehabilitation of an existing public amenity within the Village of Saugerties. While improvements to the park would generate an increase in visitation, the associated increased demand for police, fire and emergency medical services would be negligible.
Parks, Open Space and Recreation	1	Beneficial effects are anticipated. The proposed project would provide a benefit in the form of an improved amenity to be used for public interpretation of the history of the area. As a result, the proposed project would result in beneficial effects to parks, open space or recreation resources.
Transportation and Accessibility	3	Minor impacts would occur. Improvements to the lighthouse would generate an increase in visitation, with an associated increase in traffic. However, the project is not anticipated to result in a significant adverse impact on transportation and accessibility because the lighthouse is a preexisting use within the community. Moreover, the rehabilitation of the structures associated with the lighthouse would not introduce a new development of the scale and degree that would require new or improved transportation connections or contribute significantly to existing demand on transportation services in the village. Temporary and localized minor adverse impacts to accessibility occurring as a result of construction-related vehicle trips during the period of renovation activities would be minimized through the use of a maintenance and protection of traffic (MPT) plan.
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	<p>No impacts would occur. The Environmental Review Guide for CDBR Programs defines unique natural features as "primarily geological features which are unique in the sense that their occurrence is infrequent or they are of special social/cultural, economic, educational, aesthetic, or scientific value. Development on or near them may render them inaccessible to investigators or visitors or otherwise limit potential future use and appreciation of these resources. Examples of unique natural features include: sand dunes, waterfalls, unique rock outcroppings, caves with limestone or gypsum deposits, canyons, and petrified forests. Also included are unique stands of trees, such as redwoods, or unique colonies of animals, such as a prairie dog town. The NYSDEC lists no Critical Environmental Areas in the vicinity of the project site. In addition, the NYSDEC Environmental Assessment Form screening tool found that no unique geologic features occur in the project vicinity. The project location does not contain any agricultural lands and is not suited for agricultural uses.</p> <p>The Lighthouse is adjacent to a portion of Esopus Creek that is classified as a Tidal Riverine system according to the National Wetlands Inventory. The Esopus Creek is classified by the NYSDEC as a Class C stream, Water Index Number H-171 which is in the Lower Esopus Creek Drainage Basin. This portion of the Esopus Creek is influenced by the tidal water level variations in the Hudson River. The tidal water levels in the Esopus Creek vary from a high tide at approximately Elevation 3.5 feet to a low tide at approximately Elevation -1.0 feet.</p>

Vegetation, Wildlife	3	<p>Impacts to vegetation and wildlife would be minor and short-term. Bulkhead, dock and seawall improvements would be undertaken within the same location of the existing, damaged features. While the existence of vegetation at these sites is minimal, any vegetation present in these areas would be allowed to naturally revegetate following construction.</p> <p>Wildlife expected to occur within the vicinity of the project area include mobile species that can easily avoid the project area during construction. Small terrestrial species may be present within the project area; however, the lighthouse site does not support quality foraging, nesting, or shelter for wildlife species. Fish species likely to be found in the waters in the vicinity of the project area include black sea bass (<i>Centropristis striata</i>), bluefish (<i>Pomatomus saltatrix</i>), tautog (<i>Tautoga onitis</i>), winter flounder (<i>Pseudopleuronectes americanus</i>) and forage species such as mummichog (<i>Fundulus heteroclitus</i>), and Atlantic silversides (<i>Menidia menidia</i>). Impacts to wildlife and fish would be limited to avoidance of the immediate project area during construction activity. Wildlife and fish species that may be temporarily displaced would be expected to return upon completion of construction. Best Management Practices such as the use of turbidity curtains would be utilized to avoid or minimize potential impacts to aquatic species.</p> <p>The U.S. Fish & Wildlife Service (USFWS) IPaC Tool identifies two species that are managed by the Endangered Species Program within the vicinity of the project site, the Endangered Indiana Bat (<i>Myotis sodalist</i>) and Threatened Northern Long-eared Bat (<i>Myotis septentrionalis</i>). In addition, there are several migratory birds of concern that could potentially utilize proposed project. A nesting bald eagle has also been documented 0.5 from the project area. However, there is no critical habitat for any species within the project area.</p> <p>The project consists of repairs to existing structures. Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. The proposed project does not include blasting or tree removal, and is at least 1,800 feet from the documented nesting bald eagle. There are no records of Indiana bat or NLEB maternity roost trees or hibernacula within the vicinity of the project area. The project area is subject to frequent disturbance from boating and visitors to the lighthouse.</p> <p>Consultation to USFWS on June 5, 2017 determined that there would be No Effect to endangered species, while specifying that Project-related construction will begin no earlier than late July 2017, and that all in-water work will be performed between September 1 and October 31 to avoid impacts to bass and sturgeons. USFWS concurred with this determination on June 12, 2017 (see Appendix D).</p> <p>Atlantic sturgeon (<i>Acipenser oxyrinchus oxyrinchus</i>) and shortnose sturgeon (<i>Acipenser brevirostrum</i>) occur in the Hudson River and lower</p>
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		<p>portion of Hudson River Tributaries. However, while these species may occur within the vicinity of the action area, they are not expected to frequent shallow waters such as the action area. Furthermore, no dredging is proposed as part of the project, and there would be no risk of entrapment. Construction would not result in an increase in vessel traffic in the area; therefore, there the project would not increase the risk of interactions between vessels and sturgeon. Notice of a Not Likely to Adversely Affect Determination was sent to the National Marine Fisheries Service (NMFS) on May 23, 2017. Concurrence with this finding was received from NMFS on May 31st, 2017 (see Appendix E). Thus, the proposed project is not expected to result in adverse impacts to protected species or habitats.</p> <p>Impacts to vegetation and wildlife would be minor and temporary. Impacts to wildlife would include avoidance of the immediate project area during construction activity. Impacts to vegetation would include disturbance to adjacent upland vegetation during mobilization or construction, but disturbed areas would be allowed to naturally revegetate following construction. No impact is anticipated to protected species or habitats.</p>
Other Factors	2	There are no other factors applicable to the proposed project.

Additional Studies Performed

SEQRA Environmental Assessment Form and Negative Declaration. Month, 2017.

Field Inspection (Date and completed by): Completed by Brinnier and Larios, P.C.; June 10, 2015 and December 14, 2016.

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]:

Sources

Application for Funding Parks Restoration Project, Revision 1, to NY State CDBG-Disaster Recovery Program, October 2016, Prepared by Hunt, Guillot, & Associates, LLC.

Engineering Design Report; Parks and Restoration Project – Saugerties Lighthouse; March 2017, Prepared by Brinnier and Larios, P.C.

NY Rising Community Reconstruction Plan Ulster Communities, March 2014, https://stormrecovery.ny.gov/sites/default/files/crp/community/documents/ulstercounty_nyrcr_plan.pdf , accessed on 3/25/2015

Village of Saugerties Parks Restoration CDBG-DR Pre-Application Report, November 24, 2014. Authorized by William Murphy.

National Wild and Scenic Rivers System. <http://www.rivers.gov/maps/conus.php>

New York State Cultural Resource Information System, <https://cris.parks.ny.gov/Login.aspx?ReturnUrl=%2f>.

New York State Historic Preservation Office (SHPO) and the Division for Historic Preservation (DHP) within the Office of Parks, Recreation and Historic Preservation (OPRHP), New York State Cultural Resource Information System (CRIS), <https://cris.parks.ny.gov/>.

New York State Department of Environmental Conservation, Environmental Justice Areas, <http://www.dec.ny.gov/public/899.html>

New York State Department of Environmental Conservation, Environmental Resource Mapper, <http://www.dec.ny.gov/imsmaps/ERM/viewer.htm>

New York State Department of Environmental Conservation, Environmental Facilities Mapper, <http://www.dec.ny.gov/imsmaps/facilities/viewer.htm>

New York State Department of Environmental Conservation, Environmental Site Remediation Database, <http://www.dec.ny.gov/cfm/xtapps/derexternal/index.cfm?pageid=3>

New York State Department of Environmental Conservation, Spill Incidents Database Search, <http://www.dec.ny.gov/cfm/xtapps/derexternal/index.cfm?pageid=2>

New York State Department of State, Coastal Boundary Map, <http://www.dos.ny.gov/opd/atlas/>.

United States Department of Agriculture Natural Resources Conservation Services, Web Soil Survey, <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

United States Department of Housing and Urban Development. HUD Fact Sheet #d1 Siting HUD Assisted Projects in Accident Potential Zones
https://www.michigan.gov/documents/mshda/mshda_cd_nsp2_air_accident_315724_7.pdf

United States Environmental Protection Agency, The Green Book Nonattainment Areas for Criteria Pollutants. <http://www.epa.gov/airquality/greenbook/adden.html>

United States Environmental Protection Agency, Sole Source Aquifers, <https://www.epa.gov/dwssa>

United States Federal Emergency Management Agency. FIRM Panels. <https://msc.fema.gov/portal>

United States Fish and Wildlife Service, Coastal Barrier Resources, <http://www.fws.gov/ecological-services/habitat-conservation/cbra/Maps/index.html>

United States Fish and Wildlife Service, National Wetlands Inventory, <http://www.fws.gov/wetlands/>.

United States Fish and Wildlife Service, Wetland-Codes, <https://www.fws.gov/wetlands/data/Wetland-Codes.html>

United States Fish and Wildlife Service, IPaC Information for Planning and Conservation, <http://ecos.fws.gov/ipac/>.

Village of Saugerties, Zoning Map, <http://village.saugerties.ny.us/content/Laws/View/2>

Town of and Village of Saugerties, Comprehensive Land Use Plan, <http://saugerties.ny.us/content/Generic/View/16>

Town of Saugerties, Zoning Districts (§245-6), <http://www.ecode360.com/13646085>;
http://ulstercountyny.gov/planning/local_law_directory

See Figures 1- 12 and Appendices A-G for additional sources.

Agencies and Persons Consulted

Consistency Review Unit, New York State Department of State Division of Coastal Resources

New York State Department of Environmental Conservation; Division of Fish, Wildlife and Marine Resources,
Natural Heritage Program

New York State Department of Environmental Conservation; Division of Environmental Permits, Region 3

New York Ecological Services Field Office, U.S. Fish & Wildlife Service

Division for Historic Preservation, New York State Parks, Recreation & Historic Preservation

List of Permits Obtained or Required:

Permit assumptions are based on project description and available mapping. Specific permits required will be determined based on field verification and delineations during the permitting stage.

Federal Permits, Approvals, and/or Consultations:	Agency
Endangered Species Act – Section 7	USFWS
Clean Water Act – Section 404 - Nationwide Permit 3 (Maintenance)	USACE
Section 10 - Rivers and Harbors	USACE
New York State and Local Permits, Approvals, and/or Consultations:	Agency
Water Quality Certification – Section 401 of the Clean Water Act	NYS DEC
Coastal Zone Management	NYS DOS
NYSDEC Article 15, Title 5, Stream Disturbance Permit to physically disturb the bed and banks of the Esopus Creek and the Hudson River to restore the bulkhead and stabilize the piers.	NYS DEC
NYSDEC Article 15, Title 5, Excavation & Fill in Navigable Waters Permit to allow excavation and filling below the mean water line for construction of the bulkhead and stabilization of the piers.	NYS DEC
NYSDEC Article 24, Freshwater Wetlands Permit for work within the 100 foot protected wetland buffer area.	NYS DEC
Floodplain Development Permit	Local Floodplain Administrator

Public Outreach [24 CFR 50.23 & 58.43]:

A 15-day public review period for this Environmental Assessment was initiated upon publication of the combined notice of Finding Of No Significant Impact (FONSI) and Notice of Intent to Request Release of Funds (NOI/RROF). During this period, any individual, group or agency could submit written comments on the Project.

Cumulative Impact Analysis [24 CFR 58.32]:

Current and reasonably foreseeable projects identified in the project area include the Village Beach Park Restoration and repairs to Tina Chorvas Park. The Village Beach Park Restoration project is implementing beach restorations at Village Beach, including the repair or upgrade of existing docks and eroded boat ramps along Esopus Creek.

Impacts from the proposed project, when combined with those of the projects occurring in the project vicinity described above, may contribute to minor short-term cumulative impacts to noise, transportation and public safety. However, the majority of impacts from the proposed project would be short-term in duration and occur only during the construction period associated with site preparation and rehabilitation activities. As a result, adverse cumulative impacts from the proposed project would be minimal and are not expected to rise to a level of significance in the context of overall development occurring within the vicinity of the project. Because the construction periods associated with each of these rehabilitation and repair projects are staggered and would not occur simultaneously, there would be no contribution to cumulative impacts during construction. Over the long term, beneficial cumulative effects would occur as the result of the planned enhancements to these community amenities.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]:

Because there is no other feasible action alternative to conducting the proposed maintenance at the lighthouse, only the proposed action and No Action alternative were considered. The No Action alternative is described below.

No Action Alternative [24 CFR 58.40(e)]:

Repairs to the historic lighthouse would include repairs to supporting structures adjacent to the lighthouse, including repairing a large gap in the seawall that protects the harbor channel, as well as bulkhead, pier, and docks repairs.

Without the proposed project, no improvements would be conducted at the lighthouse, and the deteriorated bulkheads, dock and seawall would remain in their current condition. There would be no added resiliency of the shoreline and protection against storms and rising sea levels. The existing support structures are in need of upgrades and replacement. If repairs were not completed, there would be failure of the structures supporting the lighthouse, resulting in permanent loss of the lighthouse's value and a historic resource, as well as possible impacts to adjacent waterways due to erosion, siltation and release of debris.

Summary of Findings and Conclusions:

The proposed project would repair a damaged public amenity that suffered impacts from storm events and help mitigate future impacts of tidal and coastal flooding. While the seawall is important for preventing siltation of the harbor channel, the bulkhead and pier protect the lighthouse, which is a

community asset and historic building. Repairs to the seawall and supporting structures adjacent to the lighthouse would provide flood mitigation to the lighthouse and harbor channel.

Project benefits would include disaster risk reduction through shoreline stabilization, which would increase the storm resiliency of this public amenity and reduce the risk of flooding and flood damage from future storms. As shown above in the Environmental Assessment Checklist, no significant land development, neighborhood, socioeconomic, natural resources, community facility or other direct, indirect or cumulative impacts would result from the proposed project. As shown in the accompanying Statutory Checklists, the proposed project would comply with all relevant regulations listed in 24 CFR subparts 58.5 and 58.6.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority or Factor	Mitigation Measure
Permit Requirements	All permit conditions listed above or otherwise required for activities under that proposed project must be adhered to.
USFWS	All in-water work will be performed between September 1 and October 31 to avoid impacts to bass and sturgeons.

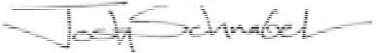
Standard Conditions for All Projects

Any change to the approved scope of work will require re-evaluation by the Certifying Officer for compliance with NEPA and other laws and Executive Orders.

This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize federal funding.

Determination:

- ☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.
- ☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.



July 25, 2017

Preparer Signature

Date

Joshua Schnabel, Environmental Planner, Louis Berger, Inc.

Name/Title/Organization



July 25, 2017

Signature of Certifying Officer

Date

Lori A. Shirley

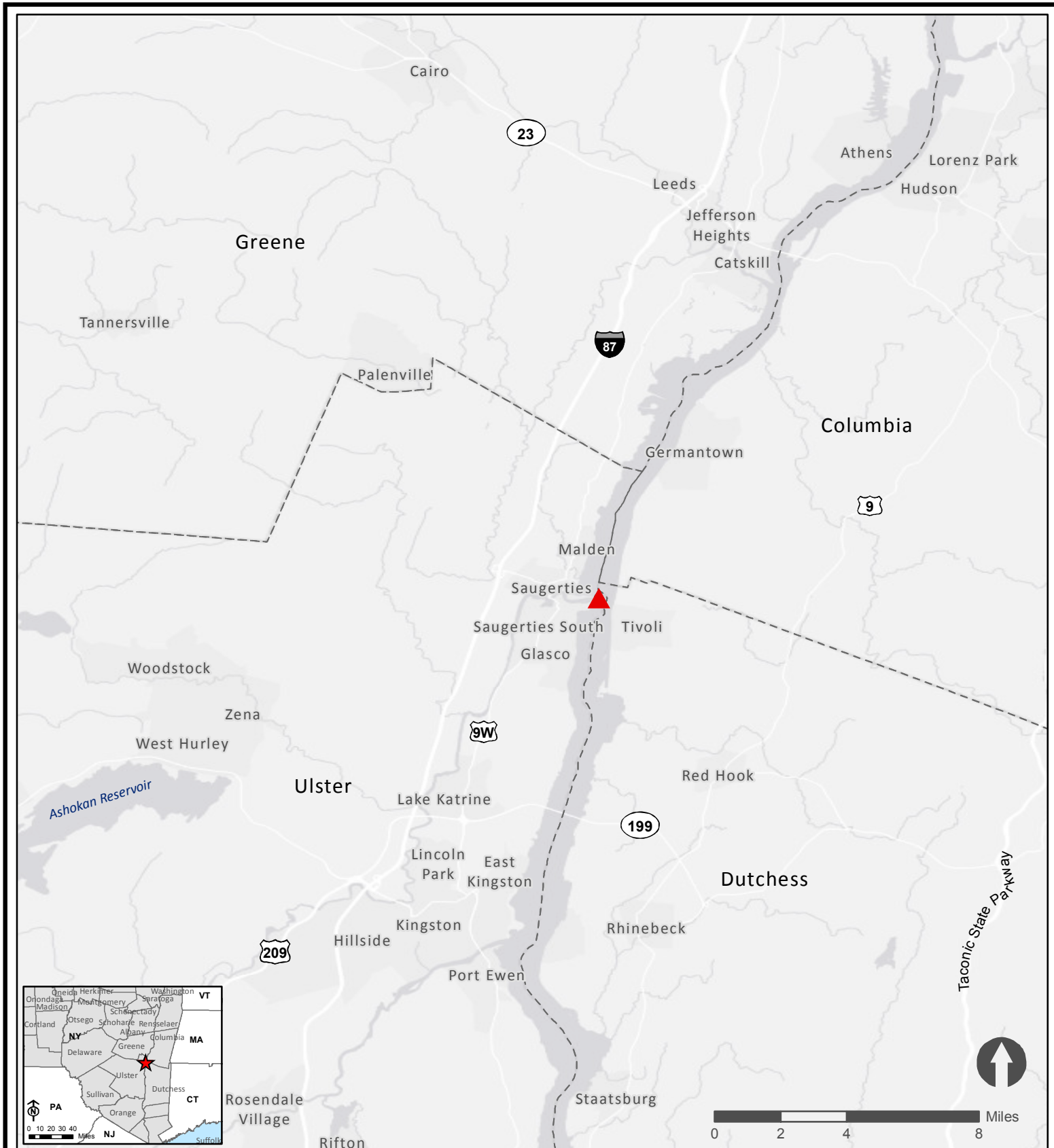
Certifying Officer

Print Name

Title

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

FIGURES



- ▲ Project Location
- County Boundary

Figure 1
Regional Location

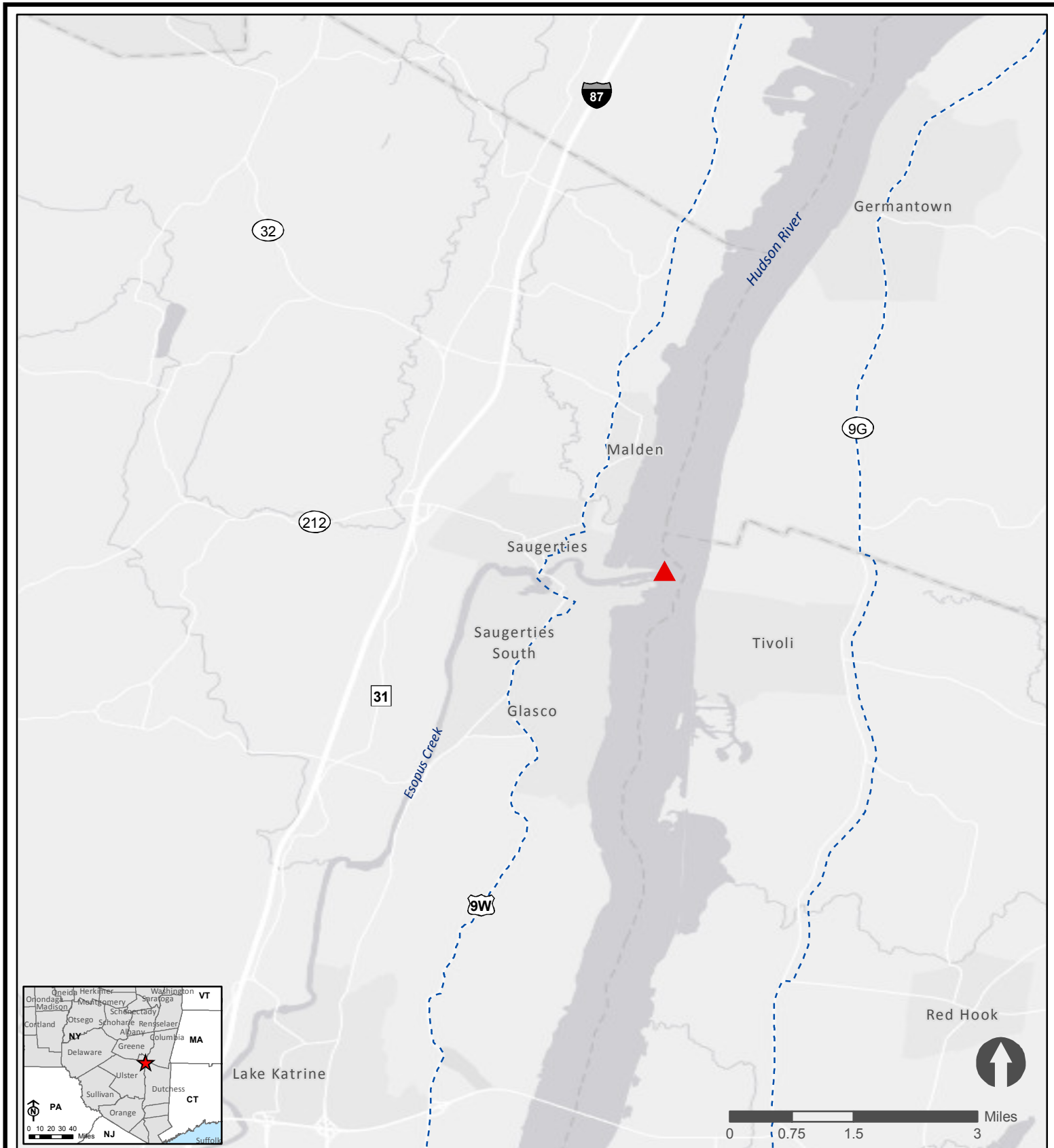
Saugerties Lighthouse
Repairs



 Project Boundary

Figure 2
Project Location

Saugerties Lighthouse
Repairs



- ▲ Project Location
- Coastal Boundary

Figure 3
Coastal Boundary

Saugerties Lighthouse
Repairs



- Project Boundary
- Remediation Site

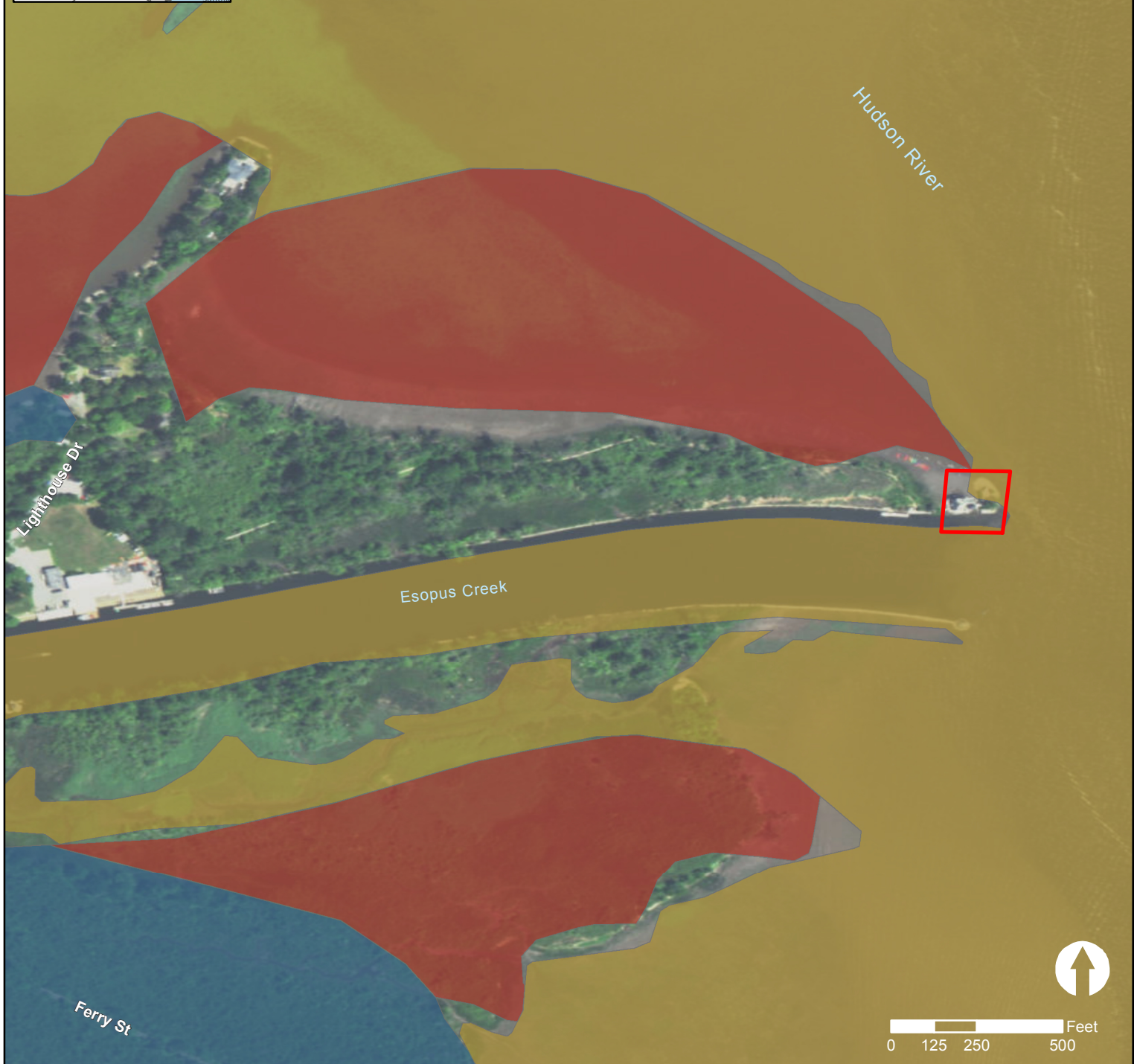
Figure 4
Remediation Sites

Saugerties Lighthouse
Repairs



- Project Boundary
- Scenic Areas

Figure 5
**Scenic Areas of
 Statewide Significance**
 Saugerties Lighthouse
 Repairs







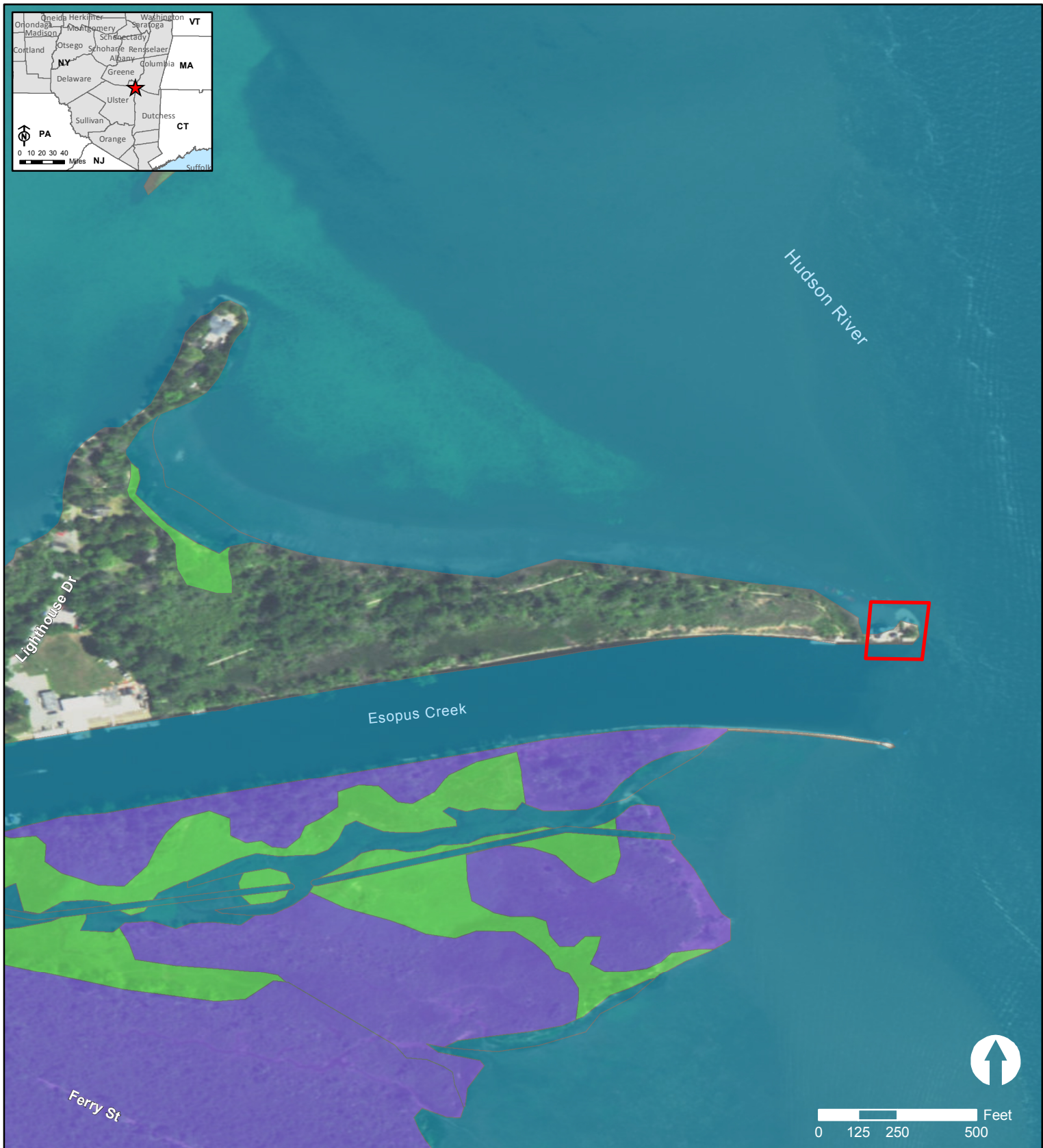
-  Project Boundary
- Significant Natural and Vegetative Communities**
-  Freshwater tidal marsh
 -  Freshwater tidal swamp
 -  Tidal river

Figure 6
Significant Natural and Vegetative Communities
Saugerties Lighthouse Repairs



Project Boundary

Wetland Type

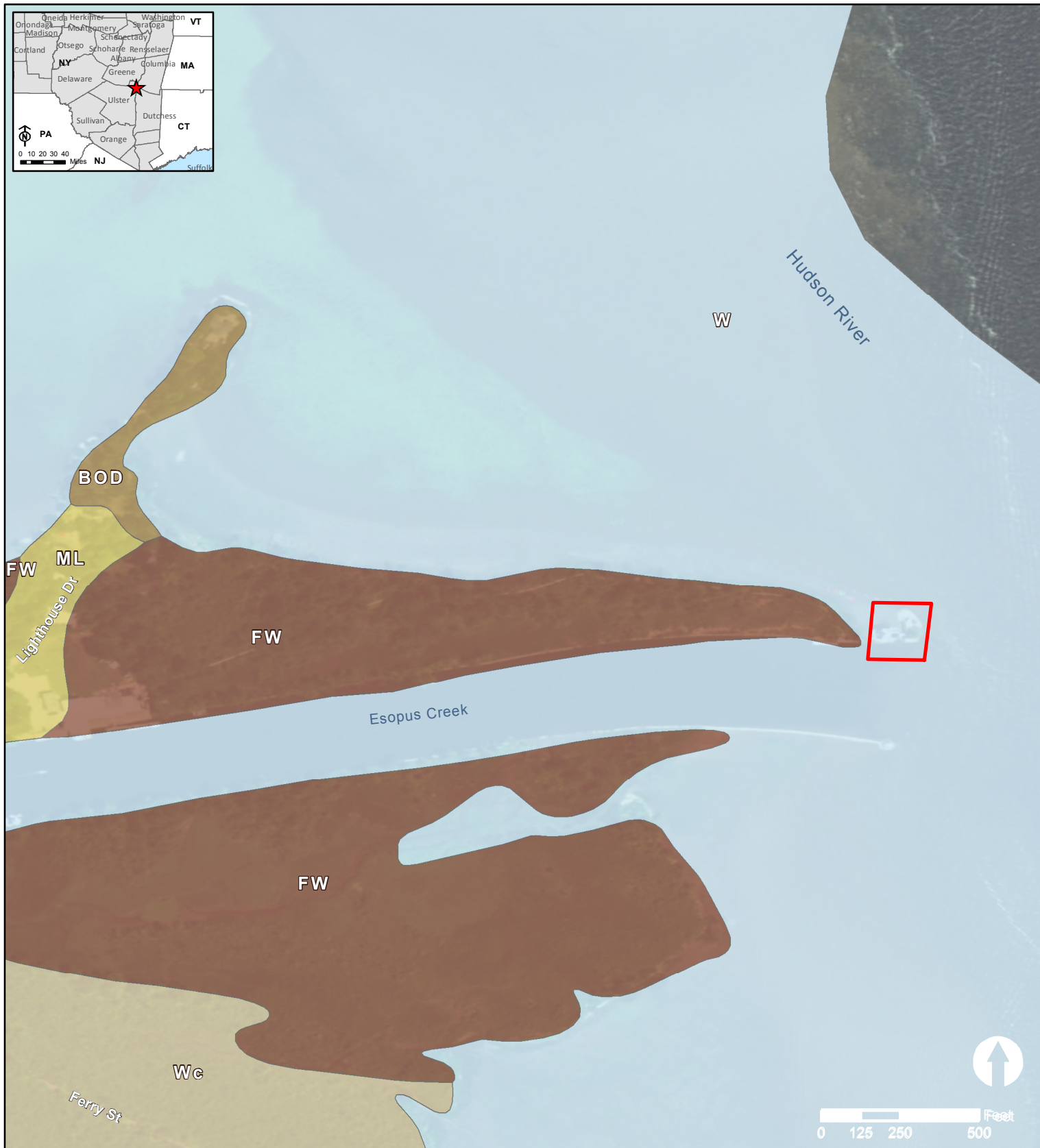
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Riverine

Figure 7

Existing Wetlands

Saugerties Lighthouse
Repairs

Source: U.S. Fish and Wildlife Service; Ulster County GIS Datasets;
NYS Dept. of State; NYS Department of Environmental Conservation;
U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map



- Project Boundary
- Soils**
- | | |
|---|---|
| ML | Watchaug fine sandy loam (Wc) |
| Bath-Nassau Complex (BOD) | Water (W) |
| FW | |

Figure 8
Soils

Saugerties Lighthouse
Repairs



- Project Boundary
- Agricultural Land

Figure 9
Existing Agricultural Lands

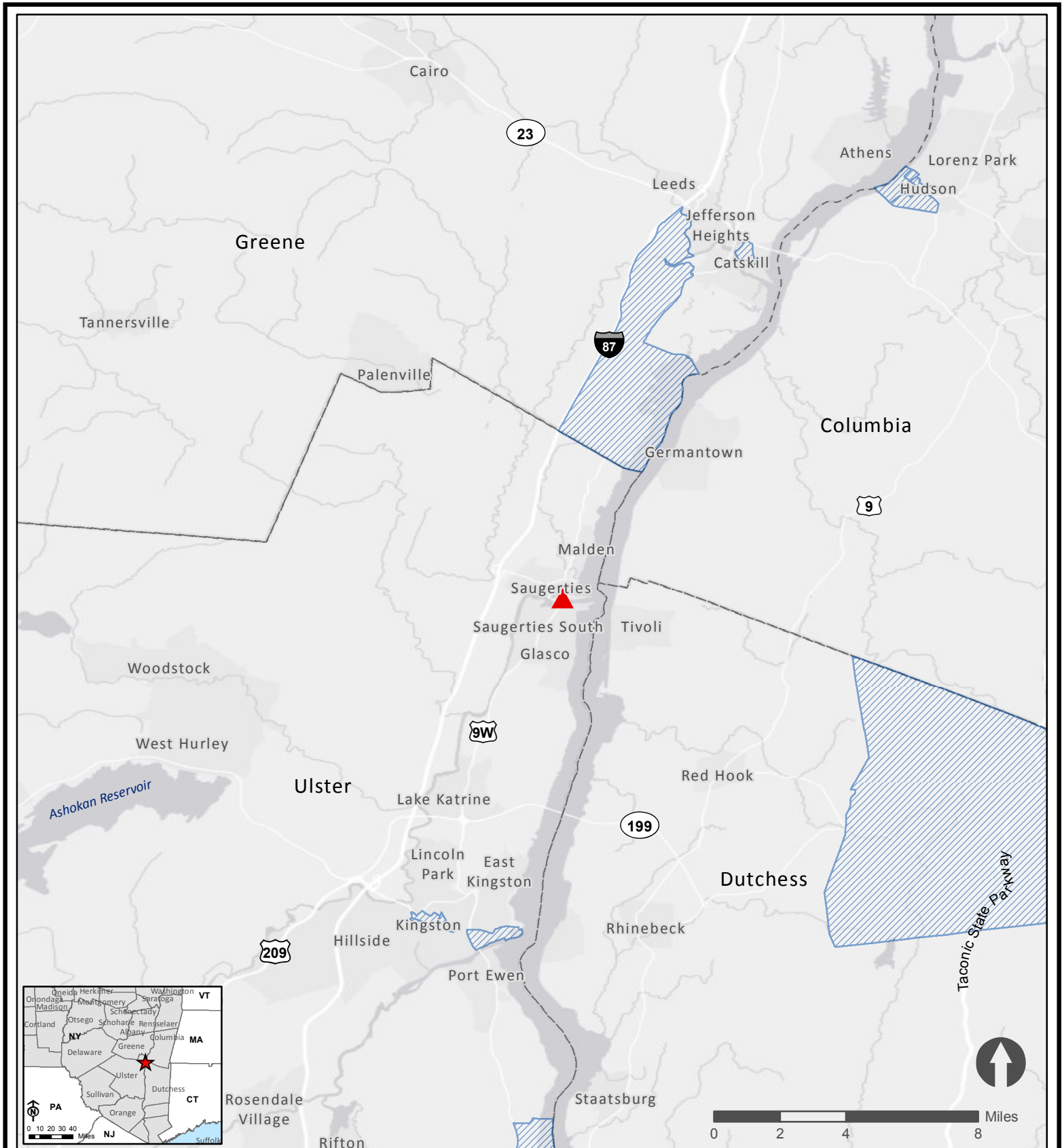
Saugerties Lighthouse
Repairs



- Project Boundary
- FEMA 100 Yr. Flood Hazard Zone
- FEMA 500 Yr. Flood Hazard Zone

Figure 10
Flood Hazard

Saugerties Lighthouse
Repairs



- ▲ Project Location
- Potential EJ Area

Figure 11
Potential EJ Areas

Tina Chorvas Park
Restoration Project



- ▲ Project Location
- Sole Source Aquifer

Figure 12
Sole Source Aquifers

Tina Chorvas Park
Restoration Project

Source: U.S. Fish and Wildlife Service; Ulster County GIS Datasets;
NYS Dept. of State; NYS Department of Environmental Conservation;
U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map

APPENDIX A - FLOODPLAIN MANAGEMENT 5-STEP PROCESS

**Summary of 5-Step Floodplain and Wetland Analysis for the
Saugerties Lighthouse Restoration,
May 30, 2017**

Governor's Office of Storm Recovery
U.S. Department of Housing and Urban Development Community Development Block Grant – Disaster
Recovery

The Town of Saugerties is requesting funding for design and construction of improvements at the Saugerties Lighthouse, in Ulster County, New York. This project would repair damaged public facilities that suffered impacts from storm events and help mitigate future impacts of tidal and coastal flooding to the Saugerties Lighthouse historic property. Requested funds will be utilized to: stabilize the sea wall by filling in the voids that have developed inside the perimeter of the sea wall and repointing the stones of the sea wall; rebuild the bulkhead on the south side of the sea wall; stabilize the concrete pier located on the south side of the deck area; and make repairs to the floating dock including repairs to the framing, anchors and deck.

During Hurricane Irene, Tropical Storm Lee, and Superstorm Sandy, the Saugerties Lighthouse experienced flooding caused by overflows of Esopus Creek and its tributaries, as well as storm surges from the Hudson River. During Superstorm Sandy, storm surge from the Hudson River damaged the dike that protects the harbor channel, which has exposed and endangered the historic lighthouse's stone foundations through exposure to the Hudson River's wave action. The storm also damaged bulkheads, piers, and the dock that serves the lighthouse.

Pursuant to 24 CFR §55.12(a)(4), steps 2, 3, and 7 of the 8-step process for floodplain management do not apply to projects involving the improvement of existing nonresidential buildings and structures, in communities that are in the Regular Program of the National Flood Insurance Program (NFIP) and are in good standing, provided that the action does not meet the thresholds for "substantial improvement" under §55.2(b)(10) and that the footprint of the structure and paved areas is not significantly increased. Since the project is replacing a generator and berm construction do not constitute "substantial improvements". Therefore, the abbreviated 5-step process for floodplain management is followed herein.

Step 1: Determine if the proposed action is in a 100-year floodplain or wetland.

GOSR is proposing to fund the proposed action within the 100-year Floodplain (Zone AE) as indicated by Flood Insurance Rate Map Panel 36111C0310E Published on September 25, 2009 (see **Figure 1**). The project area borders waters classified as Riverine under the U.S. Fish and Wildlife Service National Wetlands Inventory (NWI); no wetlands are within the area of disturbance (see **Figure 2**).

Step 4: Identify and describe the proposed action's direct and indirect effects associated with occupying or modifying the floodplain or wetland.

The proposed project seeks to reduce the risk of damage from future floods through improvements which would stabilize the existing shoreline and protect the structural integrity of the historic lighthouse. Given that the proposed project components located within the floodplain would provide enhanced protection from tidal and coastal flooding, and project construction activities would not impact floodplain values, there are no direct or indirect impacts anticipated as a result of the proposed project activities.

The proposed project action would have a beneficial outcome for the residents of the Village of Saugerties. Implementation of the proposed project would provide disaster risk reduction through

shoreline stabilization, which would increase the storm resiliency of this public amenity and reduce the risk of flooding and flood damage from future storms.

While the project area encompasses approximately 0.73 acres, the proposed improvements will temporarily disturb only approximately 0.1 acre. During the construction phase of the project, voids in the existing sea wall created by rising and falling waters will be filled, and new wooden bulkhead will be installed to replace the deteriorating bulkhead. The base under a large concrete pier will also be restored and broken sections of the concrete pier and a floating wooden dock will be repaired. The proposed bulkhead would be an approximately 95 feet long continuous timber pile bulkhead extending from the existing stationary wooden dock ramp to the wooden bridge that connects the wooden deck area. Wood timber walers would be installed on both sides of the timber piles to maintain the vertical alignment, and tiebacks anchored to the seawall would be uniformly located along the length of the bulkhead to further stabilize the bulkhead. After installation of sea wall anchors, a blend of medium riprap (heavier than 100 pounds) and heavy riprap (heavier than 600 pounds) would be placed over the sea wall anchors to Elevation 1.0 feet. Approximately 95 linear feet of pervious surface (shoreline grass and other vegetation) would be temporarily disturbed during bulkhead installation. Following construction activities, the natural surface at the construction area would be restored to its original condition, resulting in no long term changes to the floodplain or wetlands. The 100-year floodplain within the area of disturbance is all previously disturbed. The project would not involve modifying the floodplain and would have no long-term direct or indirect effects on the floodplain. All work associated with the proposed project would occur within the existing footprint of previous disturbance. There would be short-term direct impacts during the construction period, but no long-term impacts to wetlands.

The proposed action represents short-term impacts to previously disturbed areas and no substantive short- or long-term change to the natural and beneficial values of the floodplain.

Step 5: Identify methods to minimize the potential adverse impacts within a floodplain and wetland and to restore and preserve its natural and beneficial values.

Based on the scope of the project, the proposed project would not result in significant adverse impacts to flood levels, flood risk, or the flow of flood waters on the project site or surrounding areas. As proposed, all of the proposed project activities would be performed within the footprint of previous disturbance. Although the existing property is within the 1 percent annual chance of flood, no permanent disturbance of the floodplain would occur and no additional impervious surfaces would be created.

The lighthouse dock area is within the 100-foot protected wetland buffer area. In order to avoid impacts to wetlands, the work area would be minimized and temporary fencing/barricades would be installed at the perimeter of the dock to contain potential impacts to adjacent waters.

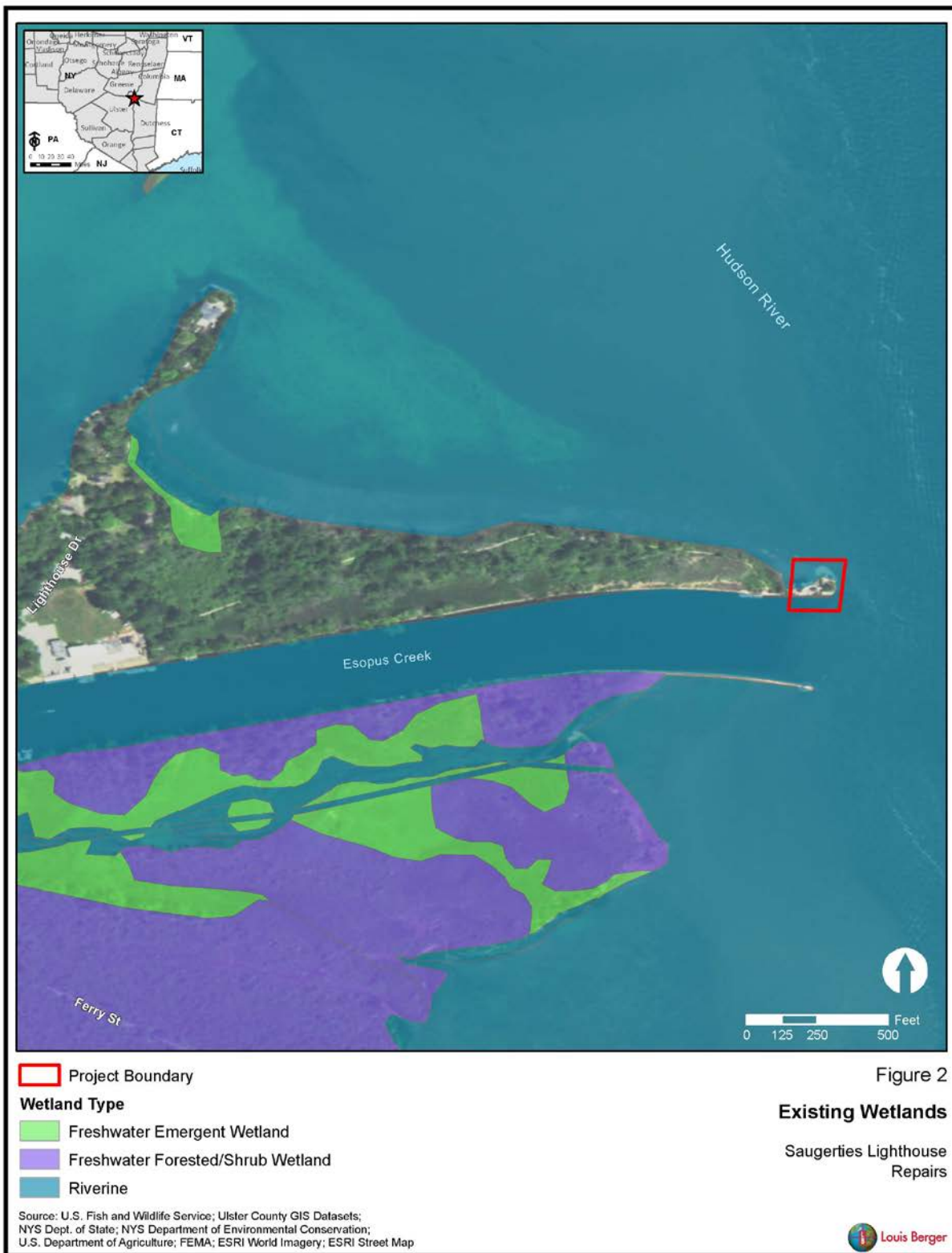
Step 6: Reevaluate the proposed action to determine if it is still practicable given its floodplain and wetland effects.

Implementing this project would restore an existing community amenity and stabilize the shoreline at the edge of the site along the Hudson River at the mouth of Esopus Creek in order to alleviate further erosion and reduce the risk of flooding and flood damage from future storms. Thus, the Project is considered practicable.

Step 8: The proposed action can be implemented after steps 1 through 7 have been completed.

Implementation of the proposed action may require additional local and state permits, which could place additional design modifications or mitigation requirements on the project.





APPENDIX B – AIR QUALITY SCREENING ASSESSMENT



Environmental and Planning Consultants

Evaluation of de minimis Levels for General Conformity of Construction Projects with New York State Implementation Plans

The conformity requirements of the CAA and regulations promulgated thereunder (conformity requirements) limit the ability of federal agencies to assist, fund, permit, and approve projects in non-attainment areas that do not conform to the applicable SIP. When subject to this regulation, the lead agency is responsible for demonstrating conformity for its proposed action. Conformity determinations for federal actions other than those related to transportation plans, programs, and projects that are developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.) must be made according to the requirements of 40 CFR 93, Subpart B (federal general conformity regulations).

The general conformity regulations apply to those federal actions in non-attainment or maintenance areas where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed rates.

General conformity de minimis threshold levels for the non-attainment and maintenance areas in New York State are presented in **Table 1**.

Table 1
General Conformity Threshold Levels

Non-Attainment Area and Pollutants	Threshold (tons/year)
ozone, other non-attainment areas inside an ozone transport region:	
volatile organic compounds (VOC)	50
nitrogen oxides (NO _x)	100
carbon monoxide (CO), maintenance areas:	
direct emissions	100
inhalable particulate matter (PM ₁₀), nonattainment areas:	
direct emissions	100
fine particulate matter (PM _{2.5}), maintenance areas:	
direct emissions	100
SO ₂	100
Source: 40 CFR § 93.153(b)	
Notes: NO _x and VOCs also limited at 100 tpy in PM _{2.5} maintenance areas, but ozone requirements are stricter.	

The general conformity requirements do not apply to federal actions that:

- Do not satisfy either one of the above conditions (where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates

Evaluation of De Minimis Levels for General Conformity of Construction Projects with New York State Implementation Plans

equal to or exceeding the threshold levels above within a non-attainment or maintenance area);

- Occur in an attainment area;
- Are related to transportation plans, programs, and projects developed, funded, or approved under Title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601); or
- Qualify for exemptions established at 40 CFR Part 93.153.

The regulation assumes that a proposed federal action whose criteria pollutant emissions have already been included in the local SIP's attainment or maintenance demonstrations conforms to the SIP.

Most construction work would not require a general conformity evaluation, since construction activity in general is included in the SIP estimates, based on past activity levels and assumptions regarding growth in future years. However, there may be projects which are not considered to be included in the SIP if they were beyond the scope of what was anticipated during SIP preparation. If a project is not included in the SIP or there is uncertainty regarding its inclusion, a preliminary evaluation of emissions may be sufficient to demonstrate that the project's emissions would be de minimis under the above general conformity regulations. If that is the case, a detailed conformity analysis and determination would not be required. The following analysis provides a simplified approach to preliminary evaluation, based on construction expenditure.

As a conservative estimate, the analysis below assumes that the emissions intensity per expenditure (tons per dollar) for the project would be similar to the average intensity of the construction sector in the county. This would not be applicable for projects with higher intensity (emissions per dollar) such as large infrastructure projects or intense development projects including substantial excavation and foundations work. Given this and other limitations of this analysis, it is recommended that this approach not be seen as definitive if the results are not clearly de minimis. In such cases, a more refined approach may be needed.

Construction expenditure data is available from the U.S. Census Bureau's 2007 Survey of Business Owners.¹ Since the expenditure data represent firms by their location and not necessarily the location where construction takes place, applying this data at the county level may skew the results in some cases. As a broader estimate, we have categorized the expenditure as 'upstate' and 'downstate', reflecting the higher cost of construction in the downstate area. Downstate counties include Bronx, Kings, Nassau, New York, Orange, Queens, Richmond, Rockland, Suffolk, and Westchester. Total construction expenditure in 2007 was approximately 23.1 billion dollars in the upstate area, and 71.8 billion in the downstate area.

Construction emissions by county for the year 2007 were obtained from the New York State Department of Environmental Conservation (NYSDEC).² The fraction each de minimis emissions level represents of total regional emissions was calculated for each pollutant and area (upstate and downstate). The fraction of construction expenditure in each area equivalent to

¹ U.S. Census Bureau. *2007 Survey of Business Owners*, Statistics for All U.S. Firms by Industry, Gender, Ethnicity, and Race for the U.S., States, Metro Areas, Counties, and Places: 2007; SB0700CSA01.

² NYSDEC. 2007 SIP data. (provided by DEC, 2014)

**Evaluation of De Minimis Levels for General Conformity of
Construction Projects with New York State Implementation Plans**

those emission fractions were then calculated, representing de minimis project construction expenditures which would be equivalent to de minimis emissions.

For example, the downstate VOC emissions were 2,401.6 tons per year (tpy), and the relevant de minimis VOC emissions are 50 tpy; therefore—

de minimis as fraction of total emissions: $50 \text{ tpy} \div 2,401.6 \text{ tpy} = 2.08\%$

de minimis fraction of total expenditure: $2.08\% \times \$71.8 \text{ bn} = \1.5 bn

The total SIP emissions by pollutant and region and the resulting average project expenditure equivalent to de minimis levels are presented in **Table 2**.

Table 2
Regional SIP Emissions and
de minimis Construction Expenditure

Pollutant	Region	2007 SIP Emissions (tpy)	De Minimis (tpy)	Average Construction De Minimis Expenditure (million \$)
VOC	Downstate	2,401.6	50	1,496
	Upstate	1,464.3	50	789
NO _x	Downstate	16,332.1	100	440
	Upstate	9,745.2	100	237
CO	Downstate	17,522.1	100	410
	Upstate	11,746.2	100	197
PM ₁₀	Downstate	1,489.6	100	4,823
PM _{2.5}	Downstate	1,442.3	100	4,981
SO ₂	Downstate	1,251.9	100	5,738
Notes: Only relevant pollutants by area are presented; see Table 3 for details.				

Based on the above analysis, projects with projected construction expenditure substantially lower than the average construction de minimis expenditure would clearly not exceed de minimis emissions levels for general conformity purposes. **Table 3** identifies the minimum de minimis expenditure threshold in each county, based on the lowest level for all nonattainment or attainment maintenance areas within which the county is located. For example, New York County is in 4 nonattainment/maintenance areas; of all the pollutants relevant to those areas, the CO de minimis emissions have the lowest corresponding construction expenditure of 410 million dollars. Standard construction projects in Manhattan with construction expenditure substantially lower than 410 million dollars in New York County would not exceed the de minimis level for any of the relevant pollutants and would not require any further analysis or conformity determination. For projects with components in more than one county, use the lowest threshold for all counties (if that exceeds de minimis levels, this can be refined by reviewing all appropriate pollutants based on the nonattainment/maintenance areas identified in **Table 3**, the appropriate pollutant for the area type from **Table 1**, and the de minimis expenditure for each pollutant from **Table 2**).

**Evaluation of De Minimis Levels for General Conformity of
Construction Projects with New York State Implementation Plans**

Table 3
De Minimis Construction Expenditure Threshold by County

County	Nonattainment / Maintenance Area				Critical Pollutant	De Minimis Expenditure Threshold (million \$)
	Ozone	CO	PM _{2.5}	PM ₁₀		
Upstate:						
Albany	√				NO _x	237
Erie	√				NO _x	237
Genesee	√				NO _x	237
Greene	√				NO _x	237
Livingston	√				NO _x	237
Monroe	√				NO _x	237
Montgomery	√				NO _x	237
Niagara	√				NO _x	237
Onondaga		√			CO	197
Ontario	√				NO _x	237
Orleans	√				NO _x	237
Rensselaer	√				NO _x	237
Saratoga	√				NO _x	237
Schenectady	√				NO _x	237
Schoharie	√				NO _x	237
Wayne	√				NO _x	237
Downstate:						
Bronx	√	√	√		CO	410
Dutchess	√				NO _x	440
Kings	√	√	√		CO	410
Nassau	√	√	√		CO	410
New York	√	√	√	√	CO	410
Orange	√		√		NO _x	440
Putnam	√				NO _x	440
Queens	√	√	√		CO	410
Richmond	√	√	√		CO	410
Rockland	√		√		NO _x	440
Suffolk	√		√		NO _x	440
Westchester	√	√	√		CO	410

*

GENERAL CONFORMITY WORKSHEET

Air Emissions Information

PROJECT NAME _____

LOCATION (COUNTY, STATE) _____

FOR CALENDAR YEAR _____

Estimated Construction Start Date: _____ End Date: _____

A. ON-ROAD VEHICLES

ACTIVITY	VEHICLE TYPE	# OPERATING	ON / OFF SITE	GVWR PER VEHICLE	TOTAL MILES PER VEHICLE	TOTAL MILES ALL VEHICLES
Example: Demolition	Truck	2	ON	33,000	36	72

B. OFF-ROAD VEHICLES

ACTIVITY	EQUIPMENT TYPE	# OPERATING	HORSE-POWER	GAS/ DIESEL	TOTAL HRS PER VEHICLE	TOTAL HRS ALL VEHICLES
Example: Site Clearing	Backhoe	3	90	Diesel	80	240

Notes:

1. If construction occurs over more than one calendar year, provide a separate table for each calendar year.
2. For ACTIVITY, include a short description of the type of activity
 - On-Road examples: workers commuting to/from job site, materials deliveries, material movement to site, etc.
 - Off-Road examples: site clearing, demolition, excavation, construction, material placement, etc.
3. For EQUIPMENT
 - On-Road examples: auto, pickup truck (gas or diesel), heavy trucks (gas or diesel), etc.
 - Off-road examples: crane, backhoe, dozer, mixer, chain saw, forklift, etc.
4. Specify whether the on-road vehicles listed are being used for transportation to/from site, or are used exclusively on the site, as this will affect the emission estimates.
5. Specify the Gross Vehicle Weight Ratings for any on-road heavy-duty diesel vehicles, as these are necessary to determine the correct emissions factors.
6. For worker commutation, the number of vehicles and miles traveled can be estimated by using any available data to estimate commuting distance, carpool rates, etc., (e.g., Census Journey-to-Work data).

APPENDIX C - DOS CONSULTATION AND GENERAL CONSISTENCY DETERMINATION



Governor's Office of Storm Recovery



Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

May 30, 2017

Jeffrey Zappieri
Supervisor, Consistency Review Unit
Division of Coastal Resources
New York State Department of State
One Commerce Plaza
99 Washington Avenue
Albany, New York 12231-0001

Re: CDBG-DR Program –
Freeport Boatman's Realty Corporation
540 Guy Lombardo Avenue, Freeport, Nassau County, New York 11520
(Project 059-ED-486-13)

Dear Mr. Zappieri:

The Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York Homes and Community Renewal's Housing Trust Fund Corporation, was established to aid the statewide recovery of disaster-affected communities in New York State. GOSR is administering a U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant for Disaster Recovery (CDBG-DR), including the "Saugerties Lighthouse Restoration" project (the "Proposed Project") located at 168 Lighthouse Drive in the Village of Saugerties, Ulster County, New York (Attachment A). On behalf of GOSR, please find the enclosed coastal zone consistency materials for your review.

The proposed project would repair existing support structures, including bulkheads, docks, a pier, and seawall adjacent to the lighthouse that suffered impacts from storm events and help mitigate future impacts of tidal and coastal flooding to this historic public amenity. During past storm events, the Saugerties Lighthouse experienced flooding caused by overflows of Esopus Creek and its tributaries, as well as storm surges from the Hudson River. During Superstorm Sandy, storm surge from the Hudson River damaged the dike that protects the harbor channel, which has exposed and endangered the historic lighthouse's stone foundations through exposure to the Hudson River's wave action. The

storm also damaged bulkheads, piers, and the dock that serves the lighthouse. Construction would entail approximately 95 linear feet of new bulkhead along the south side of the sea wall to replace the former wooden bulkhead which is deteriorated and no longer providing any protection to the sea wall. Wood timber walers would be installed on both sides of the timber piles to maintain the vertical alignment, and tiebacks anchored to the seawall would be uniformly located along the length of the bulkhead to further stabilize the bulkhead. After installation of sea wall anchors, a blend of medium riprap (heavier than 100 pounds) and heavy riprap (heavier than 600 pounds) would be placed over the sea wall anchors to Elevation 1.0 feet. All work within the floodplain associated with the proposed project would take place within the existing footprint of previous shoreline development. No structural footprints would be expanded and there would be no alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area.

The project area is located within the boundary of the New York State Coastal Zone. The Village of Saugerties also participates in the Local Waterfront Revitalization Program. Pursuant to the Coastal Zone Management Act, enclosed please find a completed Federal Consistency Assessment form and supporting documentation for your review. GOSR is requesting a response letter from your office that can be included as an attachment to the Categorical Exclusion to document that coordination with the New York State Department of State has been completed, and general consistency concurrence criteria will be met.

The overall construction activity should take from 4 to 6 months to complete, with the proposed improvements to project site being constructed anytime during the normal construction period from May to mid-November.

GOSR is acting as the Responsible Entity in accordance with 24 C.F.R. Part 58—Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities. GOSR has prepared the attached Federal Consistency Assessment Form to certify that the project is consistent with New York's Coastal Management Program. At this time, we are requesting that the New York State Department of State concur with the attached certification.

Thank you for taking the time to review the enclosed materials. Please do not hesitate to contact me by email at Alicia.Shultz@nyshcr.org or by telephone at (518) 474-0647 should you have any questions or require additional information.

Sincerely,

A handwritten signature in dark ink, reading "Alicia Shultz". The signature is fluid and cursive, with a horizontal line extending from the end of the name.

Alicia Shultz
Community Developer – Environmental Services
New York State Homes & Community Renewal

Attachments:

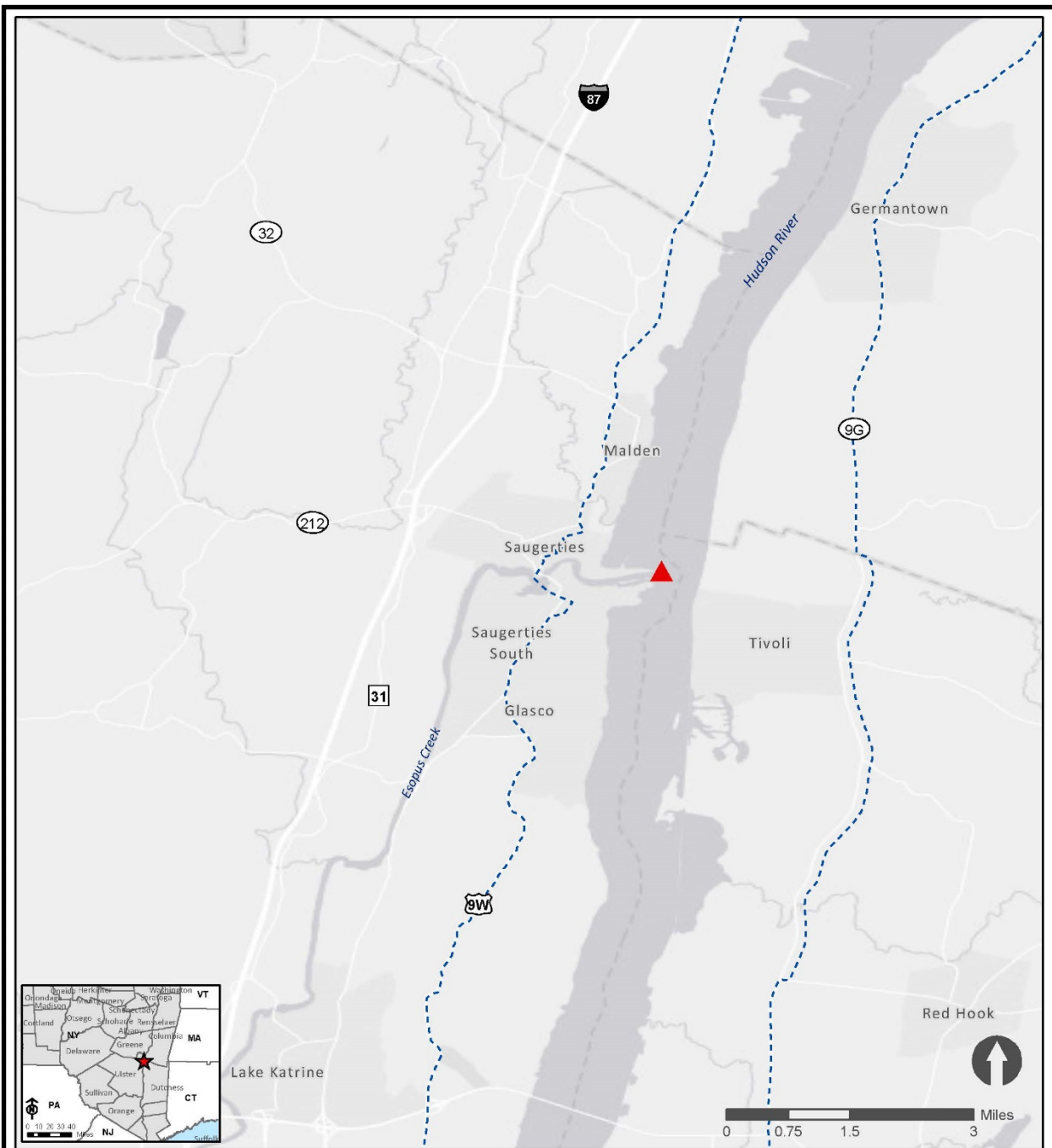
Attachment A – Site Map

Attachment B – Federal Consistency Form

Attachment C – Detailed Project Description and Policy Analysis

Attachment A

Site Map



▲ Project Location

--- Coastal Boundary

Figure 1
Coastal Boundary

Saugerties Lighthouse
Repairs

Source: U.S. Fish and Wildlife Service; Ulster County GIS Datasets;
NYS Dept. of State; NYS Department of Environmental Conservation;
U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map

 Louis Berger

Attachment B

Federal Consistency Form

Federal Consistency Assessment Form

energetically favorable interaction

C. COASTAL ASSESSMENT Check either "YES" or "NO" for each of these questions. The numbers following each question refer to the policies described in the CMP document (see footnote on page 2) which may be affected by the proposed activity.

1. Will the proposed activity result in any of the following: YES / NO

- | | | |
|--|--------------------------|-------------------------------------|
| a. Large physical change to a site within the coastal area which will require the preparation of an environmental impact statement? (11, 22, 25, 32, 37, 38, 41, 43) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Physical alteration of more than two acres of land along the shoreline, land under water or coastal waters? (2, 11, 12, 20, 28, 35, 44) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Revitalization/redevelopment of a deteriorated or underutilized waterfront site? (1) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Reduction of existing or potential public access to or along coastal waters? (19, 20) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e. Adverse effect upon the commercial or recreational use of coastal fish resources? (9,10) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f. Siting of a facility essential to the exploration, development and production of energy resources in coastal waters or on the Outer Continental Shelf? (29) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g. Siting of a facility essential to the generation or transmission of energy? (27) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h. Mining, excavation, or dredging activities, or the placement of dredged or fill material in coastal waters? (15, 35) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i. Discharge of toxics, hazardous substances or other pollutants into coastal waters? (8, 15, 35) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j. Draining of stormwater runoff or sewer overflows into coastal waters? (33) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials? (36, 39) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| l. Adverse effect upon land or water uses within the State's small harbors? (4) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2. Will the proposed activity affect or be located in, on, or adjacent to any of the following: YES / NO

- | | | |
|--|-------------------------------------|-------------------------------------|
| a. State designated freshwater or tidal wetland? (44) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17,) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. State designated significant fish and/or wildlife habitat? (7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. State designated significant scenic resource or area? (24) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. State designated important agricultural lands? (26) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f. Beach, dune or barrier island? (12) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g. Major ports of Albany, Buffalo, Ogdensburg, Oswego or New York? (3) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h. State, county, or local park? (19, 20) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| i. Historic resource listed on the National or State Register of Historic Places? (23) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

3. Will the proposed activity require any of the following: YES / NO

- | | | |
|--|-------------------------------------|-------------------------------------|
| a. Waterfront site? (2, 21, 22) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (5) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Construction or reconstruction of a flood or erosion control structure? (13, 14, 16) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. State water quality permit or certification? (30, 38, 40) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. State air quality permit or certification? (41, 43) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

4. Will the proposed activity occur within and/or affect an area covered by a State approved local waterfront revitalization program? (see policies in local program document) ☒ ☐

1. If all of the questions in Section C are answered "NO", then the applicant or agency shall complete Section E and submit the documentation required by Section F.

E. CERTIFICATION

"The proposed activity complies with New York State's approved Coastal Management Program, or with the applicable approved local waterfront revitalization program, and will be conducted in a manner consistent with such program."

Address: 10000 State Street, Apartment 22

Telephone: Area Code ()

Applicant/Agent's Signature: _____ Date: _____

F. SUBMISSION REQUIREMENTS

1. The applicant or agent shall submit the following documents to the **New York State Department of State, Office of Coastal, Local Government and Community Sustainability, Attn: Consistency Review Unit, 1 Commerce Plaza, 99 Washington Avenue - Suite 1010, Albany, New York 12231.**

- a. Copy of original signed form.
- b. Copy of the completed federal agency application.
- c. Other available information which would support the certification of consistency.

2. The applicant or agent shall also submit a copy of this completed form along with his/her application to the federal agency.

3. If there are any questions regarding the submission of this form, contact the Department of State at (518) 474-6000.

*These state and local documents are available for inspection at the offices of many federal agencies, Department of environmental Conservation and Department of State regional offices, and the appropriate regional and county planning agencies. Local program documents are also available for inspection at the offices of the appropriate local government.

Attachment C

Detailed Project Description and Policy Analysis

Federal Consistency Assessment Form: Assessment of Effects

Re: Saugerties Lighthouse restoration – Village of Saugerties, Ulster County, New York

2.a. State designated freshwater or tidal wetland (44).

Policy 44 applies – Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.

- The project area lies adjacent to the Hudson River, which is classified as Riverine in the National Wetlands Inventory and may contain wetlands along the edges of the main waterway. However, the construction of the proposed improvements would take place within the existing footprint of previous shoreline development. The lighthouse dock area is within the 100-foot protected wetland buffer area for state designated freshwater and tidal wetlands. In order to avoid impacts to wetlands, the work area would be minimized and temporary fencing/barricades would be installed at the perimeter of the dock to contain potential impacts to adjacent waters. The proposed improvements would disturb less than one acre of land and therefore the Village would not have to apply for coverage under NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-15-002. With the incorporation of these impact mitigation measures, additional impacts to freshwater wetlands would not occur. Therefore, it is anticipated that the proposed project is consistent with this policy.

2.b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17)

Policy 11 Applies - Buildings and other structures will be sited in the coastal area so as to minimize damage to property and the endangering of human lives caused by flooding and erosion.

Policy 12 Applies - Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.

- According to FIRM panel 36111C0310E dated September 25, 2009, the project lies within a Special Flood Hazard Area Zone AE. This is a 100 year floodplain. No alterations to floodplains would occur. Overall the project should reduce the risk of damage from future floods through improvements which would stabilize the existing shoreline. The Project components located within the floodplain would provide enhanced protection from erosion and project construction activities and would not impact floodplain values. Therefore, it is anticipated that the proposed project is consistent with this policy.

2.c. State designated significant fish and/or wildlife habitat? (7)

Policy 7 Applies – Significant coastal fish and wildlife habitats will be protected, preserved, and where practical, restored so as to maintain their viability as habitats.

- According to the New York State Department of Environmental Protection (NYSDEC) Natural Heritage Program (NHP), several rare or state-listed animals and plants, and significant natural communities occur in the vicinity of the Project site:

- The Shortnose Sturgeon and the Atlantic Sturgeon, both listed Endangered species, have been documented in the Hudson River and the lower portion of Hudson River Tributaries. Esopus Creek discharges to the Hudson River, approximately one mile east of the Project site.
- The state-listed Threatened Bald Eagle has been documented within ½ mile of the Saugerties Lighthouse, and may travel one mile from documented locations.
- Heartleaf Plantain is identified as a Rare plant species that is present in Saugerties Marsh, around the mouth of Esopus Creek.
- The Saugerties Marsh, around the mouth of Esopus Creek is identified by the NHP as having significant natural communities including freshwater tidal marsh, freshwater intertidal mudflats, and freshwater tidal swamp. These features are high quality occurrences of rare community types.
- The NHP also identifies the Esopus Estuary, Saugerties Marsh: tidal marsh and deepwater section as having significant concentrations of anadromous fish and winter waterfowl. Water quality impacts which could adversely impact the species and significant habitats identified above are not anticipated. However, the project is subject to the NYSDEC Stream Protection Act, Environmental Conservation Law (Article 15, Title 5), which was enacted to minimize disturbances to the beds and banks of certain protected streams in order to protect fish and wildlife and their habitats. Therefore, it is anticipated that the proposed project is consistent with this policy.

2.d. *State designated significant scenic resource or area? (24)*

Policy 24 Applies – Prevent impairment of scenic resources of statewide significance.

- The Project is located within a Scenic Area of Statewide Significance (SASS), as identified by the New York State Department of State in 1933 (reprinted in 2004). The project is within the Ulster North SASS, which encompasses a ten-mile stretch of the Hudson River and its western shorelands varying from 1.25 to 2.5 miles in width. The boundary of the SASS follows the coastal area boundary through the Village of Saugerties and therefore includes the Project Site. The Ulster North SASS is a highly scenic and valued portion of the Hudson River Valley, rich in natural beauty, cultural and historic features. The project will not impair scenic resources associated with this SASS. Rather, the Project will improve deteriorating features and stabilize the shoreline in order to preserve and improve the scenic resources in the immediate vicinity.

2.h. *State, county, or local park? (19, 20)*

Policy 20 Applies – Access to the publicly-owned foreshore and to lands immediately adjacent to the foreshore or the water's edge that are publicly-owned shall be provided and it shall be provided in a manner compatible with adjoining uses.

- The Project would benefit the residents of the Village of Saugerties by providing for enhanced access to the existing historic lighthouse. Implementation of the Project would increase the storm resiliency of this public amenity and improve access to the recreational resources available there, while also protecting natural resources.

2.i. *Historic resource listed on the National or State Register of Historic Places? (23, 24, 25)*

Policy 23 Applies – Protect, enhance and restore structures, districts, areas or sites that are of significance in the history, architecture, archaeology or culture of the state, its communities, or the nation.

- The Project would restore and protect the historic lighthouse at Saugerties, which experienced flooding caused by overflows of Esopus Creek and its tributaries, as well as storm surges from the Hudson River. During Superstorm Sandy, storm surge from the Hudson River damaged the dike that protects the harbor channel, which has exposed and endangered the historic lighthouse's stone foundations through exposure to the Hudson River's wave action. The storm also damaged bulkheads, piers, and the dock that serves the lighthouse. The lighthouse was constructed in 1869, is the oldest surviving lighthouse residence on the Hudson River, and is listed on the National Register of Historic Places. The lighthouse is a National Registered Historic Place (Reference #79001642).

3.c. *Construction or reconstruction of a flood or erosion control structure? (13, 14, 16)*

Policy 13 Applies - The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.

- The rising and falling tidal waters in the Hudson River have created voids within the perimeter of the sea wall surrounding the historic lighthouse. A new wooden bulkhead will be designed along the south side of the sea wall to replace the former wooden bulkhead which is deteriorated and no longer providing any protection to the sea wall. The large concrete pier located on the south side of the deck area has been undermined over the years by water and wave action. The base under the concrete pier will be restored and broken sections of the concrete pier secured. The floating wooden dock located to the southwest of the Lighthouse will be repaired. The wooden floating dock is in need of repairs to its framing, the pipe anchors supporting the floating dock and the wooden deck. These activities would provide enhanced protection of the historic lighthouse from coastal storm surges and flooding events, a goal which is consistent with the Village of Saugerties' Local Waterfront Revitalization Plan. Project benefits would include disaster risk reduction through shoreline stabilization, which would increase the storm resiliency of this public amenity and reduce the risk of flooding and flood damage from future storms. Therefore, it is anticipated that the proposed project is consistent with this policy.

3.d. *State water quality permit or certification? (30, 38, 40)*

Policy 38 Applies - The quality and quantity of surface water and groundwater supplies will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply.

- Due to ground disturbing activities during construction, the project would require a New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Storm Water Discharges from Construction Activity, which would include an Erosion and Sediment Control Plan and Storm Water Pollution Prevention Plan (SWPPP). Short-term, temporary impacts to water quality may result during construction. Mitigation measures would include best management practices for soil erosion and sediment control. The SWPPP would identify best management practices that

would be employed for construction stormwater management. Therefore, it is anticipated that the proposed project is consistent with this policy.

4. *Will the proposed activity occur within and/or affect an area covered by a State approved local waterfront revitalization program?*

- The Village of Saugerties Local Waterfront Revitalization Program (LWRP) was approved in 1985, and is a locally prepared comprehensive land and water use plan for the Village's natural, public, and developed waterfront resources along the Hudson River. The LWRP includes generally the same policies as the State's Coastal Management Program, discussed above.

July 20, 2017

Ms. Alicia Schultz
Senior Environmental Specialist
New York State Homes & Community Renewal
38-40 State Street, 408N, Hampton Plaza
Albany, New York 12207

Re: F-2017-0556(FA)
U.S. Department of Housing and Urban
Development
Saugerties Lighthouse Restoration
Hudson River, Village of Saugerties, Ulster County
General Concurrence - No Objection to Funding

Dear Ms. Schultz:

The Department of State received the information you submitted regarding the above matter on June 8, 2017.

The Department of State has determined that this proposal meets the Department's general consistency concurrence criteria. Therefore, the Department of State has no objection to the use of HUD funds for this financial assistance activity. This concurrence pertains to the financial assistance activity for this project only. If federal permits or other form of federal agency authorization is required for this activity, the Department of State will conduct a separate review for those permit activities. In such a case, please forward a copy of the federal application for authorization, a completed Federal Consistency Assessment Form, and all supporting information to the Department at the same time it is submitted to the federal agency from which the necessary authorization is requested.

When communicating with us regarding this matter, please contact Jeffrey Zappieri at (518) 474-6000 and refer to our file #F-2017-0556(FA).

Sincerely,



Jeffrey Zappieri
Supervisor, Consistency Review Unit
Office of Planning and Development

JZ/dc

cc: COE/New York District – Brian Orzel
DEC/Region 3 – John Petronella
Village of Saugerties – Hon. William Murphy



Department
of State

APPENDIX D – NEW YORK STATE NHP AND USFWS CORRESPONDENCE

NYSDEC NHP Response and Consultation

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

May 19, 2017

Alicia Shultz
Governor's Office of Storm Recovery
38-40 State Street
Albany, NY 12207

Re: Repair of support structures adjacent to Saugerties Lighthouse, 168 Lighthouse Drive,
Village of Saugerties
County: Ulster Town/City: Saugerties

Dear Ms. Shultz:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, at dep.r3@dec.ny.gov, (845) 256-3054.

Sincerely,



Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program



**The following state-listed animals have been documented
at the project site or in its vicinity.**

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for the project, please contact the Permits staff at the NYSDEC Region 3 Office at dep.r3@dec.ny.gov, (845) 256-3054. For information about potential impacts of the project on these species, and how to avoid, minimize, or mitigate any impacts, contact: for eagles -- Region 3 Wildlife staff at Wildlife.R3@dec.ny.gov, (845) 256-3098; for sturgeon -- Hudson River Fisheries Unit, HudsonRiverFish@dec.ny.gov, (845) 256-3071.

The following species have been documented in the Hudson River.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>	
Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	Endangered No	Endangered	1091
Atlantic Sturgeon	<i>Acipenser oxyrinchus</i>	Open Season	Endangered	11464

The following species has been documented nesting within .5 mile of the project site.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>	
Bald Eagle <i>Nesting</i>	<i>Haliaeetus leucocephalus</i>	Threatened		13818

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.



The following rare plants, rare animals, and significant animal concentration areas have been documented at the project site, or in its vicinity.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following plant are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
Heartleaf Plantain	<i>Plantago cordata</i>	Rare	Vulnerable in NYS

Saugerties Marsh, shore of Hudson River at south side of mouth of Esopus River, 1988-09-09: Small marsh, extensive sections of *Nuphar* followed by a 10-15 m band of *Typha*, *Zizania* and *Scirpus*.

9344

The following significant natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. They are either occurrences of a community type that is rare in the state, or a high quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME	HERITAGE CONSERVATION STATUS
Freshwater Tidal Marsh	High Quality Occurrence of Rare Community Type

Saugerties Marsh, both sides of mouth of Esopus River: Good condition, site disturbed by bulkheads and riprap.

4570

Freshwater Intertidal Mudflats	High Quality Occurrence of Rare Community Type
---------------------------------------	--

Saugerties Marsh, both sides of mouth of Esopus River: Small, very low diversity.

5799

The following animal concentration areas are considered to be of state significance, and are of conservation concern to the state.

Hudson River and Esopus River around mouth of Esopus River: Tidal marsh and deepwater section.

Anadromous Fish Concentration Area

8999

Waterfowl Winter Concentration Area

5710

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.



Governor's Office of Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

By electronic mail

April 28, 2017

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program – Information Services
625 Broadway, 5th Floor
Albany, New York 12233-4757
VIA EMAIL: nick.conrad@dec.ny.gov

Re: Natural Heritage Compliance Process for the Saugerties Lighthouse, Saugerties, Ulster County, NY

Dear Mr. Conrad:

The Governor's Office of Storm Recovery (GOSR), acting under the auspices of New York State Homes and Community Renewal's (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the Department of Housing & Urban Development (HUD), is conducting environmental reviews under HUD's environmental review regulations (24 CFR Part 58) and New York State's Environmental Quality Review Act (SEQRA) for exterior infrastructure repairs to the Saugerties Lighthouse (see the attached plan set).

The proposed Project will repairing existing support structures including bulkheads, docks, a pier, and seawall adjacent to Saugerties Lighthouse, 168 Lighthouse Drive, near the end of the Lighthouse trail on the Hudson river, Village of Saugerties, NY.

Program Overview

During Hurricane Irene, Tropical Storm Lee, and Superstorm Sandy, the Saugerties Lighthouse experienced flooding caused by overflows of Esopus Creek and its tributaries, as well as storm surges from the Hudson River. During Superstorm Sandy, storm surge from the Hudson River damaged the dike that protects the harbor channel, which has exposed and endangered the historic lighthouse's stone foundations through exposure to the Hudson River's wave action. The storm also damaged bulkheads, piers, and the dock that serves the lighthouse. The Saugerties Lighthouse was constructed in 1869, is the oldest surviving lighthouse residence on the Hudson River, and is listed on the National Register of Historic Places.

There are four restoration work items at the Saugerties Lighthouse that are prioritized as follows:

- Stabilize the sea wall by filling in the voids that have developed inside the perimeter of the sea wall and repointing the stones of the sea wall.

- Rebuild the bulkhead on the south side of the sea wall
- Stabilize the concrete pier located on the south side of the deck area
- Make repairs to the floating dock including repairs to the framing, anchors and deck.

The rising and falling tidal waters in the Hudson River have created voids within the perimeter of the sea wall. The design will develop a grouting plan to fill the void areas. A new wooden bulkhead will be designed along the south side of the sea wall to replace the former wooden bulkhead which is deteriorated and no longer providing any protection to the sea wall. The subsurface soil/rock conditions in the vicinity of the former bulkhead will be defined by installing soil borings. The large concrete pier located on the south side of the deck area has been undermined over the years by water and wave action. The base under the concrete pier will be restored and broken sections of the concrete pier secured. The floating wooden dock located to the southwest of the Lighthouse will be repaired. The scope of the wooden floating dock repairs will be dependent on the construction monies. The wooden floating dock is in need of repairs to its framing, the pipe anchors supporting the floating dock and the wooden deck.

All work will be completed in accordance with local and federal permit requirements.

Compliance

According to information reviewed from the New York State Environmental Resource Mapper (ERM), rare plants or animals could exist in the in the project area (attached). The Project would involve ground disturbance, but tree removal is not anticipated for the project. Therefore, GOSR respectfully requests that the New York Natural Heritage Program review its records of concern for any rare or state-listed animals or plants or significant natural communities at this site or in its immediate vicinity.

According to the USFWS IPaC Trust Resource Report, there is one threatened and endangered species that is potentially associated with the project site the Northern long-eared bat (NLEB) and Indiana bat, respectively. In addition, there are several migratory birds of concern that could potentially be affected by the proposed project. There is no critical habitat in the project area.

If you have questions or require additional information regarding this request, please contact me at (518) 474-0647 or Alicia.Shultz@nyshcr.org. Thank you for your time and consideration.

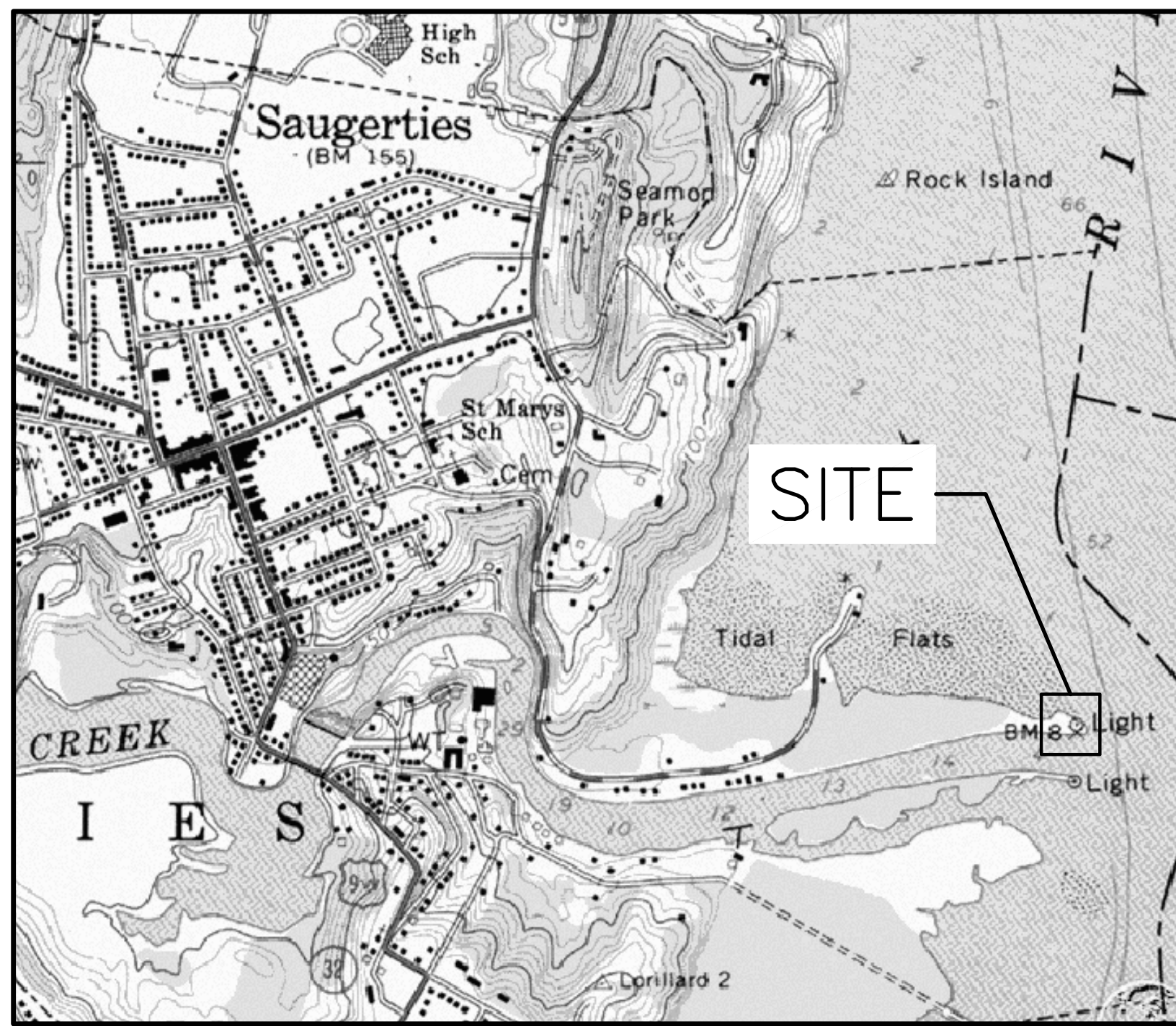
Sincerely,



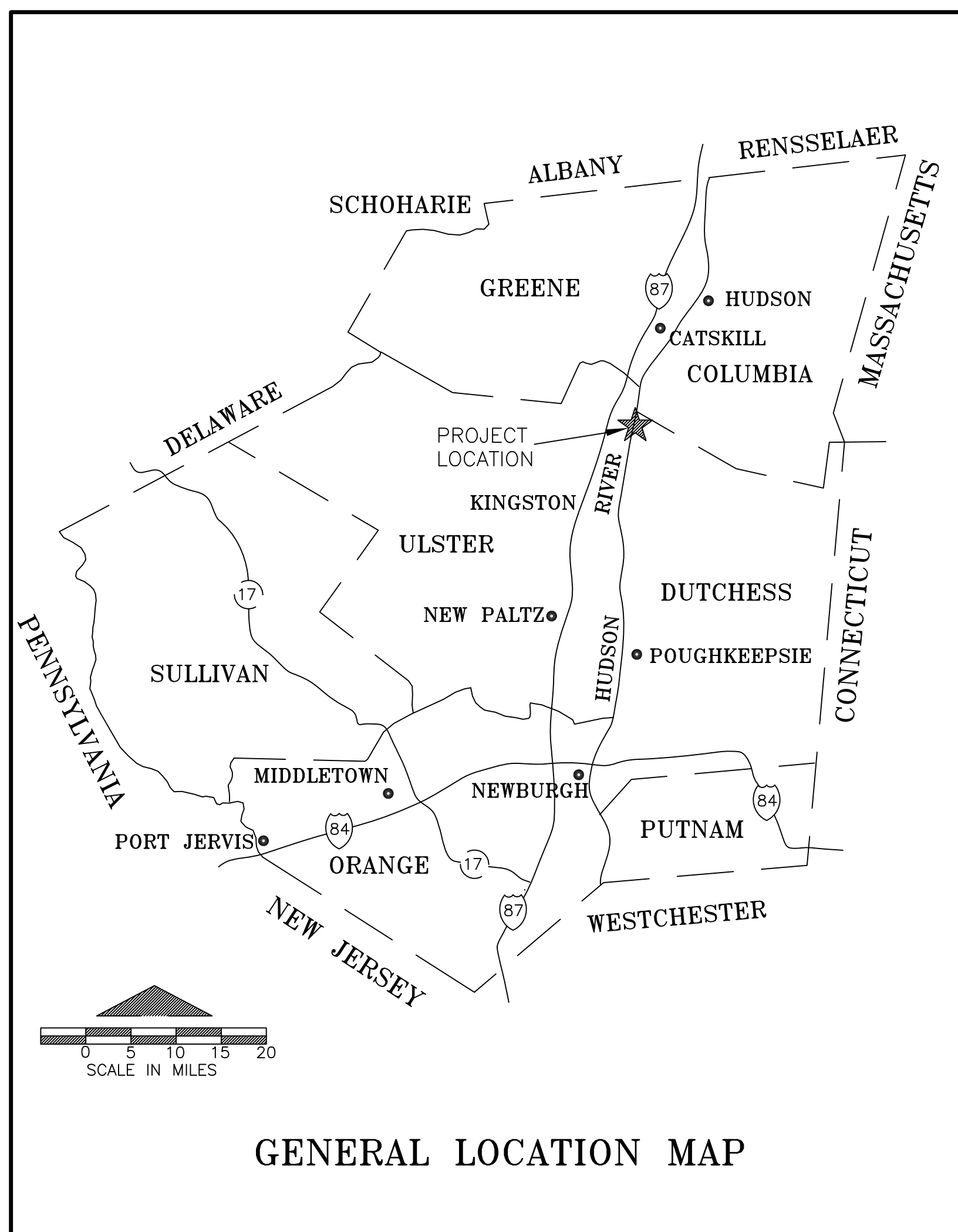
Alicia Shultz
Senior Environmental Scientist
Governor's Office of Storm Recovery
NYS Homes and Community Renewal

Attachments

Plan Set
Resource Mapper Figures and Summary
IPaC



LOCATION MAP
SCALE 1" = 1000'



CONTRACT VSA-172

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE

FUNDED BY
NEW YORK STATE HISTORIC PRESERVATION
AND
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNOR'S OFFICE OF STORM RECOVERY

VILLAGE OF SAUGERTIES ULSTER COUNTY NEW YORK

VILLAGE OFFICIALS

WILLIAM MURPHY, MAYOR

TRUSTEES

JEANNINE MAYER
DONALD HACKETT
VINCENT BRUNO
BRIAN MARTIN
TERRY PARISIAN

LISA MAYONE, VILLAGE CLERK

EYAL SAAD, PROJECT MANAGER

30% DESIGN
MARCH 2017

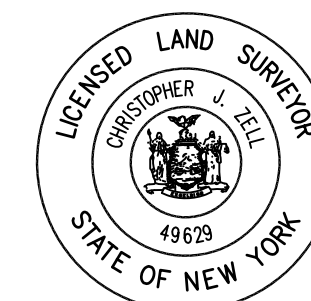


Know what's below.
Call before you dig.

BRINNIER AND LARIOS, P. C.
PROFESSIONAL ENGINEERS AND LAND SURVEYORS
67 MAIDEN LANE
KINGSTON, NEW YORK
(845) 338-7622

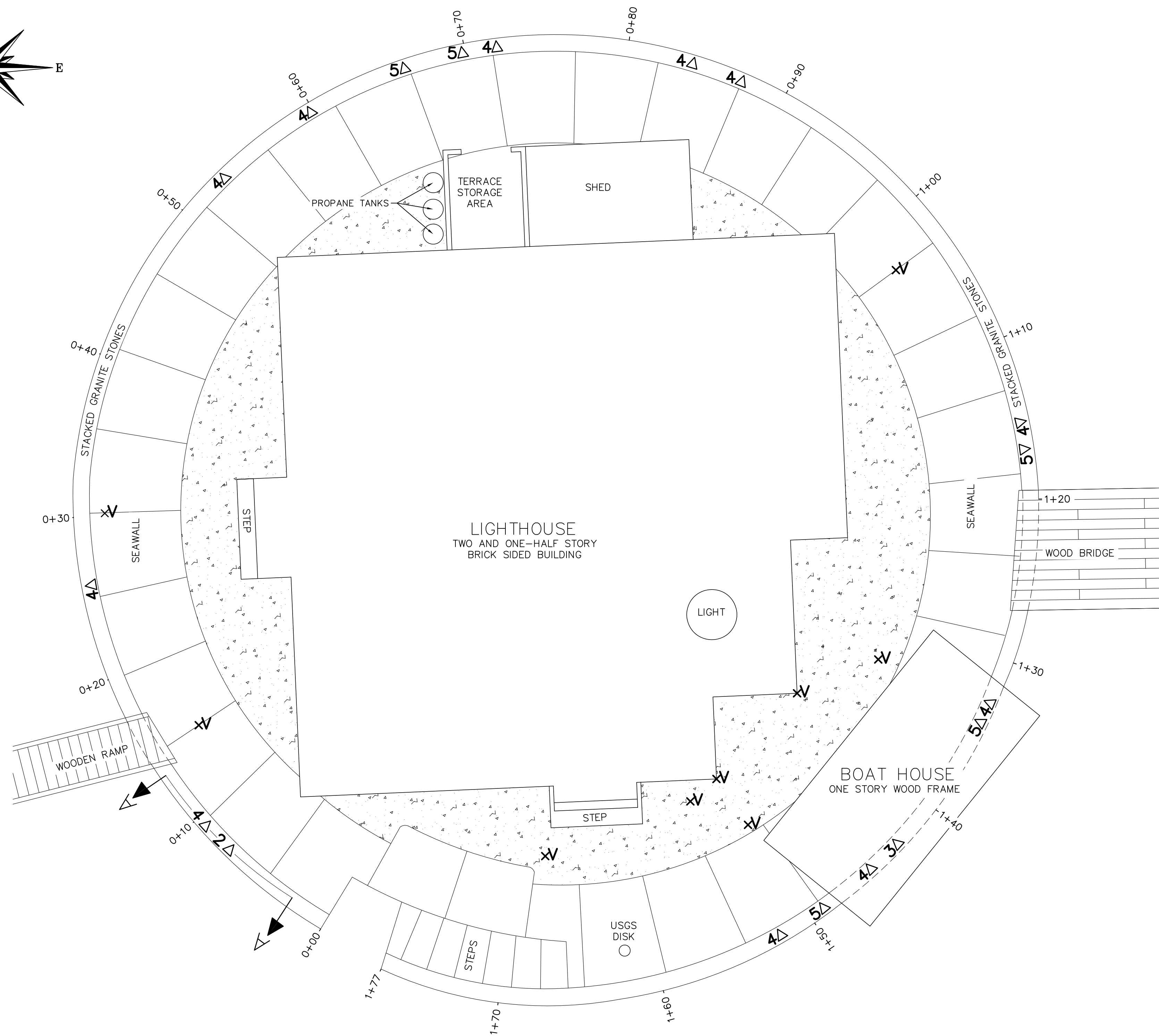
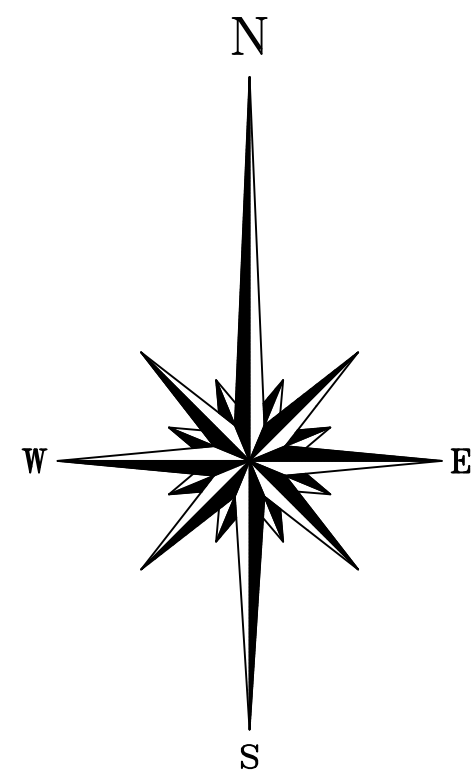


Unauthorized alteration or addition to a plan
bearing a licensed engineer's seal is a
violation of section 7209, subdivision 2, of the
New York State Education Law.



INDEX OF DRAWINGS

<u>SHEET NO.</u>	<u>DRAWING</u>
1.	COVER
2.	EXISTING CONDITIONS
3.	OVERALL PROJECT PLAN
4.	SEA WALL RESTORATION
5.	BULKHEAD RESTORATION
6.	PIER STABILIZATION
7.	FLOATING DOCK REPAIRS

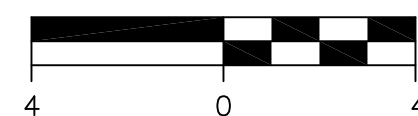


SEAWALL RESTORATION PLAN
SCALE: 1" = 4'

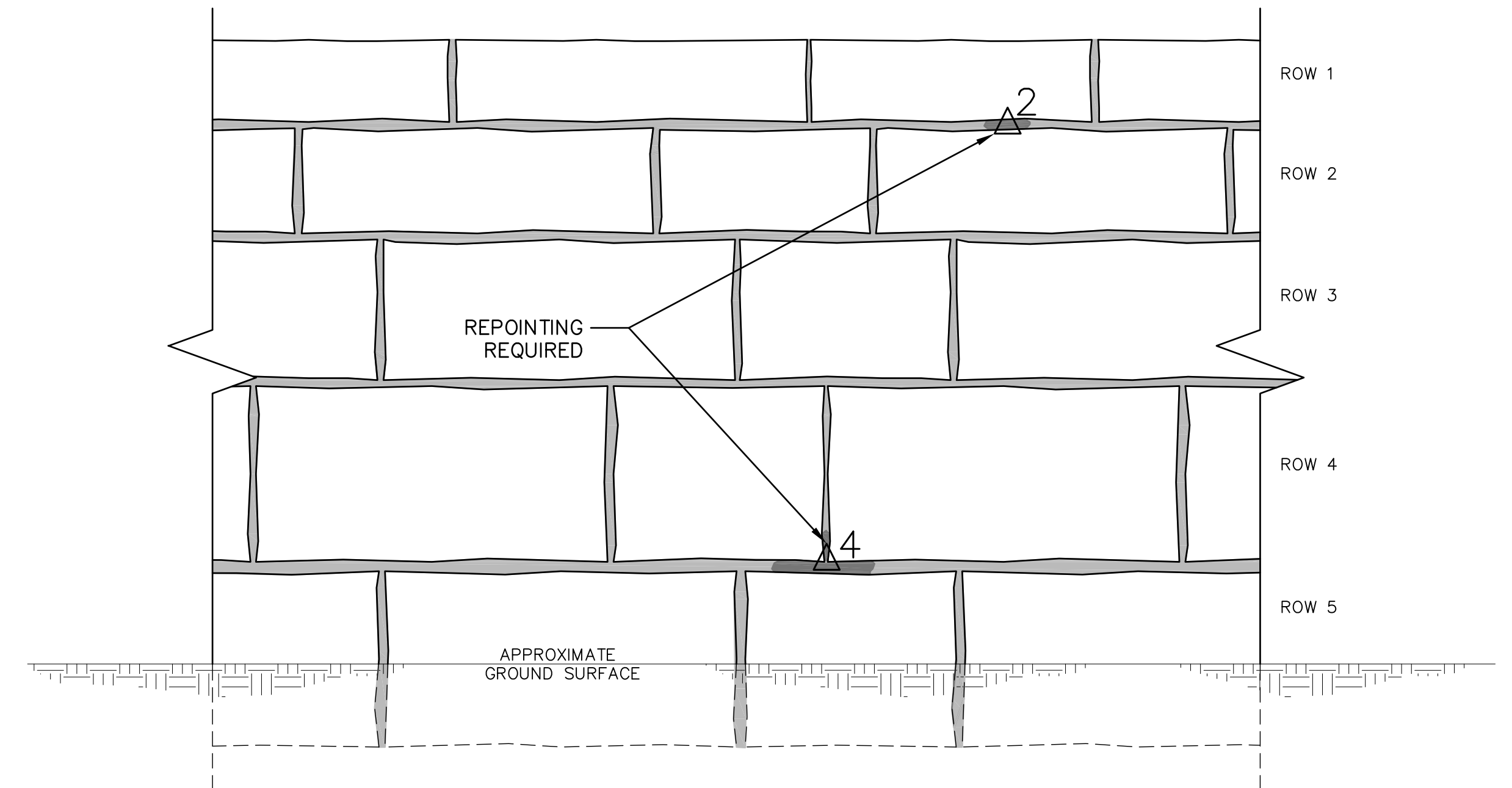
LEGEND

- △ 2 POINTING REQUIRED - ALONG THE 2ND COURSE
XV VOID AREA - TO BE PRESSURE GROUTED

GRAPHIC SCALE IN FEET



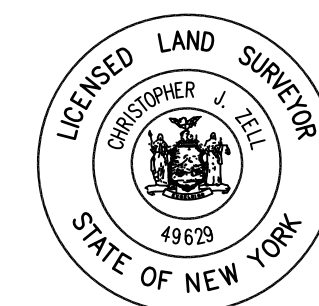
NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.



SECTION A-A
NOT TO SCALE

- NOTES:
1. LOCATIONS OF REPOINTING ARE APPROXIMATE AND MUST BE FIELD VERIFIED.
 2. CONTRACTOR SHALL THOROUGHLY INSPECT ALL STACKED GRANITE STONE MORTAR JOINTS. REMOVE ALL DETERIORATED MORTAR AND REPLACE WITH NEW MORTAR.
 3. ALL VOID AREAS SHALL BE FILLED PER TECHNICAL SPECIFICATION SECTION 03600.
 4. REPOINTING SHALL BE PERFORMED PER TECHNICAL SPECIFICATION SECTION 04500.

SEAWALL RESTORATION
CONTRACT NO. VSA-172



Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

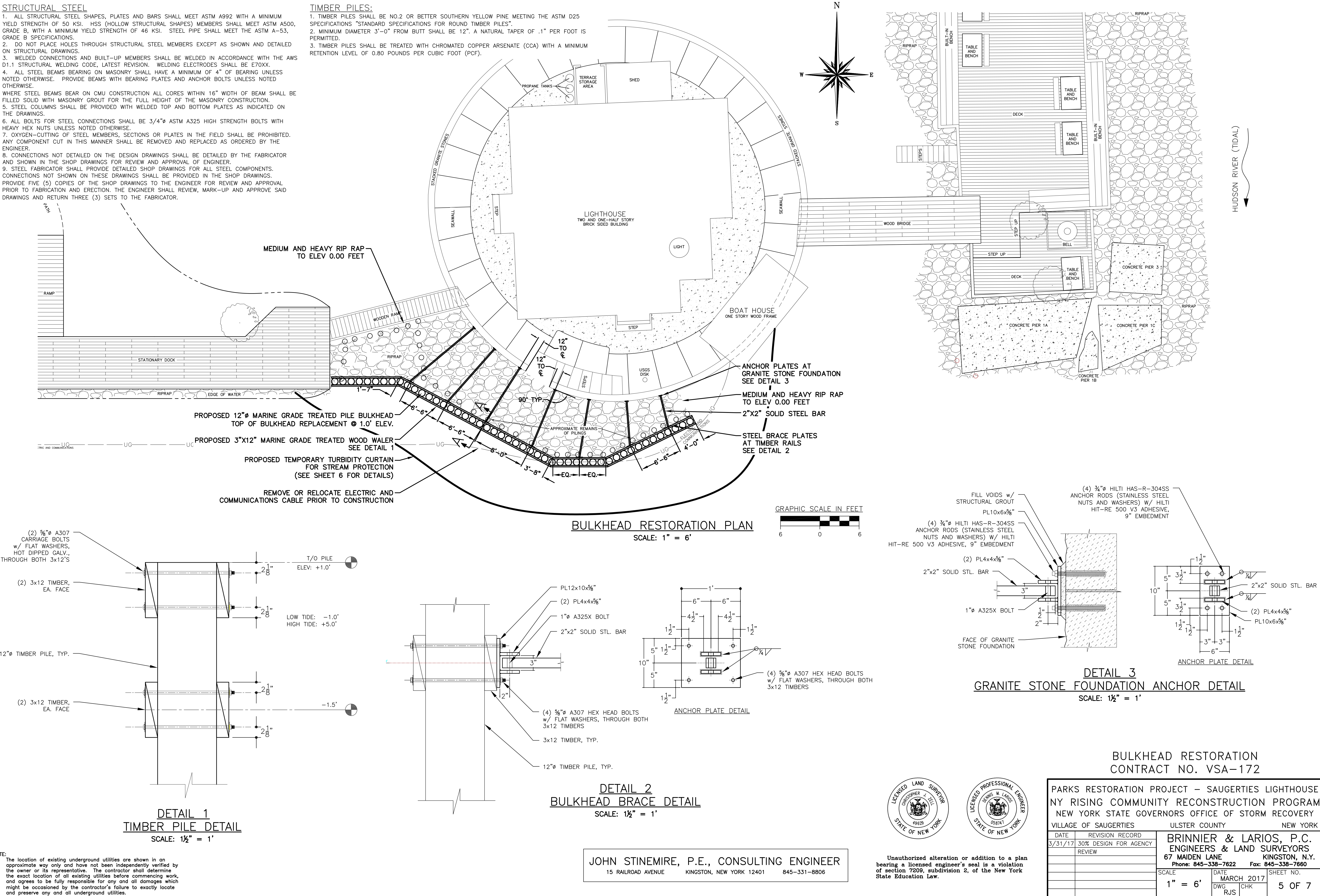
PARKS RESTORATION PROJECT - SAUGERTIES LIGHTHOUSE NY RISING COMMUNITY RECONSTRUCTION PROGRAM NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY NEW YORK	
DATE	REVISION RECORD	BRINNIER & LARIOS, P.C. ENGINEERS & LAND SURVEYORS 67 MAIDEN LANE KINGSTON, N.Y. Phone: 845-338-7622 Fax: 845-338-7660	
3/31/17	30% DESIGN FOR AGENCY REVIEW		
SCALE	DATE	SHEET NO.	
AS SHOWN	MARCH 2017	4 OF 7	
	DWG CHK RJS		

STRUCTURAL STEEL

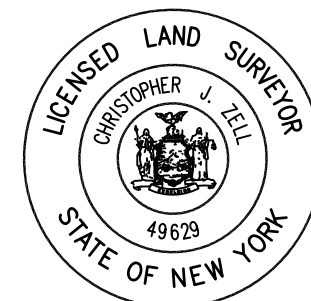
1. ALL STRUCTURAL STEEL SHAPES, PLATES AND BARS SHALL MEET ASTM A992 WITH A MINIMUM YIELD STRENGTH OF 50 KSI. HSS (HOLLOW STRUCTURAL SHAPES) MEMBERS SHALL MEET ASTM A500, GRADE B, WITH A MINIMUM YIELD STRENGTH OF 46 KSI. STEEL PIPE SHALL MEET THE ASTM A-53, GRADE B SPECIFICATIONS.
2. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
3. WELDED CONNECTIONS AND BUILT-UP MEMBERS SHALL BE WELDED IN ACCORDANCE WITH THE AWS D1.1 STRUCTURAL WELDING CODE, LATEST REVISION. WELDING ELECTRODES SHALL BE E70XX.
4. ALL STEEL BEAMS BEARING ON MASONRY SHALL HAVE A MINIMUM OF 4" OF BEARING UNLESS NOTED OTHERWISE. PROVIDE BEAMS WITH BEARING PLATES AND ANCHOR BOLTS UNLESS NOTED OTHERWISE.
- WHERE STEEL BEAMS BEAR ON CMU CONSTRUCTION ALL CORES WITHIN 16" WIDTH OF BEAM SHALL BE FILLED SOLID WITH MASONRY GROUT FOR THE FULL HEIGHT OF THE MASONRY CONSTRUCTION.
5. STEEL COLUMNS SHALL BE PROVIDED WITH WELDED TOP AND BOTTOM PLATES AS INDICATED ON THE DRAWINGS.
6. ALL BOLTS FOR STEEL CONNECTIONS SHALL BE 3/4"Ø ASTM A325 HIGH STRENGTH BOLTS WITH HEAVY HEX NUTS UNLESS NOTED OTHERWISE.
7. OXYGEN-CUTTING OF STEEL MEMBERS, SECTIONS OR PLATES IN THE FIELD SHALL BE PROHIBITED. ANY COMPONENT CUT IN THIS MANNER SHALL BE REMOVED AND REPLACED AS ORDERED BY THE ENGINEER.
8. CONNECTIONS NOT DETAILED ON THE DESIGN DRAWINGS SHALL BE DETAILED BY THE FABRICATOR AND SHOWN IN THE SHOP DRAWINGS FOR REVIEW AND APPROVAL OF ENGINEER.
9. STEEL FABRICATOR SHALL PROVIDE DETAILED SHOP DRAWINGS FOR ALL STEEL COMPONENTS. CONNECTIONS NOT SHOWN ON THESE DRAWINGS SHALL BE PROVIDED IN THE SHOP DRAWINGS. PROVIDE FIVE (5) COPIES OF THE SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND ERECTION. THE ENGINEER SHALL REVIEW, MARK-UP AND APPROVE SAID DRAWINGS AND RETURN THREE (3) SETS TO THE FABRICATOR.

TIMBER PILES:

1. TIMBER PILES SHALL BE NO.2 OR BETTER SOUTHERN YELLOW PINE MEETING THE ASTM D25 SPECIFICATIONS "STANDARD SPECIFICATIONS FOR ROUND TIMBER PILES".
2. MINIMUM DIAMETER 3'-0" FROM BUTT SHALL BE 12". A NATURAL TAPER OF .1" PER FOOT IS PERMITTED.
3. TIMBER PILES SHALL BE TREATED WITH CHROMATED COPPER ARSENATE (CCA) WITH A MINIMUM RETENTION LEVEL OF 0.80 POUNDS PER CUBIC FOOT (PCF).

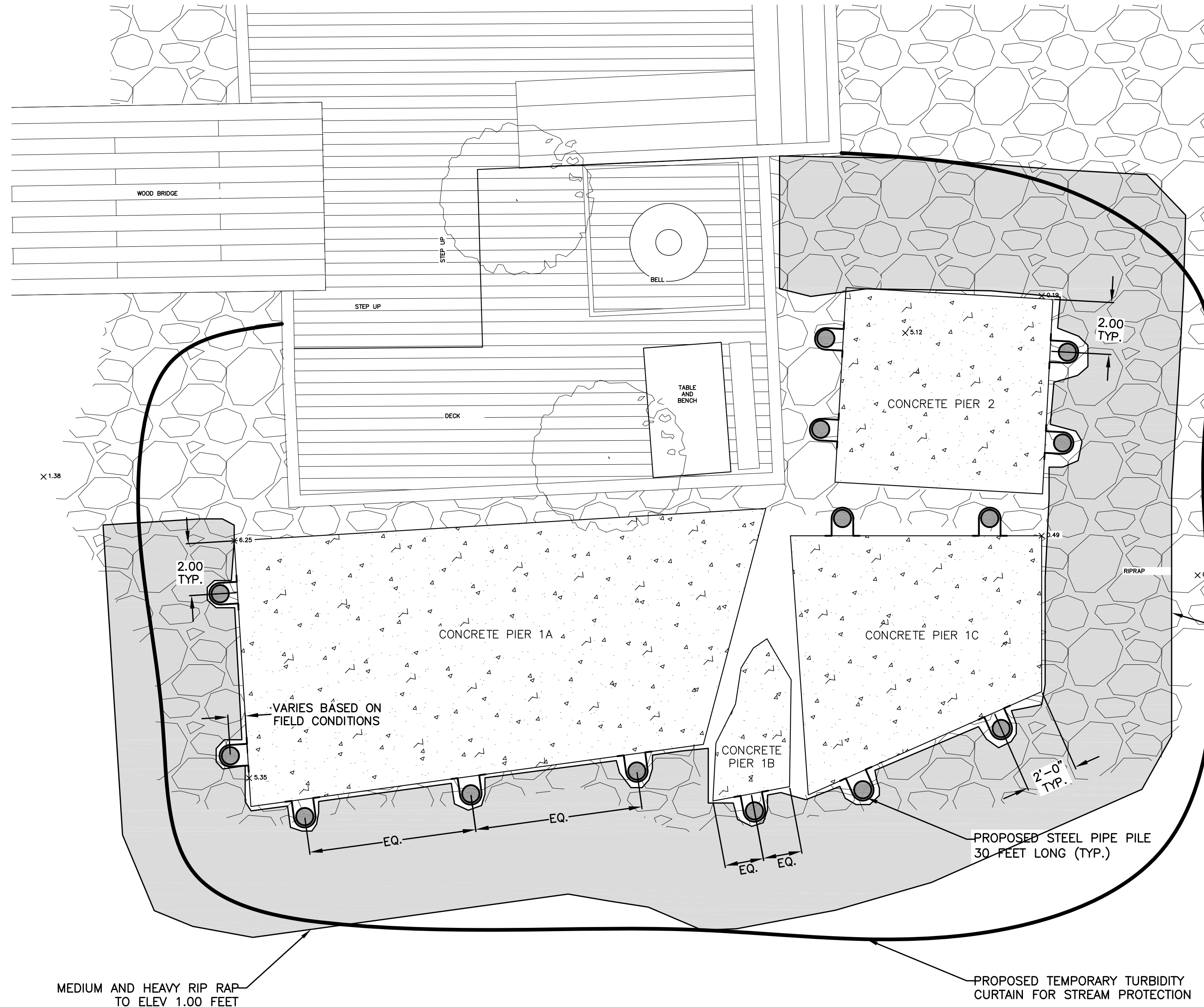
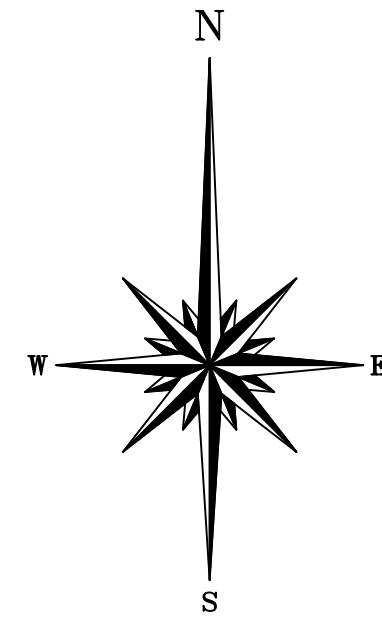


JOHN STINEMIRE, P.E., CONSULTING ENGINEER
15 RAILROAD AVENUE KINGSTON, NEW YORK 12401 845-331-8806

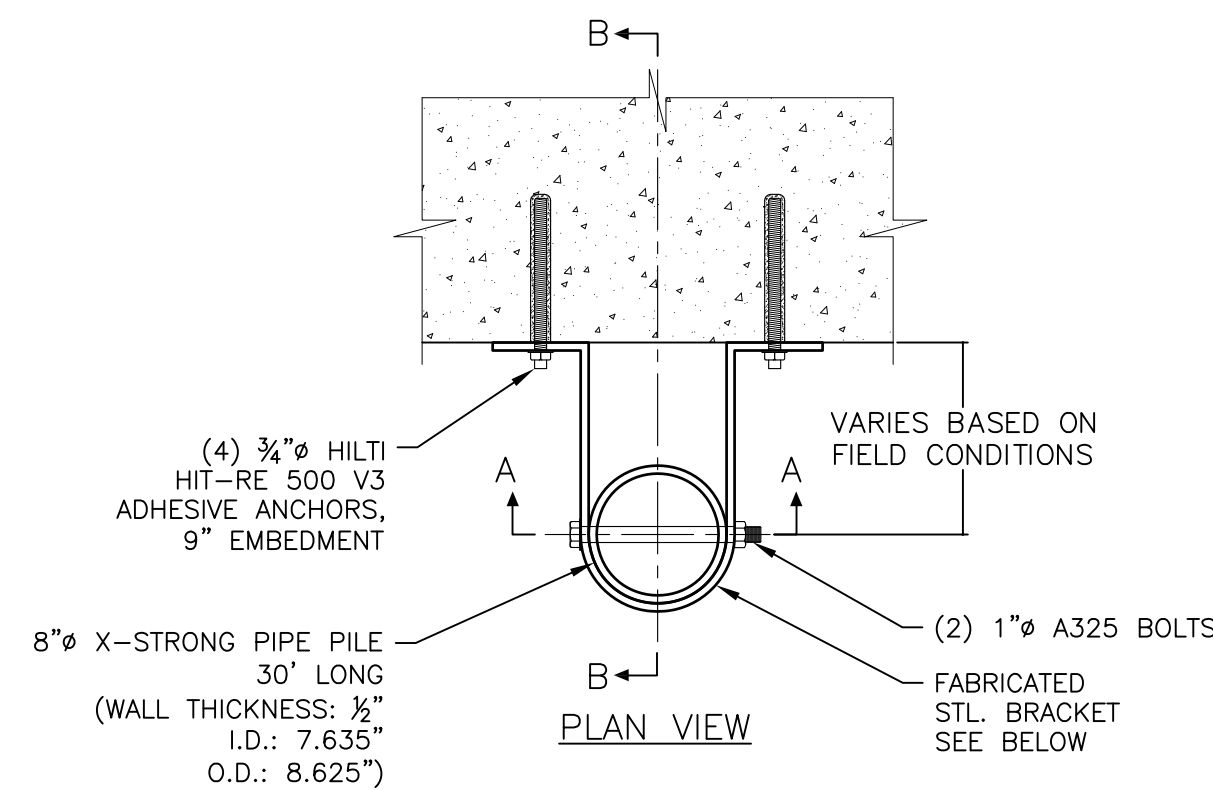


Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE			
NY RISING COMMUNITY RECONSTRUCTION PROGRAM			
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY	
DATE		REVISION RECORD	
3/31/17		30% DESIGN FOR AGENCY REVIEW	
DATE		SCALE	
MARCH 2017		1" = 6'	
DWG		CHK	
RJS		5 OF 7	

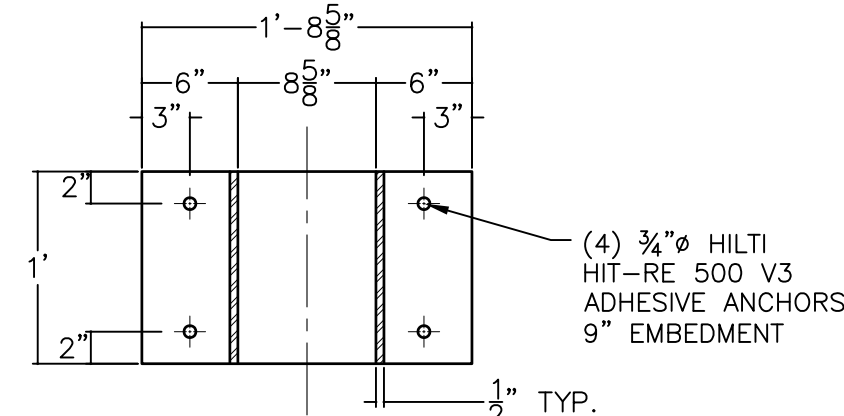


CONCRETE PIER STABILIZATION PLAN
SCALE: 1" = 2'



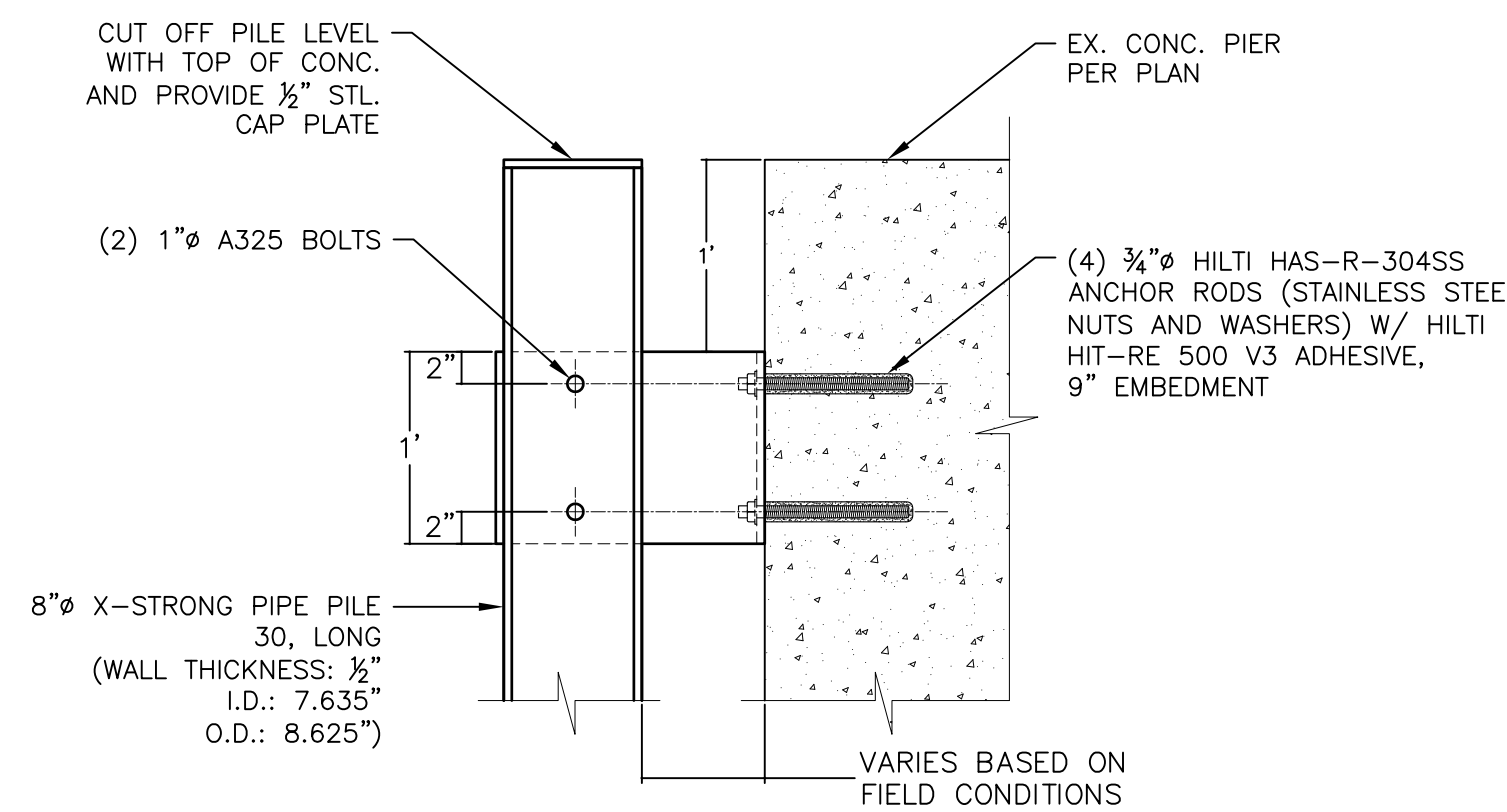
PIPE PILE DETAIL
SCALE: 1" = 1'

NOTES:
ALL STEEL BRACKETS AND COMPONENTS
TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
STAINLESS STEEL FASTENERS TO MEET ASTM A153.

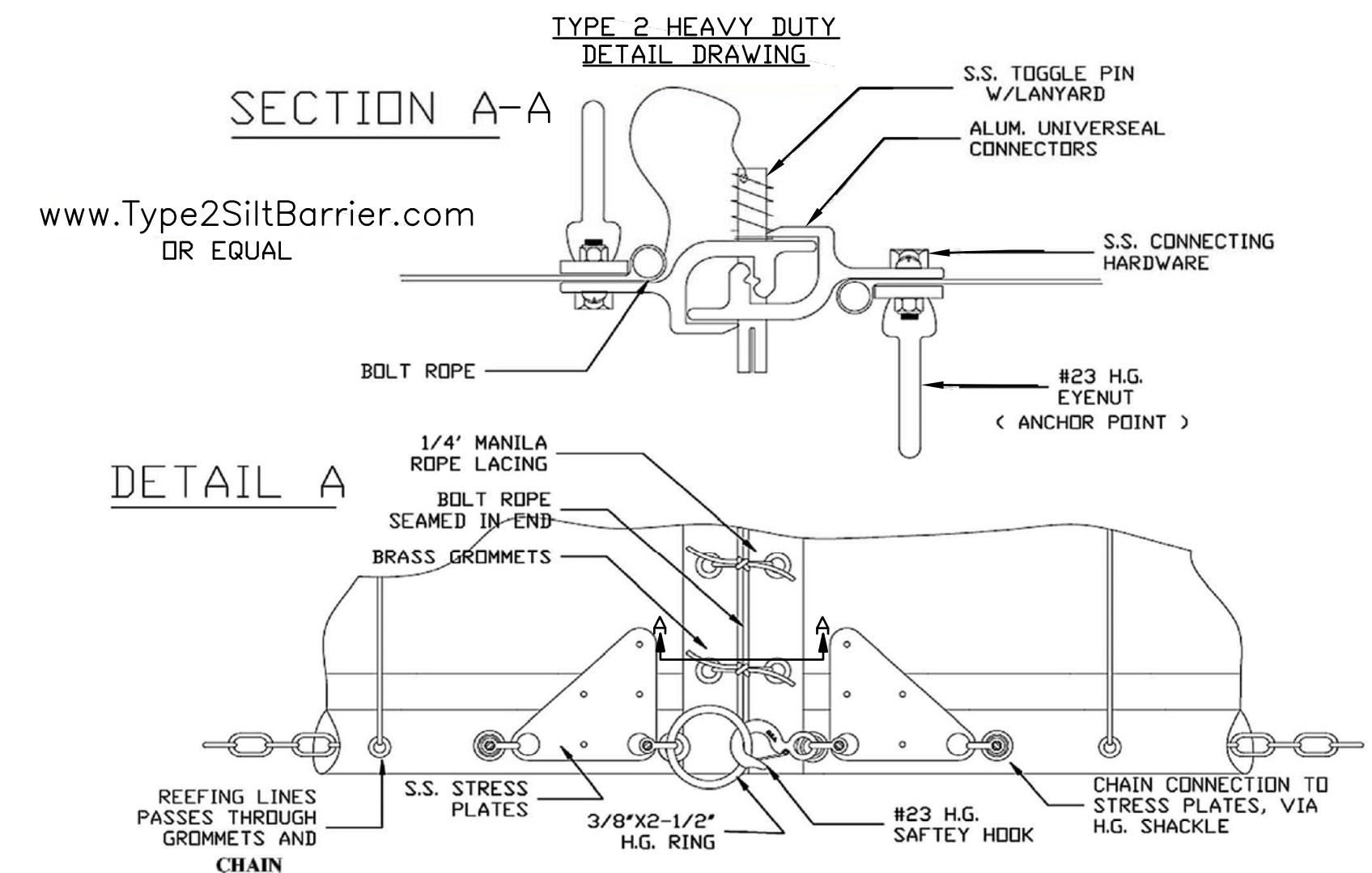
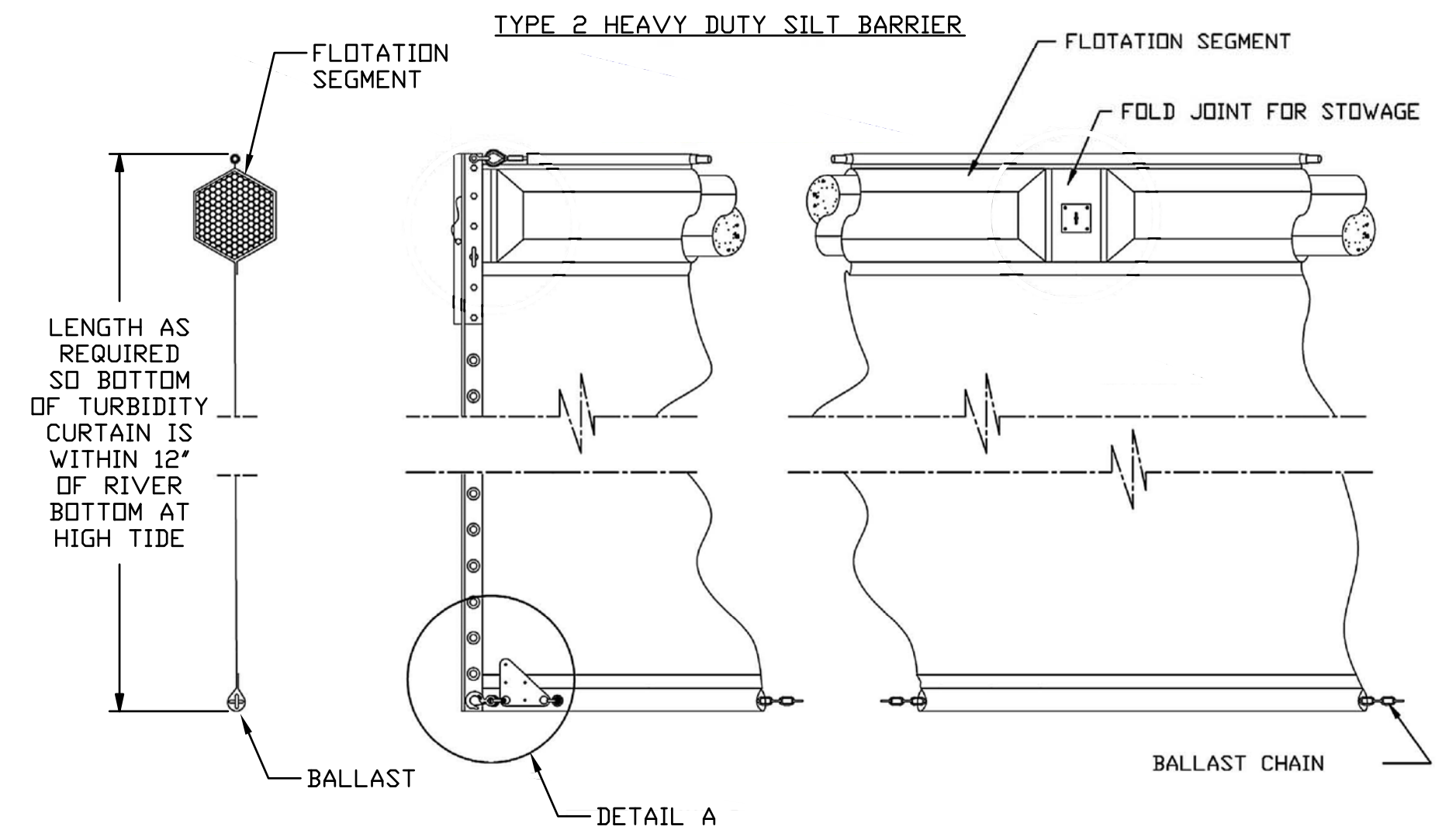


SECTION A-A
SCALE: 1" = 1'

NOTE:
PIPE NOT SHOWN
FOR CLARITY



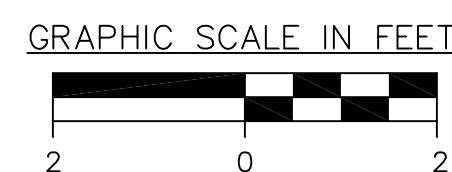
SECTION B-B
SCALE: 1" = 1'



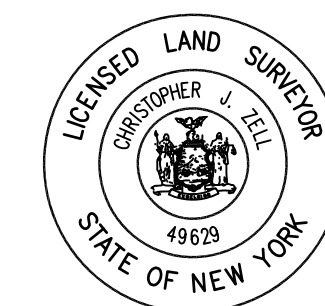
FLOATING SILT BARRIER DETAIL
NOT TO SCALE

CONCRETE PIER STABILIZATION
CONTRACT NO. VSA-172

NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

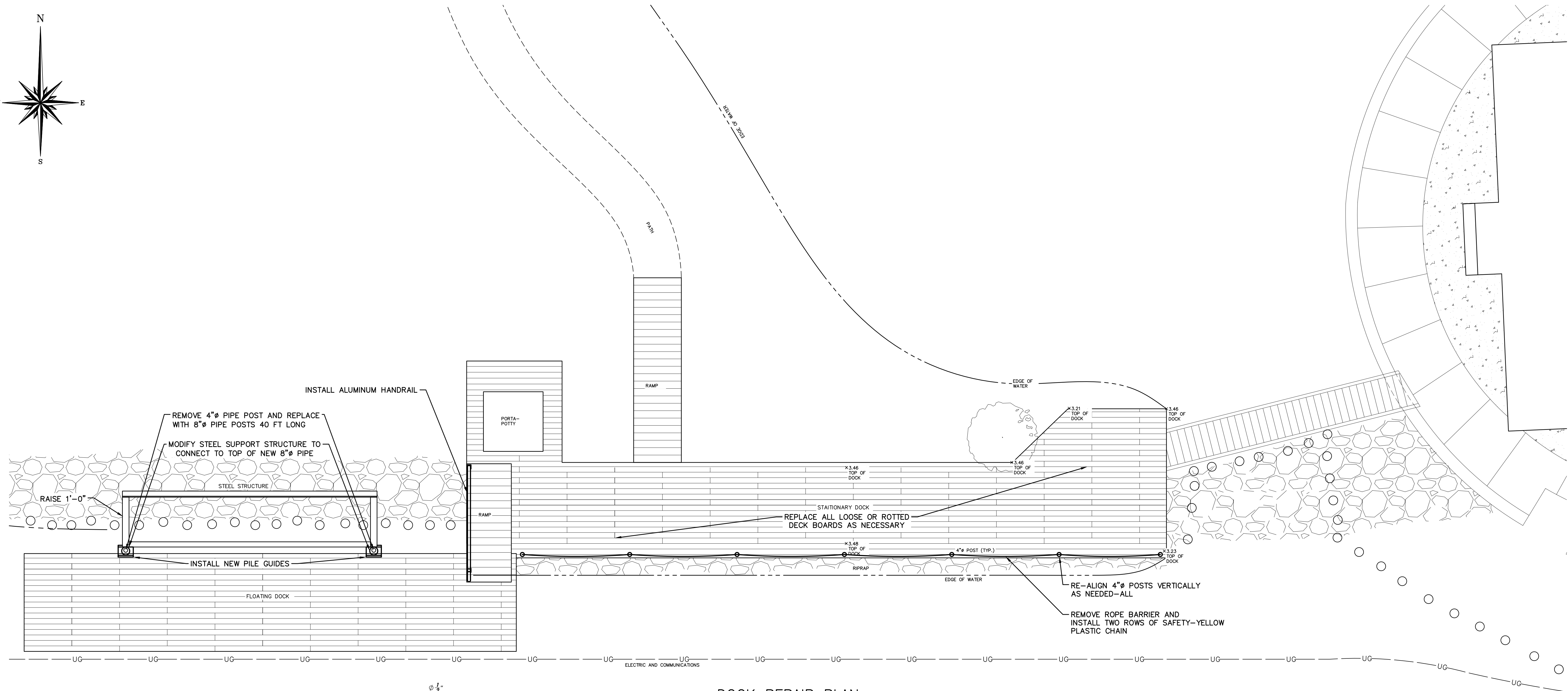
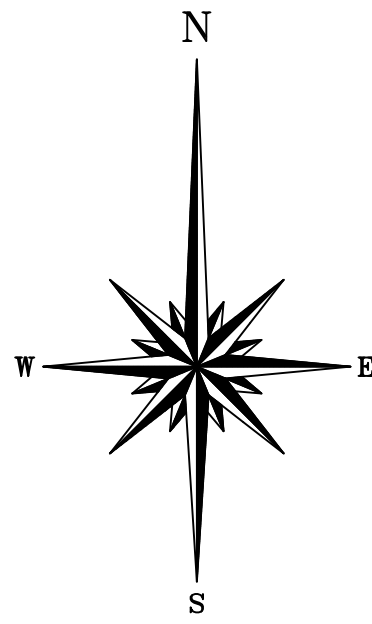


JOHN STINEMIRE, P.E., CONSULTING ENGINEER
15 RAILROAD AVENUE KINGSTON, NEW YORK 12401 845-331-8806

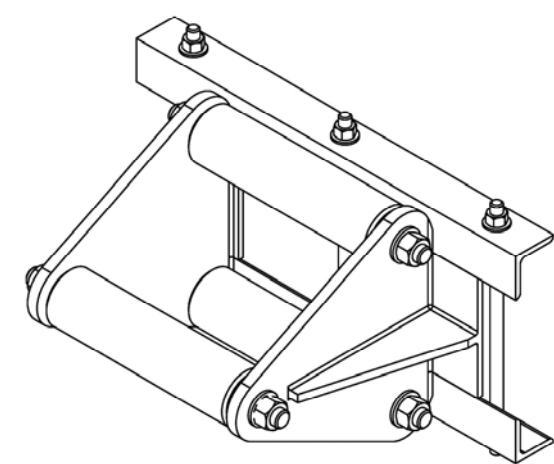


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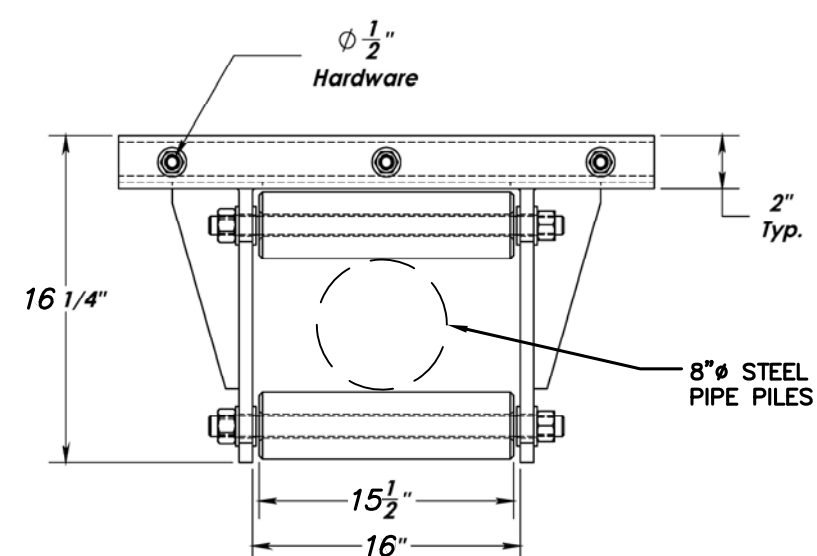
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1" = 2'	MARCH 2017	6 OF 7	
	DWC	CHK	
	RJS		



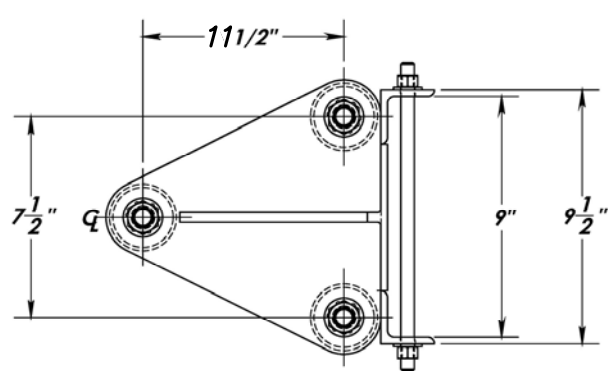
DOCK REPAIR PLAN
SCALE: 1" = 3'



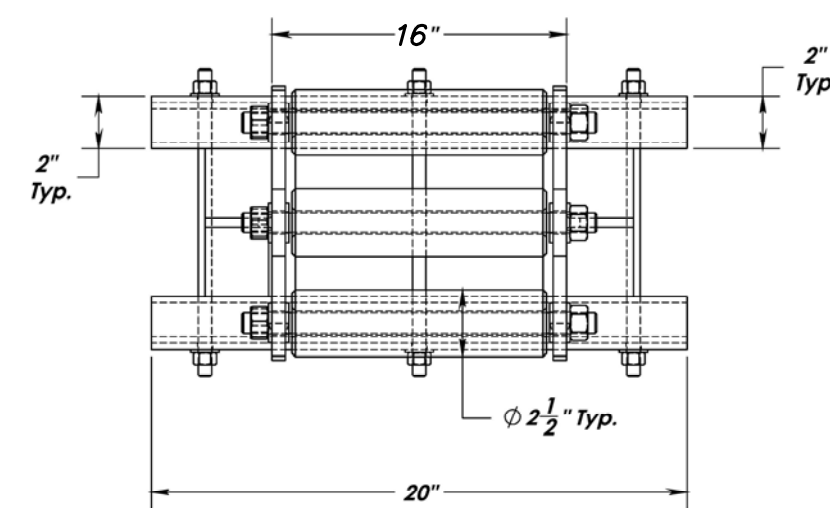
ISOMETRIC VIEW



TOP VIEW

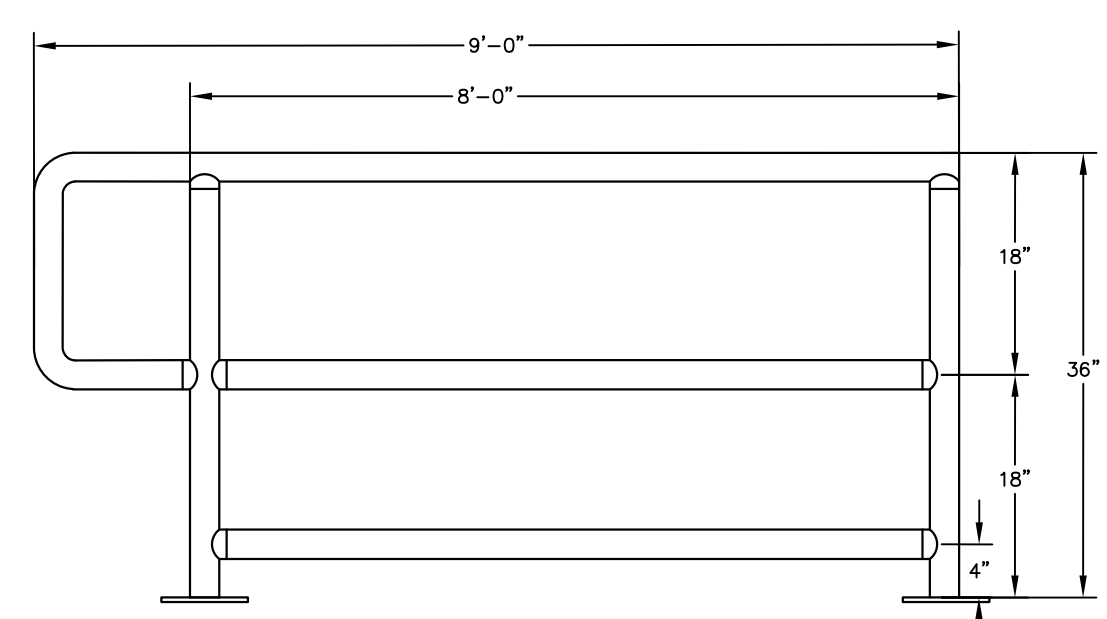


SIDE VIEW



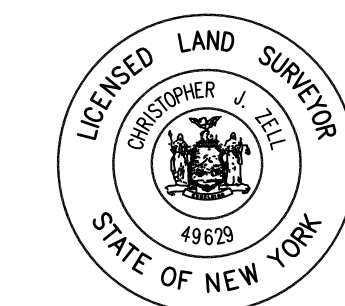
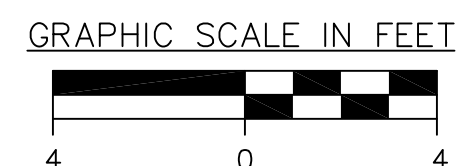
FRONT VIEW

PILE GUIDE
NOT TO SCALE



HANDRAIL DETAIL
NOT TO SCALE

NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.



Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

DOCK REPAIRS
CONTRACT NO. VSA-172

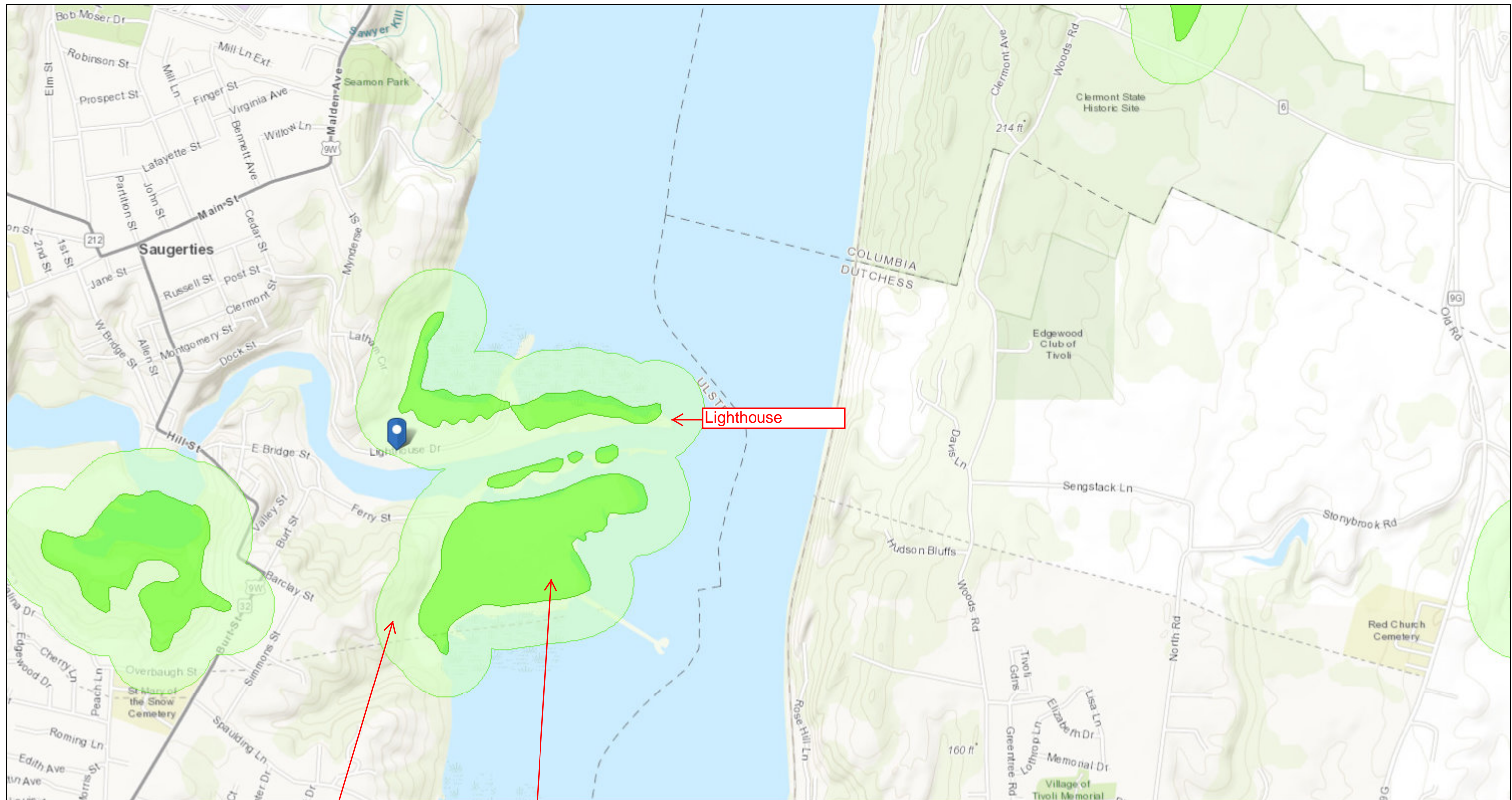
PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE			
NY RISING COMMUNITY RECONSTRUCTION PROGRAM			
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY	
		NEW YORK	
DATE	REVISION RECORD		
3/31/17	30% DESIGN FOR AGENCY		
	REVIEW		



B.i.i [Coastal or Waterfront Area]	Yes
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	Remediation Sites:546031
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	546031
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	546031
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):26.8
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	S-2

E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:Hudson River – Priority Organics – Fish Consumption
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	Yes
E.2.n.i [Natural Communities - Name]	Freshwater Tidal Marsh, Freshwater Intertidal Mudflats, Freshwater Tidal Swamp
E.2.n.i [Natural Communities - Acres]	45.0, 20.0
E.2.o. [Endangered or Threatened Species]	Yes
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National Register of Historic Places - Name]	Saugerties Lighthouse
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

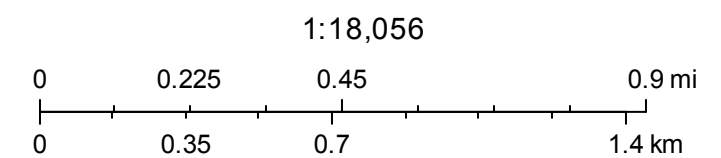
Saugerties Lighthouse wetland



April 28, 2017

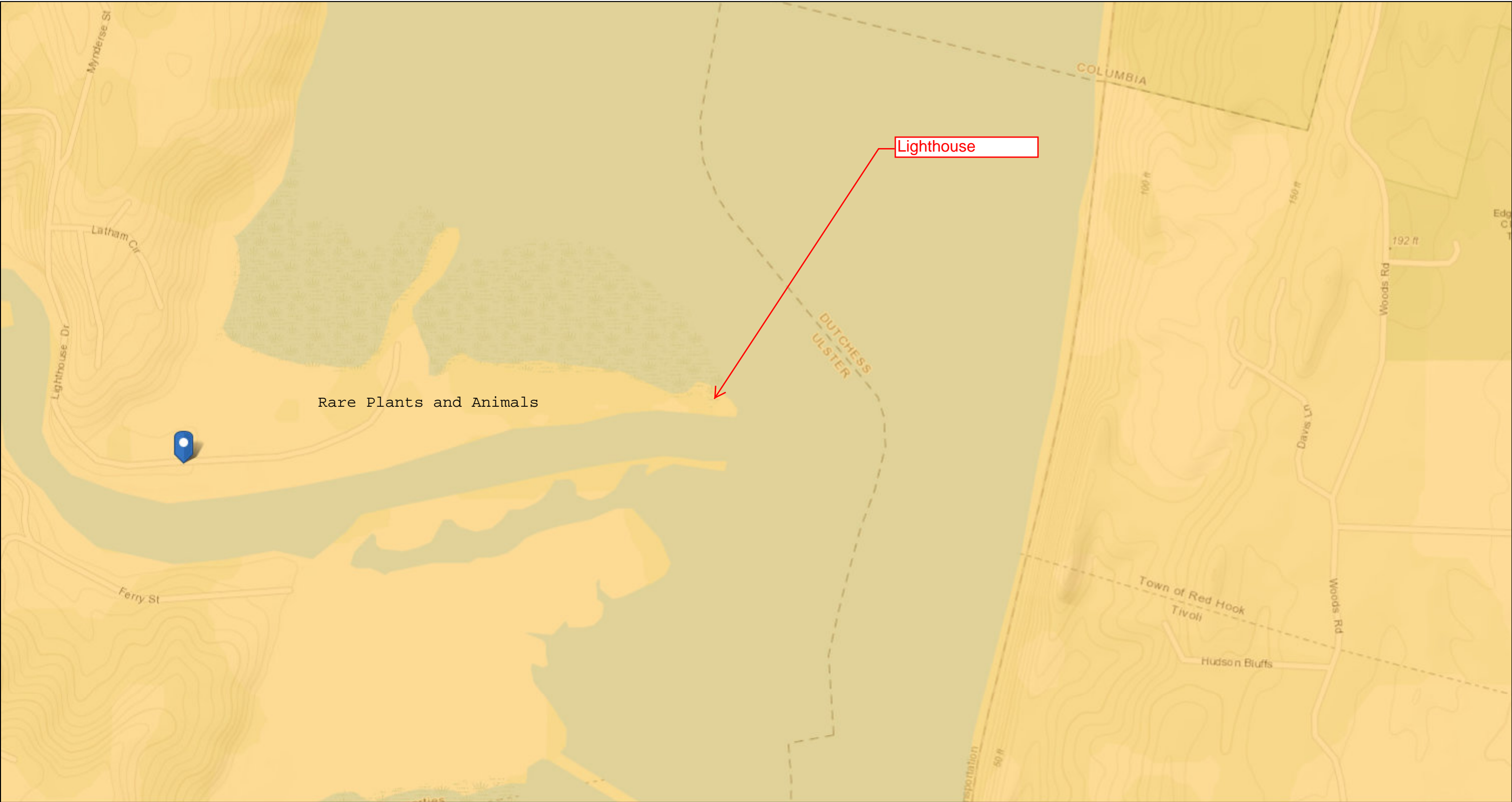
State Regulated
Wetlands Check
Zone

State Regulated
Wetlands



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Saugerties Lighthouse plants

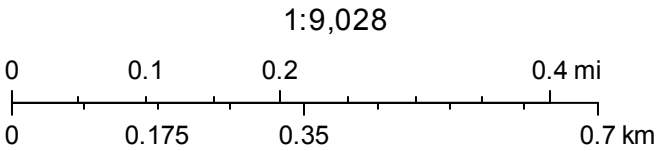


April 28, 2017

Saugerties Lighthouse rare



April 28, 2017



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

IPaC**U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

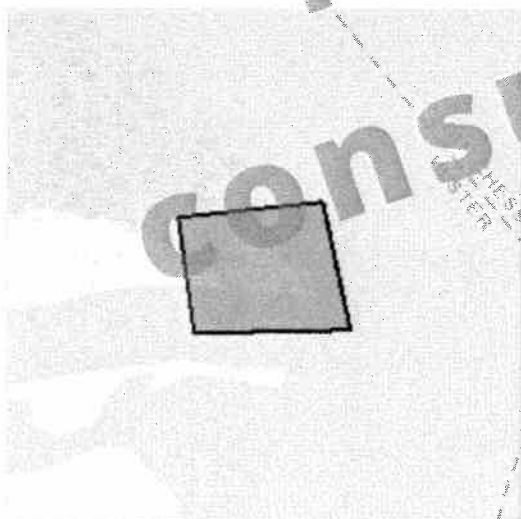
Project information

NAME

Saugerties Lighthouse, Saugerties, Ulster County, NY

LOCATION

Ulster County, New York



DESCRIPTION

The

proposed Project will repairing existing support structures including bulkheads, docks, a pier, and seawall adjacent to Saugerties Lighthouse, 168 Lighthouse Drive, near the end of the Lighthouse trail on the Hudson river, Village of Saugerties, NY. During Superstorm Sandy, storm surge from the Hudson River damaged the dike that protects the harbor channel, which has exposed and endangered the historic lighthouse's stone foundations through exposure to the Hudson River's wave action. The storm also damaged bulkheads, piers, and the dock that serves the lighthouse. The Saugerties Lighthouse was constructed in 1869, is the oldest surviving lighthouse residence on the Hudson River, and is listed on the National Register of Historic Places. There are four restoration work items at the Saugerties Lighthouse that are prioritized as follows:

- Stabilize the sea wall by filling in the voids that have developed inside the perimeter of the sea wall and repointing the stones of the sea wall.
- Rebuild the bulkhead on the south side of the sea wall
- Stabilize the concrete pier located on the south side of the deck area
- Make repairs to the floating dock including repairs to the framing, anchors and deck.

The rising and falling tidal waters in the Hudson River have created voids within the perimeter of the sea wall. The design will develop a grouting plan to fill the void areas. A new wooden bulkhead will be designed along the south side of the sea wall to replace the former wooden bulkhead which is deteriorated and no longer providing any protection to the sea wall. The subsurface soil/rock conditions in the vicinity of the former bulkhead will be defined by installing soil borings. The large concrete pier located on the south side of the deck area has been undermined over the years by water and wave action. The base under the concrete pier will be restored and broken sections of the concrete pier secured. The floating wooden dock located to the southwest of the Lighthouse will be repaired. The scope of the wooden floating dock repairs will be dependent on the construction monies. The wooden floating dock is in need of repairs to its framing, the pipe anchors supporting the floating dock and the wooden deck. All work will be completed in accordance with local and federal permit requirements. Work is expected to take place in Fall 2017.

Local office

New York Ecological Services Field Office

☎ (607) 753-9334

📠 (607) 753-9699

3817 Luker Road
Cortland, NY 13045-9349

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species

¹ are managed by the Endangered Species Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Indiana Bat *Myotis sodalis*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/5949>

Northern Long-eared Bat *Myotis septentrionalis*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9045>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

¹ and the Bald and Golden Eagle Protection Act².

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

³. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data <http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The migratory birds species listed below are species of particular conservation concern (e.g. Birds of Conservation Concern) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the AKN Histogram Tools and Other Bird Data Resources. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

NAME	SEASON(S)
American Bittern <i>Botaurus lentiginosus</i> https://ecos.fws.gov/ecp/species/6582	Breeding
Bald Eagle <i>Haliaeetus leucocephalus</i> https://ecos.fws.gov/ecp/species/1626	Year-round
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> https://ecos.fws.gov/ecp/species/9399	Breeding

Black-crowned Night-heron <i>Nycticorax nycticorax</i> https://ecos.fws.gov/ecp/species/6487	Breeding
Blue-winged Warbler <i>Vermivora pinus</i>	Breeding
Canada Warbler <i>Wilsonia canadensis</i>	Breeding
Cerulean Warbler <i>Dendroica cerulea</i> https://ecos.fws.gov/ecp/species/2974	Breeding
Golden-winged Warbler <i>Vermivora chrysoptera</i> https://ecos.fws.gov/ecp/species/8745	Breeding
Least Bittern <i>Ixobrychus exilis</i> https://ecos.fws.gov/ecp/species/6175	Breeding
Olive-sided Flycatcher <i>Contopus cooperi</i> https://ecos.fws.gov/ecp/species/3914	Breeding
Peregrine Falcon <i>Falco peregrinus</i> https://ecos.fws.gov/ecp/species/8831	Breeding
Pied-billed Grebe <i>Podilymbus podiceps</i>	Breeding
Prairie Warbler <i>Dendroica discolor</i>	Breeding
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>	Breeding
Rusty Blackbird <i>Euphagus carolinus</i>	Wintering
Short-eared Owl <i>Asio flammeus</i> https://ecos.fws.gov/ecp/species/9295	Wintering
Upland Sandpiper <i>Bartramia longicauda</i> https://ecos.fws.gov/ecp/species/9294	Breeding

Willow Flycatcher <i>Empidonax traillii</i> https://ecos.fws.gov/ecp/species/3482	Breeding
Wood Thrush <i>Hylocichla mustelina</i>	Breeding
Worm Eating Warbler <i>Helmitheros vermivorum</i>	Breeding

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAA/NCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAA/NCCOS models: the models were developed as part of the NOAA/NCCOS project: [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#). The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the [Northeast Ocean Data Portal](#), which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better

information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The [Avian Knowledge Network \(AKN\)](#) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest, survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the [Migratory Bird Programs AKN Histogram Tools](#) webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAANCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Facilities

Wildlife refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location overlaps the following wetlands:

RIVERINE

R1UBV

A full description for each wetland code can be found at the National Wetlands Inventory website: <https://ecos.fws.gov/ipac/wetlands/decoder>

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Not for
consultation

USFWS Response and Consultation



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New York Field Office

3817 Luker Road

Cortland, NY 13045

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo>



To: Alicia Shultz

Date: Jun 12, 2017

USFWS File No: 16I0751

Regarding your: ☒ Letter ☐ Fax ☐ Email

Dated: Jun 5, 2017

For project: Saugerties Lighthouse

Located: 168 Lighthouse Drive

In Town/County: Village of Saugerties, Ulster County

Pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the U.S. Fish and Wildlife Service:

☒ Acknowledges receipt of your "no effect" and/or no impact determination. No further ESA coordination or consultation is required.

☐ Acknowledges receipt of your determination. Please provide a copy of your determination and supporting materials to any involved Federal agency for their final ESA determination.

☐ Is taking no action pursuant to ESA or any legislation at this time, but would like to be kept informed of project developments.

As a reminder, until the proposed project is complete, we recommend that you check our website (<http://www.fws.gov/northeast/nyfo/es/section7.htm>) every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current. Should project plans change or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

USFWS Contact(s): Noelle Rayman - Metcalf

Supervisor: Robyn Date: 6/12/17



**Governor's Office of
Storm Recovery**

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

June 5, 2017

Noelle L. Rayman-Metcalf
Endangered Species Biologist
U. S. Fish and Wildlife Service
New York Field Office
3817 Luker Road
Cortland, NY 13045

Re: Section 7 Project Review - ESA/MBTA/BGEPA Consultation
Saugerties Lighthouse Repairs, Village of Saugerties, Ulster County, New York
USFWS Consultation Code 05E1NY00-2016-SLI-0116

Dear Ms. Rayman-Metcalf,

The Governor's Office of Storm Recovery (GOSR), acting under the auspices of New York State Homes and Community Renewal's (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the Department of Housing & Urban Development (HUD), is conducting environmental reviews under HUD's environmental review regulations (24 CFR Part 58) and New York State's Environmental Quality Review Act (SEQRA) for the Saugerties Lighthouse Repairs project, located in the Village of Saugerties, Ulster County, New York.

The purpose of this letter is to provide the U.S. Fish and Wildlife Service – New York Field Office (USFWS) notice of the proposed project and to document compliance with Section 7 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), as well as the Migratory Bird Treaty Act of 1918 (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703-712), and the Bald and Golden Eagle Protection Act of 1940 (BGEPA) (54 Stat. 240, as amended; 16 U.S.C. 668-668c). As discussed below, we have reviewed the project and found that the proposed project would have No Effect on ESA species under USFWS jurisdiction. This letter requests acknowledgement from the USFWS that they have received our determination regarding the subject project provided in this letter, and that USFWS has no objections to the No Effect Determination.

1.0 PROJECT DESCRIPTION

The Village of Saugerties is proposing storm-related restoration projects that would repair damaged public facilities that suffered impacts from storm events and help mitigate future impacts of tidal and coastal flooding to public facilities and low-lying areas. The Saugerties Lighthouse Repairs Project is one component of the Village of Saugerties Parks Restoration Project. During Hurricane Irene, Tropical Storm Lee, and Superstorm Sandy, the Saugerties Lighthouse experienced flooding caused by overflows of Esopus Creek and its tributaries, as well as storm surges from the Hudson River. During Superstorm Sandy, storm surge from the Hudson River damaged the dike that protects the harbor channel, which has exposed and endangered the historic lighthouse's stone foundations through exposure to the Hudson River's wave action. The proposed project would repair existing support structures including bulkheads, docks, a pier, and seawall adjacent to Saugerties Lighthouse.

As depicted on Figures 1 and 2 of Attachment 1, the proposed project is located at 168 Lighthouse Drive, Saugerties, on the north side of mouth of Esopus Creek, at the creeks confluence with the Hudson River, in Ulster County. The site is accessible from land via a half-mile nature trail at the end of Lighthouse Drive in the Village of Saugerties or by water via a small dock. The Saugerties Lighthouse was constructed in 1869, is the oldest surviving lighthouse residence on the Hudson River, and is listed on the National Register of Historic Places. The restored red-brick lighthouse building has an operational lighttower and offers bed & breakfast accommodations, public tours. The lighthouse is managed by the not-for-profit Saugerties Lighthouse Conservancy.

The rising and falling tidal waters in the Hudson River have created voids within the perimeter of the approximately 57' diameter granite block sea wall that provides the foundation for the lighthouse building. The timber pile bulkhead which surrounds the south side of sea wall is deteriorated and no longer providing any protection to the sea wall. The large concrete pier located east of the lighthouse has been undermined over the years by water and wave action. A wooden floating dock is in need of repairs to its framing, the pipe anchors supporting the floating dock and the wooden deck. Based on these required repairs, the four components of the Saugerties Lighthouse Repairs project are:

1. Restoration of the Saugerties Lighthouse seawall by filling any void areas within the seawall and repointing the mortar joints of the granite block seawall.
2. Restoration of the bulkhead located on the south side of the Saugerties Lighthouse by installing a new timber bulkhead immediately in front of the existing deteriorated bulkhead remains.
3. Stabilization of the unreinforced concrete piers located to the east of the Saugerties Lighthouse.
4. Make certain repairs to the existing floating dock with any grant funding that is remaining after completing items 1 through 3 above.

The proposed project would be funded under the CDBG-DR program as well as the Hurricane Sandy Disaster Relief Assistance Grant for Historic Properties, which is funded by the National

Park Service and administered by the New York State Historic Preservation Office, in partnership with the National Heritage Trust.

The bulkhead restoration and stabilization of the concrete piers would require in-water work. Prior to in-water work, a turbidity curtain would be installed adjacent to the bulkhead and pier work areas to minimize stream disturbance, and would remain in-place until all in-water work is complete. In-water construction would occur during ebb tide whenever practicable to further minimize in-water disturbance.

There is no tree removal required for any component of the project. No blasting is required. All materials and equipment would be delivered to the site by a barge.

Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. Project-related construction would begin no earlier than late July 2017, and all construction activity is expected to be completed in 4 to 6 months. The in-water work is scheduled to be performed between September 1, 2017 and October 31, 2017. The proposed repairs are described further below, and Design Plans are included as Attachment 2.

1.1 Seawall Restoration

The Saugerties Lighthouse seawall restoration includes filling the void areas within the seawall and repointing the mortar joints in the stacked granite seawall blocks. The seawall restoration work would be constructed in a manner that would preserve the visual and physical integrity of the historic masonry structure.

The restoration of the void areas would involve using low pressure grouting to fill the void area with a lightweight Portland cement-based flowable fill having a minimal compressive strength of 600 pounds per square inch (psi). The work would consist of drilling grout holes, exploratory holes and check holes and injecting grout under pressure. The grout shall be injected starting at the bottom or lowest point of the void area and filled vertically to the surface of the seawall. The top one-half inch of the joint shall be finished with a mortar and sand mix to match the color and texture of the surround concrete material.

The mortar joints in the stacked granite block seawall would be repaired by repointing, a process of removing deteriorated mortar from the joints and replacing it with new mortar that has the same visual and physical integrity of the other mortar joint material. The root cause of the mortar joint deterioration is exposure to weather, tidal water conditions and freeze-thaw conditions. Therefore, the seawall repointing mortar shall be Type S mortar with strengths of 1,800 psi conforming to ASTM C270 Mortar for Unit Masonry, which is suitable for severe exposure conditions.

1.2 Bulkhead Restoration

The existing bulkhead's vertical cantilevered timber posts are deteriorated from being exposed to the environmental conditions and are not structurally sound. The bulkhead timber cap, front timber waler and rear timber waler are no longer in-place. The bulkhead restoration would involve

complete replacement of the existing deteriorated timber pile bulkhead in order to provide protection to the sea wall foundation from erosion forces. The replacement bulkhead would encircle the entire south side of the side of the sea wall. The north side of the seawall does not have erosion potential, as it is naturally a net sand/sediment depositional area because of the geometry of the shoreline.

The proposed bulkhead would be an approximately ninety-five feet long continuous timber pile bulkhead extending from the existing stationary wooden dock ramp to the wooden bridge that connects the wooden deck area. Approximately sixty 12" diameter, 30' long timber piles would be installed side-by-side using a vibratory hammer. The top of the bulkhead would be set at Elevation 1.0 feet. Wood timber walers would be installed on both sides of the timber piles to maintain the vertical alignment. Tiebacks anchored to the seawall would be uniformly located along the length of the bulkhead to further stabilize the bulkhead. The sea wall anchors would be positioned vertically at Elevation -1.5 feet. After installation of the sea wall anchors is complete, a blend of medium riprap (heavier than 100 pounds) and heavy riprap (heavier than 600 pounds) would be placed over the sea wall anchors to Elevation 1.0 feet.

1.3 Pier Stabilization

There are two large unreinforced concrete piers situated on ground surface east of the Saugerties Lighthouse. These piers are remains from the former 1838 lighthouse structure. The bottom or base of the piers are approximately at Elevation 0 feet which is about one foot above low tide. Over the years, the riprap stone around the base of the piers has been eroded and resulted in some displacement of the piers.

Pier stabilization would involve installation of fourteen vertical pipe pile anchors with one-half-inch thick steel connection brackets to the concrete piers. The pipe pile anchors would be forty feet in length and eight inches diameter. The top of the steel piles would be set at elevation 13.0 feet. Pipe pile anchors would be installed around perimeter of the piers to securely hold the piers to the streambed and prevent movement of the piers from wave action or ice floes. The piles will be installed using a vibratory hammer. After installation of the pipe pile anchors is complete, a blend of medium riprap and heavy riprap would be placed around the base of the piers.

1.4 Dock Repairs

The stationary wooden dock provides access to the lighthouse via a wooden ramp and is a place for boats to tie-off. The stationary wooden dock is 59 feet long by 8 feet wide with 2"x 12" floor joists and 5/4" wood decking. The water-side of the stationary wooden dock is supported by seven four-inch diameter steel pipe posts. The land-side of the stationary dock is supported by a combination of 4-inch diameter steel pipe posts and the ground surface. The repairs for the stationary wooden dock include the replacement of any loose or rotten deck boards, re-alignment of any displaced four-inch diameter pipe posts to a vertical position, replacement of the rope barrier on the water-side of the dock with two rows of safety-yellow plastic chain, and adding safety signage along the dock.

The floating wooden dock is positioned immediately south of the stationary wooden dock and serves as a place for small boats to tie-off to and dock to visit the lighthouse. The floating wooden dock is 40 feet long by 8 feet wide and held in position by two four-inch diameter steel pipe posts that are supported by a welded steel structure anchored on the shoreline. Repairs to the floating wooden dock include the replacement of the two pipe posts with larger 8-inch diameter pipe anchors. The replacement pipe posts would be forty feet long and the top of the pipe posts would be set at Elevation 10 feet. The existing steel structure would be modified to connect to the top of the pipe posts. Additionally, a handrail would be installed along the outside of the ramp from the floating wooden dock to the stationary wooden dock.

2.0 ESA, MIGRATORY BIRD TREATY ACT, AND BALD AND GOLDEN EAGLE PROTECTION ACT SPECIES

The USFWS, New York Ecological Services Field Office was contacted through the Information, Planning, and Conservation System (IPaC) regarding the potential presence of species under the jurisdiction of the USFWS within the project area. The IPaC Trust Resources Report is included as Attachment 3, and the USFWS Official Species List is included as Attachment 4. According to the USFWS IPaC Trust Resource Report and Official Species Lists, the threatened *Myotis septentrionalis* [northern long-eared bat (NLEB)] and the endangered *Myotis sodalis* (Indiana bat) may occur or could potentially be affected by activities at the project site. USFWS documentation indicates that there is no critical habitat for these or any other species within the project area. The IPaC Trust Resources Report also indicates that there are twenty species of migratory birds that are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act that could potentially be affected by the proposed project, including *Haliaeetus leucocephalus* (bald eagle).

A request for species records within the vicinity of the project sites was sent to the New York State Natural Heritage Program (NYSNHP). A response letter from NYSNHP dated May 19, 2017 (included as Attachment 5) does not indicate records of NLEB, Indiana bat, or any other ESA species under UFSWS jurisdiction within the vicinity of the project site. The NYSNHP response letter does indicate records of nesting bald eagle within the 0.5 mile of the project area. Previous correspondence from NYSNHP indicates that the nest is located on the east side of the Hudson River.

NYSNHP also states that the federally endangered *Acipenser oxyrinchus oxyrinchus* (Atlantic sturgeon) and *Acipenser brevirostrum* (shortnose sturgeon) have been documented within the Hudson River. GOSR has consulted with the National Marine Fisheries Service (NMFS) regarding potential project impacts to sturgeon, and has submitted a Not Likely to Adversely Affect determination to NMFS for the in-water project related activity and received concurrence (attached).

3.0 ANALYSIS AND DETERMINATION OF EFFECTS

According to the USFWS IPaC Trust Resource Report and Official Species List of threatened and endangered species, there are two listed species under USFWS jurisdiction that may potentially occur with the project area (Indiana bat and NLEB), and twenty migratory birds of concern that could potentially be affected by the proposed project. There is no critical habitat designated within the project area.

ESA - NYSNHP does not indicate records of NLEB, Indiana bat, or any other ESA species under USFWS jurisdiction within the vicinity of the project site. The New York State (NYS) Resource Map, provided by the New York State Department of Environmental Conservation on September 26, 2016 for the nearby Tina Chorvas Park Restoration component of the Village of Saugerties Parks Restoration Project, is included as Attachment 6. The NYS Resource Map indicates that the project area is not located within the vicinity of known or assumed Indiana bat or NLEB hibernacula or maternity roosts. Additionally, there are currently no known maternity roost trees or hibernacula known to be occupied by NLEB within the vicinity of the project location according to geospatial information provided by the USFWS. The project does not involve tree removal and would have no effect on NLEB or Indiana bat.

MBTA - The project does not involve tree clearing, and the project area experiences frequent human disturbance from boating and visitors of the lighthouse. It is anticipated that passerine birds may temporarily leave the area during construction due to noise and disturbance. GOSR has determined that the project would have no effect on migratory birds or their habitat.

BGEPA –The project area is located within 0.5 mile of documented nesting bald eagle on the east side of the Hudson River. The USFWS National Bald Eagle Management Guidelinesⁱ and NYSDEC’s Conservation Plan for Bald Eagles in New York Stateⁱⁱ recommend a 330-foot buffer zone around eagle nests year-round, and a 660-foot buffer during the breeding season to avoid disturbance to nesting bald eagles. Although the exact location of the nest is not known, it is a minimum of approximately 1,800 feet from project area, as this is the distance from the eastern extent of the project area to the nearest point of the eastern shoreline of the Hudson River.

Project-related construction would begin no earlier than late July, with most of the work occurring after September 1, and is expected to be complete by January 2018. Therefore, most of the construction would occur outside of the breeding season for bald eagles in New York (which is generally January through September). Additionally, the nest would be subject to noise disturbance from recreational watercraft activity within the Hudson River, in closer proximity to the nest than the project area. No blasting would occur during construction activities. As with other migratory birds, foraging bald eagles may temporarily avoid the area during construction due to noise and disturbance. The project consists of repairs to existing structures, and would not result in new permanent structures or increased human activity that may disturb bald eagles. GOSR has determined that the proposed project would have no effect on bald eagle.

4.0 CONCLUSION

According to the USFWS IPaC Trust Resource Report and list of threatened and endangered species, there are two listed species that potentially occur with the project are – the Indiana bat and the northern long eared bat. There is no critical habitat designated within the project area. There are twenty migratory birds of concern that could occur within the vicinity of the project area. A nesting bald eagle has been documented 0.5 from the project area.

The project consists of repairs to existing structures. Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. The proposed project does not include blasting or tree removal, and is at least 1,800 feet from the documented nesting bald eagle. There are no records of Indiana bat or NLEB maternity roost trees or hibernacula within the vicinity of the project area. The project area is subject to frequent disturbance from boating and visitors to the lighthouse.

GOSR has determined that the proposed project would have No Effect on species within USFWS jurisdiction protected under the ESA, MBTA, and BGEPA. This letter requests acknowledgement from USFWS that they have no objections to the No Effect Determination. If USFWS does not respond within 30 days from submittal of this letter, then GOSR may presume that its determination for each project is informed by the best available information and its project responsibilities under Section 7 of the ESA have been fulfilled. GOSR understands that the USFWS presumes that all activities will be implemented as described herein. GOSR will promptly report any departures from the described activities to the New York Field Office.

If you have questions or require additional information regarding this request, please contact me at (518) 474-0647 Alicia.Shultz@nyshcr.org. Thank you for your time and consideration.

Sincerely,



Alicia Shultz
Senior Environmental Scientist
Governor's Office of Storm Recovery
NYS Homes and Community Renewal

Enclosures

Attachment 1: Project Location Figures
Attachment 2: Design Plans
Attachment 3: IPaC Trust Resources Report
Attachment 4: USFWS Official Species List
Attachment 5: NYSNHP Response
Attachment 6: NYSDEC Resource Map
Attachment 7: NOAA NMFS Section 7 Project Review

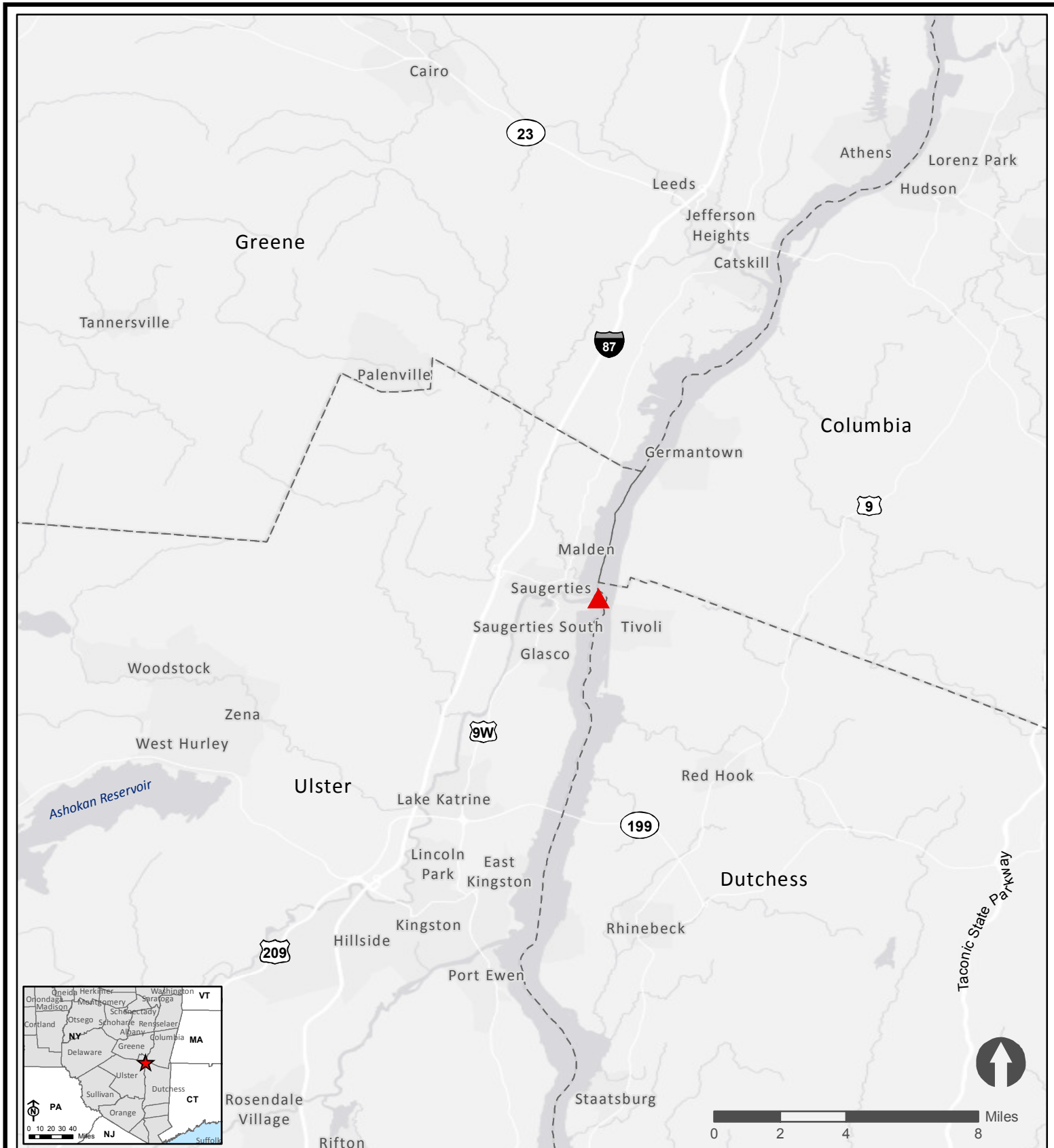
ⁱ USFWS. 2007. National Bald Eagle Management Guidelines. Accessed at:

<http://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf>

ⁱⁱ NYSDEC 2016. NYSDEC Conservation Plan for Bald Eagles in New York State. March 2016. Accessed at:

http://www.dec.ny.gov/docs/wildlife_pdf/nybaldeagleplan.pdf

Attachment 1



- ▲ Project Location
- County Boundary

Figure 1
Regional Location

Saugerties Lighthouse
Repairs

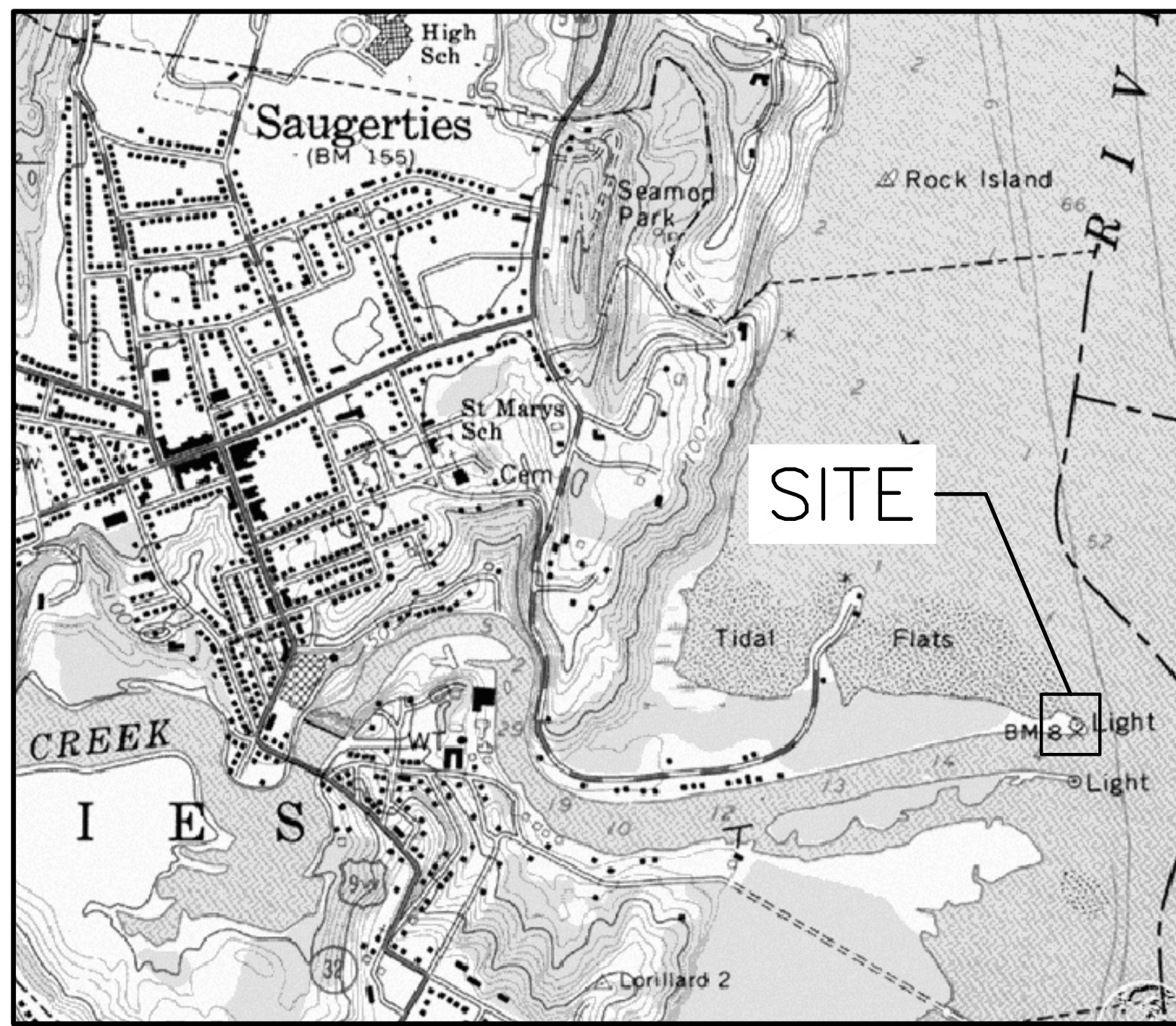


 Project Boundary

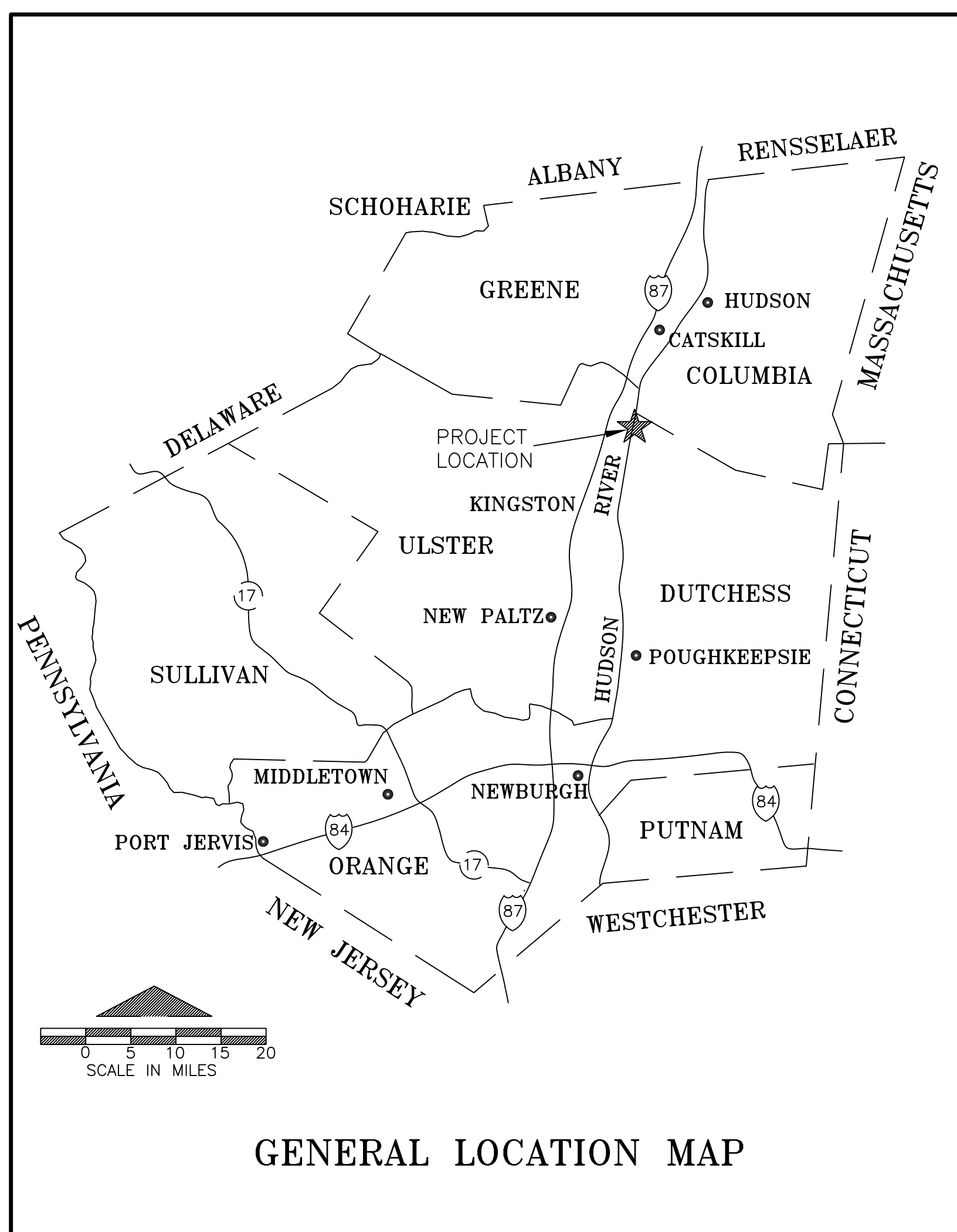
Figure 2
Project Location

Saugerties Lighthouse
Repairs

Attachment 2



LOCATION MAP
SCALE 1" = 1000'



CONTRACT VSA-172

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE

FUNDED BY
NEW YORK STATE HISTORIC PRESERVATION
AND
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNOR'S OFFICE OF STORM RECOVERY

VILLAGE OF SAUGERTIES ULSTER COUNTY NEW YORK

VILLAGE OFFICIALS

WILLIAM MURPHY, MAYOR

TRUSTEES

JEANNINE MAYER
DONALD HACKETT
VINCENT BRUNO
BRIAN MARTIN
TERRY PARISIAN

LISA MAYONE, VILLAGE CLERK

EYAL SAAD, PROJECT MANAGER

30% DESIGN
MARCH 2017

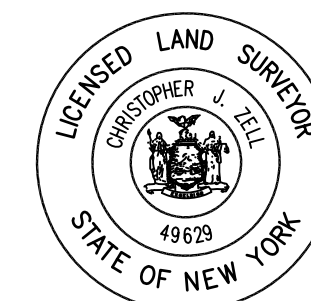


Know what's below.
Call before you dig.

BRINNIER AND LARIOS, P. C.
PROFESSIONAL ENGINEERS AND LAND SURVEYORS
67 MAIDEN LANE
KINGSTON, NEW YORK
(845) 338-7622

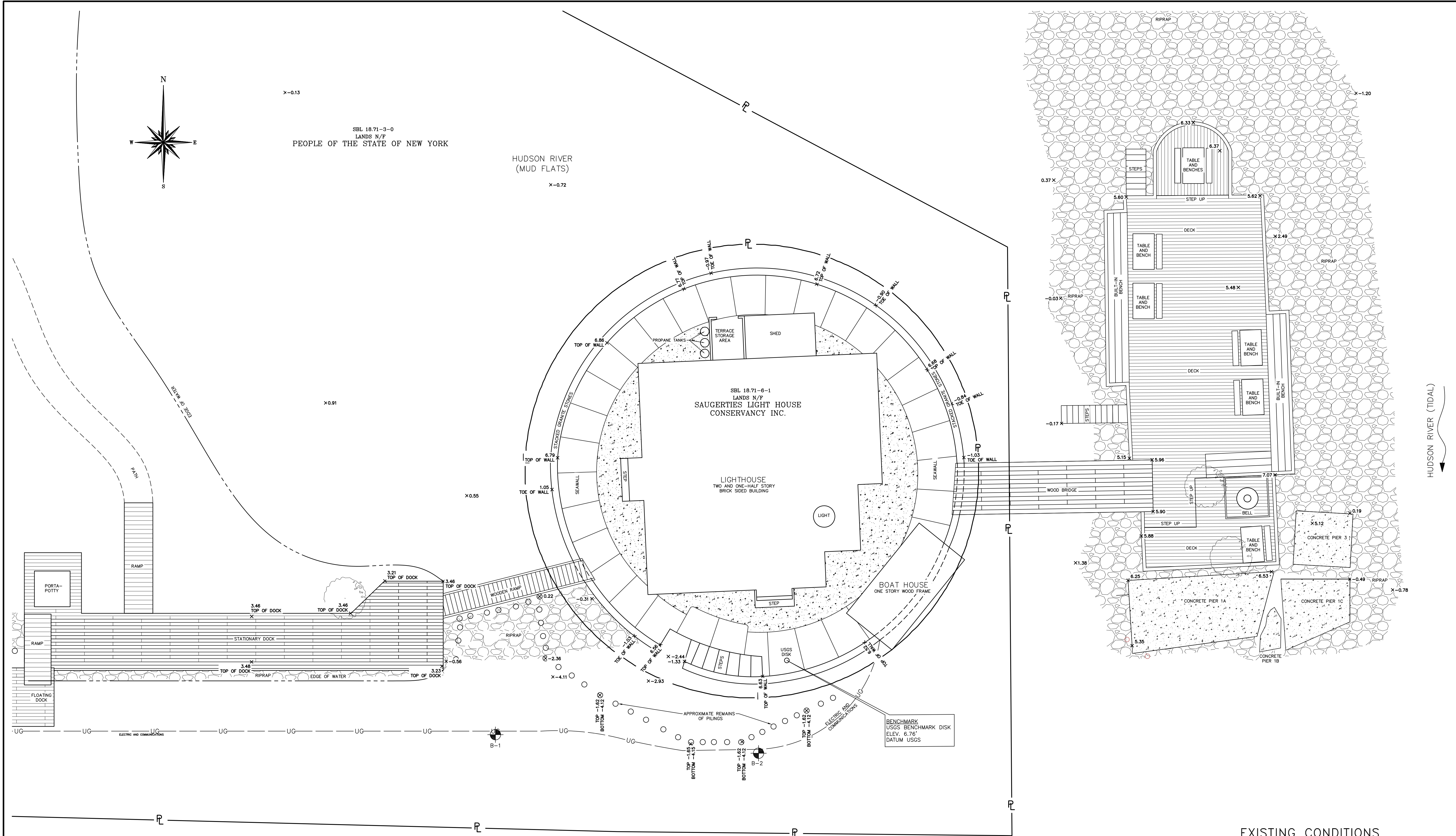


Unauthorized alteration or addition to a plan
bearing a licensed engineer's seal is a
violation of section 7209, subdivision 2, of the
New York State Education Law.



INDEX OF DRAWINGS

<u>SHEET NO.</u>	<u>DRAWING</u>
1.	COVER
2.	EXISTING CONDITIONS
3.	OVERALL PROJECT PLAN
4.	SEA WALL RESTORATION
5.	BULKHEAD RESTORATION
6.	PIER STABILIZATION
7.	FLOATING DOCK REPAIRS

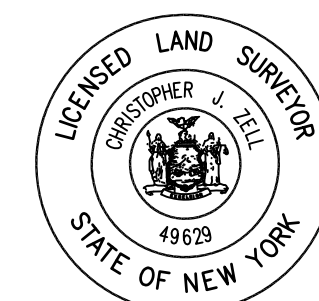
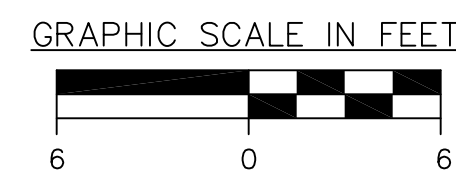


- NOTE:
1. FIELD SURVEY PERFORMED BY BRINNIER AND LARIOS, P.C. ON JANUARY 19, 2016.
 2. PROPERTY LINE LOCATIONS ARE APPROXIMATE BASED ON ULSTER COUNTY TAX MAPS.
 3. THE LOCATION OF THE UNDERGROUND ELECTRIC AND COMMUNICATION CABLES ARE NOT KNOWN AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
 4. ORDINARY HIGH WATER (OHW) MARK IS AT ELEVATION 5 FEET BASED ON FIELD OBSERVATIONS.

LEGEND

— P —	PROPERTY LINE
— E —	EDGE OF WATER
— UG —	UNDER GROUND UTILITIES
— P —	PATH
X0.55	SPOT ELEVATION
⊗	RIPRAP
⊗ B-1	BORING

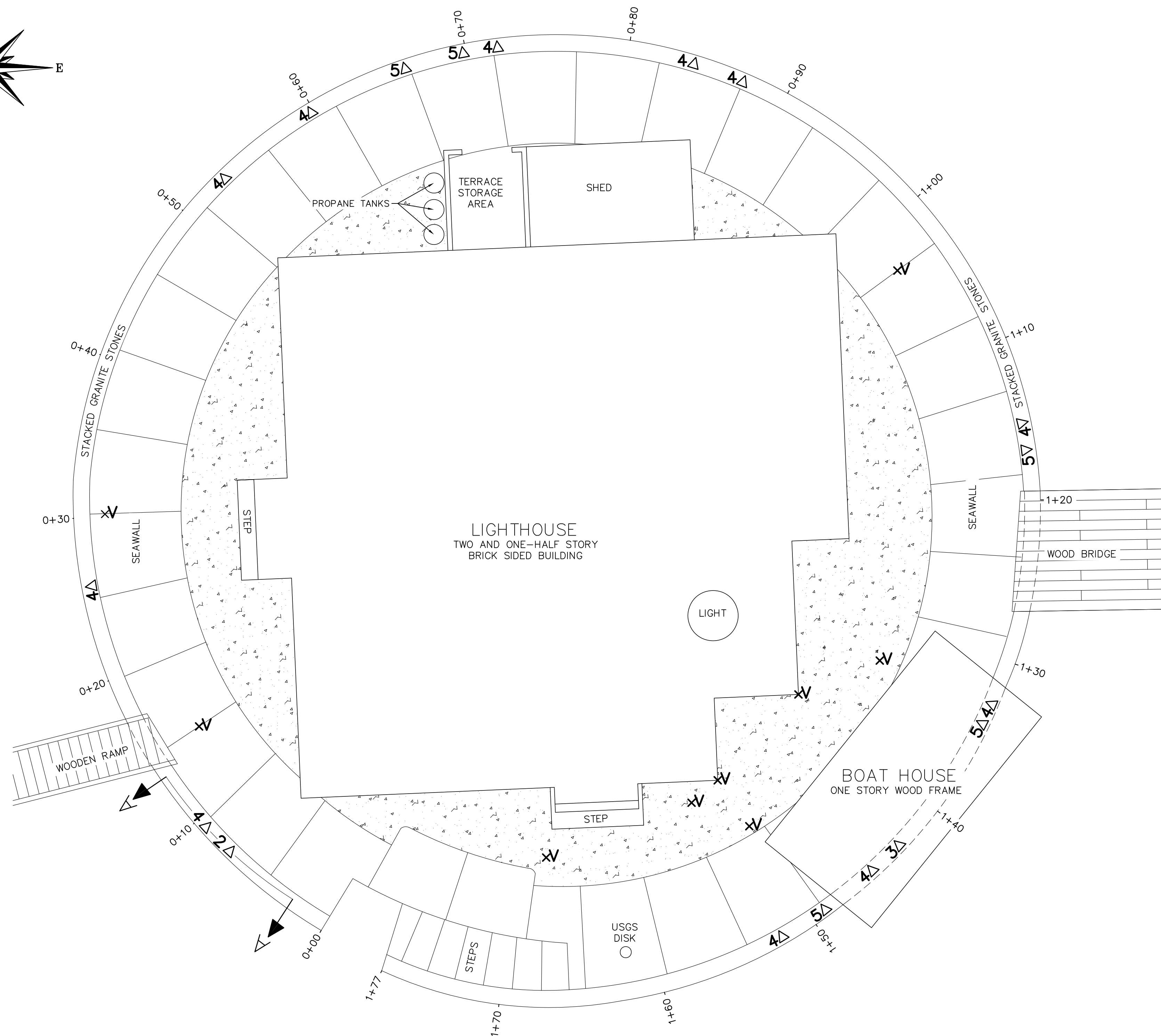
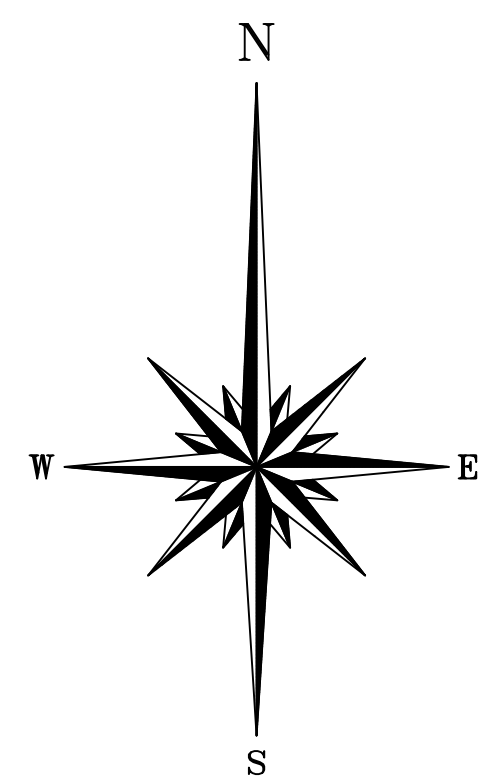
EXISTING CONDITIONS
SCALE: 1" = 6'



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EXISTING CONDITIONS
CONTRACT NO. VSA-172

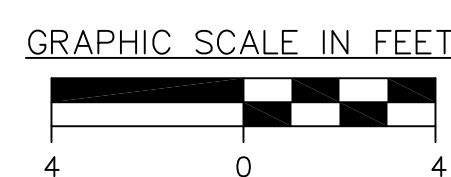
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NY RISING COMMUNITY RECONSTRUCTION PROGRAM			
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY NEW YORK	
DATE	REVISION RECORD	BRINNIER & LARIOS, P.C. ENGINEERS & LAND SURVEYORS 67 MAIDEN LANE KINGSTON, N.Y. Phone: 845-338-7622 Fax: 845-338-7660	
3/31/17	30% DESIGN FOR AGENCY REVIEW		
SCALE	DATE	DWG	SHEET NO.
1" = 6'	MARCH 2017	RJS	2 OF 7



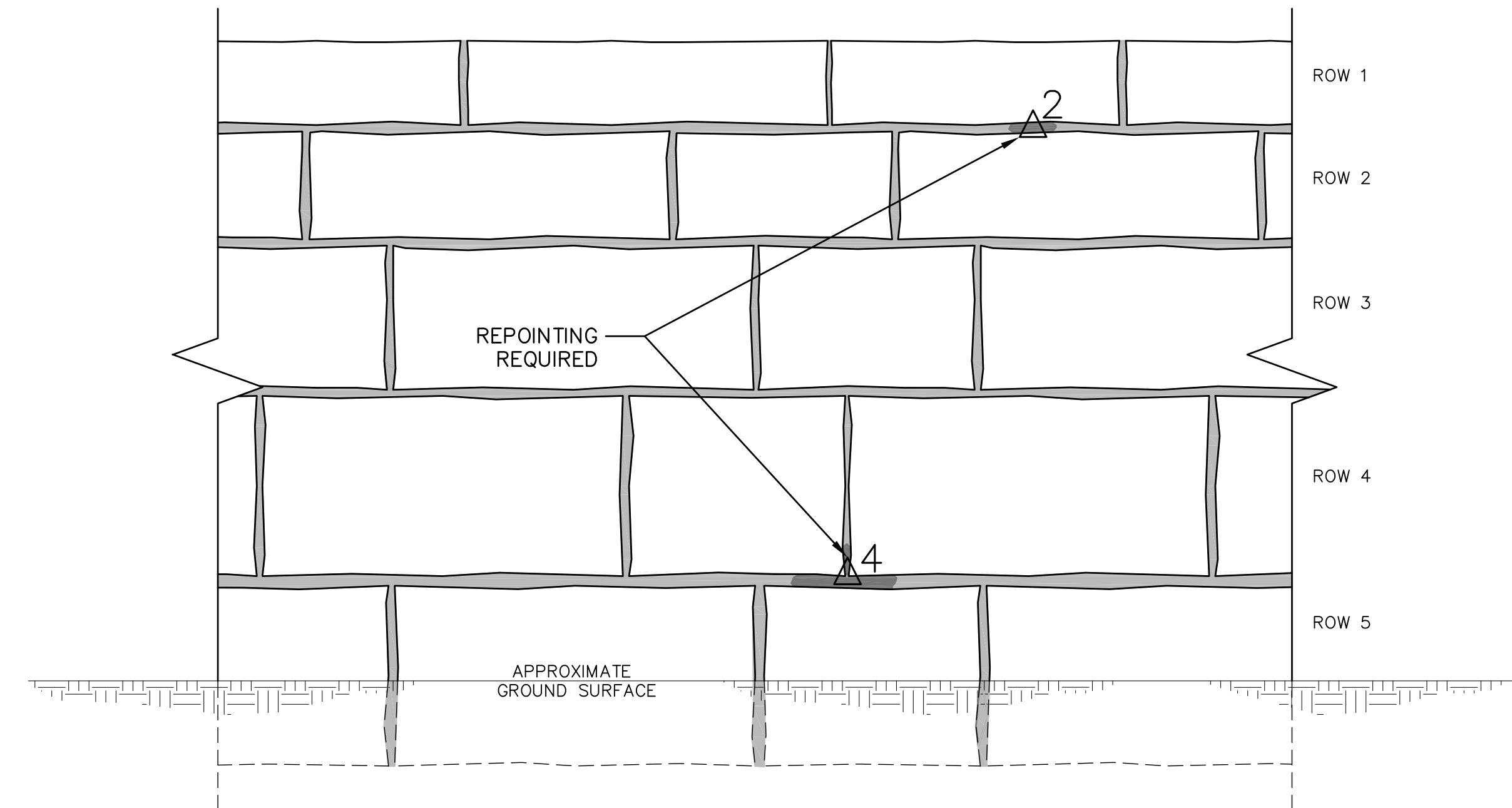
SEAWALL RESTORATION PLAN
SCALE: 1" = 4'

LEGEND

- △ 2 POINTING REQUIRED - ALONG THE 2ND COURSE
XV VOID AREA - TO BE PRESSURE GROUTED



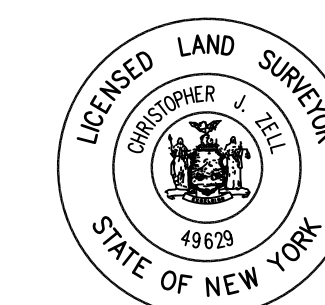
NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.



SECTION A-A
NOT TO SCALE

- NOTES:
1. LOCATIONS OF REPOINTING ARE APPROXIMATE AND MUST BE FIELD VERIFIED.
 2. CONTRACTOR SHALL THOROUGHLY INSPECT ALL STACKED GRANITE STONE MORTAR JOINTS. REMOVE ALL DETERIORATED MORTAR AND REPLACE WITH NEW MORTAR.
 3. ALL VOID AREAS SHALL BE FILLED PER TECHNICAL SPECIFICATION SECTION 03600.
 4. REPOINTING SHALL BE PERFORMED PER TECHNICAL SPECIFICATION SECTION 04500.

SEAWALL RESTORATION
CONTRACT NO. VSA-172



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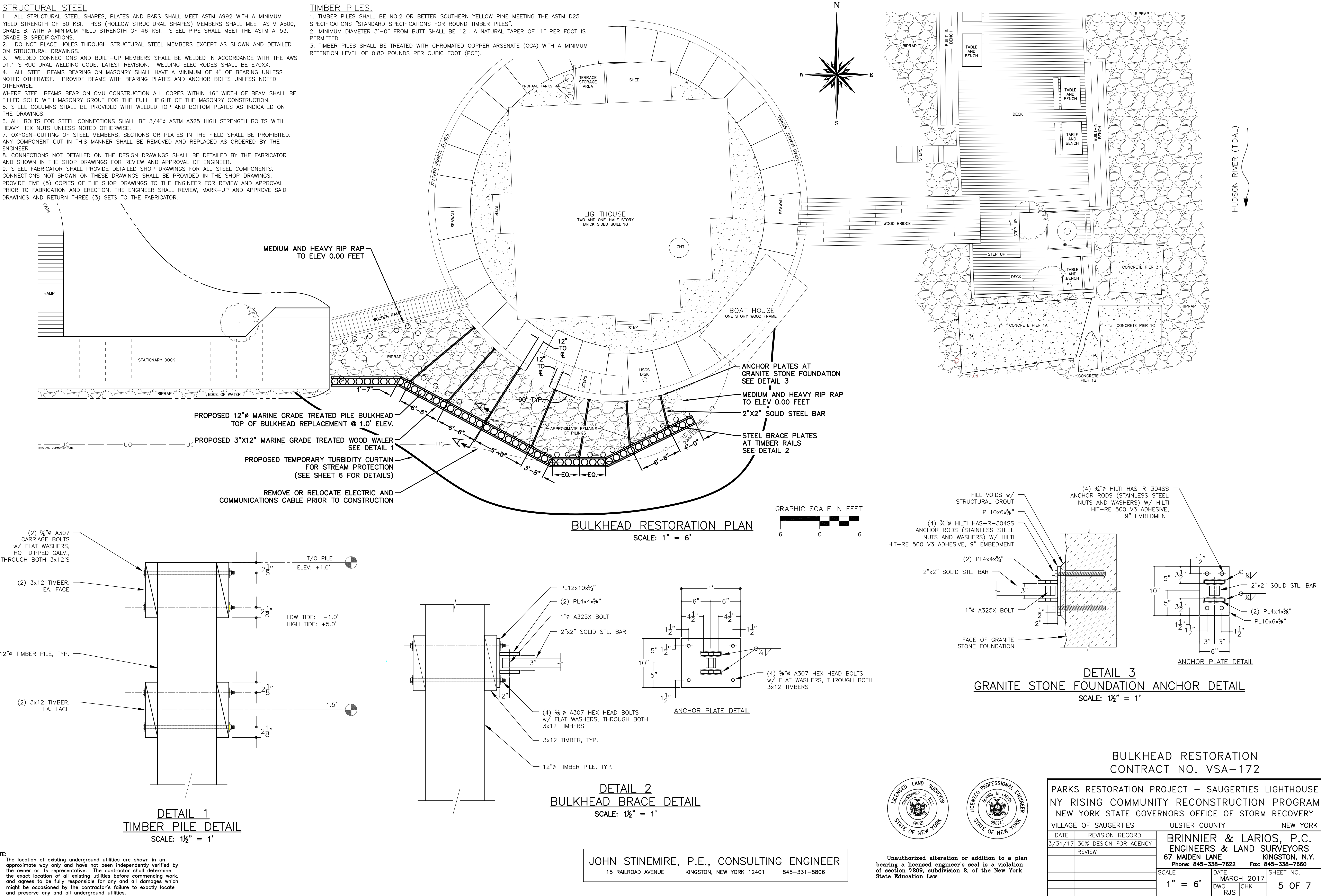
PARKS RESTORATION PROJECT - SAUGERTIES LIGHTHOUSE			
NY RISING COMMUNITY RECONSTRUCTION PROGRAM			
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY NEW YORK	
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3/31/17	30% DESIGN FOR AGENCY REVIEW		
SCALE	DATE	SHEET NO.	
AS SHOWN	MARCH 2017	4 OF 7	
DWG	CHK		
RJS			

STRUCTURAL STEEL

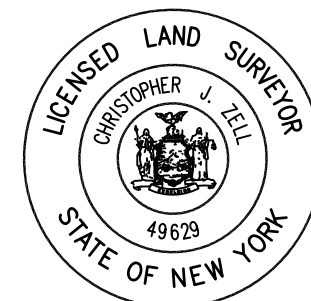
1. ALL STRUCTURAL STEEL SHAPES, PLATES AND BARS SHALL MEET ASTM A992 WITH A MINIMUM YIELD STRENGTH OF 50 KSI. HSS (HOLLOW STRUCTURAL SHAPES) MEMBERS SHALL MEET ASTM A500, GRADE B, WITH A MINIMUM YIELD STRENGTH OF 46 KSI. STEEL PIPE SHALL MEET THE ASTM A-53, GRADE B SPECIFICATIONS.
2. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
3. WELDED CONNECTIONS AND BUILT-UP MEMBERS SHALL BE WELDED IN ACCORDANCE WITH THE AWS D1.1 STRUCTURAL WELDING CODE, LATEST REVISION. WELDING ELECTRODES SHALL BE E70XX.
4. ALL STEEL BEAMS BEARING ON MASONRY SHALL HAVE A MINIMUM OF 4" OF BEARING UNLESS NOTED OTHERWISE. PROVIDE BEAMS WITH BEARING PLATES AND ANCHOR BOLTS UNLESS NOTED OTHERWISE.
- WHERE STEEL BEAMS BEAR ON CMU CONSTRUCTION ALL CORES WITHIN 16" WIDTH OF BEAM SHALL BE FILLED SOLID WITH MASONRY GROUT FOR THE FULL HEIGHT OF THE MASONRY CONSTRUCTION.
5. STEEL COLUMNS SHALL BE PROVIDED WITH WELDED TOP AND BOTTOM PLATES AS INDICATED ON THE DRAWINGS.
6. ALL BOLTS FOR STEEL CONNECTIONS SHALL BE 3/4"Ø ASTM A325 HIGH STRENGTH BOLTS WITH HEAVY HEX NUTS UNLESS NOTED OTHERWISE.
7. OXYGEN-CUTTING OF STEEL MEMBERS, SECTIONS OR PLATES IN THE FIELD SHALL BE PROHIBITED. ANY COMPONENT CUT IN THIS MANNER SHALL BE REMOVED AND REPLACED AS ORDERED BY THE ENGINEER.
8. CONNECTIONS NOT DETAILED ON THE DESIGN DRAWINGS SHALL BE DETAILED BY THE FABRICATOR AND SHOWN IN THE SHOP DRAWINGS FOR REVIEW AND APPROVAL OF ENGINEER.
9. STEEL FABRICATOR SHALL PROVIDE DETAILED SHOP DRAWINGS FOR ALL STEEL COMPONENTS. CONNECTIONS NOT SHOWN ON THESE DRAWINGS SHALL BE PROVIDED IN THE SHOP DRAWINGS. PROVIDE FIVE (5) COPIES OF THE SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND ERECTION. THE ENGINEER SHALL REVIEW, MARK-UP AND APPROVE SAID DRAWINGS AND RETURN THREE (3) SETS TO THE FABRICATOR.

TIMBER PILES:

1. TIMBER PILES SHALL BE NO.2 OR BETTER SOUTHERN YELLOW PINE MEETING THE ASTM D25 SPECIFICATIONS "STANDARD SPECIFICATIONS FOR ROUND TIMBER PILES".
2. MINIMUM DIAMETER 3'-0" FROM BUTT SHALL BE 12". A NATURAL TAPER OF .1" PER FOOT IS PERMITTED.
3. TIMBER PILES SHALL BE TREATED WITH CHROMATED COPPER ARSENATE (CCA) WITH A MINIMUM RETENTION LEVEL OF 0.80 POUNDS PER CUBIC FOOT (PCF).

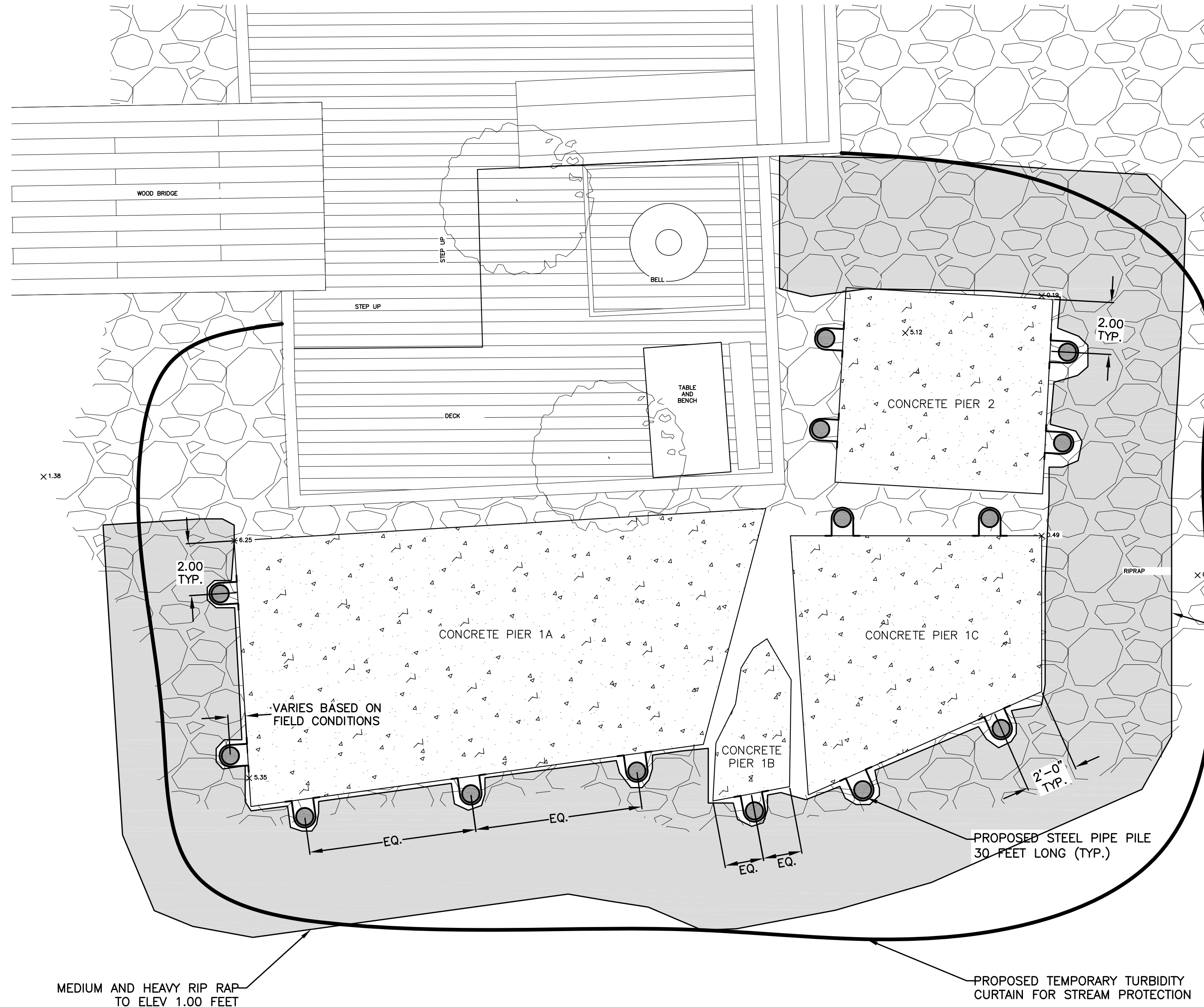
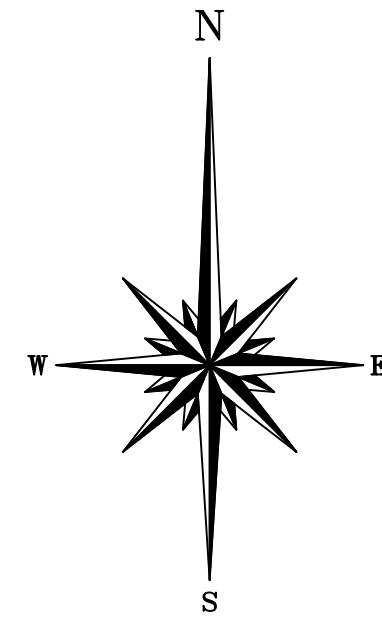


JOHN STINEMIRE, P.E., CONSULTING ENGINEER
15 RAILROAD AVENUE KINGSTON, NEW YORK 12401 845-331-8806

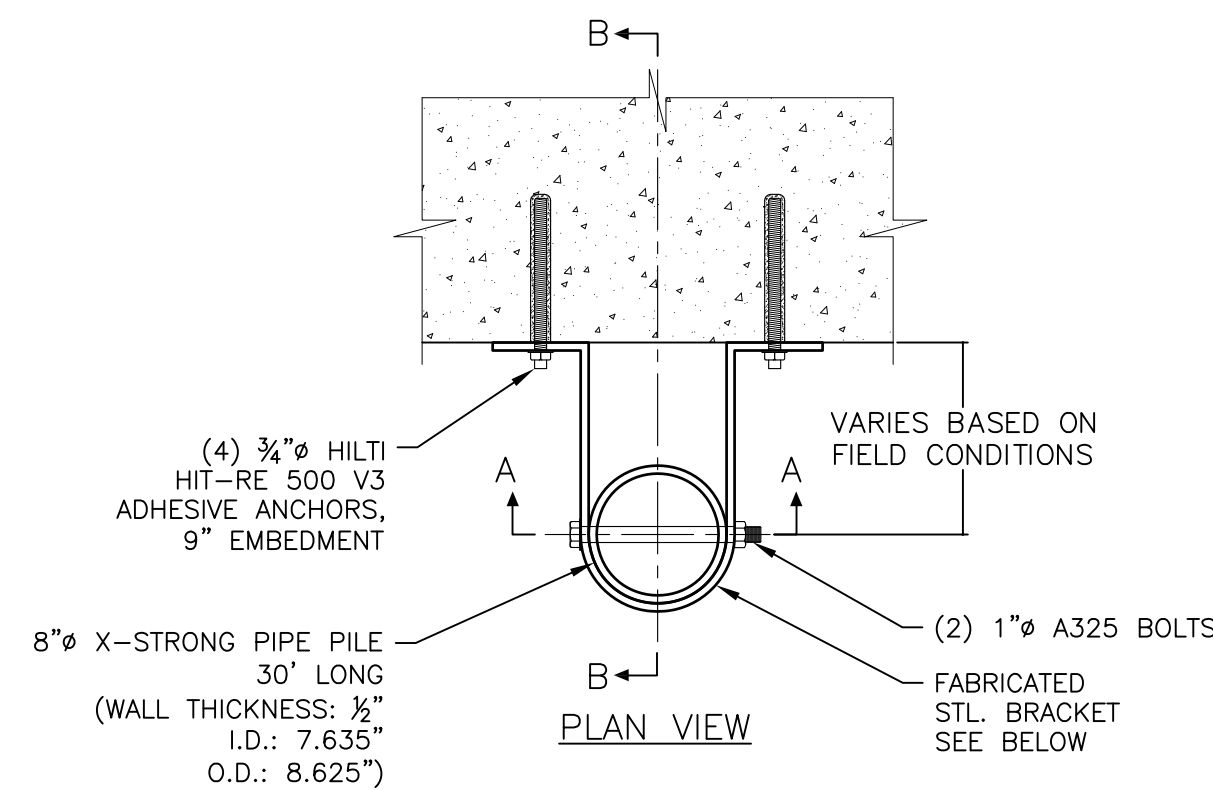


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PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE			
NY RISING COMMUNITY RECONSTRUCTION PROGRAM			
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY	
DATE		REVISION RECORD	
3/31/17		30% DESIGN FOR AGENCY REVIEW	
DATE		SCALE	
MARCH 2017		1" = 6'	
DWG		CHK	
RJS		5 OF 7	

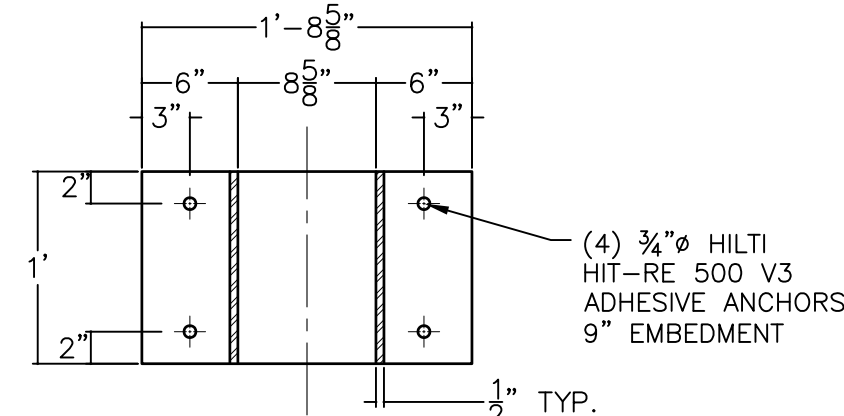


CONCRETE PIER STABILIZATION PLAN
SCALE: 1" = 2'

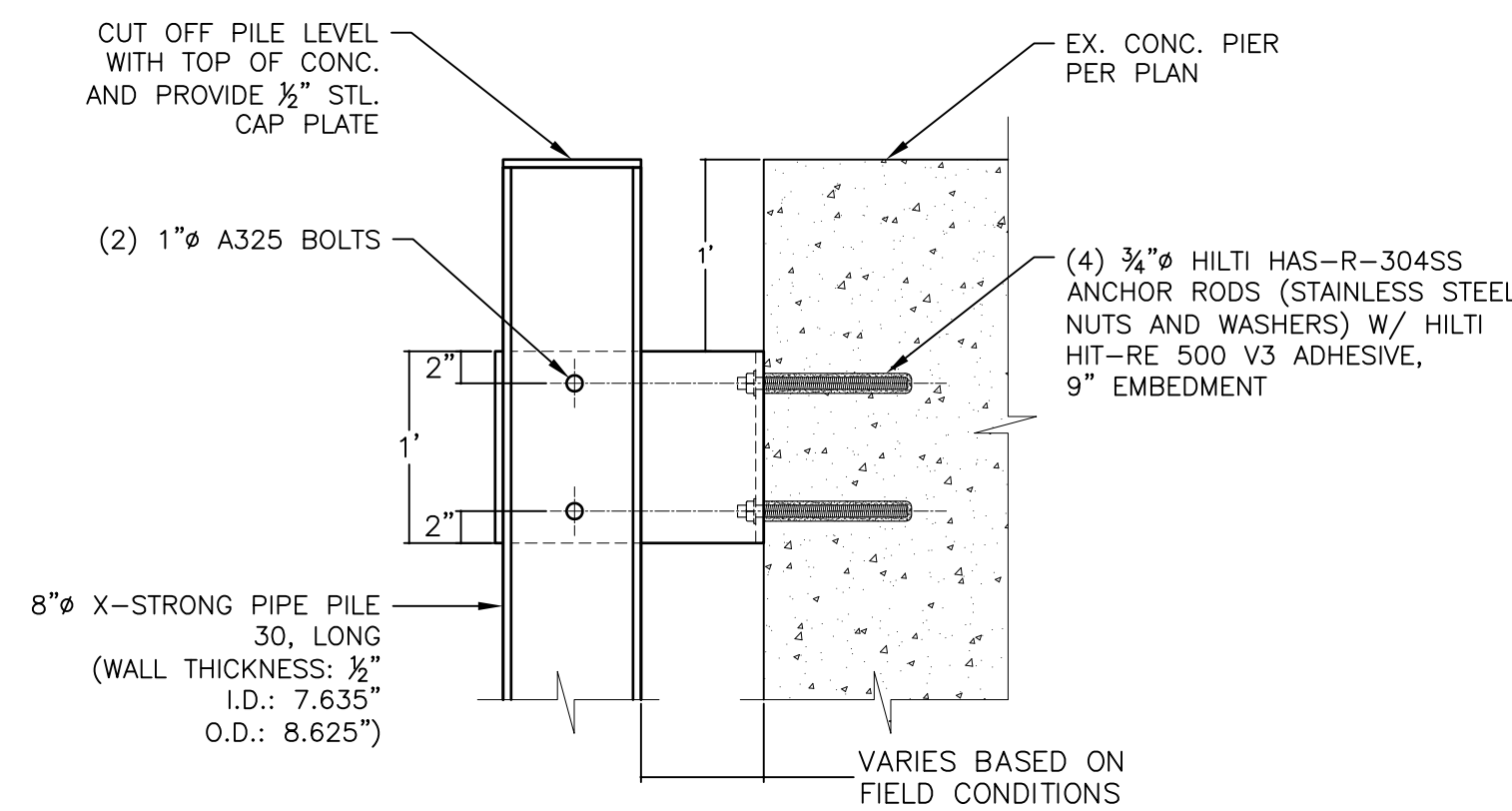


PIPE PILE DETAIL
SCALE: 1" = 1'

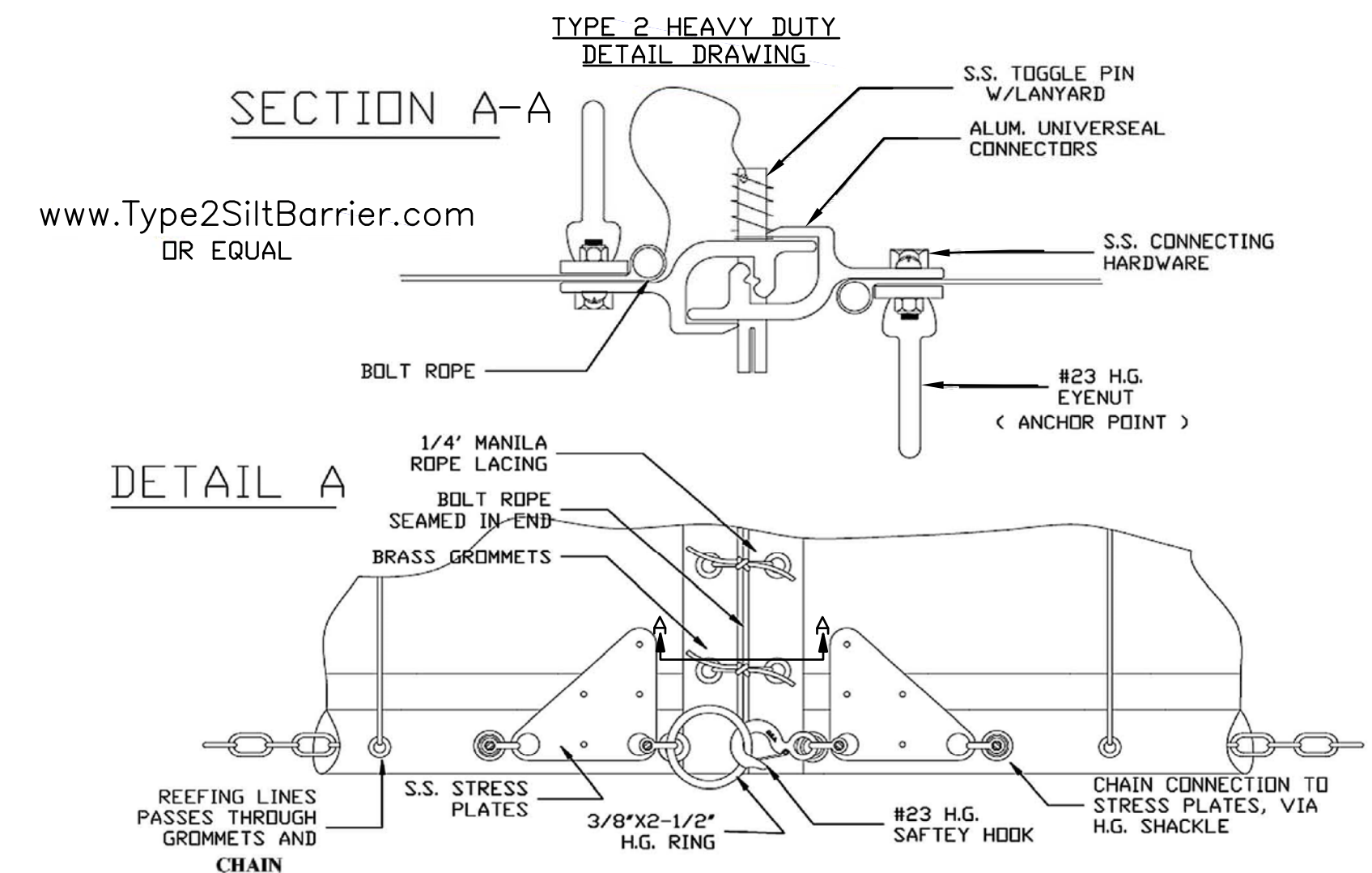
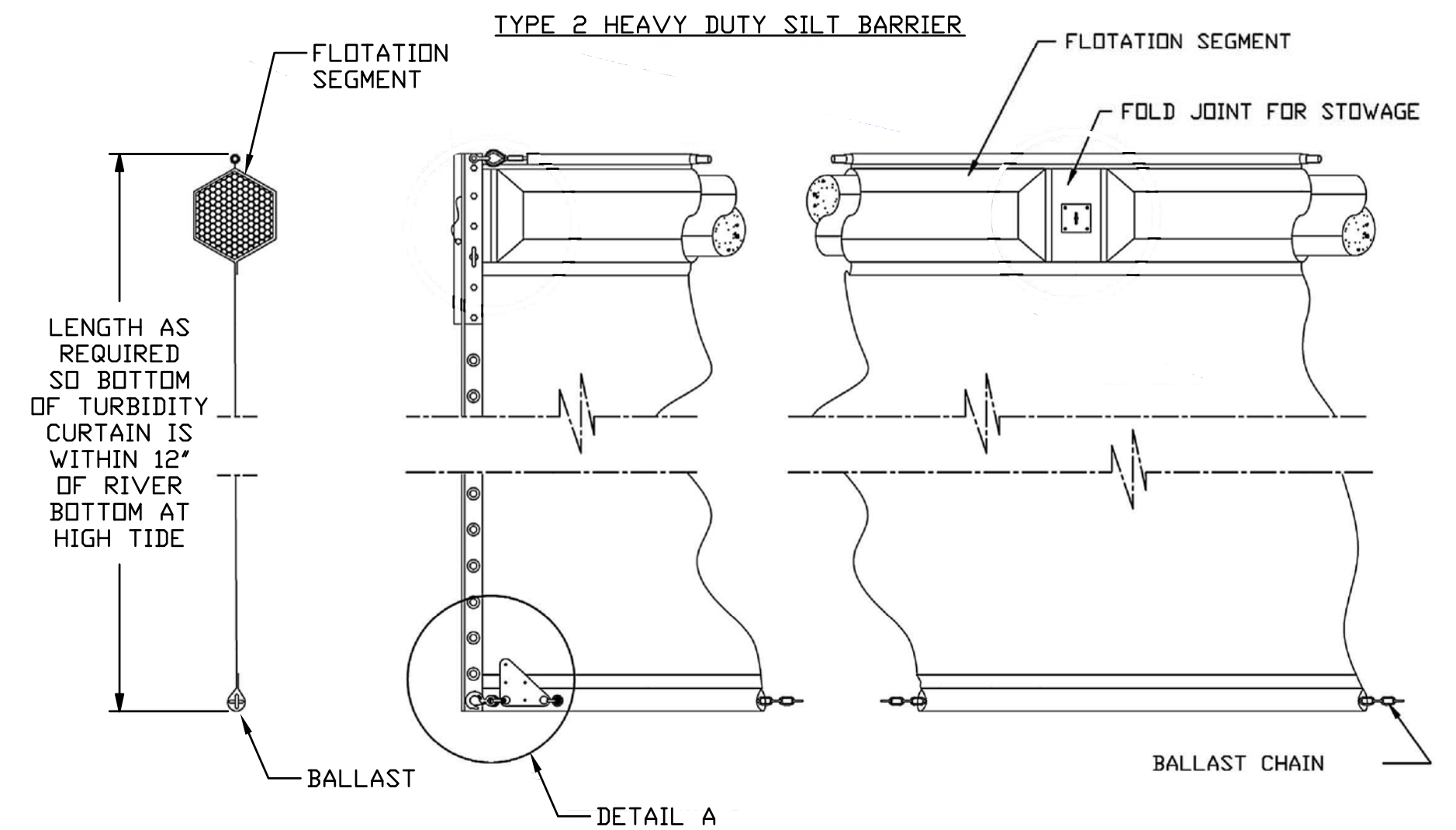
NOTES:
ALL STEEL BRACKETS AND COMPONENTS
TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
STAINLESS STEEL FASTENERS TO MEET ASTM A153.



SECTION A-A
SCALE: 1" = 1'



SECTION B-B
SCALE: 1" = 1'

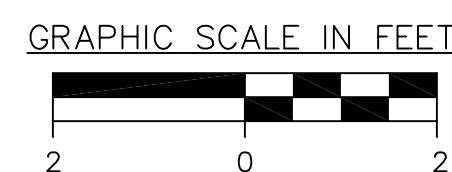


FLOATING SILT BARRIER DETAIL
NOT TO SCALE

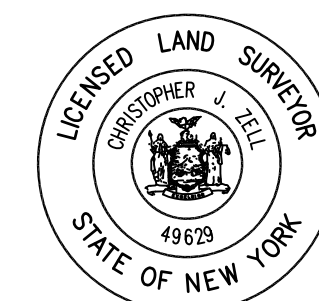
CONCRETE PIER STABILIZATION
CONTRACT NO. VSA-172

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE NY RISING COMMUNITY RECONSTRUCTION PROGRAM NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY VILLAGE OF SAUGERTIES ULSTER COUNTY NEW YORK			
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SCALE	DATE	SHEET NO.	
1" = 2'	MARCH 2017	6 OF 7	
	DWC	CHK	
	RJS		

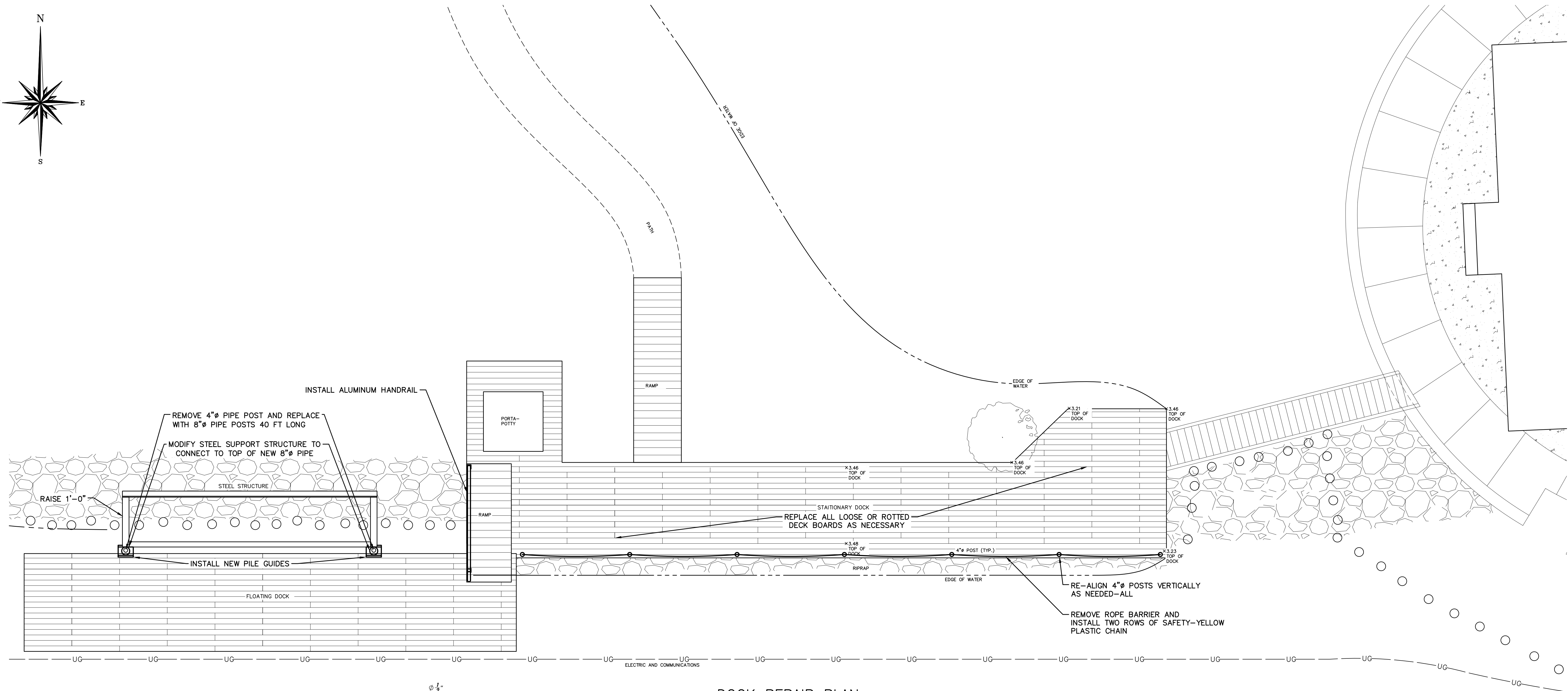
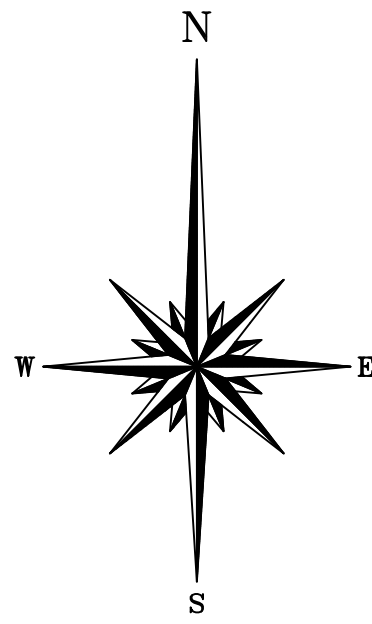
NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.



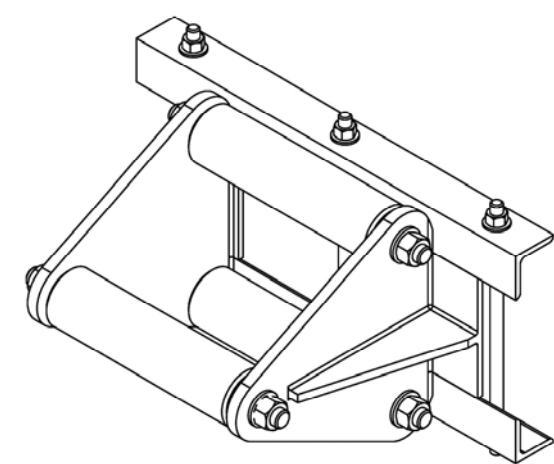
JOHN STINEMIRE, P.E., CONSULTING ENGINEER
15 RAILROAD AVENUE KINGSTON, NEW YORK 12401 845-331-8806



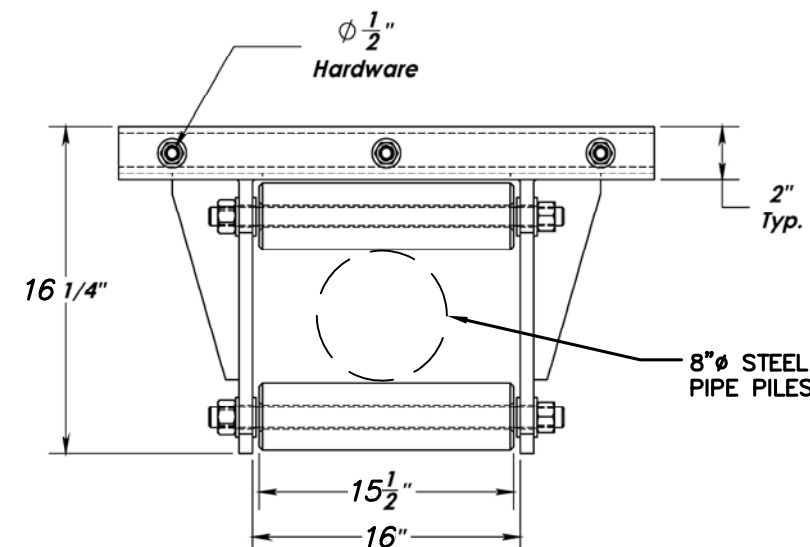
Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.



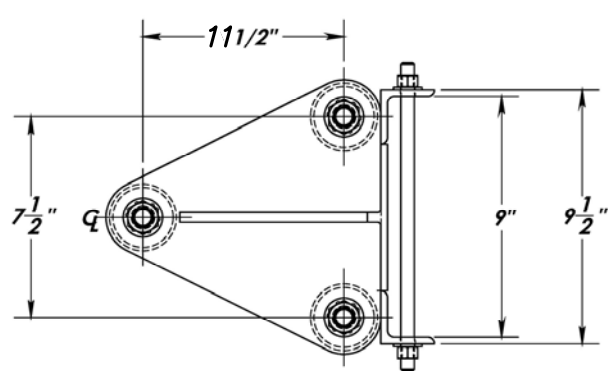
DOCK REPAIR PLAN
SCALE: 1" = 3'



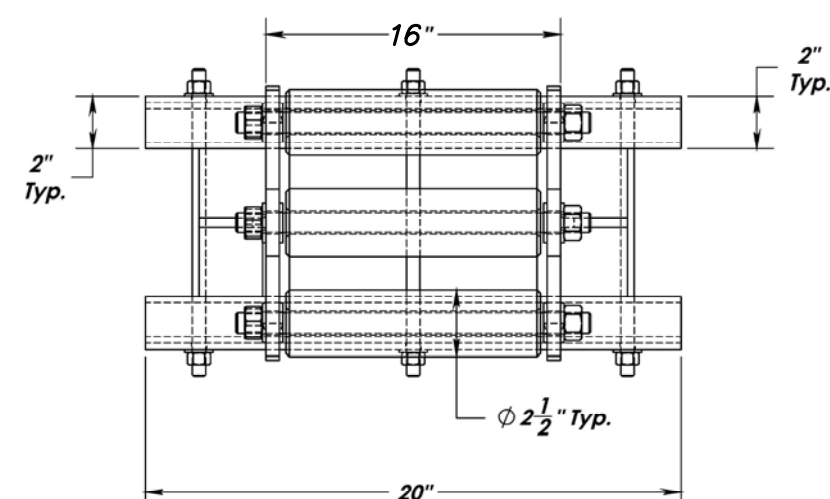
ISOMETRIC VIEW



TOP VIEW

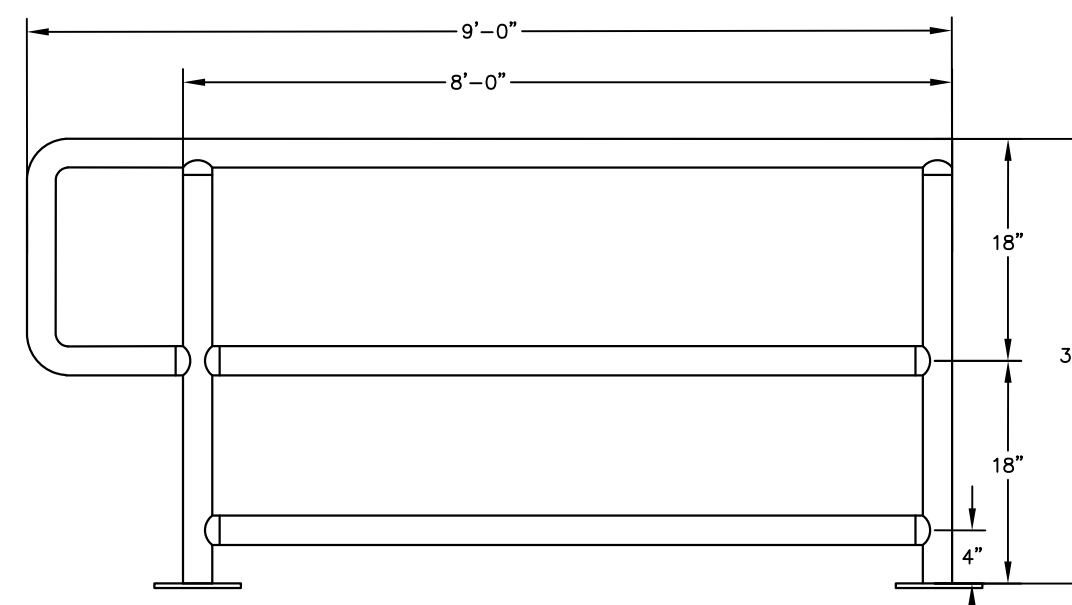


SIDE VIEW



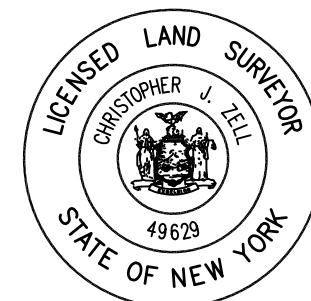
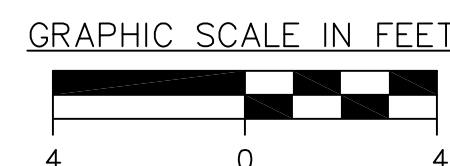
FRONT VIEW

PILE GUIDE
NOT TO SCALE



HANDRAIL DETAIL
NOT TO SCALE

NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.



Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

DOCK REPAIRS
CONTRACT NO. VSA-172

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE			
NY RISING COMMUNITY RECONSTRUCTION PROGRAM			
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY	
		NEW YORK	
DATE	REVISION RECORD		
3/31/17	30% DESIGN FOR AGENCY REVIEW		

Attachment 3

IPaC**U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

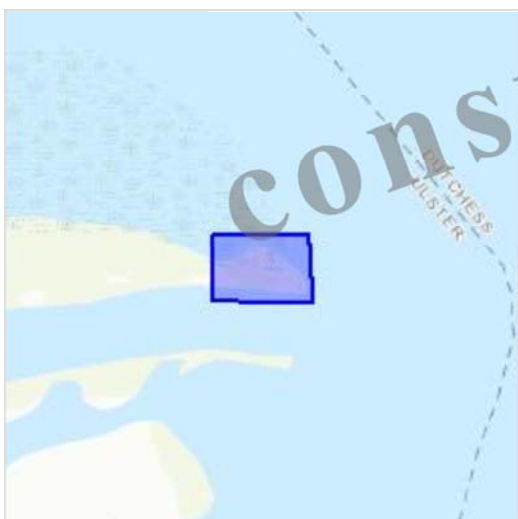
Project information

NAME

Village of Saugerties Park Restoration - Saugerties Lighthouse Repairs

LOCATION

Ulster County, New York



DESCRIPTION

Repairs

to existing supporting structures of the Saugerties Lighthouse, located at 168 Lighthouse Drive, near the end of the Lighthouse Trail on the Hudson River, Village of Saugerties, NY. Repairs include: restoration of the seawall by filling any void areas within the seawall and repointing the mortar joints of the granite block seawall; restoration of the bulkhead located on the south side of the Saugerties Lighthouse by installing a new timber bulkhead immediately in front of the existing deteriorated bulkhead remains; stabilization of the unreinforced concrete piers located to the east of the Saugerties Lighthouse; and repairs to the existing floating dock with any grant funding that is remaining after completing the prior three repairs. Work would begin in no early than July 2017, with in-water work beginning no earlier than September 1, 2017. All construction activity is expected to be completed in 4 to 6 months.

Local office

New York Ecological Services Field Office

☎ (607) 753-9334

📠 (607) 753-9699

3817 Luker Road

Cortland, NY 13045-9349

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can

change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species

¹ are managed by the [Endangered Species Program](#) of the U.S. Fish and Wildlife Service.

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

¹ and the Bald and Golden Eagle Protection Act².

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

³. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data <http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The migratory birds species listed below are species of particular conservation concern (e.g. [Birds of Conservation Concern](#)) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the [AKN Histogram Tools](#) and [Other Bird Data Resources](#). To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

NAME	SEASON(S)
American Bittern <i>Botaurus lentiginosus</i> https://ecos.fws.gov/ecp/species/6582	Breeding
Bald Eagle <i>Haliaeetus leucocephalus</i> https://ecos.fws.gov/ecp/species/1626	Year-round
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> https://ecos.fws.gov/ecp/species/9399	Breeding
Black-crowned Night-heron <i>Nycticorax nycticorax</i> https://ecos.fws.gov/ecp/species/6487	Breeding
Blue-winged Warbler <i>Vermivora pinus</i>	Breeding
Canada Warbler <i>Wilsonia canadensis</i>	Breeding
Cerulean Warbler <i>Dendroica cerulea</i> https://ecos.fws.gov/ecp/species/2974	Breeding
Golden-winged Warbler <i>Vermivora chrysoptera</i> https://ecos.fws.gov/ecp/species/8745	Breeding
Least Bittern <i>Ixobrychus exilis</i> https://ecos.fws.gov/ecp/species/6175	Breeding

Olive-sided Flycatcher	<i>Contopus cooperi</i> https://ecos.fws.gov/ecp/species/3914	Breeding
Peregrine Falcon	<i>Falco peregrinus</i> https://ecos.fws.gov/ecp/species/8831	Breeding
Pied-billed Grebe	<i>Podilymbus podiceps</i>	Breeding
Prairie Warbler	<i>Dendroica discolor</i>	Breeding
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Breeding
Rusty Blackbird	<i>Euphagus carolinus</i>	Wintering
Short-eared Owl	<i>Asio flammeus</i> https://ecos.fws.gov/ecp/species/9295	Wintering
Upland Sandpiper	<i>Bartramia longicauda</i> https://ecos.fws.gov/ecp/species/9294	Breeding
Willow Flycatcher	<i>Empidonax traillii</i> https://ecos.fws.gov/ecp/species/3482	Breeding
Wood Thrush	<i>Hylocichla mustelina</i>	Breeding
Worm Eating Warbler	<i>Helmitheros vermivorum</i>	Breeding

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some

ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAA/NCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAA/NCCOS models: the models were developed as part of the NOAA/NCCOS project: [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#). The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the [Northeast Ocean Data Portal](#), which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The [Avian Knowledge Network \(AKN\)](#) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the [Migratory Bird Programs AKN Histogram Tools](#) webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project](#) webpage.

Facilities

Wildlife refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location overlaps the following wetlands:

RIVERINE

[R1UBV](#)

A full description for each wetland code can be found at the National Wetlands Inventory website: <https://ecos.fws.gov/ipac/wetlands/decoder>

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal,

state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

**Not for
consultation**

Attachment 4



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9349

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>



In Reply Refer To:

May 22, 2017

Consultation Code: 05E1NY00-2016-SLI-0116

Event Code: 05E1NY00-2017-E-06084

Project Name: Village of Saugerties Park Restoration - Saugerties Lighthouse Repairs

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9349

(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2016-SLI-0116

Event Code: 05E1NY00-2017-E-06084

Project Name: Village of Saugerties Park Restoration - Saugerties Lighthouse Repairs

Project Type: Federal Grant / Loan Related

Project Description: Repairs to existing supporting structures of the Saugerties Lighthouse, located at 168 Lighthouse Drive, near the end of the Lighthouse Trail on the Hudson River, Village of Saugerties, NY. Repairs include: restoration of the seawall by filling any void areas within the seawall and repointing the mortar joints of the granite block seawall; restoration of the bulkhead located on the south side of the Saugerties Lighthouse by installing a new timber bulkhead immediately in front of the existing deteriorated bulkhead remains; stabilization of the unreinforced concrete piers located to the east of the Saugerties Lighthouse; and repairs to the existing floating dock with any grant funding that is remaining after completing the prior three repairs. Work would begin in no early than July 2017, with in-water work beginning no earlier than September 1, 2017. All construction activity is expected to be completed in 4 to 6 months.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/42.072199317954684N73.93005028366966W>



Counties: Ulster, NY

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Indiana Bat (<i>Myotis sodalis</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat (<i>Myotis septentrionalis</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

There are no critical habitats within your project area.

Attachment 5

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

May 19, 2017

Alicia Shultz
Governor's Office of Storm Recovery
38-40 State Street
Albany, NY 12207

Re: Repair of support structures adjacent to Saugerties Lighthouse, 168 Lighthouse Drive,
Village of Saugerties
County: Ulster Town/City: Saugerties

Dear Ms. Shultz:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 3 Office, Division of Environmental Permits, at dep.r3@dec.ny.gov, (845) 256-3054.

Sincerely,



Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program



**The following state-listed animals have been documented
at the project site or in its vicinity.**

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for the project, please contact the Permits staff at the NYSDEC Region 3 Office at dep.r3@dec.ny.gov, (845) 256-3054. For information about potential impacts of the project on these species, and how to avoid, minimize, or mitigate any impacts, contact: for eagles -- Region 3 Wildlife staff at Wildlife.R3@dec.ny.gov, (845) 256-3098; for sturgeon -- Hudson River Fisheries Unit, HudsonRiverFish@dec.ny.gov, (845) 256-3071.

The following species have been documented in the Hudson River.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>	
Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	Endangered No	Endangered	1091
Atlantic Sturgeon	<i>Acipenser oxyrinchus</i>	Open Season	Endangered	11464

The following species has been documented nesting within .5 mile of the project site.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>	
Bald Eagle <i>Nesting</i>	<i>Haliaeetus leucocephalus</i>	Threatened		13818

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.



The following rare plants, rare animals, and significant animal concentration areas have been documented at the project site, or in its vicinity.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following plant are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
Heartleaf Plantain	<i>Plantago cordata</i>	Rare	Vulnerable in NYS
Saugerties Marsh, shore of Hudson River at south side of mouth of Esopus River, 1988-09-09: Small marsh, extensive sections of <i>Nuphar</i> followed by a 10-15 m band of <i>Typha</i> , <i>Zizania</i> and <i>Scirpus</i> .			9344

The following significant natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. They are either occurrences of a community type that is rare in the state, or a high quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME	HERITAGE CONSERVATION STATUS
Freshwater Tidal Marsh	High Quality Occurrence of Rare Community Type
Saugerties Marsh, both sides of mouth of Esopus River: Good condition, site disturbed by bulkheads and riprap.	4570
Freshwater Intertidal Mudflats	High Quality Occurrence of Rare Community Type
Saugerties Marsh, both sides of mouth of Esopus River: Small, very low diversity.	5799

The following animal concentration areas are considered to be of state significance, and are of conservation concern to the state.

Hudson River and Esopus River around mouth of Esopus River: Tidal marsh and deepwater section.

Anadromous Fish Concentration Area	8999
Waterfowl Winter Concentration Area	5710

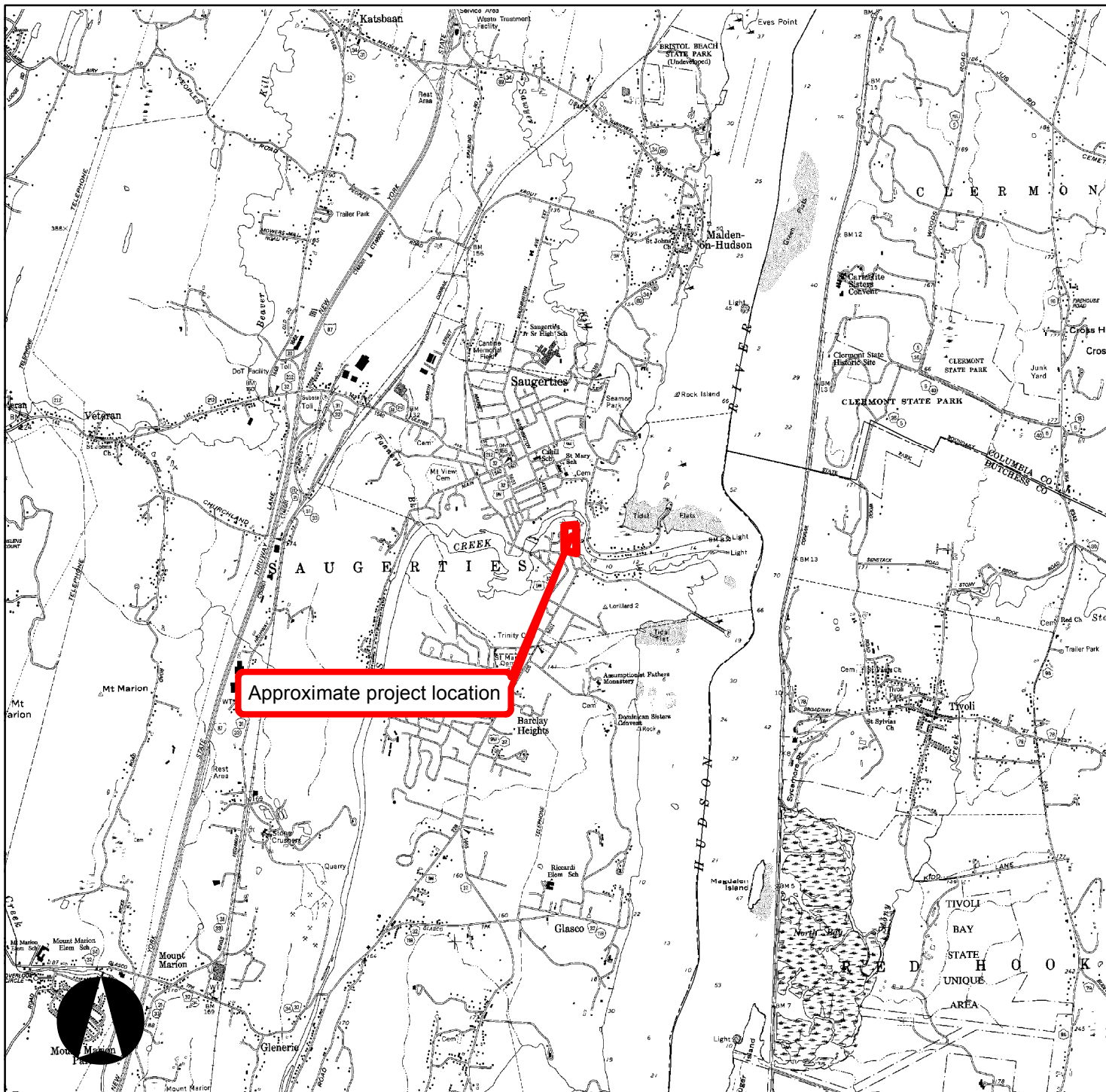
This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

Attachment 6



NYS Resources Map

Bats in Town of Saugerties Ulster County

Prepared by MHO Date: 9/26/16

0 4,000 8,000 Feet

1 inch equals 4,000 feet

- Indiana_Bat
- Northern long-eared bats

Disclaimer: This map was prepared by the NYSDEC using the most current data available. It is deemed accurate but is not guaranteed. NYSDEC is not responsible for any inaccuracies in the data and does not necessarily endorse any interpretations or products derived from the data. This map may contain information that is considered sensitive and therefore the distribution of this map is strictly prohibited.



Department of
Environmental
Conservation



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

MAY 31 2017

Alicia Shultz
New York State Homes & Community Renewal
Governor's Office of Storm Recovery
38-40 State St., 408N, Hampton Plaza
Albany, NY 12207

Re: Not Likely to Adversely Affect Determination – NOAA NMFS Section 7 Project Review

**Village of Saugerties – Parks Restoration, Saugerties Lighthouse Repairs
Town of Saugerties, Ulster County, New York**

Dear Ms. Shultz:

We have completed our consultation under section 7 of the Endangered Species Act (ESA) in response to your letters received May 5, 2017 and May 23, 2017 regarding the above-referenced proposed project. We reviewed the action agency's consultation request document and related materials. Based on our knowledge, expertise, and the action agency's materials, we concur with the action agency's conclusion that the proposed action is not likely to adversely affect the ESA-listed species and/or designated critical habitat under our jurisdiction. Therefore, no further consultation pursuant to section 7 of the ESA is required.

We have one conclusion to clarify from your letter. In the water quality section of the effects analysis, you mention that sturgeon could avoid the turbidity disturbance by altering their course. Because there will be a turbidity curtain surrounding the area where pile driving will occur, it will prevent sturgeon from entering the area and being exposed to the turbidity plume. Therefore, the effects of water quality on sturgeon will be discountable.

Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or (c) If a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required. Should you have any questions about this correspondence please contact Edith Carson at 978-282-8490 or Edith.Carson@noaa.gov. For questions related to Essential



Fish Habitat please contact Ursula Howson with our Habitat Conservation Division at 732-872-3116 or Ursula.Howson@noaa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kimberly B. Damon-Randall', with a long horizontal flourish extending to the right.

Kimberly B. Damon-Randall
Assistant Regional Administrator
for Protected Resources

EC: Carson NMFS/PRD; Howson NMFS/HCD

PCTS: NER-2017-14186

File Code: \Section 7\Non-Fisheries\HUD\2017\Pilot_HUD GOSR Saugerties Lighthouse Pier Bulkhead Hudson

APPENDIX E - NATIONAL MARINE FISHERIES SERVICE CORRESPONDENCE



**Governor's Office of
Storm Recovery**

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

May 23, 2017

Regulatory Division

Mrs. Kimberly Damon-Randall
Protected Resources Division
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, Massachusetts 01930

Dear Mrs. Damon-Randall:

We have received an application to permit a proposed project submitted by Village of Saugerties and titled Village of Saugerties – Parks Restoration, Saugerties Lighthouse Repairs. We request that the National Marine Fisheries Service (NMFS) concur with our determination that the proposed activity may affect, but is not likely to adversely affect, any species listed as threatened or endangered by NMFS under the Endangered Species Act (ESA). Our supporting analysis is provided in the attached Biological Assessment (BA).

Please have your staff contact Alicia Shultz at (518) 474-0647 if further information is required.

Sincerely,

Alicia Shultz
Senior Environmental Scientist
New York State Homes & Community Renewal
Governor's Office of Storm Recovery
38-40 State St., 408N, Hampton Plaza, Albany, NY 12207
(518) 474-0647 | cell (917) 376-9003 Alicia.Shultz@nyshcr.org |



Louis Berger

Memorandum

DATE: May 23, 2017

TO: Alicia Shultz, Senior Environmental Scientist
NY Governor's Office of Storm Recovery

FROM: Tara Stewart, Biologist
Louis Berger

SUBJECT: **Not Likely to Adversely Affect Determination - NOAA NMFS Section 7 Project Review**

**Village of Saugerties – Parks Restoration, Saugerties Lighthouse Repairs
Town of Saugerties, Ulster County, New York**

The Governor's Office of Storm Recovery (GOSR), an office of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation, was established to aid the statewide recovery of disaster-affected communities in New York State. GOSR is administering a U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant for Disaster Recovery (CDBG-DR), including the New York Rising Community Reconstruction (NYRCR) Program. The environmental review for projects funded under the NYRCR Program are processed on a case-by-case basis in accordance with the National Oceanic and Atmospheric Administration (NOAA) – National Marine Fisheries Service (NMFS) Greater Atlantic Region Section 7 Program Guidance and pursuant to Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and the Marine Mammal Protection Act (MMPA).

Louis Berger biologists have reviewed the above-referenced project, in accordance with NOAA Section 7 Program Guidance, to determine whether ESA species under NOAA jurisdiction may be present at the project site and/or adversely impacted by proposed project activities. This memorandum provides a summary of listed species that may occur within the vicinity of the project, an assessment of the potential for impacts to such species and/or their habitat, and a determination that the proposed activity may affect, but is not likely to adversely affect any ESA listed species or Critical Habitat under NMFS jurisdiction. Our supporting analysis is provided below.

1.0 Proposed Project

The Village of Saugerties is proposing storm-related restoration projects that would repair damaged public facilities that suffered impacts from storm events and help mitigate future impacts of tidal and coastal flooding to public facilities and low-lying areas. The Saugerties Lighthouse Repairs Project is one component of the Village of Saugerties Parks Restoration Project. During Hurricane Irene, Tropical Storm Lee, and Superstorm Sandy, the Saugerties Lighthouse experienced flooding caused by overflows

of Esopus Creek and its tributaries, as well as storm surges from the Hudson River. During Superstorm Sandy, storm surge from the Hudson River damaged the dike that protects the harbor channel, which has exposed and endangered the historic lighthouse's stone foundations through exposure to the Hudson River's wave action. The proposed project would repair existing support structures including bulkheads, docks, a pier, and seawall adjacent to Saugerties Lighthouse.

As depicted on Figures 1 and 2 of Attachment 1, the proposed project is located at 168 Lighthouse Drive, Saugerties, at the confluence of the Esopus Creek and Hudson River in Ulster County. The site is accessible from land via a half-mile nature trail at the end of Lighthouse Drive in the Village of Saugerties or by water via a small dock. The Saugerties Lighthouse was constructed in 1869, is the oldest surviving lighthouse residence on the Hudson River, and is listed on the National Register of Historic Places. The restored red-brick lighthouse building has an operational lighttower and offers bed & breakfast accommodations, public tours. The lighthouse is managed by the not-for-profit Saugerties Lighthouse Conservancy.

The rising and falling tidal waters in the Hudson River have created voids within the perimeter of the approximately 57' diameter granite block sea wall that provides the foundation for the lighthouse building. The timber pile bulkhead which surrounds the south side of sea wall is deteriorated and no longer providing any protection to the sea wall. The large concrete pier located east of the lighthouse has been undermined over the years by water and wave action. A wooden floating dock is in need of repairs to its framing, the pipe anchors supporting the floating dock and the wooden deck. Based on these required repairs, the four components of the Saugerties Lighthouse project are:

1. Restoration of the Saugerties Lighthouse seawall by filling any void areas within the seawall and repointing the mortar joints of the granite block seawall.
2. Restoration of the bulkhead located on the south side of the Saugerties Lighthouse by installing a new timber bulkhead immediately in front of the existing deteriorated bulkhead remains.
3. Stabilization of the unreinforced concrete piers located to the east of the Saugerties Lighthouse.
4. Make certain repairs to the existing floating dock with any grant funding that is remaining after completing items 1 through 3 above.

The proposed project would be funded under the CDBG-DR program as well as the Hurricane Sandy Disaster Relief Assistance Grant for Historic Properties, which is funded by the National Park Service and administered by the New York State Historic Preservation Office, in partnership with the National Heritage Trust.

The repairs to the seawall and floating dock would not require in-water work; therefore, these project components are not discussed further. The bulkhead restoration and stabilization of the concrete piers are the components of the proposed project. Louis Berger is hereby making an effect determination for with respect to threatened or endangered species or designated critical habitat under NMFS jurisdiction. The proposed repairs for these two components are described further below, and Design Plans are included as Attachment 2.

1.1 Bulkhead Restoration

The existing bulkhead's vertical cantilevered timber posts are deteriorated from being exposed to the environmental conditions and are not structurally sound. The bulkhead timber cap, front timber waler

and rear timber waler are no longer in-place. The bulkhead restoration would involve complete replacement of the existing deteriorated timber pile bulkhead in order to provide protection to the sea wall foundation from erosion forces. The replacement bulkhead would encircle the entire south side of the side of the sea wall. The north side of the seawall does not have erosion potential, as it is naturally a net sand/sediment depositional area because of the geometry of the shoreline.

The proposed bulkhead would be an approximately ninety-five feet long continuous timber pile bulkhead extending from the existing stationary wooden dock ramp to the wooden bridge that connects the wooden deck area. Approximately sixty 12" diameter, 30' long timber piles would be installed side-by-side using a vibratory hammer. The top of the bulkhead would be set at Elevation 1.0 feet. Wood timber walers would be installed on both sides of the timber piles to maintain the vertical alignment. Tiebacks anchored to the seawall would be uniformly located along the length of the bulkhead to further stabilize the bulkhead. The sea wall anchors would be positioned vertically at Elevation -1.5 feet. After installation of the sea wall anchors is complete, a blend of medium riprap (heavier than 100 pounds) and heavy riprap (heavier than 600 pounds) would be placed over the sea wall anchors to Elevation 1.0 feet.

1.2 Pier Stabilization

There are two large unreinforced concrete piers situated on ground surface east of the Saugerties Lighthouse. These piers are remains from the former 1838 lighthouse structure. The bottom or base of the piers are approximately at Elevation 0 feet which is about one foot above low tide. Over the years, the riprap stone around the base of the piers has been eroded and resulted in some displacement of the piers.

Pier stabilization would involve installation of fourteen vertical pipe pile anchors with one-half-inch thick steel connection brackets to the concrete piers. The pipe pile anchors would be forty feet in length and eight inches diameter. The top of the steel piles would be set at elevation 13.0 feet. Pipe pile anchors would be installed around perimeter of the piers to securely hold the piers to the streambed and prevent movement of the piers from wave action or ice floes. The piles will be installed using a vibratory hammer. After installation of the pipe pile anchors is complete, a blend of medium riprap and heavy riprap would be placed around the base of the piers.

1.3 Construction Considerations

The estimated noise at the source and distance to relevant thresholds for species in the action area was determined based on the Nation Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) acoustic tool spreadsheet. The maximum estimated distance to sSEL of 150 dB (surrogate for 187 dBc SEL (Injury) for sturgeon is 46.0 meters. The maximum distance to the behavioral threshold for the sturgeon is 72.0 meters.

Prior to in-water work, a turbidity curtain would be installed adjacent to the bulkhead and pier work areas to minimize stream disturbance. Each turbidity curtain will surround an approximately 1,000 square foot area, for a total of 2,000 square feet encompassed by turbidity curtain. The turbidity curtains would be weighted with ballast chains to hold them near the bottom of the streambed. If the ballast chain is found to not be heavy enough to hold the turbidity curtains in position, additional weighted fluke anchors would be installed to secure the turbidity curtains in the desired layout. The top of the turbidity curtain would have a floatation segment. The vertical length of the turbidity curtain would be ordered to accommodate both the depth of water at low tide and the normal vertical tidal variation. The performance of the turbidity curtain would be regularly monitored, and field adjustments would be made as required including but not limited to additional mooring lines attached to the top connection plate. The turbidity curtains

would remain in-place until all in-water work is complete. Construction would occur during ebb tide whenever practicable to further minimize in-water disturbance.

No dredging is proposed as part of the project. All materials and equipment would be delivered to the site by a barge.

The bulkhead repairs would take approximately 2 months to complete, while the pier repairs would take approximately 1 month to complete. The in-stream work is scheduled to be performed between September 1 and October 31.

2.0 Description of the Action Area

The action area is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50CFR§402.02). For this project, located at approximately at rkm 163 on the Hudson (Longitude 73° 55’ 46.7”W and Latitude 42° 4’ 19.4”N), the action area is confined to the area affected by the in-water work which includes area surrounded by the turbidity curtains (approximately 2,000 square feet), the 72 meters (236 feet) for the maximum distance of behavioral impacts on protected species due to sound from piling driving activities, and the surrounding area where any increase in vessel traffic may occur (barge). This area is expected to encompass all of the effects of the proposed project. The effects of any work that is done out of the water will not be considered further in this consultation.

The action area is located on the north side of mouth of Esopus Creek, at the creeks confluence with the Hudson River. Esopus Creek is a tidal estuary of the Hudson River and is classified by the NYSDEC as a Class C stream, Water Index Number H-171 which is in the Lower Esopus Creek Drainage Basin. The navigable channel is approximately 200 feet wide and 12 feet deep and is located approximately 25 feet south of the Saugerties Lighthouse timber bulkhead. The Esopus Creek had maintenance dredging performed in September of 2015. The Esopus Creek streambed elevation near the bulkhead location is at approximately -4.0 feet. High tide is at elevation 5.2 feet and low tide is at elevation -1.0 feet. Substrate within the action area consists of brown fine sand with some silt.

The Hudson River surrounds the north and east sides of the lighthouse site. North of the lighthouse the Hudson River is primarily mud flats. The Hudson River is approximately 1,800 feet wide near the Saugerties Lighthouse with the Hudson River navigational channel located approximately 800 feet east of the wooden deck area. This portion of the Hudson River is tidally influenced with water level elevations that range from -1.0 feet (low tide) to 5.2 feet (high tide, NGVD88). Wave heights at the site are typically less than three feet. The Hudson River is a Class A protected navigable water with a NYSDEC Water Index Number of H-Portion. The Ordinary High Water (OHW) level is at elevation 5 feet. The Hudson River contains areas with submerged aquatic vegetation (SAV), north and south of Esopus Creek, outside of the project area. There is no SAV in the location where pile driving will be occurring.

3.0 NMFS Listed Species in the Action Area

NMFS Endangered Species Maps depicting the estimated range for ESA species in the Greater Atlantic Region are included as Attachment 3. As depicted on the ESA Species Range Maps, the Hudson River within the vicinity of the action area is mapped as accessible for the federally endangered *Acipenser oxyrinchus oxyrinchus* (Atlantic sturgeon) and *Acipenser brevirostrum* (shortnose sturgeon). Accessible habitat for these species is defined as in-water habitat located in marine or estuarine areas below the high tide

line, or in riverine areas below the high water line. Also, as shown on the Estimated Range of Atlantic Sturgeon Distinct Population Segments, spawning Atlantic sturgeon have been documented in the Hudson River within the vicinity of the action area.

A request for species records within the vicinity of the project area was sent to the New York State Natural Heritage Program (NYSNHP). A response letter from NYSNHP states that Atlantic sturgeon and shortnose sturgeon occur in the tidal Hudson River, including Esopus Creek (NYSNHP 2016).

3.1 Atlantic sturgeon - New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPS-Endangered except for GOM DPS - Threatened (77 FR 5880 and 77 FR 5914)

Atlantic sturgeon is a long-lived and highly migratory species that spends most of its adult life at sea along the Atlantic coastline from Labrador, Canada to Cape Canaveral, Florida. As such, Atlantic sturgeon from any of the five DPSs may occur in the action area, which is located in Esopus Creek and the Hudson River. Atlantic sturgeon spawning and early life stages occur in major tidally influenced freshwater rivers. Early life stages and young of the year have limited tolerance to salinity and remain in freshwater reaches of their natal river until reaching the sub-adult stage when individuals have a higher tolerance for saline conditions. In New York, Atlantic sturgeon are generally found in the deeper portions of the Hudson River, and while occasionally found as far upriver as Albany, young fish are rarely seen upstream of Hudson. Mature males typically enter the Hudson estuary starting in April and at least some may remain as late as November. Adult females enter the estuary in mid-May and migrate directly to the spawning grounds, which are often deep channel or off-channel habitats, before quickly returning to marine waters (Bain 1997). In the Hudson River, spawning occurs upstream of the salt-front as larvae are thought to be intolerant of saline environments. NMFS received Atlantic Sturgeon data from Spring 2014 that confirmed the presence of adult Atlantic Sturgeon in spawning condition upstream of Hudson River rkm 193 from late April through early July (Dewayne Fox, DSU and Kathy Hattala, NYDEC, personal communication April 2014). Atlantic sturgeon eggs are demersal and adhesive, and the larvae remain close to the river bottom for some time (Everly et. al. 1999). As the work window will occur from September through October, no spawning or early life stages will be present in the action area. At around three years of age, subadults exceeding 70 centimeters in total length begin to migrate to marine waters (Bain et al. 2000). Atlantic sturgeon reach maturity between 12 and 15 years of age before migrating into coastal rivers to spawn every 2-5 years (Everly et. al. 1999). Only during spawning season, from April to June, do adult sturgeons return to large coastal rivers and estuaries.

Atlantic sturgeon are found in the waters north and south of the Esopus Creek mouth (NYSDOS 1987). During the entire year (including during the project), transient adult, sub-adult, and juvenile Atlantic sturgeon could be opportunistically foraging in the area.

3.1.1 Conference on Effects to Proposed Atlantic Sturgeon Critical Habitat

The action we have proposed would occur in an area proposed to be designated as critical habitat. We have reviewed the proposed action in order to determine whether a conference is required in this case. We are required to confer with NMFS on any action that is likely to jeopardize the continued existence of any species proposed for listing or result in destruction or adverse modification of proposed critical habitat (50 CFR §402.10). "Destruction or adverse modification" is defined as a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species (50 CFR § 402.02).

On June 3, 2016, NMFS issued two proposed rules to designate critical habitat for the five listed distinct population segments of Atlantic sturgeon found in U.S. waters (81 FR 35701 and 81 FR 36078). The proposed rule identifies the following four (4) essential physical and biological features necessary for the

conservation of the species. The term "physical or biological features" is defined as the features that support the life history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species or other features. The four (4) essential physical and biological features are:

- 1) Hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0 to 0.5 parts per thousand range) for settlement of fertilized eggs, refuge, growth, and development of early life stages;
- 2) Aquatic habitat with a gradual downstream salinity gradient of 0.5 to 30 parts per thousand and soft substrate (e.g., sand, mud) downstream of spawning sites for juvenile foraging and physiological development;
- 3) Water of appropriate depth and absent physical barriers to passage (e.g., locks, dams, reservoirs, gear, etc.) between the river mouth and spawning sites necessary to support: (1) Unimpeded movement of adults to and from spawning sites; (2) seasonal and physiologically dependent movement of juvenile Atlantic sturgeon to appropriate salinity zones within the river estuary; and (3) staging, resting, or holding of sub-adults or spawning condition adults. Water depths in main river channels must also be deep enough (e.g. 1.2 meters) to ensure continuous flow in the main channel at all times when any sturgeon life stage would be in the river; and
- 4) Water, especially in the bottom meter of the water column, with the temperature, salinity, and oxygen values that, combined, support: (1) spawning; (2) annual and inter-annual adult, sub-adult, larval, and juvenile survival; and (3) larval, juvenile, and sub-adult growth, development, and recruitment (e.g., 13°C to 26°C for spawning habitat and no more than 30°C for juvenile rearing habitat, and 6 mg/L dissolved oxygen for juvenile rearing habitat).

The project will be enclosed within a turbidity curtain to prevent sturgeon from being exposed to any turbidity plumes. Since the area within the turbidity curtains where the project will occur is so small (approximately 2,000 square feet), and the effects to substrate will be short term, the proposed action would not affect hard bottom substrate in low salinity waters that support the settlement and development of early life stages or soft substrate habitat downstream of spawning sites that support foraging and physiological development. Additionally, because the proposed action includes the use of a turbidity curtain to contain any disturbed sediment within the project area, it would have insignificant or discountable effects on water depth, water flow, dissolved oxygen levels, salinity, temperature, or the ability for Atlantic sturgeon to migrate in the action area.

We have considered the effects of the proposed action on proposed critical habitat and conclude that the proposed action is not likely to result in the destruction or adverse modification of proposed critical habitat. Accordingly, no conference is required at this time.

3.2 Shortnose sturgeon –Endangered (32 FR 4001; Recovery plan: NMFS 1998)

Shortnose sturgeon are endangered throughout their range which extends from the Minas Basin, Nova Scotia to the St. Johns River, Florida. The shortnose sturgeon is a long-lived, bottom feeding, anadromous fish that moves up the Hudson River in April-May to spawn in freshwater sites north of Coxsackie. Males spawn every other year and females every third year. Newly-hatched fry are poor swimmers and drift with the currents along the bottom. As they grow and mature, the fish move downriver into the most brackish parts of the lower Hudson. After spawning, adults distribute throughout the deepest channels of the estuary to forage on benthic invertebrates. As water temperatures decline in the late fall, adults typically concentrate in a few over-wintering areas near Kingston and Haverstraw Bay (Bain 1997).

In New York State, the shortnose sturgeon is only found in the lower portion of the Hudson River from the southern tip of Manhattan upriver to the Federal dam at Troy. Shortnose sturgeon are found in the waters north and south of the Esopus Creek mouth, and the deepwater areas of the mainstem of Hudson River that adjoin the Esopus Estuary serve as post-spawning and wintering habitat for shortnose sturgeon (USFWS 1997, NYSDOS 1987). As the in-water work window will occur from September through October, no spawning or early life stages will be present in the action area. During the entire year (including during the project), transient adult and juvenile shortnose sturgeon could be opportunistically foraging in the area.

4.0 Effects of the Action

Potential stressors to listed species as a result of the proposed action were considered. No dredging is proposed and there would be no risk of entrapment. The following stressors are considered relevant to the proposed action and are discussed below: habitat modification, vessel interaction, water quality effects, and sound.

4.1 Habitat Modification

Bulkhead construction and pier stabilization activities may impact sturgeon by reducing prey species through the alteration of existing biotic assemblages and habitat. We expect disturbed benthic communities within the action area to recover in less than one year, and the action would not result in the permanent loss of habitat or removal of potential forage items from the area. The area of actual disturbance will be small in the context of the Hudson River and post-construction there will be no appreciable change to the benthic habitat in the action area. Benthic communities in the disturbed area will initially decline, but resettling and recolonization will occur rapidly. Given the expansive foraging opportunities outside of the action area, any minor loss of foraging habitat would be too small to be meaningfully measured or detected. The existing habitat characteristics of the location where pile driving is occurring are sub-optimal for sturgeon foraging (i.e., the project area consists of shallow waters with no known SAV). As sturgeon are not expected to frequent shallow waters such as the action area, and there is no SAV within the action area, the temporary loss of potential forage during construction would have an undetectable effect on sturgeon. As a result, any effect to sturgeon foraging from a temporary reduction in benthic resources would be insignificant.

4.2 Vessel Interaction

In our analysis we considered three elements: (1) the existing baseline conditions, (2) the action and what it adds to existing baseline conditions, and (3) new baseline conditions (the existing baseline conditions and the action together). We have determined that vessel traffic added to baseline conditions as a result of the proposed project is not likely to adversely affect ESA-listed species for the following reasons.

Adding project vessels to the existing baseline will not increase the risk that any vessel in the area will strike an individual, or will increase it to such a small extent that the effect of the action (i.e., any increase in risk of a strike caused by the project) cannot be meaningfully measured or detected. The baseline risk of a vessel strike within the Hudson River and Esopus Creek is unknown. The increase in traffic associated the proposed project is extremely small. During the project activities, one project vessel (barge) will be added to the baseline. The addition of the project vessel will also be intermittent, temporary, and restricted to a small portion of the overall action area on any given day. As such, any increased risk of a vessel strike caused by the project will be too small to be meaningfully measured or detected. As a result, the effect of the action on the risk of a vessel strike in the action area is insignificant.

The pile driving itself will maintain the new timber bulkhead and stabilize the concrete pier, and, as a result, it is expected to enable vessels to travel safely in the area. Installing a new bulkhead and stabilizing the pier is not expected to change the number of vessels that use the action area; thus, preserving the status quo with regard to vessel routes and vessel numbers will not change the risk of a vessel strike. Any slight increase in risk from altered patterns of use would be too small to be detected or measured, and effects are, therefore, insignificant.

4.3 Water Quality Effects

The installation of piles would disturb bottom sediments and may cause a temporary increase in suspended sediment within in the action area. Louis Berger consulted NOAA Fisheries Greater Atlantic Region Section 7 Program Technical Guidance for determining the potential effects of pile driving on water quality (NOAA 2016). Using available information, it is expected that pile driving activities would produce total suspended sediment (TSS) concentrations of approximately 5.0 to 10.0 mg/L within approximately 300 feet of the pile being driven (FHWA 2012). The small resulting sediment plume would be expected to settle out of the water column within a few hours. Additionally, the turbidity curtain would minimize sediment transportation from the area of disturbance and as well as prevent fish from accessing the area. Studies of the effects of turbid water on fish suggest that concentrations of suspended sediment can reach thousands of milligrams per liter before an acute toxic reaction is expected (Burton 1993). The TSS levels expected for pile driving (5.0 to 10.0 mg/L) are below those shown to have adverse effect on fish (580.0 mg/L for the most sensitive species, with 1,000.0 mg/L more typical; see summary of scientific literature in Burton 1993) and benthic communities (390.0 mg/L (EPA 1986)).

Concentration of total suspended solids (TSS) resulting from temporary construction activity is not expected to reach levels that would have an adverse effect on sturgeon or the quality or quantity of prey currently available. The Atlantic and shortnose sturgeon are highly mobile and could avoid disturbance with minor movements to alter course away from such disturbance. Any increase in turbidity and suspended sediment would be minor and temporary, and the turbidity curtain would minimize sediment transportation in the water from the area of disturbance. The turbidity curtain would prevent sturgeon from accessing the immediate area where pile driving would occur. Based on this information, effects to sturgeon from suspended sediment resulting from project activities would be discountable.

4.4 Sound

The project as proposed would use a vibratory hammer to drive a total of sixty 12" diameter timber piles and fourteen 8" diameter steel piles into the streambed. The estimated noise at the source and distance to relevant thresholds for species in the action area was determined based on the NMFS Greater Atlantic Regional Fisheries Office (GARFO) Acoustic Tool spreadsheet (version updated 11/30/2016).

The estimated sound levels and distances to species injury and behavioral thresholds associated with the proposed action are presented in Tables 1-3. Underwater sound level estimates for the steel pile size proposed for this project (8" diameter) were not available, so the 12" Steel Pipe size was used for the analysis. A conservative water depth of 2 m was used for the steel pipe estimate. The appropriate water depth was not available for the 12" timber pile measurements, so the default 12 m was used.

Table 1: Proxy Projects for Estimating Underwater Noise

Project Location	Water Depth (m)	Pile Size (inches)	Pile Type	Hammer Type	Attenuation rate (dB/10m)
Norfolk, VA	12.2	12-16"	Timber	Vibratory	5

Sausalito, CA – Richardson Bay	2	12"	Steel Pipe	Vibratory	5
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Table 2. Proxy-Based Estimates for Underwater Noise

Type of Pile	Hammer Type	Estimated Peak Noise Level (dB _{Peak})	Estimated Pressure Level (dB _{RMS})	Estimated Single Strike Sound Exposure Level (dB _{sSEL})
12-16" Timber	Vibratory	176	165	165
12" Steel Pipe	Vibratory	193	181	168

Table 3. Estimated Distances to Sturgeon Injury and Behavioral Thresholds

Type of Pile	Hammer Type	Distance (m) to 206dB _{Peak} (injury)	Distance (m) to sSEL of 150 dB (surrogate for 187 dBcSEL injury)	Distance (m) to Behavioral Disturbance Threshold (150 dB _{RMS})
12-16" Timber	Vibratory	NA	39.0	39.0
12" Steel Pipe	Vibratory	NA	46.0	72.0

Exposure to underwater noise levels of 206 dB_{Peak} and 187 dB_{cSEL} can result in injury to sturgeon. In addition to the "peak" exposure criteria which relates to the energy received from a single pile strike, the potential for injury exists for multiple exposures to noise over a period of time; this is accounted for by the cSEL threshold. The cSEL is not an instantaneous maximum noise level, but is a measure of the accumulated energy over a specific period of time (e.g., the period of time it takes to install a pile). When it is not possible to accurately calculate the distance to the 187 dB_{cSEL} isopleth, we calculate the distance to the 150 dB_{ssSEL} isopleth. The further a fish is away from the pile being driven, the more strikes it must be exposed to accumulate enough energy to result in injury. At some distance from the pile, a fish is far enough away that, regardless of the number of strikes it is exposed to, the energy accumulated is low enough that there is no potential for injury. For this project, the distance to the 150 dB_{ssSEL} isopleth is no greater than 46.0 meters. In order to be exposed to potentially injurious levels of noise during installation of the piles, a sturgeon would need to be within 46.0 meters of the pile being driven to be exposed to this noise for any prolonged time period. This is extremely unlikely to occur as it is expected that sturgeon would modify their behavior at 72.0 meters from the installed piles and quickly move away from the area before cumulative injury levels are reached.

Behavioral effects, such as avoidance or disruption of foraging activities, may occur in sturgeon exposed to noise above 150 dB_{RMS}. It is expected that underwater noise levels would be below 150 dB_{RMS} at distances beyond approximately 72.0 meters from the pile being installed. Should sturgeon move into the action area where the 150 dB_{RMS} isopleth extends, as described above, it is reasonable to assume that a sturgeon, upon detecting underwater noise levels of 150 dB_{RMS}, will modify its behavior such that it redirects its course of movement away from the ensonified area and therefore, away from the project site. If any movements away from the ensonified area do occur, it is extremely unlikely that these movements will affect essential sturgeon behaviors (e.g., spawning, foraging, resting, and migration), as the Hudson River is sufficiently large enough to allow sturgeon to avoid the ensonified area while continuing to forage

and migrate. Given the small distance a sturgeon would need to move to avoid the disturbance levels of noise, any effects will not be able to be meaningfully measured or detected. Therefore, the effects of noise on sturgeon are insignificant.

5.0 Conclusion

Based on the analysis that all effects of the proposed action will be insignificant and/or discountable, we have determined that the proposed installation of the timber bulkhead and the stabilization of the concrete pier is not likely to adversely affect any listed species or critical habitat under NMFS' jurisdiction. We certify that we have used the best scientific and commercial data available to complete this analysis. We request your concurrence with this determination.

Attachments:

Attachment 1 – Project Location Maps

Attachment 2 – Design Plan Sheets

Attachment 3 – NMFS Endangered Species and Critical Habitat Maps

Literature Cited:

Bain, M.B. 1997. Atlantic and Shortnose Sturgeons of the Hudson River: Common & Divergent Life History Attributes. *Environmental Biology of Fishes* 48:347-358.

Bain, M., Haley, N., Peterson, D., Waldman, J. R., & Arend, K. 2000. Harvest and habitats of Atlantic sturgeon *Acipenser oxyrinchus* Mitch ill, 1815 in the Hudson River estuary: lessons for sturgeon conservation. *Boletín-Instituto Espanol De Oceanografia*, 16(1/4), 43-54.

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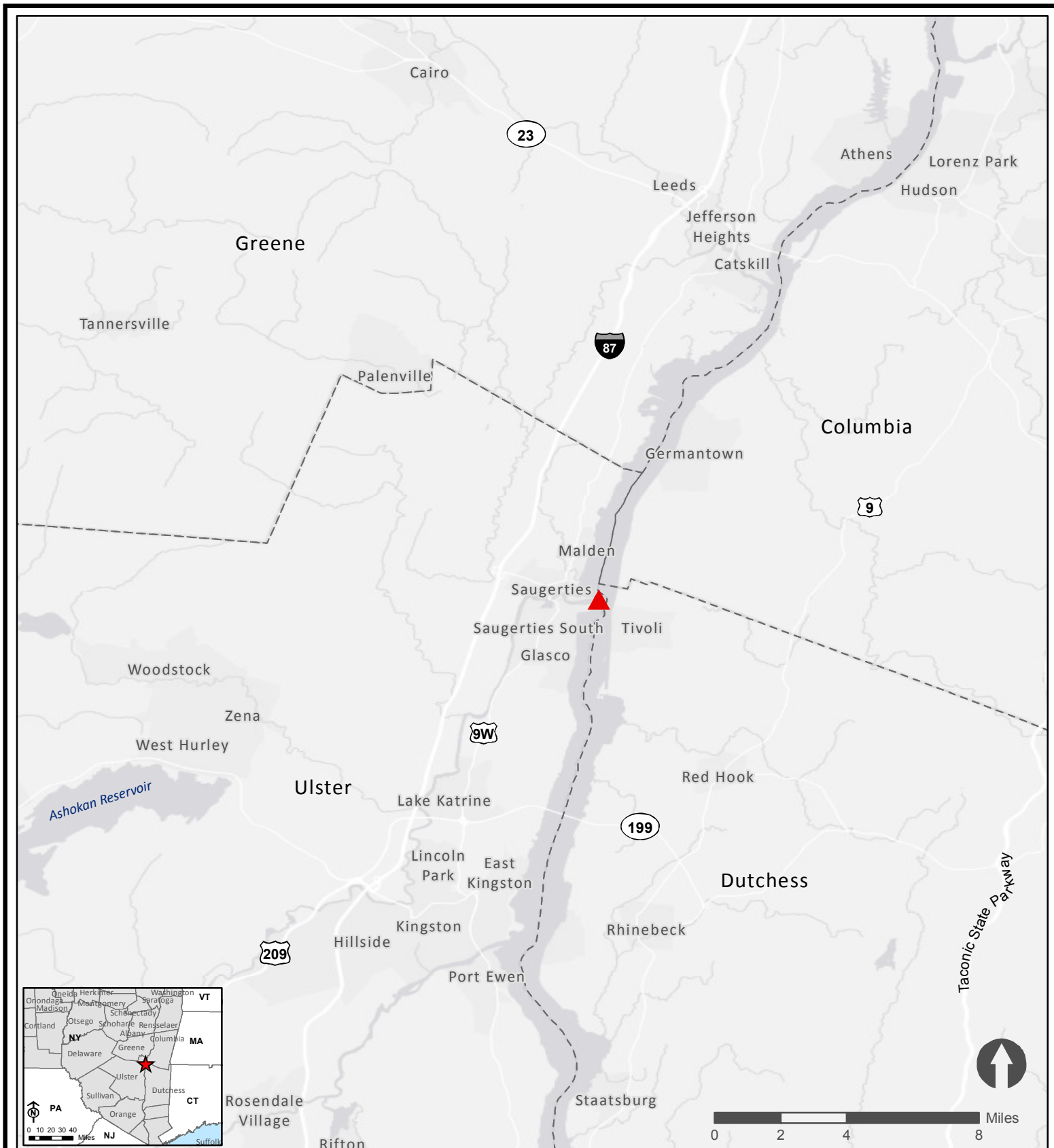
NMFS 2016. Greater Atlantic Region Section 7 Program Technical Guidance. Turbidity Table. Accessed at <https://www.greateratlantic.fisheries.noaa.gov/protected/section7/guidance/consultation/turbiditytablenew.html>

NYSDOS 1987. Coastal Fish and Wildlife Assessment Form for Esopus Estuary. http://www.dos.ny.gov/opd/programs/consistency/Habitats/HudsonRiver/Esopus_Estuary_Habitat_FINAL.pdf

USFWS. 1997. Significant Habitats and Habitat Complexes of the New York Bight Watershed. <https://nctc.fws.gov/pubs5/begin.htm>

USFWS 2017. National Wetlands Inventory. Wetland Mapper v2.

Attachment 1





-  Project Location
-  County Boundary

Figure 1
Regional Location

Saugerties Lighthouse
Repairs

Source: U.S. Fish and Wildlife Service; Ulster County GIS Datasets;
NYS Dept. of State; NYS Department of Environmental Conservation;
U.S. Department of Agriculture; FEMA; ESRI World Imagery; ESRI Street Map

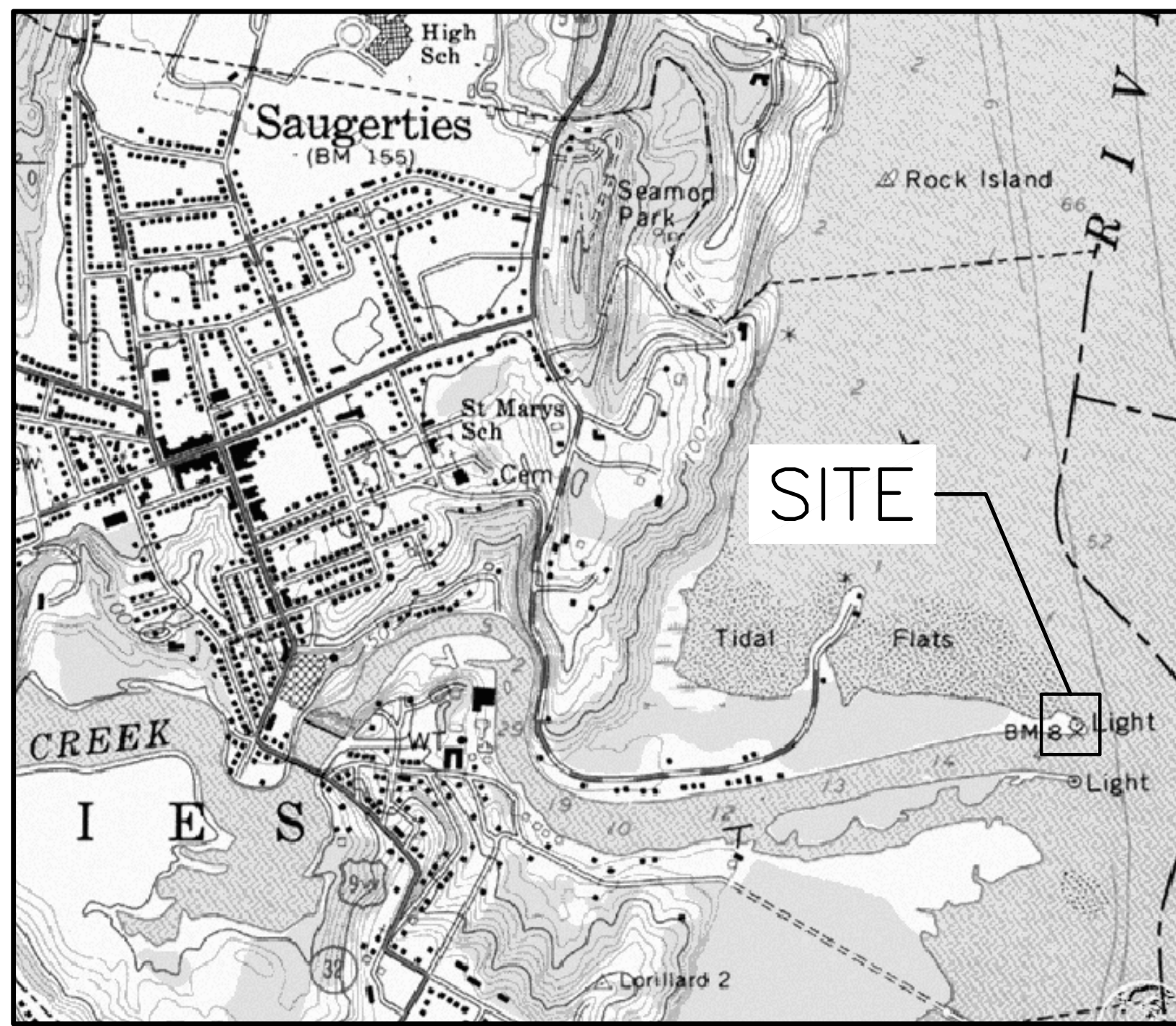


 Project Boundary

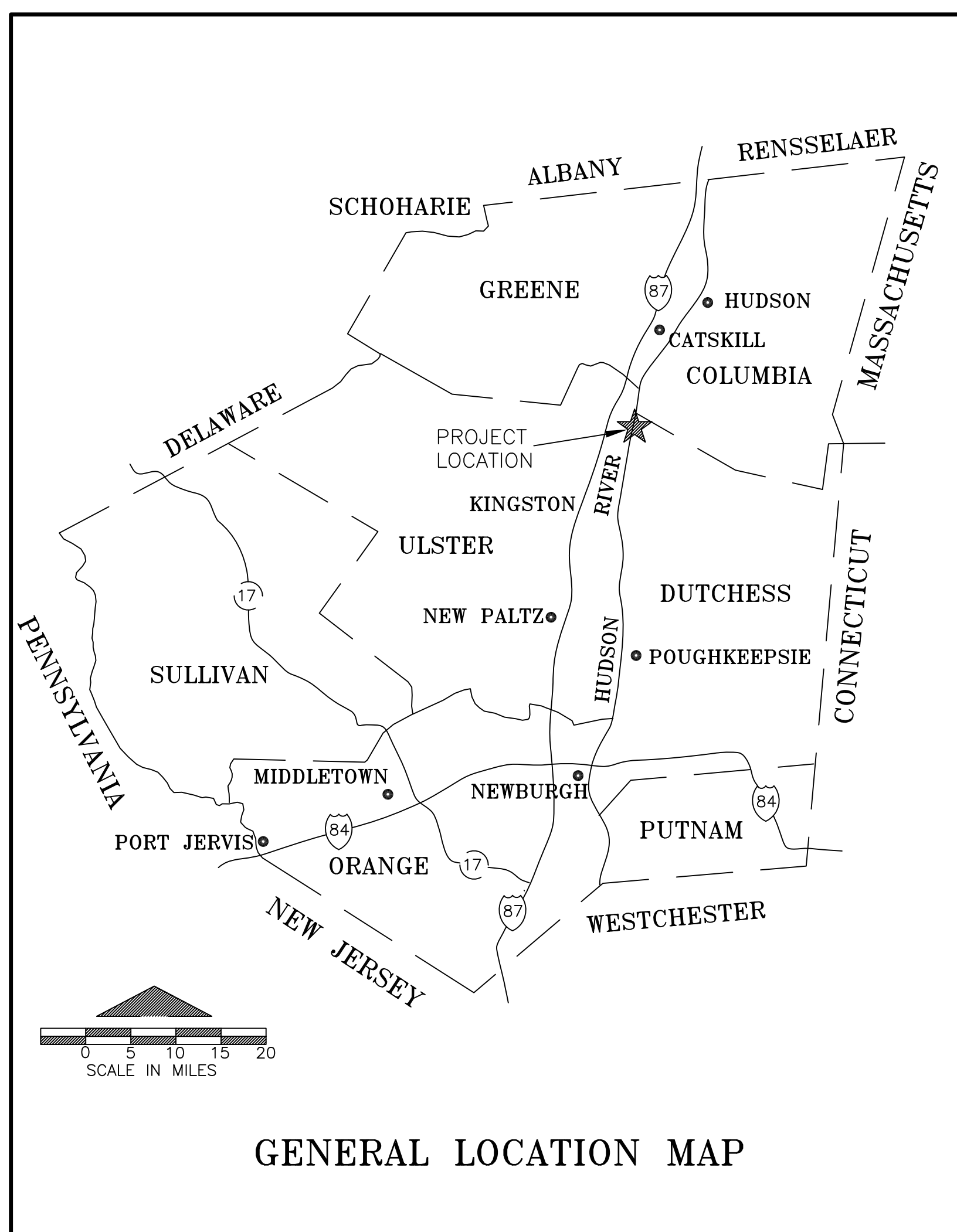
Figure 2
Project Location

Saugerties Lighthouse
Repairs

Attachment 2



LOCATION MAP
SCALE 1" = 1000'



CONTRACT VSA-172

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE

FUNDED BY
NEW YORK STATE HISTORIC PRESERVATION
AND
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNOR'S OFFICE OF STORM RECOVERY

VILLAGE OF SAUGERTIES ULSTER COUNTY NEW YORK

VILLAGE OFFICIALS

WILLIAM MURPHY, MAYOR

TRUSTEES

JEANNINE MAYER
DONALD HACKETT
VINCENT BRUNO
BRIAN MARTIN
TERRY PARISIAN

LISA MAYONE, VILLAGE CLERK

EYAL SAAD, PROJECT MANAGER

30% DESIGN
MARCH 2017

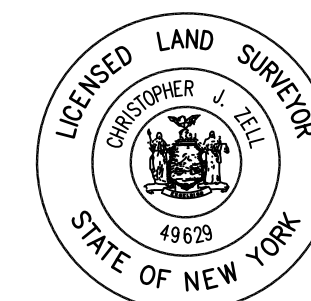


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Call before you dig.

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PROFESSIONAL ENGINEERS AND LAND SURVEYORS
67 MAIDEN LANE
KINGSTON, NEW YORK
(845) 338-7622

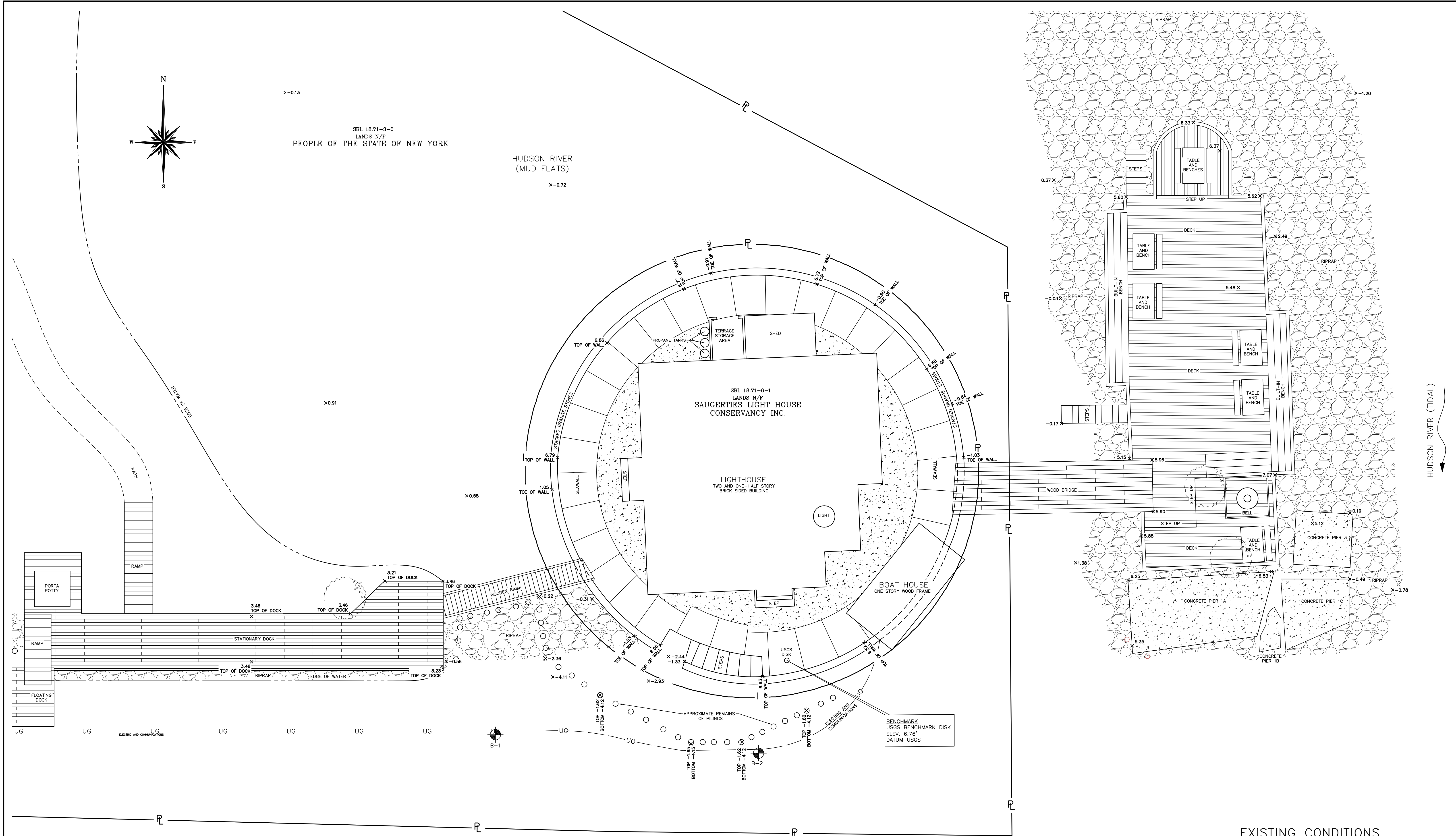


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New York State Education Law.



INDEX OF DRAWINGS

<u>SHEET NO.</u>	<u>DRAWING</u>
1.	COVER
2.	EXISTING CONDITIONS
3.	OVERALL PROJECT PLAN
4.	SEA WALL RESTORATION
5.	BULKHEAD RESTORATION
6.	PIER STABILIZATION
7.	FLOATING DOCK REPAIRS

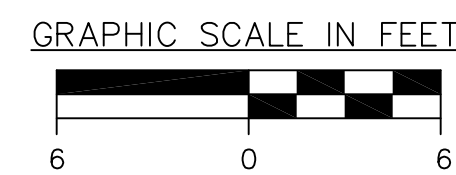


- NOTE:
1. FIELD SURVEY PERFORMED BY BRINNIER AND LARIOS, P.C. ON JANUARY 19, 2016.
 2. PROPERTY LINE LOCATIONS ARE APPROXIMATE BASED ON ULSTER COUNTY TAX MAPS.
 3. THE LOCATION OF THE UNDERGROUND ELECTRIC AND COMMUNICATION CABLES ARE NOT KNOWN AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
 4. ORDINARY HIGH WATER (OHW) MARK IS AT ELEVATION 5 FEET BASED ON FIELD OBSERVATIONS.

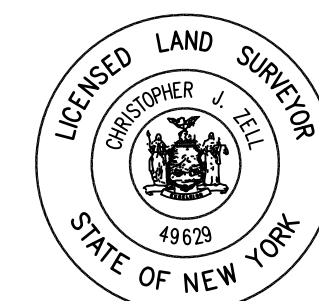
LEGEND

— P —	PROPERTY LINE
— E —	EDGE OF WATER
— UG —	UNDER GROUND UTILITIES
— P —	PATH
X0.55	SPOT ELEVATION
⊗	RIPRAP
⊗ B-1	BORING

EXISTING CONDITIONS
SCALE: 1" = 6'



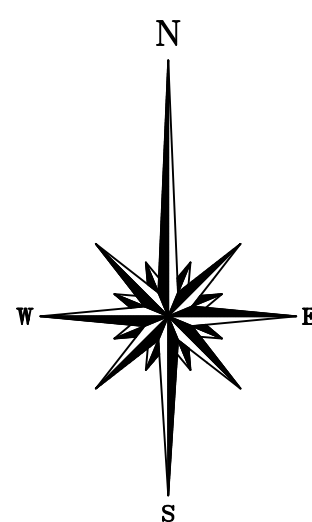
NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.



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EXISTING CONDITIONS
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1" = 6'	MARCH 2017	CHK	2 OF 7
	DWG	RJS	



HUDSON RIVER
(MUD FLATS)

SEAWALL RESTORATION
SEE SHEET 4

LIGHTHOUSE
TWO AND ONE-HALF STORY
BRICK SIDED BUILDING

LIGHT

BOAT HOUSE
ONE STORY WOOD FRAME

CONCRETE PIER STABILIZATION
SEE SHEET 6

DOCK REPAIR
SEE SHEET 7

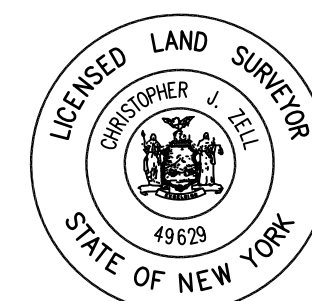
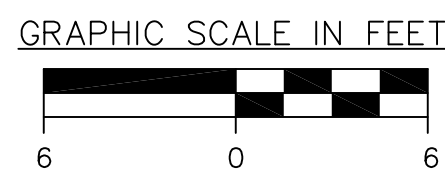
BULKHEAD RESTORATION
SEE SHEET 5

SITE PLAN
SCALE: 1" = 6'

LEGEND

- P — PROPERTY LINE
- - - - - EDGE OF WATER
- - - - - UG — UNDER GROUND UTILITIES
- - - - - X0.55 — PATH
- — — — — SPOT ELEVATION
- — — — — RIPRAP
- — — — — BORING

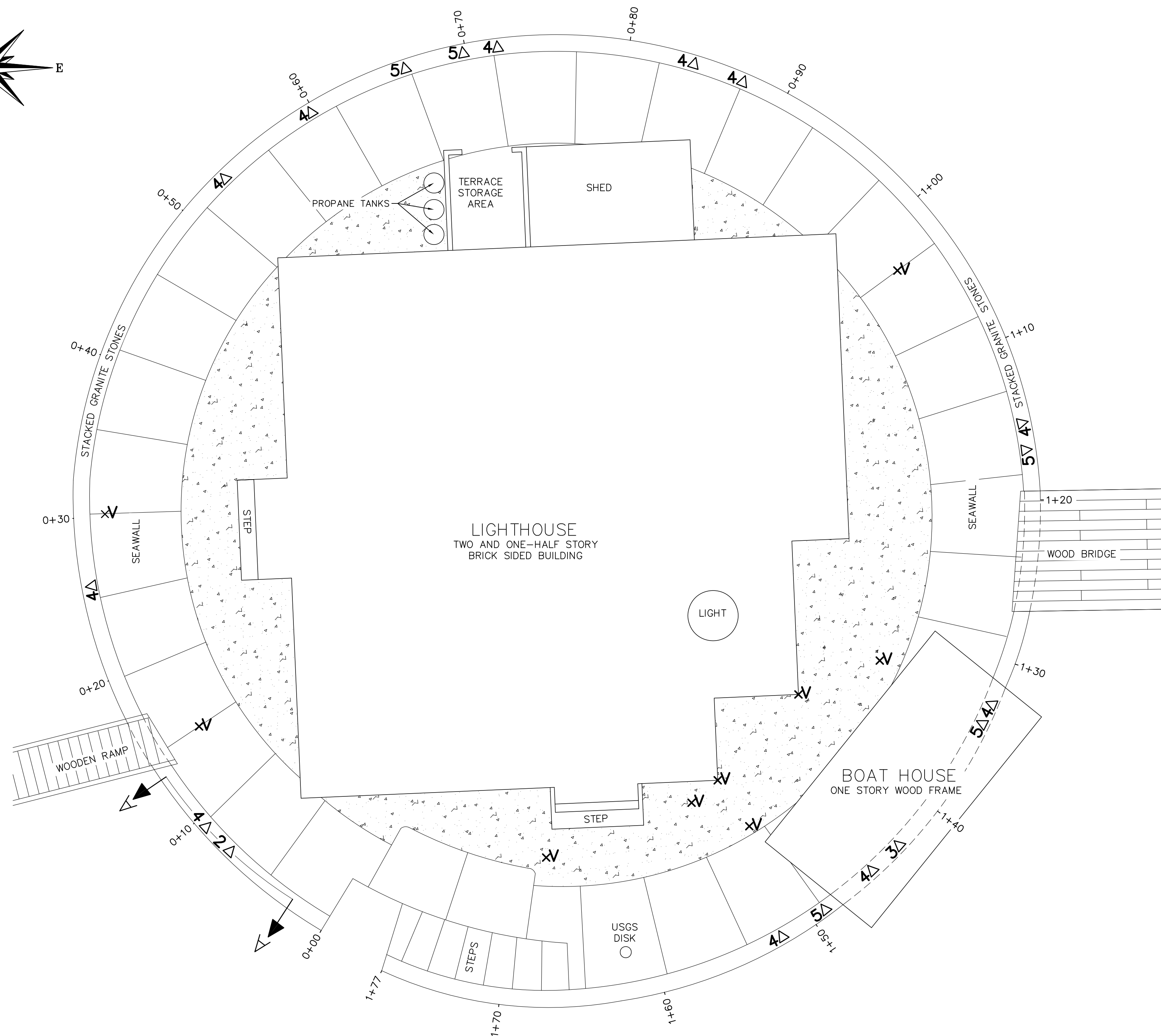
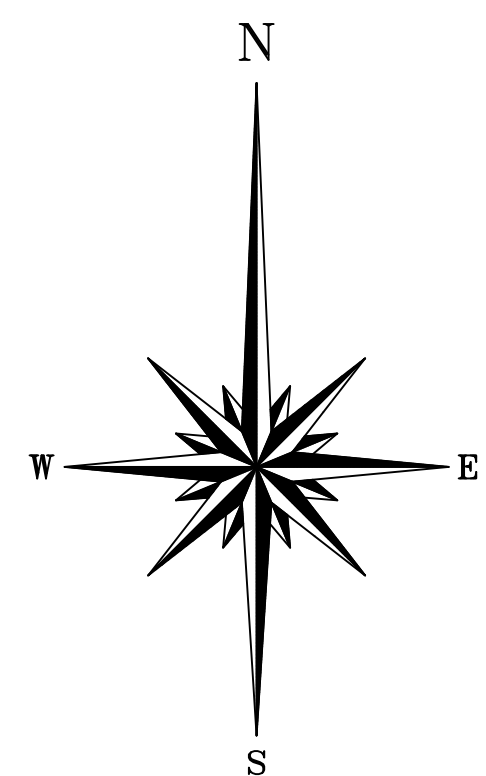
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SITE PLAN
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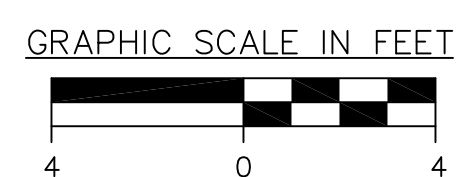
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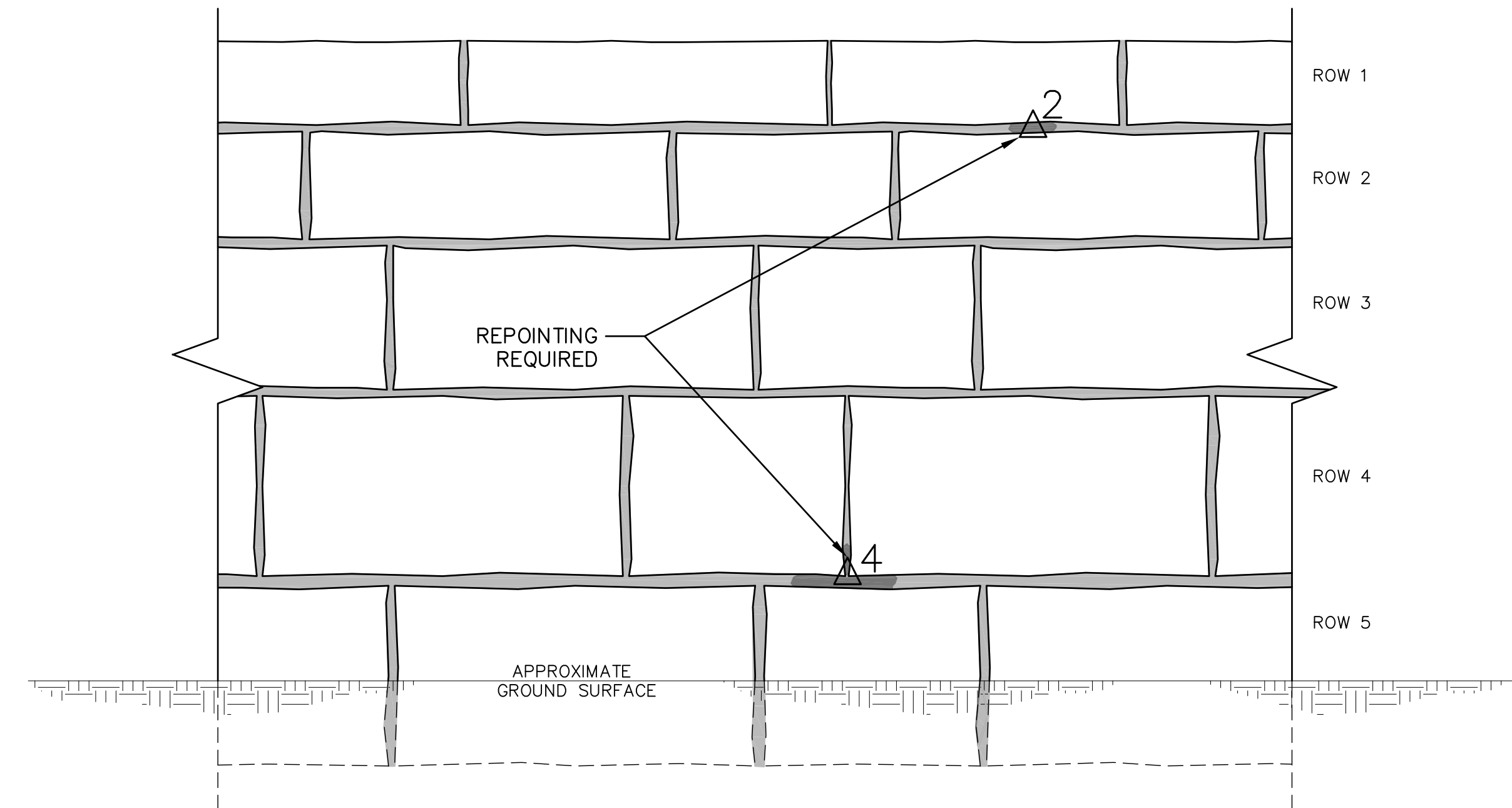
SEAWALL RESTORATION PLAN
SCALE: 1" = 4'

LEGEND

- △ 2 POINTING REQUIRED - ALONG THE 2ND COURSE
xV VOID AREA - TO BE PRESSURE GROUTED



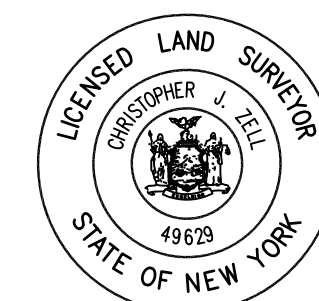
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SECTION A-A
NOT TO SCALE

- NOTES:
1. LOCATIONS OF REPOINTING AREAS ARE APPROXIMATE AND MUST BE FIELD VERIFIED.
 2. CONTRACTOR SHALL THOROUGHLY INSPECT ALL STACKED GRANITE STONE MORTAR JOINTS. REMOVE ALL DETERIORATED MORTAR AND REPLACE WITH NEW MORTAR.
 3. ALL VOID AREAS SHALL BE FILLED PER TECHNICAL SPECIFICATION SECTION 03600.
 4. REPOINTING SHALL BE PERFORMED PER TECHNICAL SPECIFICATION SECTION 04500.

SEAWALL RESTORATION
CONTRACT NO. VSA-172



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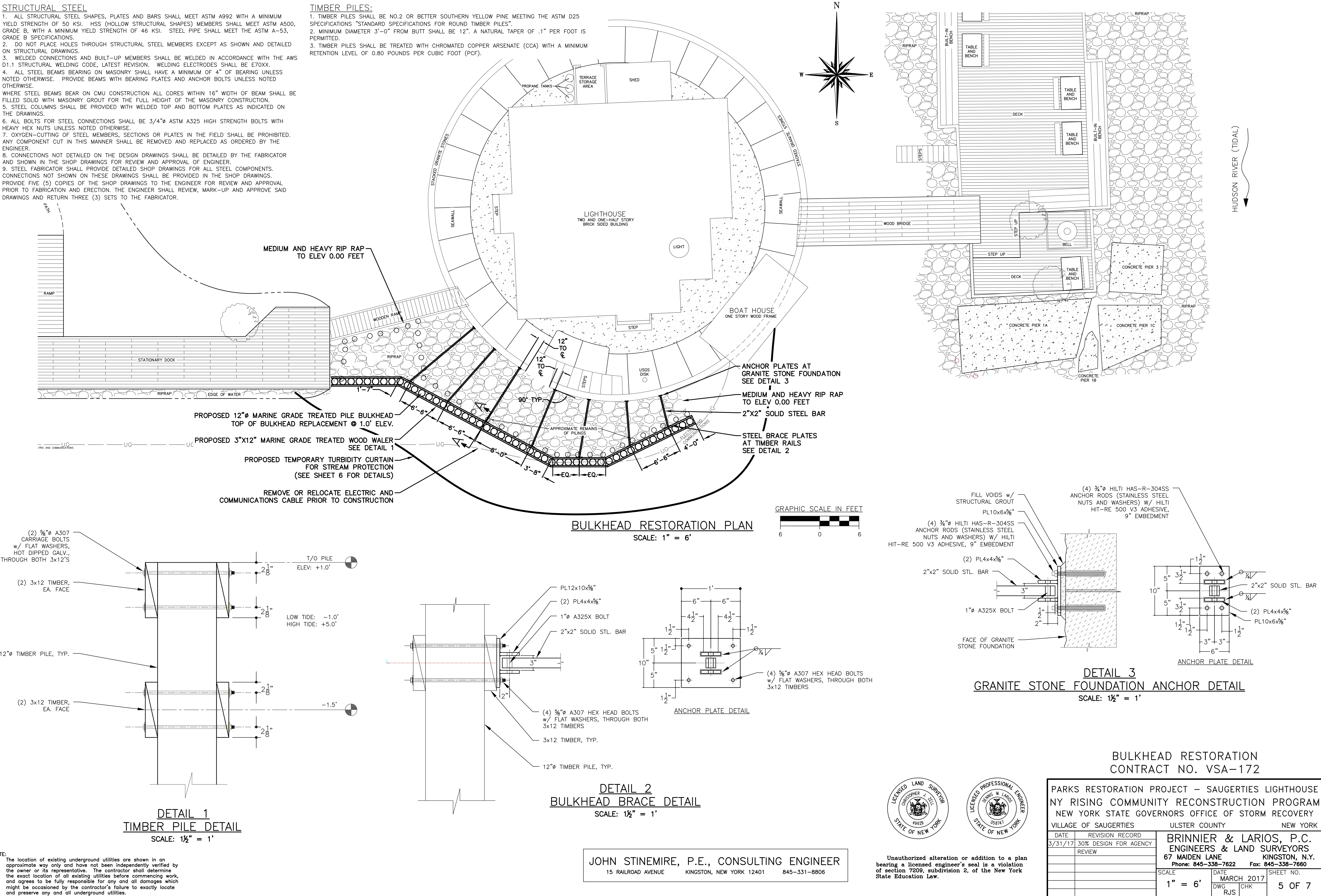
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	DWG CHK RJS		

STRUCTURAL STEEL

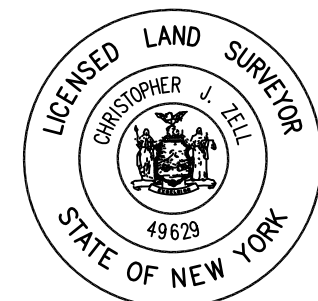
1. ALL STRUCTURAL STEEL SHAPES, PLATES AND BARS SHALL MEET ASTM A992 WITH A MINIMUM YIELD STRENGTH OF 50 KSI. HSS (HOLLOW STRUCTURAL SHAPES) MEMBERS SHALL MEET ASTM A500, GRADE B, WITH A MINIMUM YIELD STRENGTH OF 46 KSI. STEEL PIPE SHALL MEET THE ASTM A-53, GRADE B SPECIFICATIONS.
 2. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
 3. WELDED CONNECTIONS AND BUILT-UP MEMBERS SHALL BE WELDED IN ACCORDANCE WITH THE AWS D1.1 STRUCTURAL WELDING CODE, LATEST REVISION. WELDING ELECTRODES SHALL BE E70XX.
 4. ALL STEEL BEAMS BEARING ON MASONRY SHALL HAVE A MINIMUM OF 4" OF BEARING UNLESS NOTED OTHERWISE. PROVIDE BEAMS WITH BEARING PLATES AND ANCHOR BOLTS UNLESS NOTED OTHERWISE.
- WHERE STEEL BEAMS BEAR ON CMU CONSTRUCTION ALL CORES WITHIN 16" WIDTH OF BEAM SHALL BE FILLED SOLID WITH MASONRY GROUT FOR THE FULL HEIGHT OF THE MASONRY CONSTRUCTION.
5. STEEL COLUMNS SHALL BE PROVIDED WITH WELDED TOP AND BOTTOM PLATES AS INDICATED ON THE DRAWINGS.
 6. ALL BOLTS FOR STEEL CONNECTIONS SHALL BE 3/4"Ø ASTM A325 HIGH STRENGTH BOLTS WITH HEAVY HEX NUTS UNLESS NOTED OTHERWISE.
 7. OXYGEN-CUTTING OF STEEL MEMBERS, SECTIONS OR PLATES IN THE FIELD SHALL BE PROHIBITED. ANY COMPONENT CUT IN THIS MANNER SHALL BE REMOVED AND REPLACED AS ORDERED BY THE ENGINEER.
 8. CONNECTIONS NOT DETAILED ON THE DESIGN DRAWINGS SHALL BE DETAILED BY THE FABRICATOR AND SHOWN IN THE SHOP DRAWINGS FOR REVIEW AND APPROVAL OF ENGINEER.
 9. STEEL FABRICATOR SHALL PROVIDE DETAILED SHOP DRAWINGS FOR ALL STEEL COMPONENTS. CONNECTIONS NOT SHOWN ON THESE DRAWINGS SHALL BE PROVIDED IN THE SHOP DRAWINGS. PROVIDE FIVE (5) COPIES OF THE SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND ERECTION. THE ENGINEER SHALL REVIEW, MARK-UP AND APPROVE SAID DRAWINGS AND RETURN THREE (3) SETS TO THE FABRICATOR.

TIMBER PILES:

1. TIMBER PILES SHALL BE NO.2 OR BETTER SOUTHERN YELLOW PINE MEETING THE ASTM D25 SPECIFICATIONS "STANDARD SPECIFICATIONS FOR ROUND TIMBER PILES".
2. MINIMUM DIAMETER 3'-0" FROM BUTT SHALL BE 12". A NATURAL TAPER OF .1" PER FOOT IS PERMITTED.
3. TIMBER PILES SHALL BE TREATED WITH CHROMATED COPPER ARSENATE (CCA) WITH A MINIMUM RETENTION LEVEL OF 0.80 POUNDS PER CUBIC FOOT (PCF).

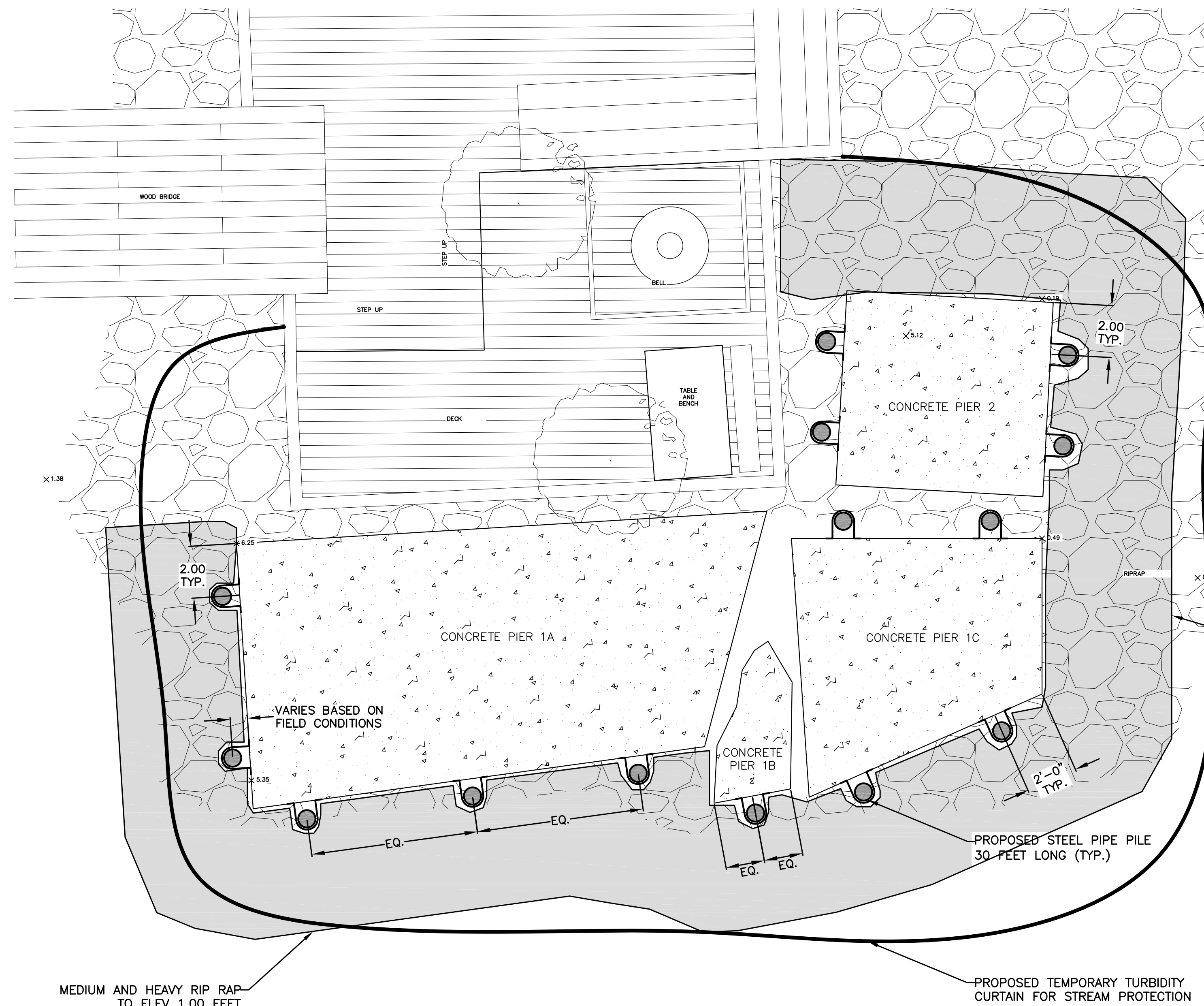


JOHN STINEMIRE, P.E., CONSULTING ENGINEER
15 RAILROAD AVENUE KINGSTON, NEW YORK 12401 845-331-8806

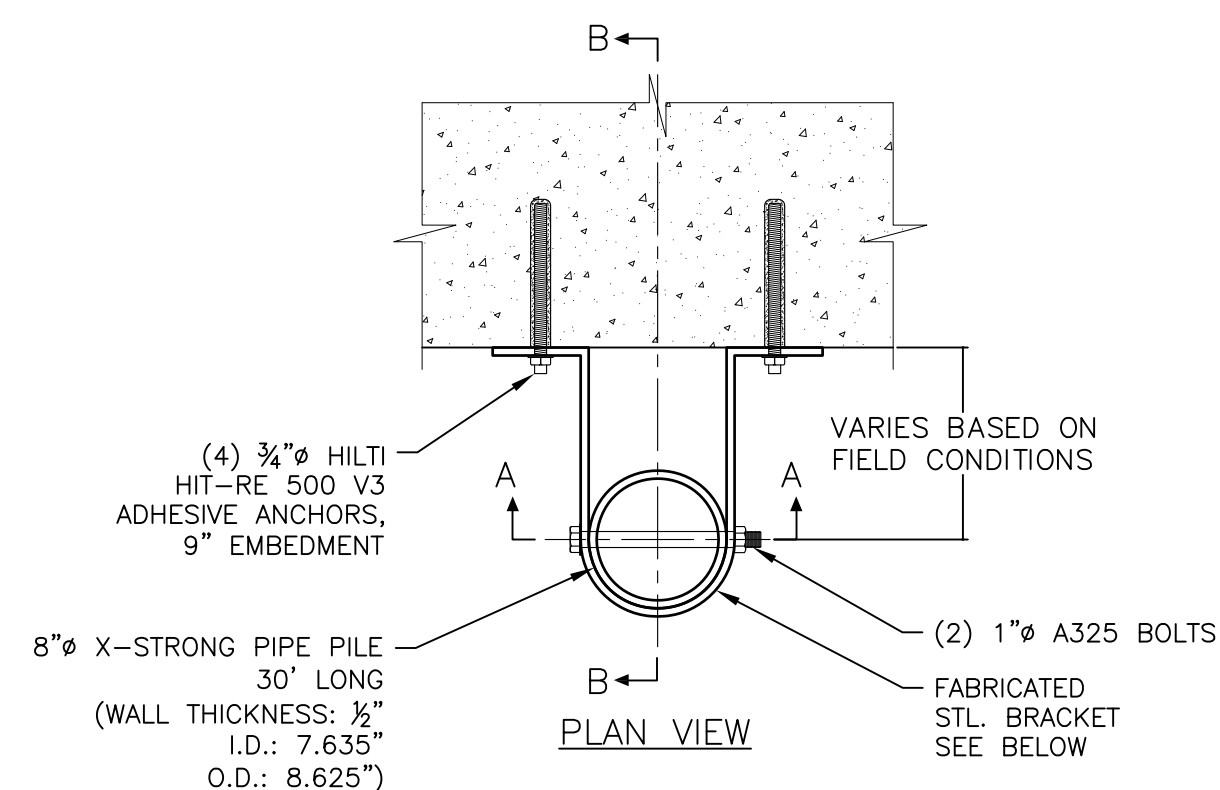


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DWG		CHK	
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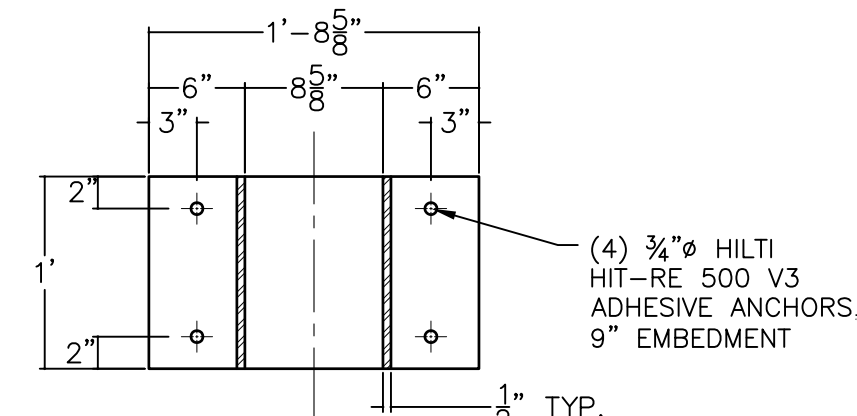


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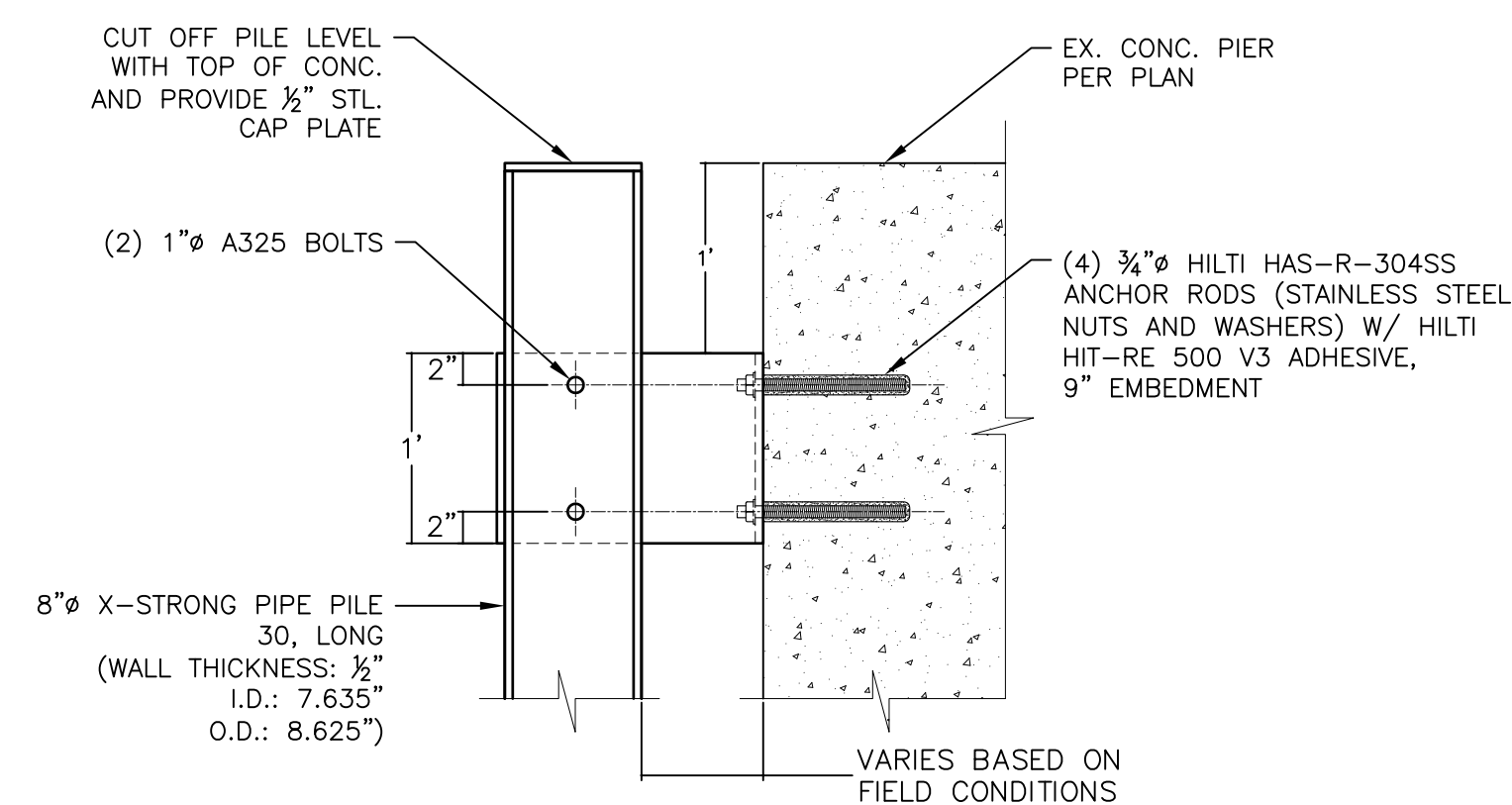
SCALE: 1" = 1'

NOTES:
ALL STEEL BRACKETS AND COMPONENTS
TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
STAINLESS STEEL FASTENERS TO MEET ASTM A153.

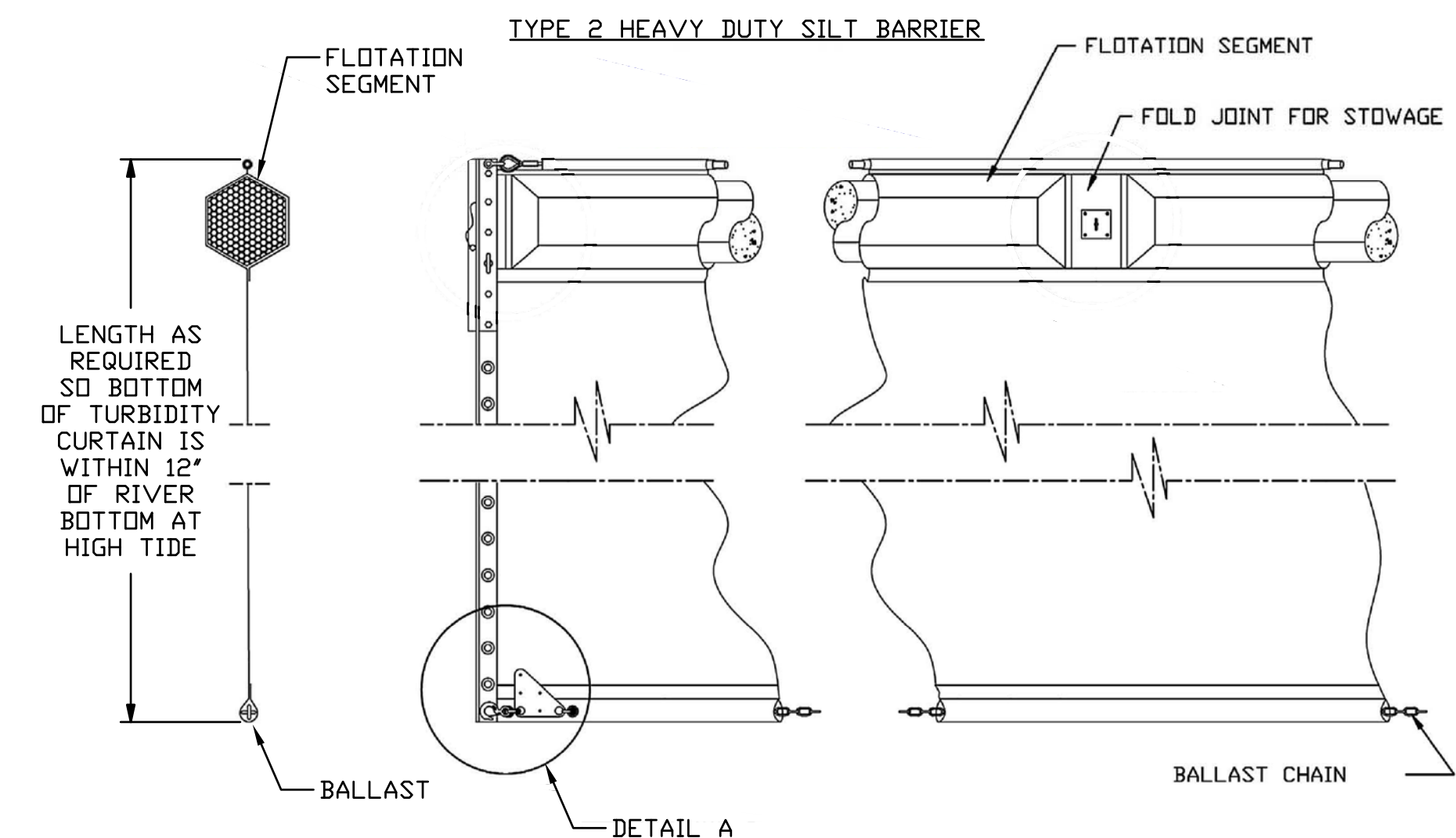


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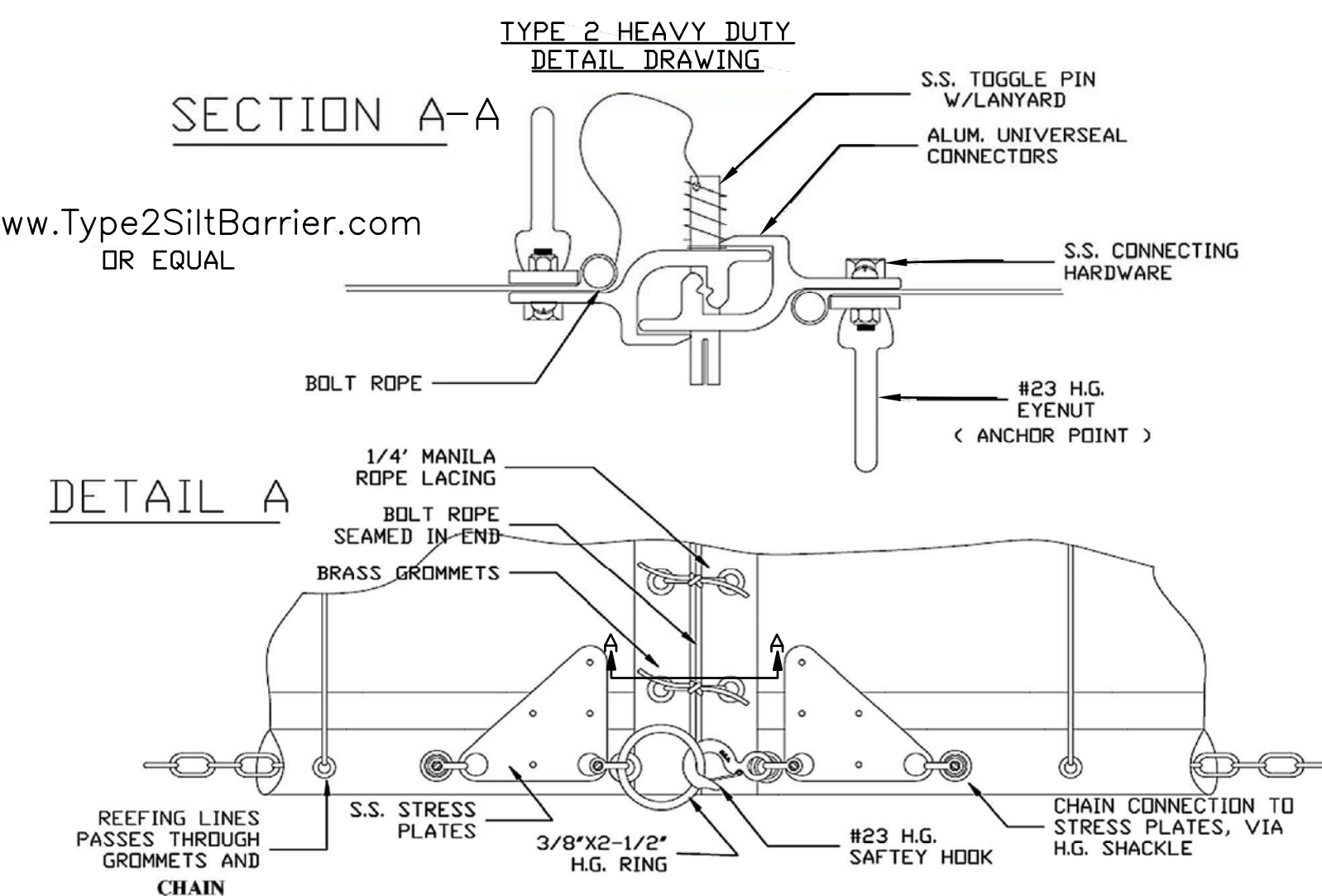
NOTE:
PIPE NOT SHOWN
FOR CLARITY



SCALE: 1" = 1'



www.Type2SiltBarrier.com
OR EQUAL



FLOATING SILT BARRIER DETAIL
NOT TO SCALE

CONCRETE PIER STABILIZATION
CONTRACT NO. VSA-172

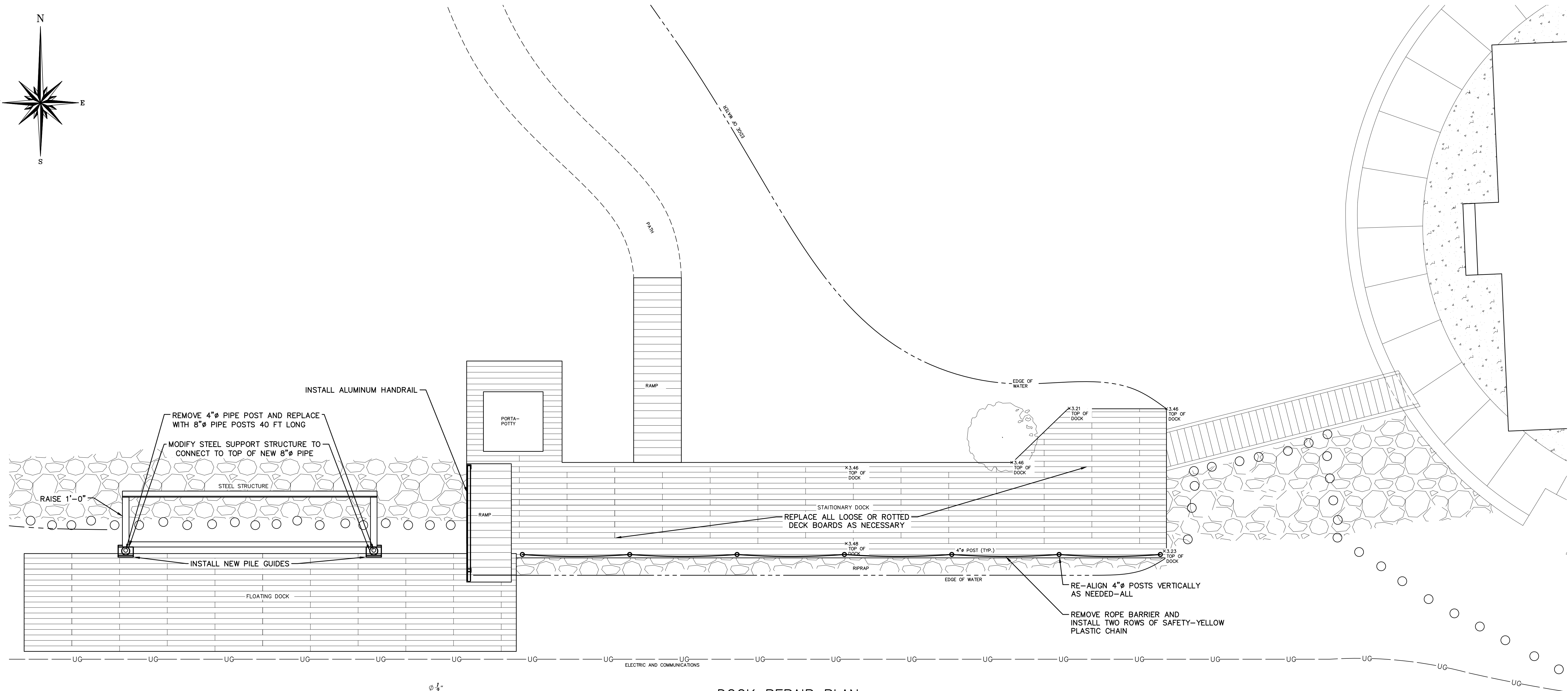
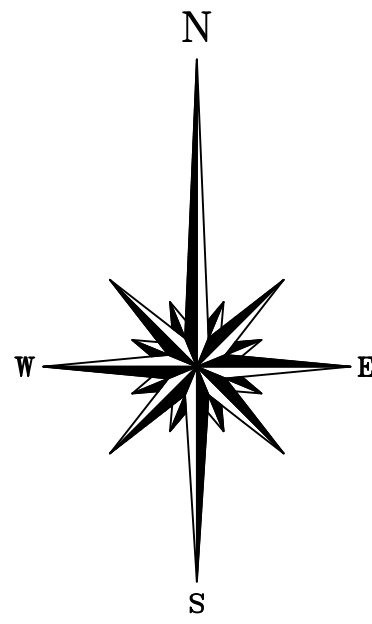
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15 RAILROAD AVENUE KINGSTON, NEW YORK 12401 845-331-8806

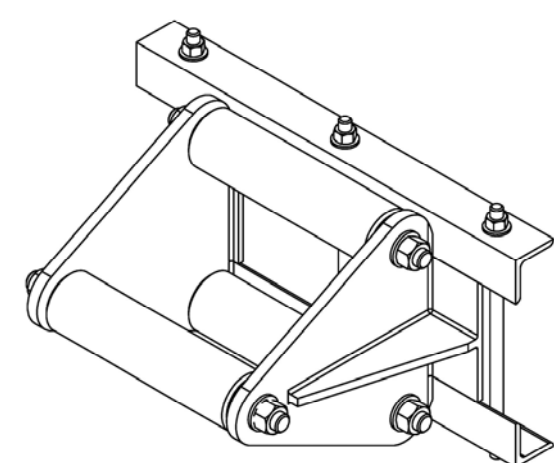


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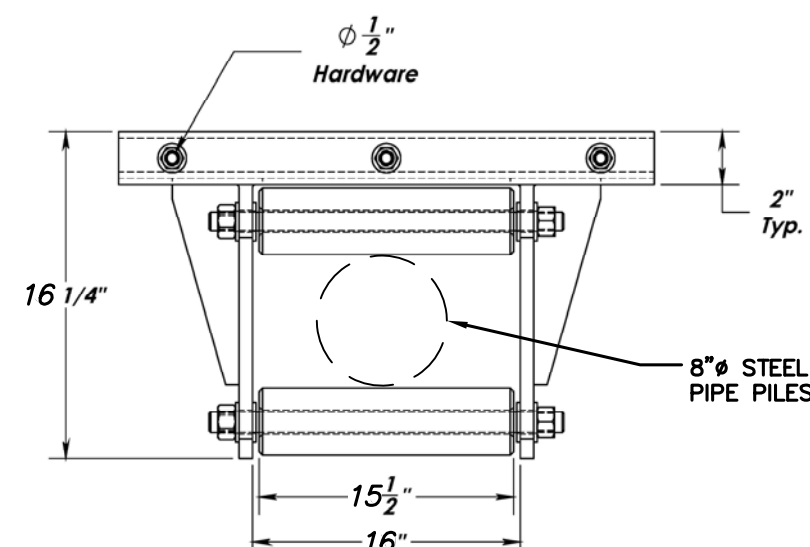
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		NEW YORK		
DATE	REVISION RECORD	BRINNIER & LARIOS, P.C. ENGINEERS & LAND SURVEYORS 67 MAIDEN LANE KINGSTON, N.Y. Phone: 845-338-7622 Fax: 845-338-7660		
3/31/17	30% DESIGN FOR AGENCY REVIEW			
		SCALE	DATE	SHEET NO.
		1" = 2'	MARCH 2017	6 OF 7
		DWG	CHK	



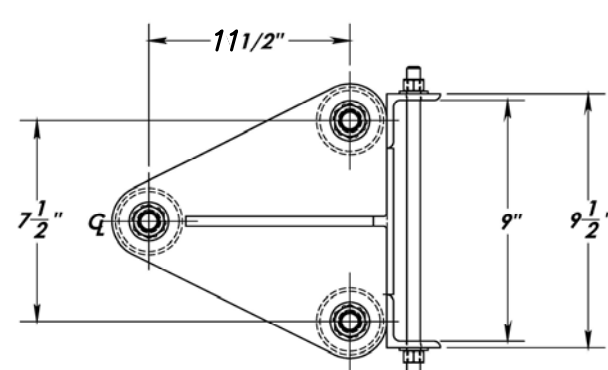
DOCK REPAIR PLAN
SCALE: 1" = 3'



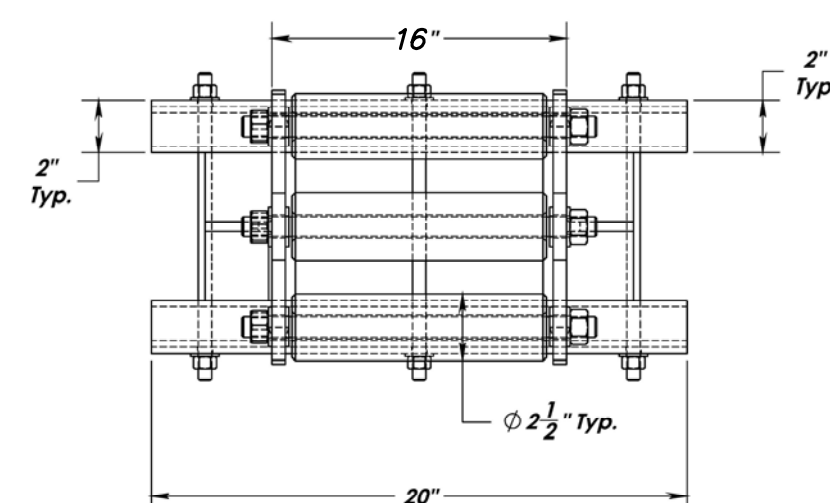
ISOMETRIC VIEW



TOP VIEW

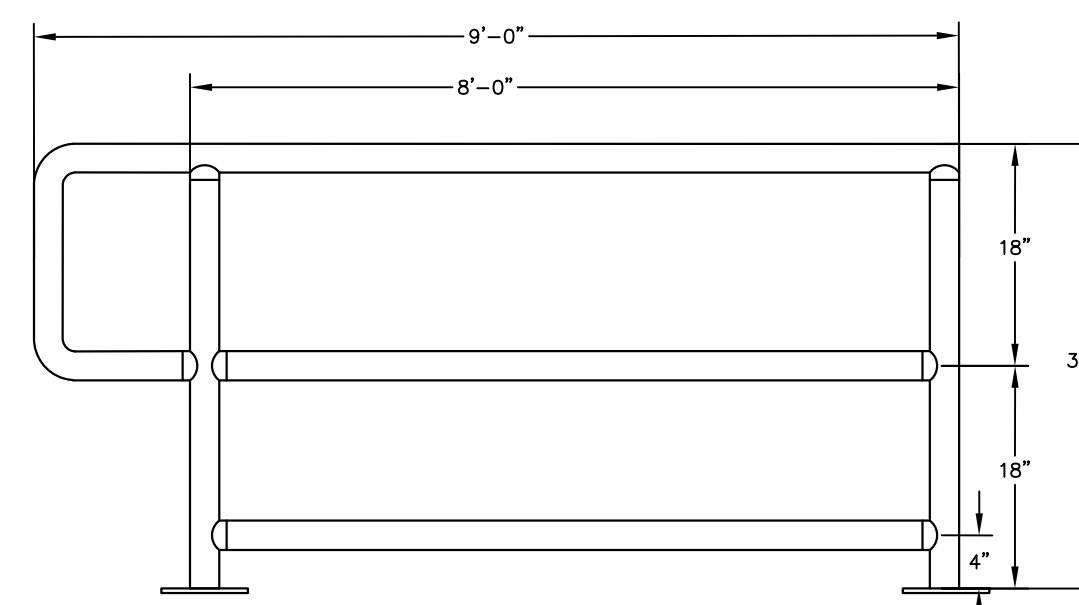


SIDE VIEW



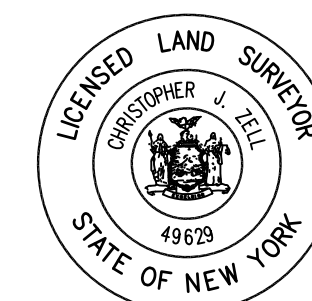
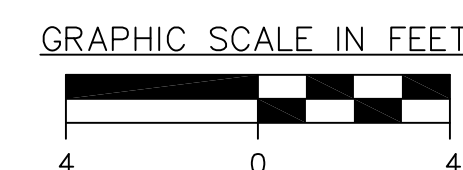
FRONT VIEW

PILE GUIDE
NOT TO SCALE



HANDRAIL DETAIL
NOT TO SCALE

NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.



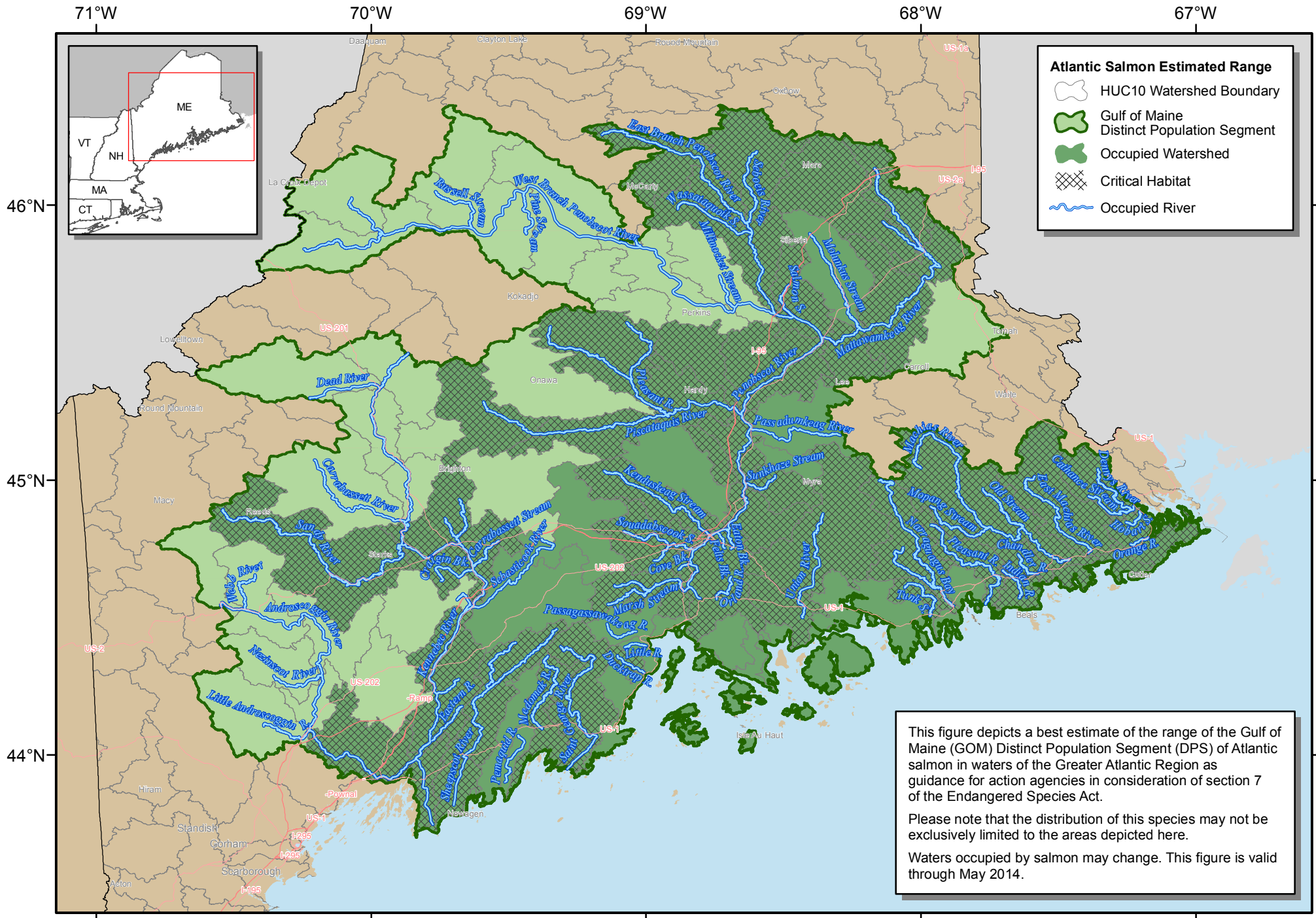
Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

DOCK REPAIRS
CONTRACT NO. VSA-172

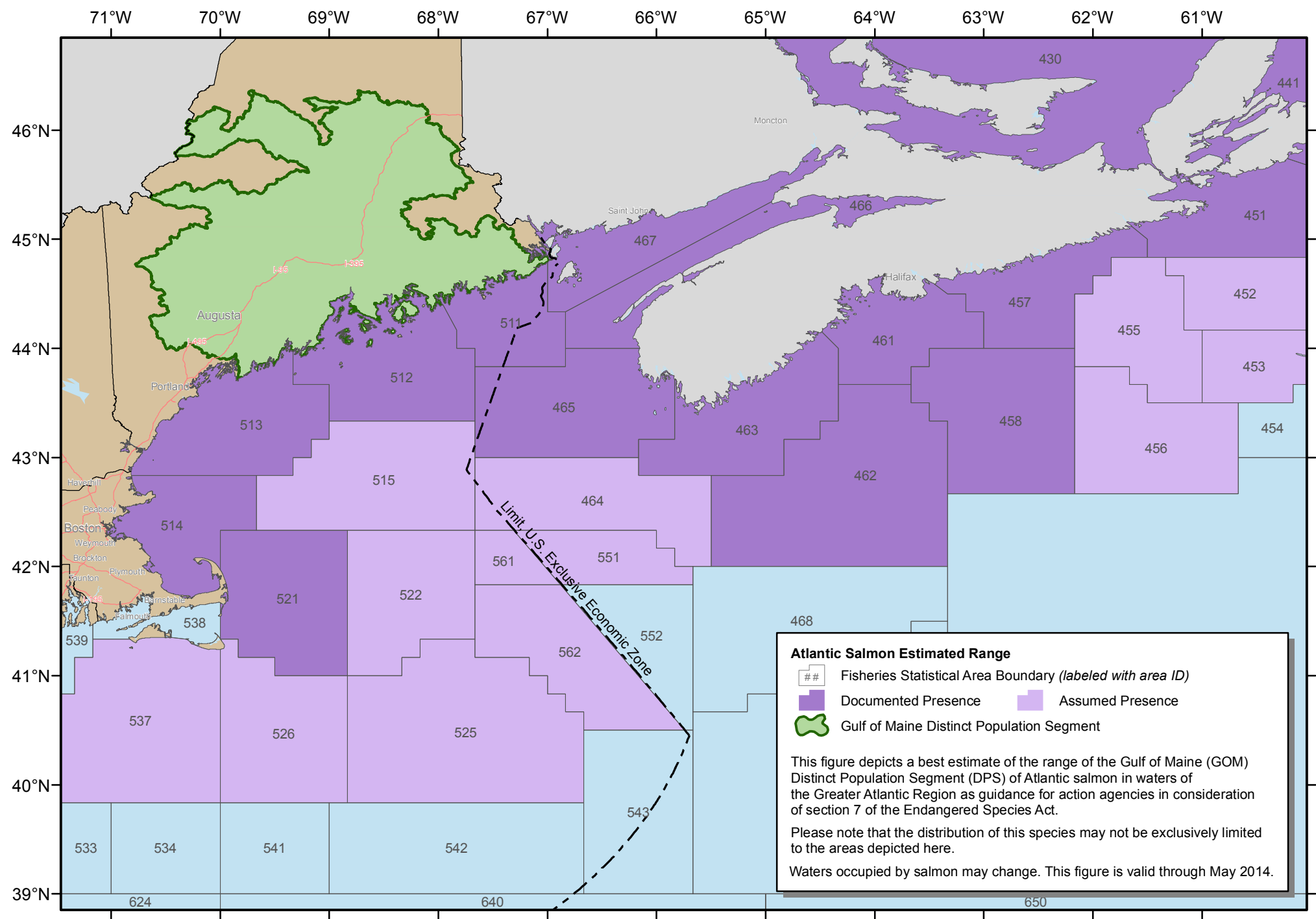
PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE			
NY RISING COMMUNITY RECONSTRUCTION PROGRAM			
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY	
		NEW YORK	
DATE	REVISION RECORD		
3/31/17	30% DESIGN FOR AGENCY REVIEW		

Attachment 3

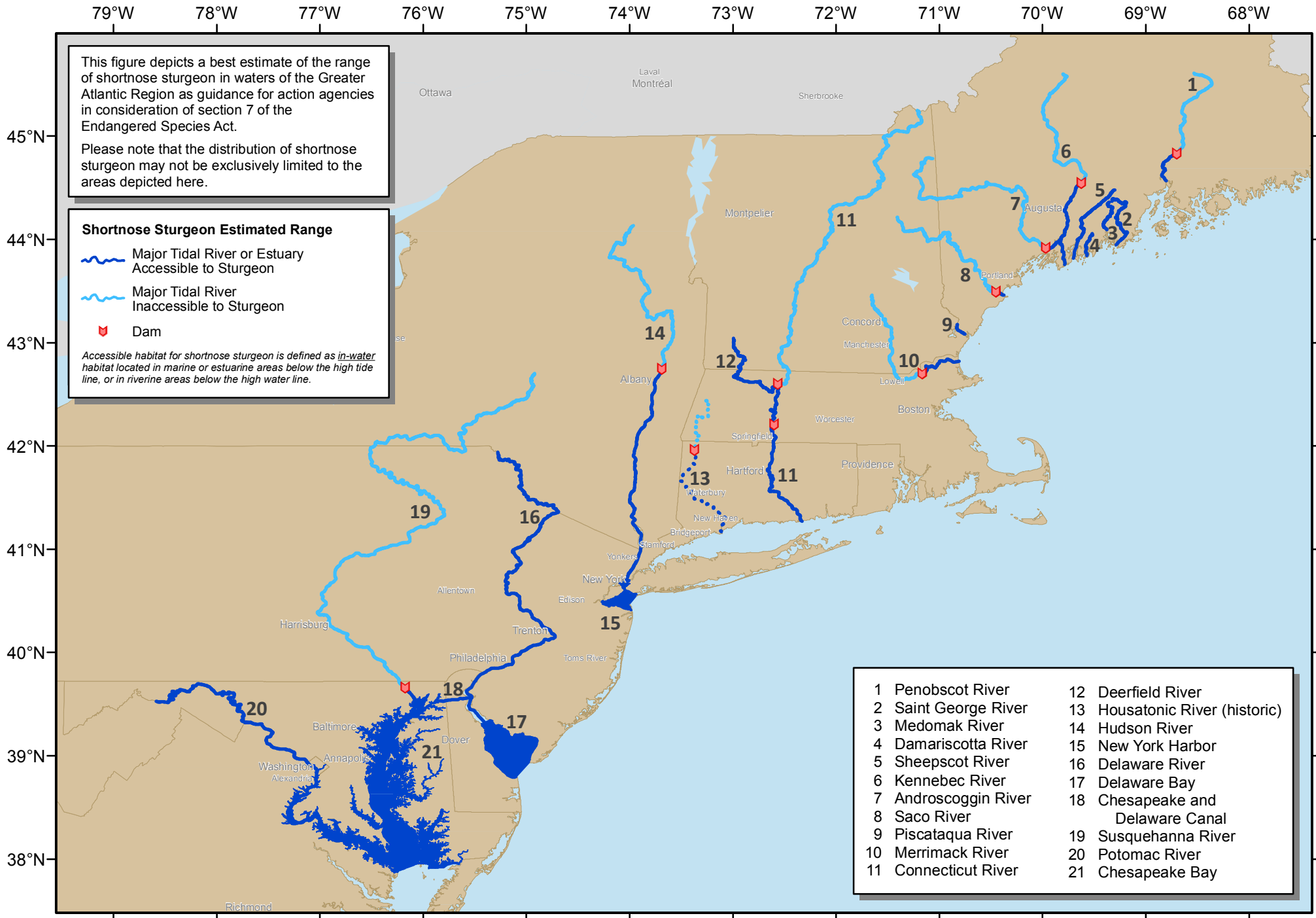
Estimated Inland Range of Atlantic Salmon



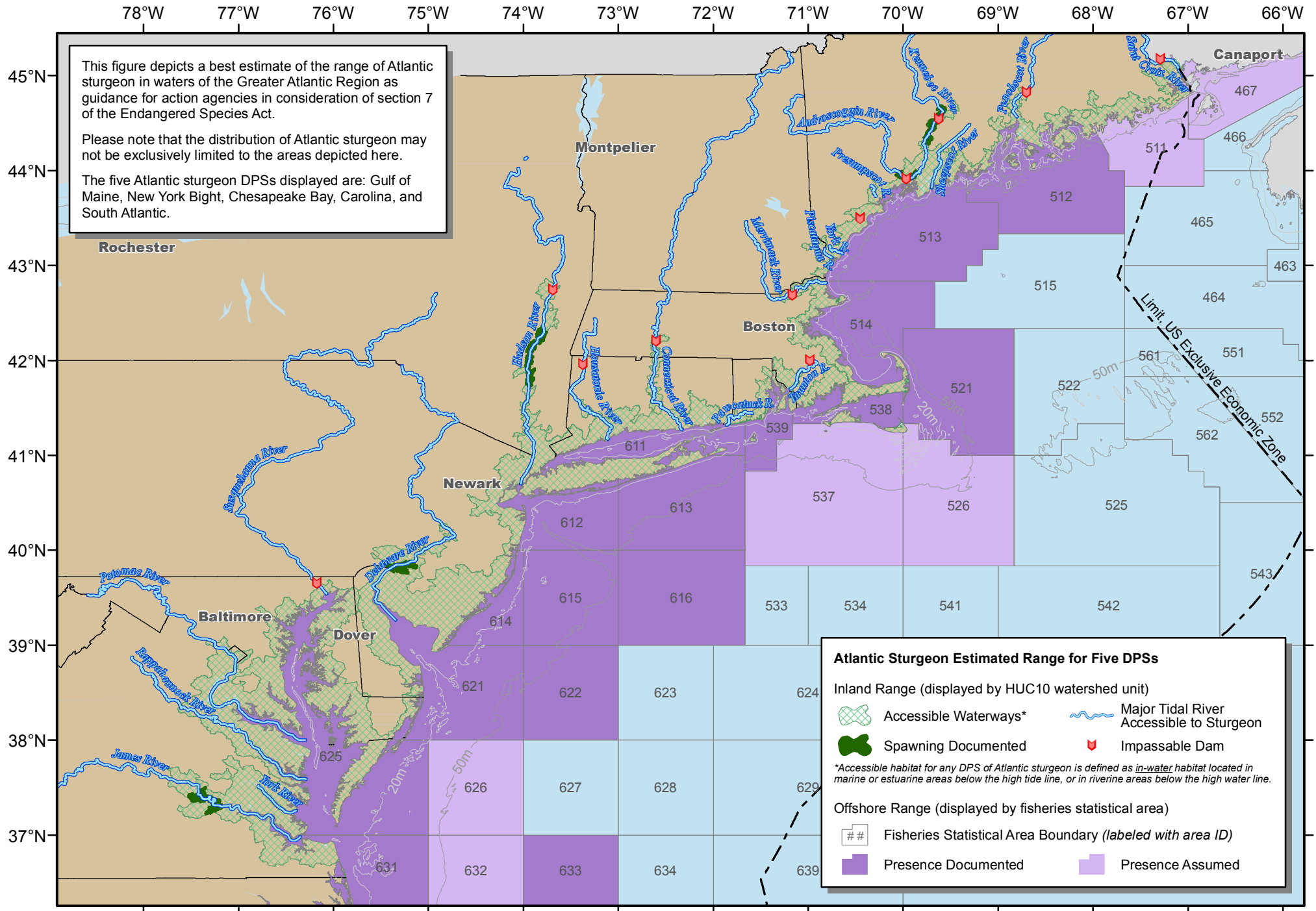
Estimated Offshore Range of Atlantic Salmon



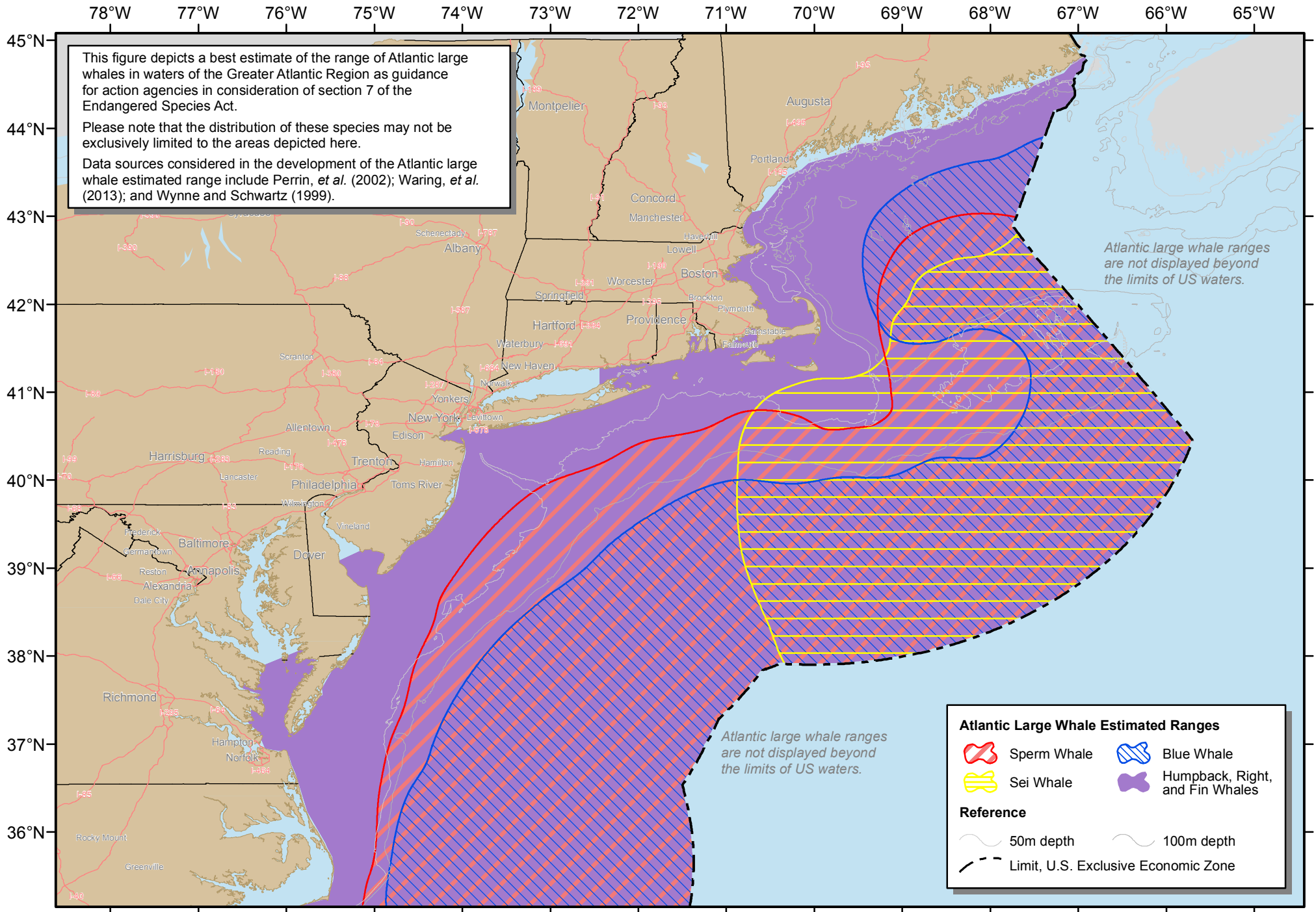
Estimated Range of Shortnose Sturgeon



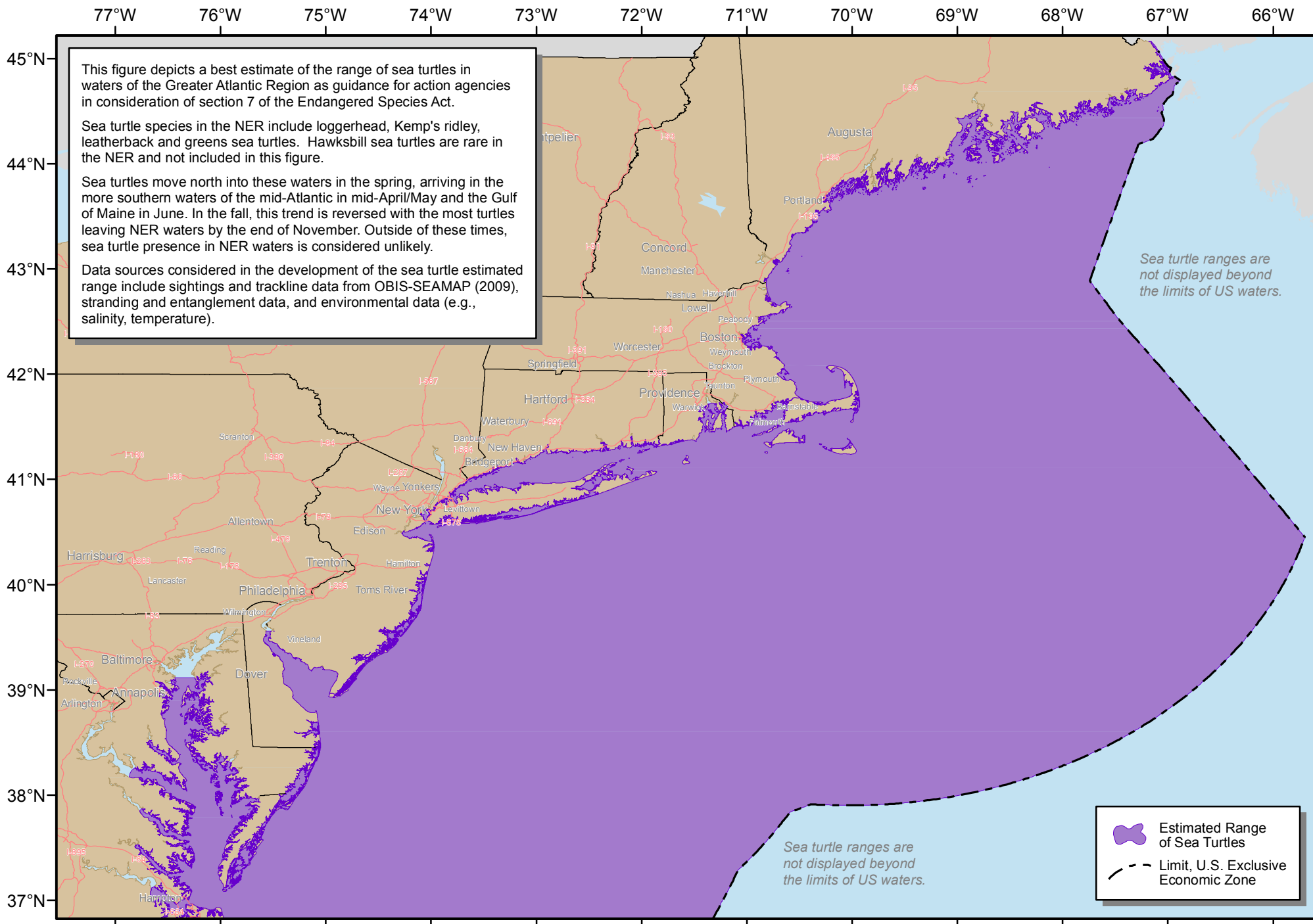
Estimated Range of Atlantic Sturgeon Distinct Population Segments (DPSs)



Estimated Range of Atlantic Large Whales



Estimated Range of Sea Turtles





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

MAY 31 2017

Alicia Shultz
New York State Homes & Community Renewal
Governor's Office of Storm Recovery
38-40 State St., 408N, Hampton Plaza
Albany, NY 12207

Re: Not Likely to Adversely Affect Determination – NOAA NMFS Section 7 Project Review

**Village of Saugerties – Parks Restoration, Saugerties Lighthouse Repairs
Town of Saugerties, Ulster County, New York**

Dear Ms. Shultz:

We have completed our consultation under section 7 of the Endangered Species Act (ESA) in response to your letters received May 5, 2017 and May 23, 2017 regarding the above-referenced proposed project. We reviewed the action agency's consultation request document and related materials. Based on our knowledge, expertise, and the action agency's materials, we concur with the action agency's conclusion that the proposed action is not likely to adversely affect the ESA-listed species and/or designated critical habitat under our jurisdiction. Therefore, no further consultation pursuant to section 7 of the ESA is required.

We have one conclusion to clarify from your letter. In the water quality section of the effects analysis, you mention that sturgeon could avoid the turbidity disturbance by altering their course. Because there will be a turbidity curtain surrounding the area where pile driving will occur, it will prevent sturgeon from entering the area and being exposed to the turbidity plume. Therefore, the effects of water quality on sturgeon will be discountable.

Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or (c) If a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required. Should you have any questions about this correspondence please contact Edith Carson at 978-282-8490 or Edith.Carson@noaa.gov. For questions related to Essential



Fish Habitat please contact Ursula Howson with our Habitat Conservation Division at 732-872-3116 or Ursula.Howson@noaa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kimberly B. Damon-Randall', with a long horizontal flourish extending to the right.

Kimberly B. Damon-Randall
Assistant Regional Administrator
for Protected Resources

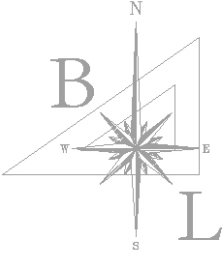
EC: Carson NMFS/PRD; Howson NMFS/HCD

PCTS: NER-2017-14186

File Code: \Section 7\Non-Fisheries\HUD\2017\Pilot_HUD GOSR Saugerties Lighthouse Pier Bulkhead Hudson

APPENDIX F - SHPO CONSULTATION

Brinnier & Larios, P.C.



Engineering Design Report

PARKS RESTORATION PROJECT - SAUGERTIES LIGHTHOUSE

Funding through:

NYS Governor's Office of Storm Recovery (GOSR)

NYS Historic Preservation Office

Prepared for:

Village of Saugerties

A□r□2□□□



PROFESSIONAL ENGINEERS AND LAND SURVEYORS

TABLE OF CONTENTS

[illegible]

1.0 INTRODUCTION

The Village of Saugerties retained Brinnier and Larios, P.C. to prepare the design of certain the restorations at the Saugerties Lighthouse. The Saugerties Lighthouse is a National Registered Historic Place (Reference #79001642) located at the confluence of the Esopus Creek and Hudson River at Longitude 73° 55' 46.7"W and Latitude 42° 4' 19.4"N. The site is accessible from land via a half-mile nature trail at the end of Lighthouse Drive in the Village of Saugerties or by water via a small dock. The restored red-brick lighthouse building has an operational light-tower and offers bed & breakfast accommodations, public tours. The lighthouse is managed by the not-for-profit Saugerties Lighthouse Conservancy.

The Saugerties Lighthouse restorations are being funded through two programs:

- A \$175,000 Hurricane Sandy Disaster Relief Assistance Grant for Historic Properties, funded by the National Park Service and administered by the New York State Historic Preservation Office, in partnership with the National Heritage Trust; and
- Approximately \$145,000 of grant monies are available in the Village of Saugerties Parks Restoration Project which is funded through the NY Rising Community Reconstruction Program administered by the Governor's Office of Storm Recovery (GOSR) operating under the auspices of New York State's Office of Homes and Community Renewal's Housing Trust Fund Corporation, which serves as the responsible entity for direct administration of the U.S. Department of Housing and Urban Development Community Development Block Grant I- Disaster Recovery (CDBG-DR) program.

The following restorations are proposed at the Saugerties Lighthouse:

1. Restoration of the seawall on which the Saugerties Lighthouse building is constructed. Restoration of the seawall includes pressure grouting of void areas within the seawall and repointing the mortar joints of the granite block seawall; and
2. Restoration of the bulkhead located south side of the Saugerties Lighthouse. The bulkhead provides protection of the foundation of the seawall from erosion; and
3. Stabilization of the concrete pier located to the east of the Saugerties Lighthouse; and
4. Repairs to the existing stationary wooden dock with any grant funding that is remaining after completing items 1 through 3 above.

The remainder of the design report for the Saugerties Lighthouse restorations is organized into the following sections:

Section 2 describes the existing site conditions.

Section 3 presents the design basis for each of the restorations.

Section 4 identifies the various permits that will be required for the work.

Section 5 lists the construction schedule constraints and estimated construction duration.

Section 6 presents an opinion of probable construction costs.

For all references to a Sheet # in this report, the reader will find these drawings in Appendix C.

2.0 EXISTING SITE CONDITIONS

The Saugerties Lighthouse site included two parcels of land. The lighthouse building is situated on a 0.73 acre parcel of land identified on the Ulster County Tax Map as Section-Lot-Block Number 18.71-6-1. The trail leading to the lighthouse building is on an 18.688 acre parcel of land located at the northern end of Lighthouse Drive identified Section-Lot-Block Number 18.71-3-0. A map showing the location of the site is given on Cover Sheet/Sheet 1 given in Appendix C. The lighthouse building is located at Longitude 73°55'46.7"W and Latitude 42°4'19.4"N. Sheet 2 shows the existing conditions at the lighthouse site.

The lighthouse building was constructed in 1869 to replace an earlier 1838 lighthouse. In 1986 the lighthouse was purchased and restored by the not-for-profit Saugerties Lighthouse Conservancy. The conservancy manages the half-mile nature trail leading to the lighthouse, offers two bed and breakfast rooms and provides public tours.

The Saugerties Lighthouse site includes the following features:

- A stationary wooden dock located on the west side of the lighthouse building. A wooden walkway ramp connects the stationary wooden dock to the seawall. There is a floating wooden dock positioned to the west of the stationary wooden dock. The stationary wooden dock and floating wooden dock are located on the north side of the Esopus Creek.
- A granite block seawall which provides the foundation for the two and one-half story red brick lighthouse building.
- A deteriorated timber pile bulkhead is located approximately 9 feet south of the seawall. The bulkhead is curved and follows the seawall configuration. The length of timber pile remnants exposed at low tide is approximately 60 feet long.
- On the south side of the wooden deck, there are large pieces of unreinforced concrete (referred to as “piers”). These piers provide protection to the seawall from wave action and floating ice produced by the Hudson River.
- A wooden deck area approximately 20 feet wide by 60 feet long is located approximately 23 feet east of the seawall at the location of the former 1838 lighthouse. The wooden deck is surrounded by riprap stone on three sides. The wooden deck is used for picnicking. The wooden deck is connected to the seawall by a wooden bridge. No work is proposed to the wooden deck area as part of this project.

The Saugerties Lighthouse is located on a seawall that is approximately fifty-seven feet (57") in diameter. The seawall is constructed with stacked granite blocks. The granite blocks have alternating 3 feet long and 5 feet long lengths. The top tier of

granite blocks are 14 inches high with the second, third and fourth tiers of granite blocks being 18, 24, and 30 inches high respectively. The fifth tier of granite blocks is partially buried. There are five courses of granite blocks exposed on the south side of the lighthouse and four courses of granite blocks exposed on the north and west sides of the lighthouse. The top of the seawall elevation varies from 6.60 feet to 6.86 feet. The toe of the seawall is at elevation -1.0 feet on the north side and elevation -2.0 feet on the south side. Some of the mortar joints between the granite blocks have deteriorated and become dislodged due to the exposed weather conditions and tidal water as identified on Sheet 4. Photographs showing the physical and visual seawall mortar joint conditions are given in Appendix A. There are a few areas where the joints in the top of the seawall have evidence of voids beneath the concrete/stone deck on the seawall. The locations of the joints with voids are shown on Sheet 4.

There are remnants of a timber pile bulkhead on the south side of the seawall as shown on Sheet 2. The bulkhead was constructed with vertical, cantilevered timber posts. The remaining timber piles are deteriorated from being exposed to the weather and are not structurally sound. The bulkhead cap, front waler and rear waler which were likely a timber material also are completely deteriorated and are no longer in-place. There is some evidence of horizontal steel anchor bars which are connected to the seawall just below the low tide level. The top of the remaining timber piles are at elevation 1.0 feet. The bulkhead is located approximately five to nine feet away from the seawall. The area between the seawall and bulkhead is comprised of riprap stone. Photographs of the timber bulkhead remnants are given in Appendix A.

There are two large pieces of unreinforced concrete that sit on top of the riprap stone on the south side of the wooden deck area. The sizes are as follows:

- Concrete Pier 1 – originally this piece of unreinforced concrete was approximately 30 feet long and approximately 10 feet wide and approximately 5 feet 6 inches thick. The original piece of unreinforced concrete has cracked over the years and is now separated into three pieces of unreinforced concrete (1A, 1B and 1C) as shown on Sheet 2.
- Concrete Pier 2 – this piece of unreinforced concrete is approximately 7 feet-6 inches long and approximately 8 feet wide and approximately 32 inches thick. Concrete Pier 2 is located immediately north of Concrete Pier 1C as shown on Sheet 2.

There is riprap stone around the bases of the concrete piers has been eroded over the years. Photographs of the concrete piers are given in Appendix A.

The stationary wooden dock located on the west side of the lighthouse is approximately 59 feet long and ranges in width from approximately 8 feet wide on the west side to 12 feet-6 inches wide on the east side. The stationary dock is supported by three and one half inch diameter steel pipe anchors that allow the stationary dock to move vertically at high tide. These pipe anchors have been bent

and damaged from springtime ice floes. Additional bracing supports have been added to the stationary wooden dock over the years and many repairs have been made to prolong the life of the stationary wooden dock.

There is a 8 feet wide by 40 feet long floating wooden dock positioned to the west of the stationary wooden dock that is used to dock small boats. A three feet wide wooden ramp connects the floating wooden platform to the stationary wooden dock. The floating dock is held in position by two four inch diameter steel pipe anchors which connect to a steel bracing structure that is anchored on the shoreline.

The Saugerties Lighthouse is located at the confluence of the Esopus Creek and the Hudson River. The Hudson River surrounds the north and east sides of the lighthouse site. North of the lighthouse the Hudson River is primarily mud flats. The Hudson River is approximately 1,800 feet wide near the Saugerties Lighthouse with the Hudson River navigational channel located approximately 800 feet east of the wooden deck area. This portion of **the Hudson River is tidally influenced with water level elevations that range from -1.0 feet (low tide) to 5.2 feet (high tide, NGVD88)**. The Hudson River is a Class A protected navigable water with a NYSDEC Water Index Number of H-Portion. The Ordinary High Water (OHW) level is at elevation 5 feet. The 100 year flood elevation is 9.0 feet from the FIRM Map Number 36111C0305E, Panel 305 of 910 for Ulster County, New York effective September 25, 2019.

The Esopus Creek is a non-protected navigable water classified by the NYSDEC as a Class C stream, Water Index Number H-171. The navigable channel is approximately 200 feet wide and 12 feet deep and is located approximately 25 feet south of the Saugerties Lighthouse timber bulkhead. The Esopus Creek had maintenance dredging performed in September of 2015.

The Saugerties Lighthouse property contains NYSDEC Freshwater Wetland areas (S-2, Class 1). Surrounding these freshwater wetlands are Federal Wetland areas (R1UBV). The Hudson River contains areas with submerged aquatic vegetation (SAV). A map of the wetland areas and SAV areas in the vicinity of the Saugerties Lighthouse are given in Appendix A.

Two soil borings were installed near the existing bulkhead to obtain physical and geotechnical data on the subsurface conditions. The boring locations are shown on Sheet 2. Borings B-1 and B-2 were extended to depths of 37 feet and 42 feet respectively. Boring logs are given in Appendix B.

3.0 DESIGN BASIS

The four elements of the Saugerties Lighthouse project are:

1. Restoration of the Saugerties Lighthouse seawall by filling any void areas within the seawall and repointing the mortar joints of the granite block seawall.
2. Restoration of the bulkhead located south side of the Saugerties Lighthouse by installing a new timber bulkhead immediately in front of the existing deteriorated bulkhead remains.
3. Stabilization of the unreinforced concrete piers located to the east of the Saugerties Lighthouse.
4. Make certain repairs to the existing floating dock with any grant funding that is remaining after completing items 1 through 3 above.

The design basis for each of these improvement items are described below. The drawings are given in Appendix B.

3.1 SEAWALL RESTORATION

The Saugerties Lighthouse seawall restoration scope of work includes 1) filling the void areas within the seawall and 2) repointing the mortar joints in the stacked granite seawall blocks. The seawall restoration work will be designed and constructed in a manner that will preserve the visual and physical integrity of the historic masonry structure.

Void Areas

A thorough visual inspection of the ground surface within the seawall was performed. Void areas observed at joints in the stone or masonry were recorded and are shown on Sheet 4. Probes of each void found that each one had depths of only a few inches. The full extent of voids cannot be defined exactly without removing the deck of the seawall which is not practical. The root cause of the voids is believed to be a combination of vibrations from wave action and tidal influence causing continuous variations in saturated water levels in fill materials which caused long term settlement of soil materials within the seawall.

The restoration of the void areas will involve using low pressure grouting to fill the void area with a lightweight Portland cement-based flowable fill having a minimal compressive strength of 600 pounds per square inch (psi). The work will consist of drilling grout holes, exploratory holes and check holes and injecting grout under pressure. The grout shall be injected starting at the bottom or lowest point of the void area and filled vertically to the surface of the seawall. If the grout hole continues to take grout, the mix ratio of grout shall be thickened appropriately to fill the void. The top one-half inch of the joint shall be finished with a mortar and sand mix to match the color and texture of the surround concrete material. A draft specification for pressure grouting is given in Appendix C.

Repointing Mortar Joints

A thorough visual inspection of the perimeter of the seawall was performed. Locations where the mortar joint was missing or deteriorated were recorded and are shown on Sheet 4. The maximum depth of the missing mortar joint was three and one-half inches.

The mortar joints in the stacked granite block seawall will be repaired by repointing. Repointing is the process of removing deteriorated mortar from the joints and replacing it with new mortar that has the same visual and physical integrity of the other mortar joint material. The root cause of the mortar joint deterioration is exposure to weather, tidal water conditions and freeze-thaw conditions. These environmental conditions cannot be eliminated and therefore the repointing materials and methods will be selected to function properly in these conditions.

The seawall repointing mortar shall be Type S mortar with strengths of 1,800 psi conforming to ASTM C270 Mortar for Unit Masonry. Type S mortar is suitable for severe exposure conditions. The cement-lime-sand mix shall be a 1-1/2-4 mix.

Matching the color of the new repointed mortar to the existing weathered mortar joints will be challenging. The Contractor shall make a small sample of the proposed mix and allow it to cure at a temperature of approximately 70 degrees F for one week. The sample shall be broken open and the color of the surface shall be compared to the nearby seawall mortar joint. If the color on the repointing mortar does not match the existing mortar, use a different sand source and/or add color pigment until a color match acceptable to the Lighthouse Keeper (Owner) is obtained. A draft specification for repointing is given in Appendix C.

3.2 BULKHEAD RESTORATION

Bulkheads are vertical shoreline stabilization structures whose primary purpose is to retain soil while providing protection against light-to-moderate wave action. The soils around the base of the seawall are brown fine sand with some silt. The wave heights at the site is typically less than three feet. The tidal variation of the Hudson River is from Elevation -1.0 to 5.2 feet (NGVD88).

At the Saugerties Lighthouse there are remnants of a bulkhead on the south side of the seawall as shown on Sheet 2. The bulkhead's vertical cantilevered timber posts are deteriorated from being exposed to the environmental conditions and are not structurally sound. The bulkhead timber cap, front timber waler and rear timber waler are no longer in-place. There is some evidence of horizontal steel anchor bars which are connected to the seawall just below the low tide level.

The bulkhead restoration will have to involve replacement of the existing deteriorated timber pile bulkhead. To provide protection of the seawall foundation from erosion forces, the replacement bulkhead will be designed to encircle the entire south side of the side of the seawall. The north side of the seawall does not have erosion potential, as it is naturally a net sand/sediment depositional area because of the geometry of the shoreline.

Two soil boring were installed on the south side of the existing deteriorated bulkhead to collect information of the subsurface stratigraphy and geotechnical properties of the river/creek bottom. A geotechnical analysis of subsurface conditions near the bulkhead was performed using the data from the two soil borings. A copy of the preliminary geotechnical analysis report is given in Appendix B.

The different types of bulkhead alternatives considered included:

- **Sheetpiling.** Sheetpiling is available in various materials including steel, aluminum, concrete, fiberglass or plastic composite and timber. Sheetpiling is typically interlocking and may be either cantilevered or anchored. Steel sheetpiling is the most common material for this application because of its strength, durability and availability.
- **H-piles with Lagging Wall.** H-piles are available in various materials including steel and concrete. The lagging walls between the H-piles can be constructed of various materials including treated timbers/railroad ties, concrete slabs or precast concrete panels. Steel H-piles with precast concrete lagging walls are readily available and provide greater strength and durability for this application.
- **Continuous Timber Piles.** Treated timber piles can be driven into the bottom of the river along a desired alignment to create a stable structure capable of retaining the soils at the base of the seawall while providing protection against wave action. Treated timber piles provide a natural and durable material for construction of bulkheads. Pressure treatment methods such as chromated copper arsenate (CCA) in accordance with American Wood Protection Association (AWPA) Use Category UC5 (2.5 pounds per cubic feet) have been approved by the United States Environmental Protection Agency (USEPA) for marine construction applications. Treated timber piles are available with butt diameters ranging from eight inches to twelve inches and in typical installation lengths of twenty feet or thirty feet long.
- **Timber Piles and Timber Lagging.** Regularly spaced vertical timber piles with an attached timber facing material to retain the backfill can be cantilevered or anchored. The timber piles and timber facing are pressure-treated to preserve them in the water environment.
- **Timber Cribbing.** Timber crib bulkheads are constructed of heavy-duty timbers (6" x 6" minimum) that are stacked in alternating layers to form an open weave, box-like structure. This box is then filled with stone to

form a massive wave-resistant structure. Threaded rods can be used to fasten the structure together.

- Gabions. Gabions are galvanized wire baskets filled with stones. Gabions can be stacked vertically to construct bulkheads. Toe protection can be provided by extending the gabion baskets out along the bottom at a distance sufficient to provide a cutoff in the event of scour.

An evaluation of costs and design life for different types of bulkhead construction methods is summarized in the table below. Ranked by costs the bulkhead construction alternatives considered included the following:

Alternative Number	Bulkhead Type	Cost per Horizontal Linear Foot	Design Life
1	H-piles 6'OC with precast concrete panels	\$170	50+ Years
2	Steel Sheet Piling	\$180	50+ Years
3	Treated Timber Piles with Treated Timber Lagging	\$195	15 Years
4	Continuous Treated Timber Piles	\$210	25+ Years
5	Timber Cribbing System	\$225	15 Years
6	Steel Sheet Piling with Timber Cladding	\$280	50+ Years
7	Stone Filled Gabions	\$450	25 Years

One of the key criteria for selection of the type of bulkhead for the Saugerties Lighthouse restoration project is to maintain the appearance of this National Historic Register site. Use of steel and concrete retaining wall products (Alternative Nos. 1, 2 and 6) would not be consistent with the visual appearance of the site and were not considered further for this reason. A stone filled gabion (Alternative No. 7) utilizes stones ranging in size of 2 inches to 8 inches in diameter which is visually inconsistent with the corresponding large granite stacked stone seawall and therefore was not given further consideration. Of the wood product alternatives (Alternative Nos. 3, 4 and 5), the design life of the continuous treated timber pile (Alternative No. 4) has a 1) design life of more than 25 years and 2) is consistent with the previously installed bulkhead. Based on the cost, design life and consistency with the existing/historic conditions, it is recommended that a continuous treated timber pile bulkhead be used to restore the Saugerties Lighthouse bulkhead.

A review of the available historic Saugerties Lighthouse photographs was performed to establish the horizontal and vertical alignment for restoration of the bulkhead. Photographs were available from 1886, pre-1951, 1951 aerial, 1968 aerial and current pictures and are provided in Appendix A. The pre-1951

photograph taken at low tide from the Hudson River was used to establish the top of the bulkhead at Elevation 1.0 feet. The 1968 aerial photograph and the current photographs were used to establish the configuration of bulkhead extending from the shoreline at the stationary wooden dock to the boat house.

The bulkhead restoration layout as shown on Sheet 5 was prepared utilizing the photographic information at the site. The proposed bulkhead would be approximately ninety-five feet long and extend from the stationary wooden dock ramp to the wooden bridge that connects the wooden deck area. The top of the bulkhead would be set at Elevation 1.0 feet. Wood timber walers would be installed on both sides of the timber piles to maintain the vertical alignment. Tie-backs anchored to the seawall would be uniformly located along the length of bulkhead to further stabilize the bulkhead. The seawall anchors will be positioned vertically at Elevation -1.5 feet. See Sheet 5 for additional details on the seawall anchors.

After installation of the seawall anchors is complete, a blend of medium riprap (heavier than 100 pounds) and heavy riprap (heavier than 600 pounds) will be placed over the seawall anchors to Elevation 1.0 feet.

3.3 PIER STABILIZATION

There are two large unreinforced concrete piers situated on ground surface east of the Saugerties Lighthouse. These piers are remains from the former 1838 lighthouse structure. The bottom or base of the piers are approximately at Elevation 0 feet which is about one foot above low tide. Over the years, the riprap stone around the base of the piers has been eroded causing displacement of the piers. The tops of the piers are currently sloped which creates an unsafe condition for people to stand on and are considered an “attractive nuisance” at the site.

Concrete Pier 1 which was originally a single piece of unreinforced concrete approximately 30 feet long and approximately 10 feet wide and approximately 5 feet 6 inches thick cracked over the years and is now separated into three pieces of unreinforced concrete (Concrete Pier 1A, 1B and 1C) as shown on Sheet 2. Concrete Pier 2 is approximately 7 feet-6 inches long and approximately 8 feet wide and approximately 32 inches thick and is located immediately north of Concrete Pier 1C as shown on Sheet 2.

The following alternates were considered for stabilizing the piers:

- Anchor the Existing Piers in Place. The current condition of the piers could be stabilized by installing vertical pipe pile anchors around the perimeter of the piers with connection brackets. The vertical pipe pile anchors would be driven approximately twenty-five feet into the ground with the tops of the pipe piles cut off flush with the top of the piers (overall length of approximately 30 feet). The pipe pile anchors would securely hold the piers to the river bed and would prevent movement of the piers from wave action or ice floes. Additional riprap would be installed around the base of the piers to replace the riprap that has been eroded over time.

This alternative would not correct or eliminate the uneven surface of the piers which is a safety issue at the site.

- Level and/or Cap the Piers. The piers could be leveled by using hydraulic jacks. A solid foundation to operate the hydraulic jacks from would have to be provided by installing a reinforced concrete spread footing, helical piles or pipe piles. Concrete Pier 1 would have to be drilled and pinned to reconnect the three broken pieces of concrete. It is likely that a concrete cap would have to be installed over Concrete Pier 1 to create a uniform surface without gaps. Riprap would have to be placed under and around the base of the leveled piers to preserve them.

The level of effort, potential environmental impacts during construction and costs to perform the concrete work in the tidal conditions at the site would exceed the grant monies available for this project.

- Convert the Piers to Heavy Riprap. The piers could be broken up and then restacked to maintain the protective feature they provide for the site thereby eliminating the safety issue posed by the uneven surface of the piers. Pneumatic or hydraulic hammers can be used to break up the unreinforced concrete to pieces that are no larger than 3 feet wide by 3 feet high by 3 feet long (2 tons). The broken pieces of concrete would be restacked at the original pier locations to minimize the void space between chunks of concrete. Additional riprap, blend of medium riprap (heavier than 100 pounds) and heavy riprap (heavier than 600 pounds), would be installed around the broken up piers to create a circular shaped reinforced riprap pile with a top elevation of approximately 7 feet which is the estimated top elevation of the original concrete pier.

After review of the alternatives, the Saugerties Lighthouse Conservancy selected the convert the piers to heavy riprap alternative as the most cost effective method to stabilize the piers. Sheet 6 shows the concrete pier size reduction plan and river barrier stabilization plan.

3.4 DOCK REPAIRS

The docks located on the west side of the Saugerties Lighthouse include a stationary wooden dock and a floating wooden dock. Photographs of the docks are given in Appendix A.

Stationary Wooden Dock. The stationary wooden dock provides access to the lighthouse via a wooden ramp and is a place for boats to tie-off. The stationary wooden dock is 59 feet long by 8 feet wide with 2"x 8" floor joists and 2"x 6" pressure treated wood decking. The water-side of the stationary wooden dock is supported by seven three and one-half inch diameter steel pipe posts. The land-side of the stationary dock is supported by a combination of three and one-half inch diameter steel pipe posts and the ground surface. The stationary wood dock has a number of deficiencies including:

- Both the wood deck and the wooden floor joists are weathered and deteriorated from exposure to the elements. The deck and floor joists have an estimated remaining life expectancy of only three years before they need to be replaced.
- The water-side of the stationary wooden dock does not have a vertical surface to prevent floating ice from collecting under the stationary wooden dock. During tide changes, the floating ice causes uplift forces that displace the stationary wooden dock both vertically and horizontally. In the Springtime, significant repairs often have to be made to the stationary dock because of floating ice damage.
- The elevated wooden deck is supported on small diameter steel pipe posts. Several of the three and one-half inch diameter pipe posts are bent and out of vertical alignment and no longer are properly supporting the elevated wood deck.
- Over the years, numerous repairs and additional supports have been made to the stationary wooden dock. Steel girders that have been installed under the floor joists to provide additional support. Because of settlement and lifting by floating ice, several of these steel girders are no longer properly supporting the floor joist.

The evaluation of the stationary wooden dock determined that the structure has such a short remaining life expectancy (estimated to be only three years) and other major deficiencies (improper vertical supports, continued exposure to floating ice damage and uplift forces) that it is recommend that a complete replacement of the stationary wooden dock be done. The cost of replacement of the stationary wooden dock depends on the type of structure constructed but could range from \$300,000 to \$1,000,000. The full replacement cost of the stationary wooden dock exceed the monies available as part of this Parks Restoration Project and would therefore have to be done as part of a future grant.

However, since large construction equipment will be at the site for the bulkhead replacement and pier stabilization work, driven pipe piles can be installed as part of this project and be available for future stationary dock replacement. Pipe piles at 10 feet horizontal spacing could be installed to vertically support a future deck. Steel pipe piles, 8 inches in diameter could be driven into the ground to a depth of approximately 25 to 30 feet and completed with the top of the pipe piles at Elevation 13.0 feet. Sheet 7 shows the placement of ten (10) pipe piles around the perimeter of the existing stationary dock.

Other recommended repairs for the stationary wooden dock are to:

- replace any loose or rotten deck boards as necessary. For purposes of cost estimating, an allowance of \$1,000.00 is provided for replacement of wood deck boards; and
- re-align any displaced of the four-inch diameter pipe posts to a vertical position; and

- make safety improvement including replacing the rope barrier on the water-side of the stationary dock with two rows of safety-yellow plastic chain and adding safety signage along the stationary dock.

Floating Wooden Dock. The floating wooden dock is positioned immediately south of the stationary wooden dock and serves as a place for small boats to tie-off to and dock to visit the lighthouse. The floating wooden dock is 40 feet long by 8 feet wide. The floating wooden dock is held in position by two four-inch diameter steel pipe posts that are supported by a welded steel structure. The welded steel structure is anchored on the shoreline. The recommended repairs for the floating wooden dock are as follows:

- The floating wooden dock deck and perimeter boards have normal wear-and-tear and some deterioration of the wood from being exposed to the elements but generally is in good working condition. No repairs of the wood deck are proposed.
- The two pipe posts that hold the floating wooden dock in position are bent. It is recommended that the two pipe posts be replaced with larger 8 inch diameter pipe anchors. The floating dock pipe posts would be forty feet long and top of the pipe posts would be set at Elevation 10 feet. The existing steel structure would be modified to connect to the top of the pipe posts.
- A handrail should be installed along the outside of the ramp from the floating wooden dock to the stationary wooden dock.

4.0 ENVIRONMENTAL PERMITTING

The Saugerties Lighthouse restoration work is adjacent to both the Hudson River and the Esopus Creek. As such, the following environmental permits will have to be obtained for the proposed work:

- NYSDEC Article 15, Title 5, Stream Disturbance Permit to physically disturb the bed and banks of the Esopus Creek and the Hudson River to restore the bulkhead and stabilize the piers.
- NYSDEC Article 15, Title 5, Excavation & Fill in Navigable Waters Permit to allow excavation and filling below the mean water line for construction of the bulkhead and stabilization of the piers.
- NYSDEC under Section 401 of the Clean Water Act, Water Quality Certification.
- NYSDEC Article 24, Freshwater Wetlands Permit for work within the 100 foot protected wetland buffer area.
- The site is located within a Significant Coastal Fish & Wildlife Habitat Area designated by NYSDOS. The site is also part of an Anadromous Fish Concentration Area and a Waterfowl Winter Concentration Area. Streambed disturbances to areas used by the largemouth bass population should be avoided from September to April (work should be performed between May and August). The above referenced NYSDEC permits will be written to address these natural resources.
- USACE NWP 3(a) – Maintenance. Repair, rehabilitation or replacement of any previously authorized, currently serviceable structures. The replacement of the existing deteriorated wooden pile bulkhead is for the same use and will be located within eighteen inches (18”) of the existing bulkhead and is within tidal waters. The proposed restoration work is consistent with the conditions of NWP 3. No pre-construction notification (PCN) is required for activities authorized under NWP 3(a).

The NYSDEC blanket Water Quality Certification for Nationwide Permits is not applicable to this project as the blanket does not cover any activities in NYSDOS Significant Coastal Fish & Wildlife Habitat Areas. An individual Water Quality Certification will have to be obtained.

The proposed improvements will disturb 0.1 acres which is less than one acre threshold required for coverage under NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-15-002. An Erosion and Sediment Control Plan for the proposed work will be provided on the design plans.

The Village of Saugerties Local Waterfront Revitalization Program (LWRP) requires review of any SEQRA Type 1 actions in the waterfront area (actions that may have a significant adverse impact on the environment). The Park Restoration

Project – Saugerties Lighthouse is considered an Unlisted Action and a review by the Waterfront Advisory Board is not required (Chapter 202, Village Code).

5.0 SCHEDULE

The estimated duration of the proposed work is as follows:

- Seawall restoration – 1 month
- Bulkhead restoration – approximately 2 months
- Pier stabilization – 1 month
- Dock repairs – 1 month

The overall construction activity should take from 4 to 6 months to complete. The proposed Saugerties Lighthouse renovations can be constructed anytime during the normal construction period of May through mid-November. The in-stream work should be performed between May and August because of largemouth bass wintering. All of the materials and equipment for the project will have to be delivered to the site by a barge.

The Village will have to notify the Saugerties Lighthouse Keeper of the construction schedule and a public notice should be posted if portions of the Saugerties Lighthouse property are not available for public use during the construction work.

6.0 OPINION OF PROBABLE COST

An opinion of probable costs for construction of the proposed Saugerties Lighthouse renovations is given in Table 1. The opinion of probable construction cost at the 30% design stage is \$317,000.00.

Table 1						
Opinion of Probable Construction Costs						
Parks Restoration Project - Saugerties Lighthouse						
Village of Saugerties						
April 2017						
Item No.	Description	Unit	Quantity	Unit Cost	Estimated Cost	Subtotals
1	Site Preparation and Mobilization	L.S.	1	\$5,000	\$5,000	
<u>Seawall Restoration:</u>						
2	Pressure Grout Void Areas (10 cavities @ 3 cubic feet each)	CF	30	\$400	\$12,000	
3	Repointing Mortar Test Samples	L.S.	1	\$5,000	\$5,000	
4	Repointing Mortar Joints (60% of the mortar joints)	LF	600	\$30	\$18,000	
5	General Restoration of Stone/Mortar Deck (allowance)	LS	1	\$5,000	\$5,000	
					Subtotal	\$52,800
<u>Bulkhead Restoration</u>						
6	Mobilize Barge with Timber Pile Driving Equipment	L.S.	1	\$30,000	\$30,000	
7	Install & Maintain Turbidity Curtain	L.S.	1	\$10,000	\$10,000	
8	Relocation of Underground Electric & Communication	L.S.	1	\$5,000	\$5,000	
9	F&I 12" Dia. Treated Timber Piles - 30 ft long	EA	60	\$1,200	\$72,000	
10	F&I Top Treated Timber Waler 3x12, Both Faces	LF	120	\$40	\$4,800	
11	F&I Seawall Anchors	EA	7	\$2,000	\$14,000	
12	F&I Riprap over Seawall Anchors	Ton	50	\$200	\$10,000	
					Subtotal	\$158,600
<u>Pier Stabilization</u>						
13	Install & Maintain Turbidity Curtain	L.S.	1	\$5,000	\$5,000	
14	Site Barge with Pneumatic/Hydraulic Hammer	L.S.	1	\$8,000	\$8,000	
15	Reduce Size of Unreinforced Concrete Piers < 3'x3'x3'	Day	2	\$8,000	\$16,000	
16	F&I Riprap Around and Over Reduced Size Piers	Ton	100	\$200	\$20,000	
					Subtotal	\$61,800
<u>Wooden Dock Repairs</u>						
17	Allowance for Replacement of Deck Boards	L.S.	1	\$1,000	\$1,000	
18	Site Barge and Equipment to Install 8" Pipe Piles	L.S.	1	\$5,000	\$5,000	
19	F&I 8" Diameter, 40 Ft Long Pipe Piles	EA	12	\$1,500	\$18,000	
20	Floating Dock Steel Structure Support Modifications	L.S.	1	\$4,000	\$4,000	
21	Ramp Hand Railing between Floating and Stationary Docks	L.S.	1	\$1,500	\$1,500	
22	Safety Chains and Safety Signage	L.S.	1	\$1,500	\$1,500	
					Subtotal	\$43,800
23	Site Restoration and Demobilization	L.S.	1	\$5,000	\$5,000	
24	Construction Contingency	%	15%	\$275,800	\$41,370	
25	Opinion of Probable Construction Cost					\$317,000

APPENDIX A

EXISTING CONDITIONS PHOTOGRAPHS

- Seawall Photographs
- Deteriorated Bulkhead Photographs
- Concrete Pier Photographs
- Stationary Dock and Floating Dock Photographs

SUBMERGED AQUATIC VEGETATION MAP

HISTORIC SITE PHOTOGRAPHS

**PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK**



PHOTO #1



PHOTO #2

**PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK**



PHOTO #3



PHOTO #4

**PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK**



PHOTO #5



PHOTO #6

PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK



PHOTO #7



PHOTO #8

PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK



PHOTO #9



PHOTO #10

**PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK**



PHOTO #11



PHOTO #12

PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK



PHOTO #13



PHOTO #14

**PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK**



PHOTO #15

4" diameter
Steel Pipe
Anchors



PHOTO #16

**PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK**



PHOTO #17

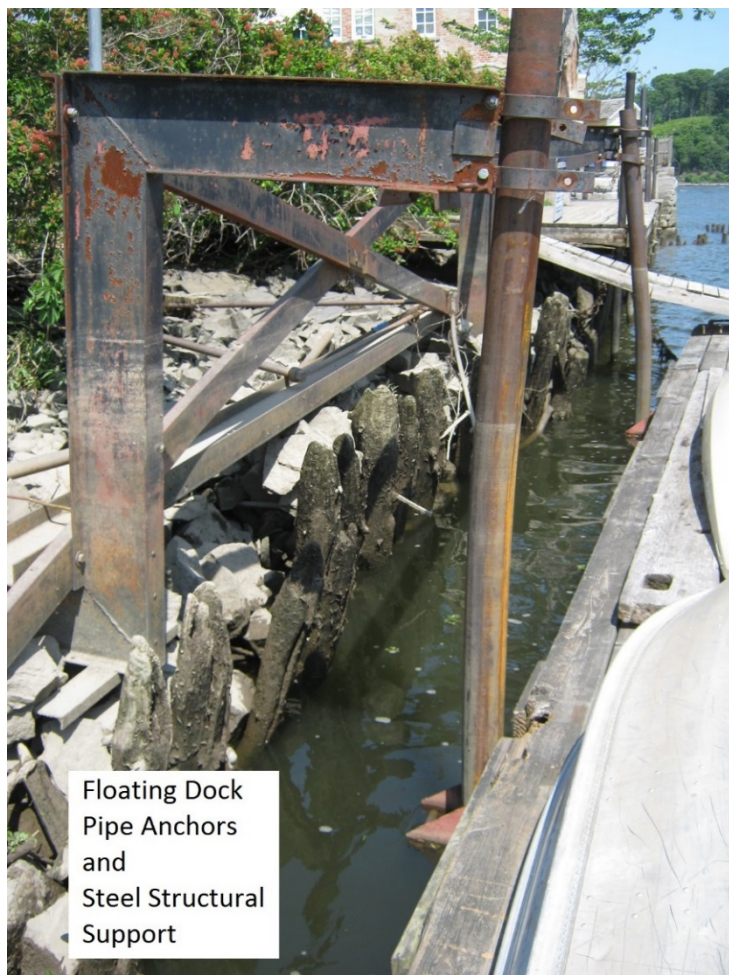


PHOTO #18

PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK

PHOTO #19



Saugerties Lighthouse
Village of Saugerties, Ulster County

DEC Division of Environmental Permits
Date Produced: 03/16/17
Produced by: Sarah Pawliczak

Legend	
	Hudson River Submerged Aquatic Vegetation Documented Habitat
	Lower Intertidal Mix
	Open Water
	Phragmites australis
	Scrub / Shrub
	Typha angustifolia
	Unvegetated Flats
	Upland
	Upper Intertidal Mix
	Wooded Swamp

**PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK**



Photo #20 - Pre-1951 Photograph at Low Tide

**PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK**



Photo #21 - 1951 Aerial Photograph at Mid-Tide

**PARKS RESTORATION PROJECT
SAUGERTIES LIGHTHOUSE
SAUGERTIES, NEW YORK**

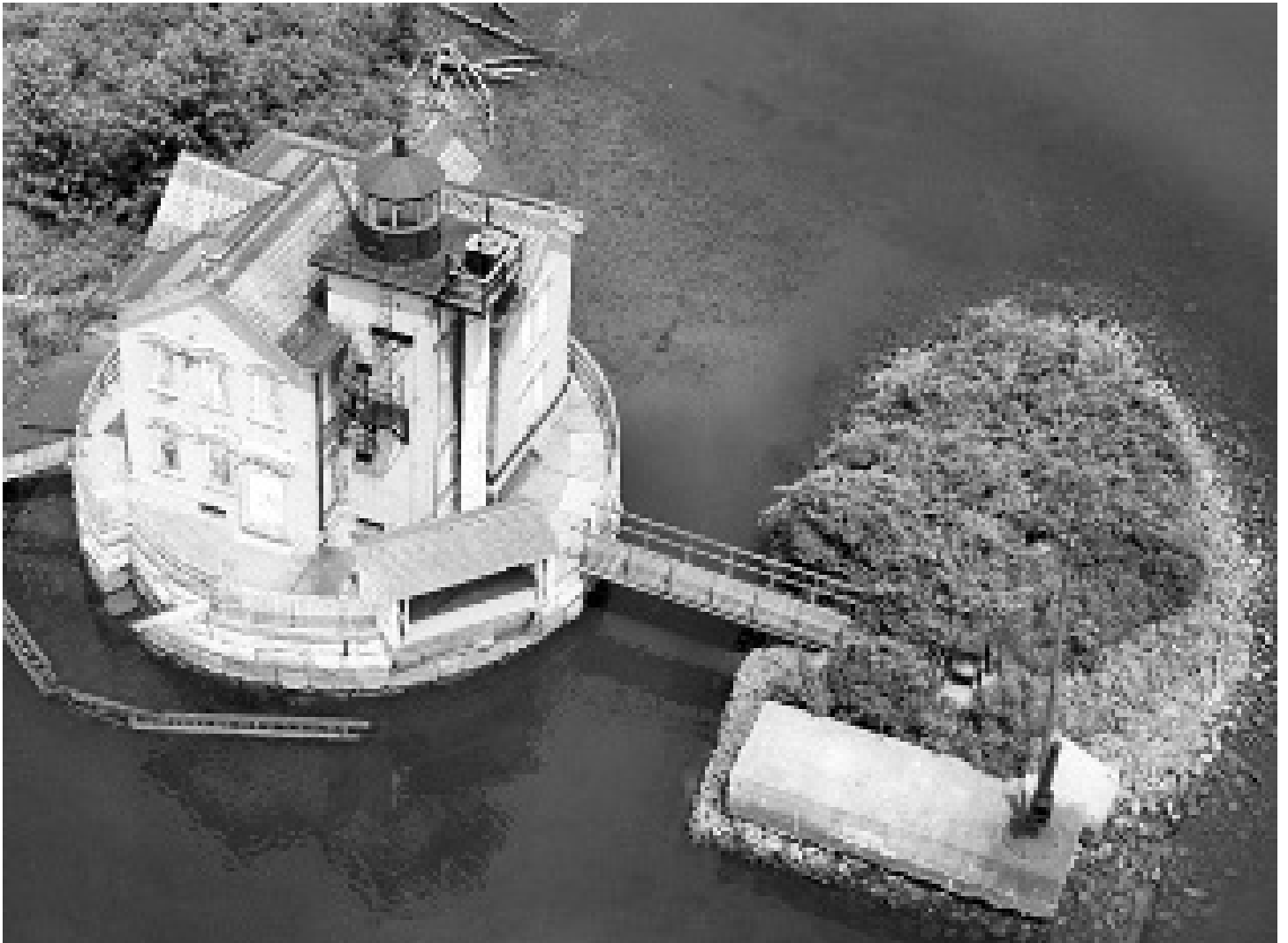
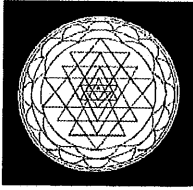


Photo #22 - 1968 Aerial Photograph at Low Tide

APPENDIX B

GEOTECHNICAL ANALYSIS REPORT



VERNON HOFFMAN PE
SOIL AND FOUNDATION
ENGINEERING

21420 BAY VILLAGE DRIVE, UNIT 212 FORT MYERS BEACH, FLORIDA
33931 518 382 0207 vhoffmanpe@aol.com

February 5, 2017

Brinnier and Larios, P.C.
67 Maiden Lane
Kingston, N. Y. 12401

Attention: Mr. Joe Mihm, P.E.

Gentlemen/Ladies:

Re: Preliminary Geotechnical Report for Reconstruction of Wood Pile Marine Barrier at Saugerties Lighthouse, Saugerties, New York

INTRODUCTION:

The preliminary geotechnical investigation for the design of a new wood pile marine barrier to replace the existing wood pile wall has been completed. Two soil borings were completed at the site of the proposed pile wall with one boring near each end of the new wall. The logs of these borings have been enclosed.

I have the following understandings about the proposed wood pile barrier wall:

The proposed wall is to be constructed to have an appearance and a function essentially the same as the existing wall prior to the deterioration of the existing piling over many years of time. The location of the proposed wall will be the same as the existing wall location or adjacent.

The proposed wall will be made up of wood piles approximately 12 inches in diameter at the butt end and they will be driven as closely adjacent to each other as practical. The design elevation of the top of the piles will be about 0.5 which will be about 1.4 feet above low tide and about 4.7 feet below high tide. The existing creek bottom is at an elevation of about minus 4.0 for design purposes.

The top of the wood pile wall will be braced to the existing stone foundation of the light house with rigid anchors/struts capable of tension and compression. Therefore the piles will require relatively small lateral load capacity from the soil subgrade because of the greater stiffness of the rigid struts.

No significant compression loadings are to be imposed on the piles. The only significant loadings will be the uplift loadings which will come from ice freezing around the piling and then being uplifted by rising water levels. These uplift loadings are not yet available for this analysis. What I have done in this report is to provide estimates of the uplift resistance for piles of two lengths of embedment below creek bottom for use in the structural design analysis.

The scope of this report is to describe the investigation conducted and the results obtained and to provide preliminary recommendations for the design of the timber pile barrier wall. The environmental, site design, and structural design aspects of the project will be done by others.

A final report will be prepared at a later stage of the design process.

Site Conditions:

The site is along the northern bank of the Esopus Creek adjacent to the existing Saugerties Lighthouse. There are remnants of the old pile wall.

The lighthouse has a foundation of large stone blocks which will provide the reactions for the anchors or struts which will laterally support the top of the proposed new timber pile wall.

The site is situated on the western shore of the Hudson River and the water level is subject to tidal fluctuations, flood levels to some extent and ice flows.

Subsurface Conditions:

The creek bottom elevation is assumed at an elevation of minus 4 for design purposes. The water levels at the time of the boring operations were at 8 to 10 feet deep

Boring Number	Description	N /ft	Phi cohesion degrees psf	buoyant wt. pcf
Boring B-1				
0.0 - 15.0 ft.	Loose Silty Fine Sand, trace organic (SM)	2 to 6	25	0 35
15.0 - 25.0	Medium dense Silty Fine Sand (SM)	15 to 18	32	0 50
25.0 - 37.0	Upper medium dense Silty Fine Sand (SM)	28	36	0 50
	organic silty clay layer (CL-ML) 28.5 ft- 33.5 ft			
Boring B-2				
0.0 - 12 ft.	Soft or loose Silty Clay and Silt Layers, organic (CL-ML & ML)	N = 0 to 4	15	0 30
12 - 20.0	Loose Silty Fine Sand (SM-SP)	N = 5	30	0 50
20.0 - 42.0	Medium dense Silty Fine Sand	N = 11 to 25	32	0 50

No laboratory testing was performed on the soil samples. The samples were visually classified by the geotechnical engineer according to the Unified Soil Classification System. The Unified Symbols are shown in parenthesis in the table above..

Analysis and Preliminary Recommendations:

I have estimated soil index parameters for the various soil strata idealized above in the Subsurface Conditions section using the standard penetration values "N" and other data shown on the soil boring logs. These index parameters include soil friction angle, buoyant unit weight, and soil cohesion.

Using these strength values and following the design recommendations in the FEMA Coastal Construction Manual, Volume II "Designing the Foundation," I have shown below the uplift resistance capacity of timber piling with a 12 inch diameter butt for embedments of 20 feet and 30 feet.

The uplift capacity of the timber piles has to be evaluated as a pile group and not as a multipile of single pile uplift capacities. The available unit friction for each stratum multiplied by thickness of the stratum yields the uplift resistance for the stratum or fraction of it penetrated by the piles. The sum of the resistances for the various strata penetrated yields the uplift resistance per unit length of the wall.

I have shown below the uplift capacity for wood pile walls for embedments of 20 feet and 30 feet in terms of kips per lineal foot of the wall. The frictional resistance is developed on both sides of the wall with the whole face of the wall modeled as a uniform surface. There will be spaces between piles, but soil arching will result in the series of piles acting as one surface.

Pile Embedment Below Grade(ft)	Capacity in Kips/foot
20	2.7
30	8.1

The compression capacity of the pile wall would be similar to slightly greater than the uplift capacity shown above.

The lateral load capacity of this wall with the anchorage at the top will be considerable but will not be tested because the expected loads are so close to the anchors/struts that the loads will go to the more rigid support members.

Estimation of Uplift Forces on Piles or Pile Wall:

Methods such as Figure 6-8 in the USACE EM 1110-1612 which show the relationship between the uplift stress of piles and ice versus the ratio of pile diameter to ice thickness could be used, but the relationship is very sensitive at small pile diameters like 12 inches relative to ice thickness which might well be one to several feet in this area.

The estimation of ice uplift forces is not included in the scope of my work. However, if you consider that ice is up to about 9% lighter than water so that the uplift power of once cubic foot of submerged ice is about 6 pounds even if a very large sheet of ice were to transfer all the tidal uplift to the face of the wall it seems unlikely that it would exceed the 8 kips per lineal foot of wall for timber piles embedded 30 feet. The tops of the piles could be shaped or treated to reduce adhesion of ice to the pile wall as well.

Closing:

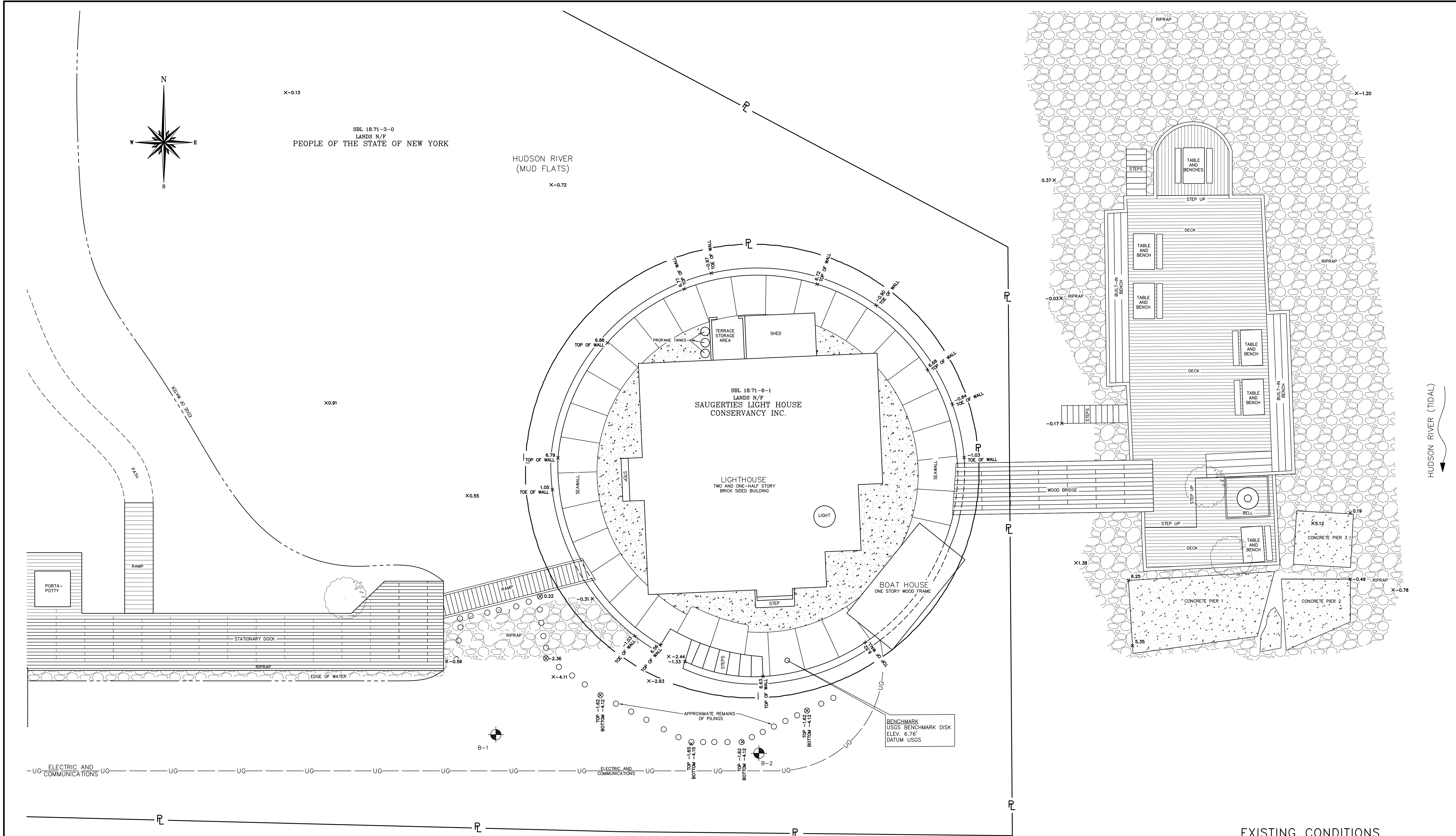
If there are any questions with regard to this letter report, or if I could be of additional planning and design, do not hesitate to contact me.

Yours truly,

A handwritten signature in black ink, appearing to read "Vern Hoffman", written in a cursive style.

Vernon C. Hoffman

N.Y.P.E. 044363-1

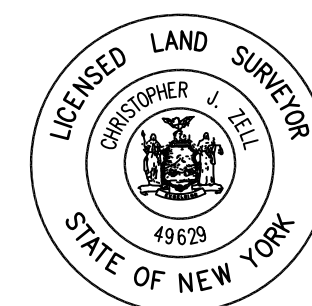
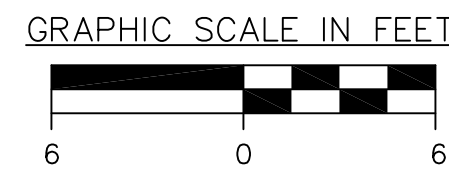


- NOTE:
1. FIELD SURVEY PERFORMED BY BRINNIER AND LARIOS, P.C. ON JANUARY 19, 2016.
 2. PROPERTY LINE LOCATIONS ARE APPROXIMATE BASED ON ULSTER COUNTY TAX MAPS.
 3. ORDINARY HIGH WATER (OHW) MARK IS AT ELEVATION FEET BASED ON FIELD OBSERVATIONS.
 4. ESOPUS CREEK BATHYMETRY INFORMATION IS BASED ON

LEGEND

— P — PROPERTY LINE
— — — — — EDGE OF WATER
— UG — UNDER GROUND UTILITIES
- - - - - PATH
X0.55 SPOT ELEVATION
RIPRAP RIPRAP
B-1 BORING

EXISTING CONDITIONS
SCALE: 1" = 6'



Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

EXISTING CONDITIONS
CONTRACT NO. VSA-172

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE NY RISING COMMUNITY RECONSTRUCTION PROGRAM NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY	NEW YORK
DATE	REVISION	RECORD	
BRINNIER & LARIOS, P.C. ENGINEERS & LAND SURVEYORS 67 MAIDEN LANE KINGSTON, N.Y. Phone: 845-338-7622 Fax: 845-338-7660			SHEET NO.
SCALE	DATE	CHK	
1" = 6'	FEB. 2017		2 OF 8
DWG	RJS		

Bus.: (845) 553-9200							Fax.: (845) 553-9199			BORING NO. B-1 SHEET 1 of 1			
ALLIED DRILLING, INC.													
25 Greenbush Road South, #3, Orangeburg, NY 10962													
BORING LOG													
PROJECT: Saugerties LighthousePROJECT NO.:													
LOCATION: Saugerties, NYSTART DATE: 09/08/2016													
CLIENT: Brinnier & Larios, P.C.FINISH DATE: 09/08/2016													
INSPECTOR: DRILLER: Tony H. Martin Helper: Venancio AlbanezRIG: Tri-Pod													
			SOIL BLOWS / 6"					ROCK CORE		RQD %	SOIL/ROCK DESCRIPTION & REMARKS		
			0"-6"	6"-12"	12"-18"	18"-24"		RUN (IN.)	REC. (IN.)				
—	1	0/2	WOR/ 24"							0/8	8' of Water to Top of Mudline at 10:35 A.M. Brown Fine Sand with Silt and Organics		
—	2	2/4	2	1	1	1							
—	3	4/6	2	3	2	2				8/37	Brown and Gray Fine Sand, Slightly Silty		
—	4	6/8	3	2	3	3							
—													
—	5	10/12	3	3	3	4							
—													
—	6	15/17	4	5	6	9							
—													
—	7	20/22	5	7	9	7							
—													
—													
—	8	25/27	7	9	10	12							
—													
—	9	30/32	9	12	16	18							
—													
—													
—	10	35/37	11	12	16	19							
—											EOB @ 37'		
—													
TOOLS & EQUIPMENT USED								GROUND WATER DATA					
CASING SIZE		HW	SPOON SIZE		2"		DATE		TIME		DEPTH (FT.)		
CASING HAMMER		300	SPOON HAMMER		140				At Completion				
HAMMER FALL - CASING		24"	HAMMER FALL - SPOON		30"		09/08/2016				0.0		
CORE BARREL USED			DRILLING MUD USED										
CORE BIT USED			UNDISTURBED SAMPLER				OBSERVATION WELL						
AUGER SIZE			STANDBY TIME				DEPTH (FT.)				SCREEN LENGTH (FT)		
MISCELLANEOUS ITEMS:													

BORING NO. 1SHEET 1 OF 1

Bus.: (845) 553-9200

Fax.: (845) 553-9199

ALLIED DRILLING, INC.

BORING NO. B-2
SHEET 1 of 1

25 Greenbush Road South, #3, Orangeburg, NY 10962

BORING LOG

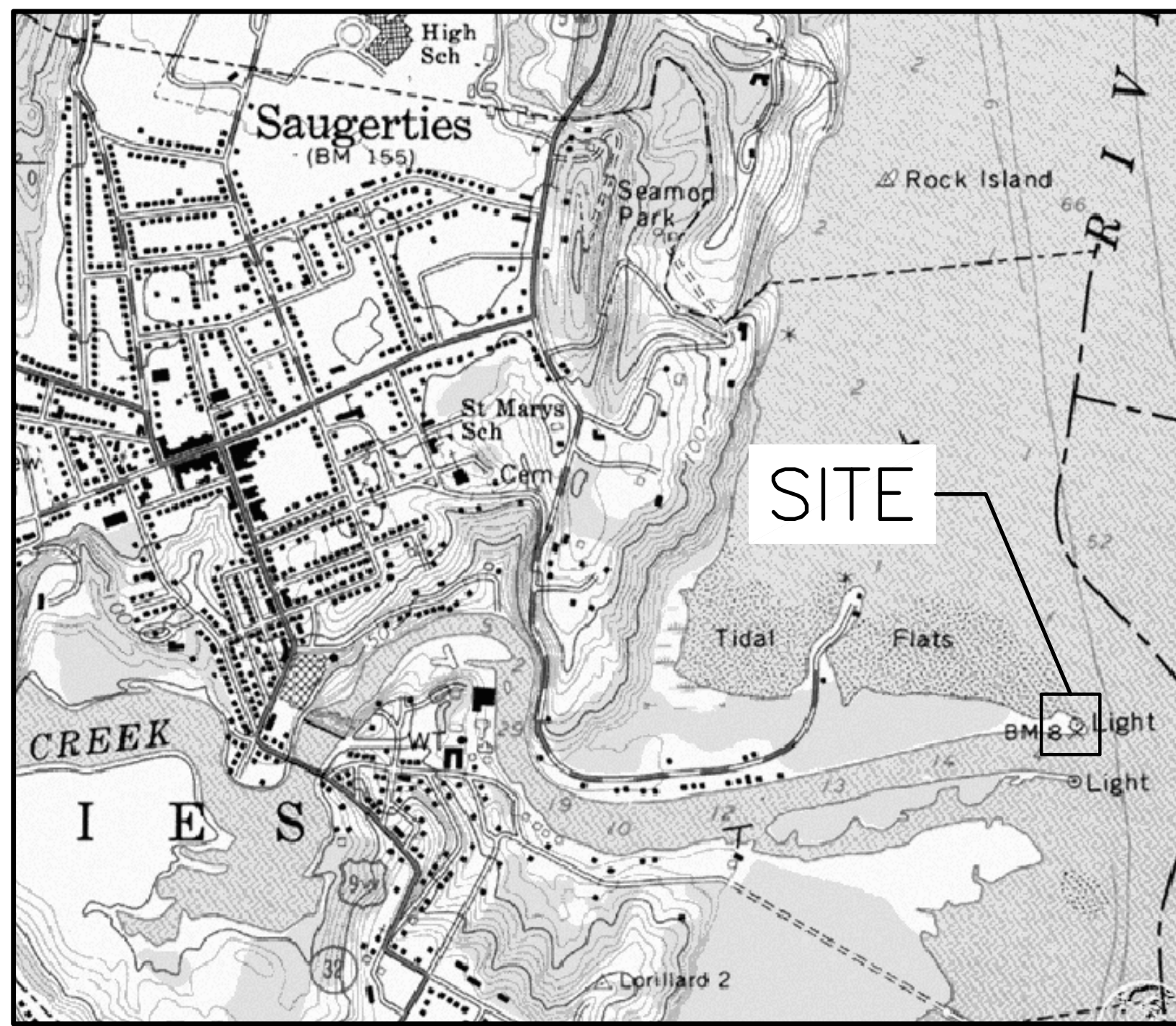
PROJECT:	<u>Saugerties Lighthouse</u>	PROJECT NO.:	
LOCATION:	<u>Saugerties, NY</u>	START DATE:	09/09/2016
CLIENT:	<u>Brinnier & Larios, P.C.</u>	FINISH DATE:	09/09/2016
INSPECTOR:	<u>DRILLER: Tony H. Martin</u>	Helper:	<u>Venancio Albanez</u>
		RIG:	Tri-Pod

			SOIL BLOWS / 6"					ROCK CORE		RQD %	SOIL/ROCK DESCRIPTION & REMARKS	
			0"-6"	6"-12"	12"-18"	18"-24"		RUN (IN.)	REC. (IN.)			
—	1	0/2	WOR/ 24"							0/10	10' of Water to Top of Mudline at 09:40 A.M.	
—	2	2/4	WOR/ 24"									
—	3	4/6	1/12"		1/12"					10/42	Brown Fine Sand with Silt and Organics	
—	4	6/8	WOR/ 24"									
—												
—	5	10/12	2	2	2	2						
—												
—	6	15/17	2	2	3	3						
—												
—	7	20/22	3	4	7	6						
—												
—												
—	8	25/27	6	6	9	11						
—												
—	9	30/32	7	9	11	14						
—												
—												
—	10	35/37	9	10	12	15						
—	11	40/42	10	11	14	15					EOB @ 42'	

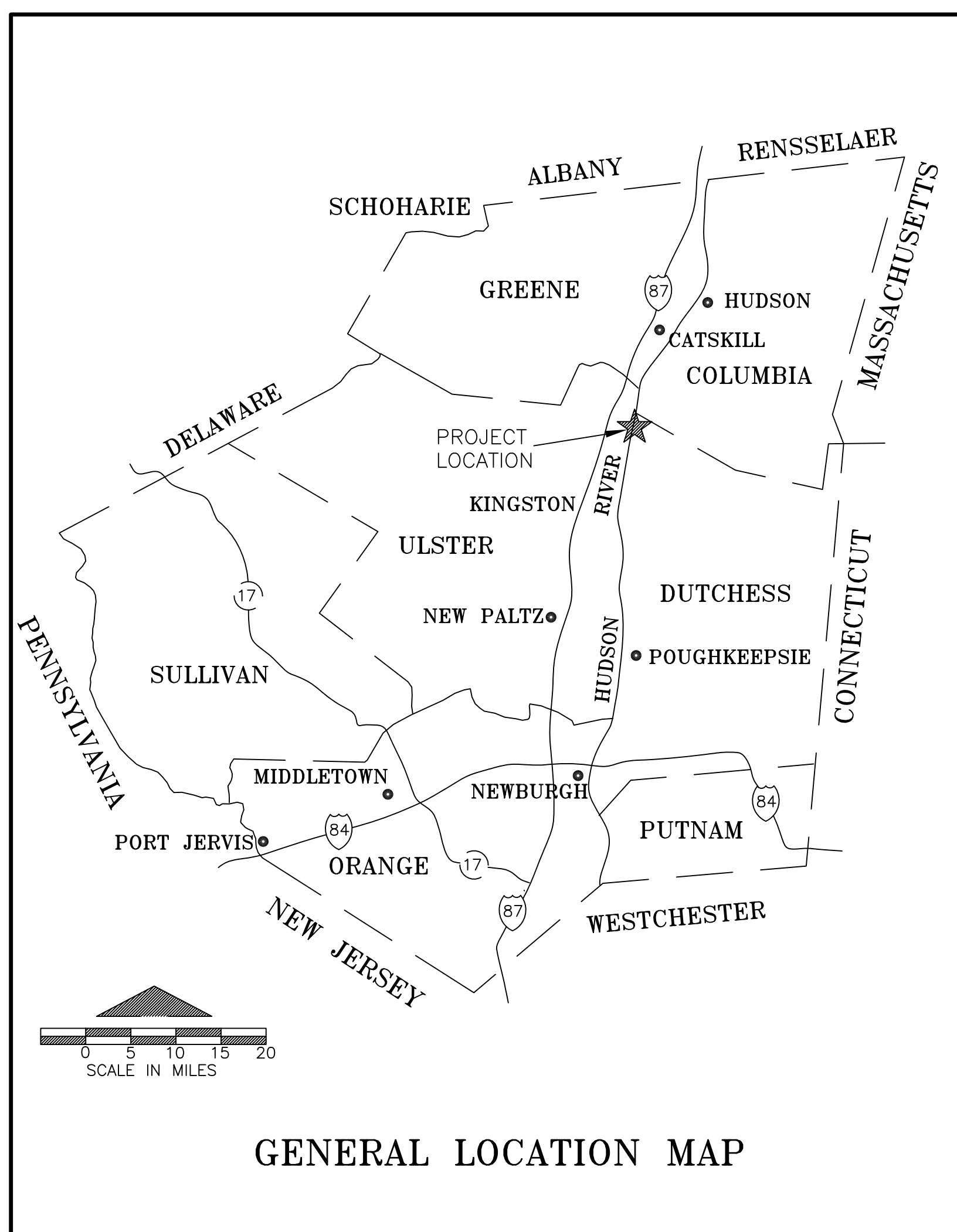
TOOLS & EQUIPMENT USED				GROUND WATER DATA		
CASING SIZE	HW	SPOON SIZE	2"	DATE	TIME	DEPTH (FT.)
CASING HAMMER	300	SPOON HAMMER	140		At Completion	
HAMMER FALL - CASING	24"	HAMMER FALL - SPOON	30"	09/08/2016		0.0
CORE BARREL USED		DRILLING MUD USED				
CORE BIT USED		UNDISTURBED SAMPLER		OBSERVATION WELL		
AUGER SIZE		STANDBY TIME		DEPTH (FT.)		SCREEN LENGTH (FT)
MISCELLANEOUS ITEMS:						

APPENDIX C

7 Drawing Set Titled “Contract VSA-172 – Parks Restoration Project – Saugerties Lighthouse, 30% Design Drawings, April 2017”



LOCATION MAP
SCALE 1" = 1000'



CONTRACT VSA-172

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE

FUNDED BY
NEW YORK STATE HISTORIC PRESERVATION OFFICE
AND
NY RISING COMMUNITY RECONSTRUCTION PROGRAM
NEW YORK STATE GOVERNOR'S OFFICE OF STORM RECOVERY

VILLAGE OF SAUGERTIES ULSTER COUNTY NEW YORK

VILLAGE OFFICIALS

WILLIAM MURPHY, MAYOR

TRUSTEES

JEANNINE MAYER
DONALD HACKETT
VINCENT BRUNO
BRIAN MARTIN
TERRY PARISIAN

LISA MAYONE, VILLAGE CLERK

EYAL SAAD, PROJECT MANAGER

30% DESIGN
APRIL 2017

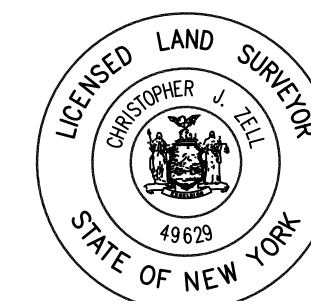


Know what's below.
Call before you dig.

BRINNIER AND LARIOS, P. C.
PROFESSIONAL ENGINEERS AND LAND SURVEYORS
67 MAIDEN LANE
KINGSTON, NEW YORK
(845) 338-7622

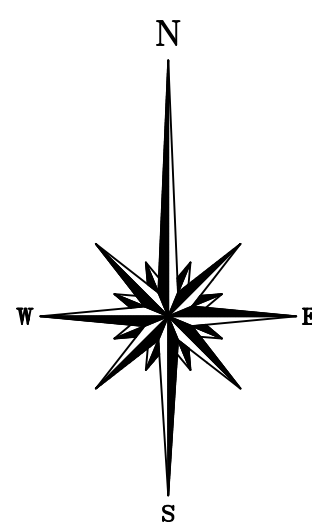


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bearing a licensed engineer's seal is a
violation of section 7209, subdivision 2, of the
New York State Education Law.



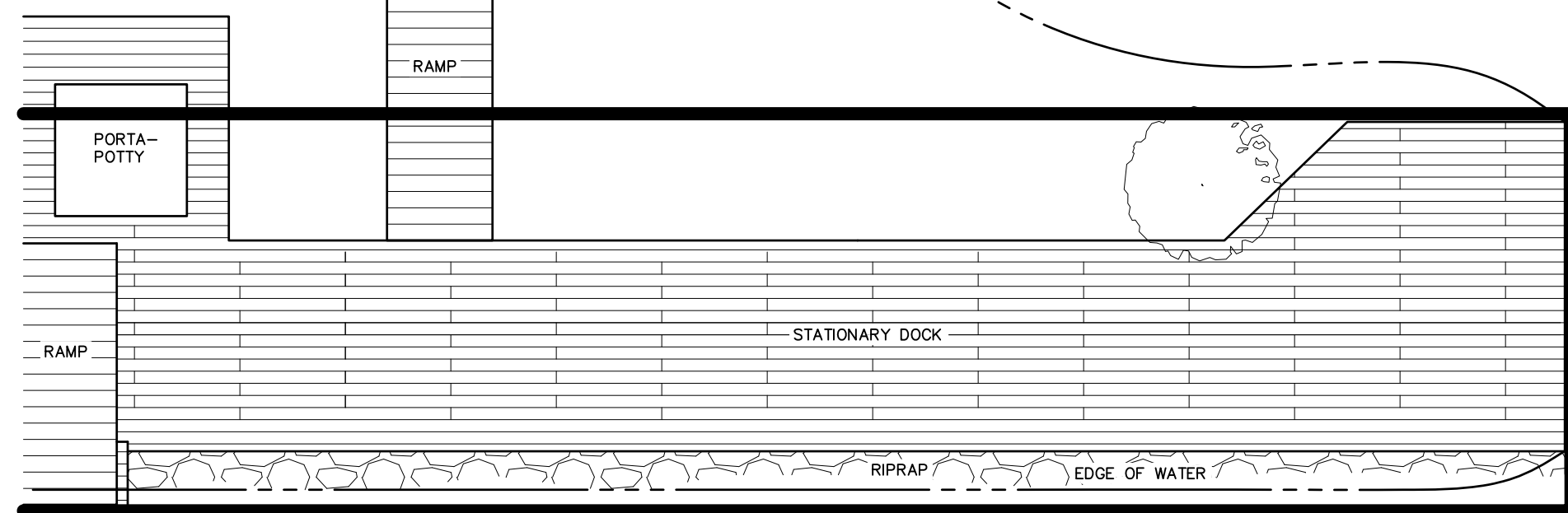
INDEX OF DRAWINGS

<u>SHEET NO.</u>	<u>DRAWING</u>
1.	COVER
2.	EXISTING CONDITIONS
3.	OVERALL PROJECT PLAN
4.	SEAWALL RESTORATION
5.	BULKHEAD RESTORATION
6.	BANK STABILIZATION
7.	DOCK REPAIRS



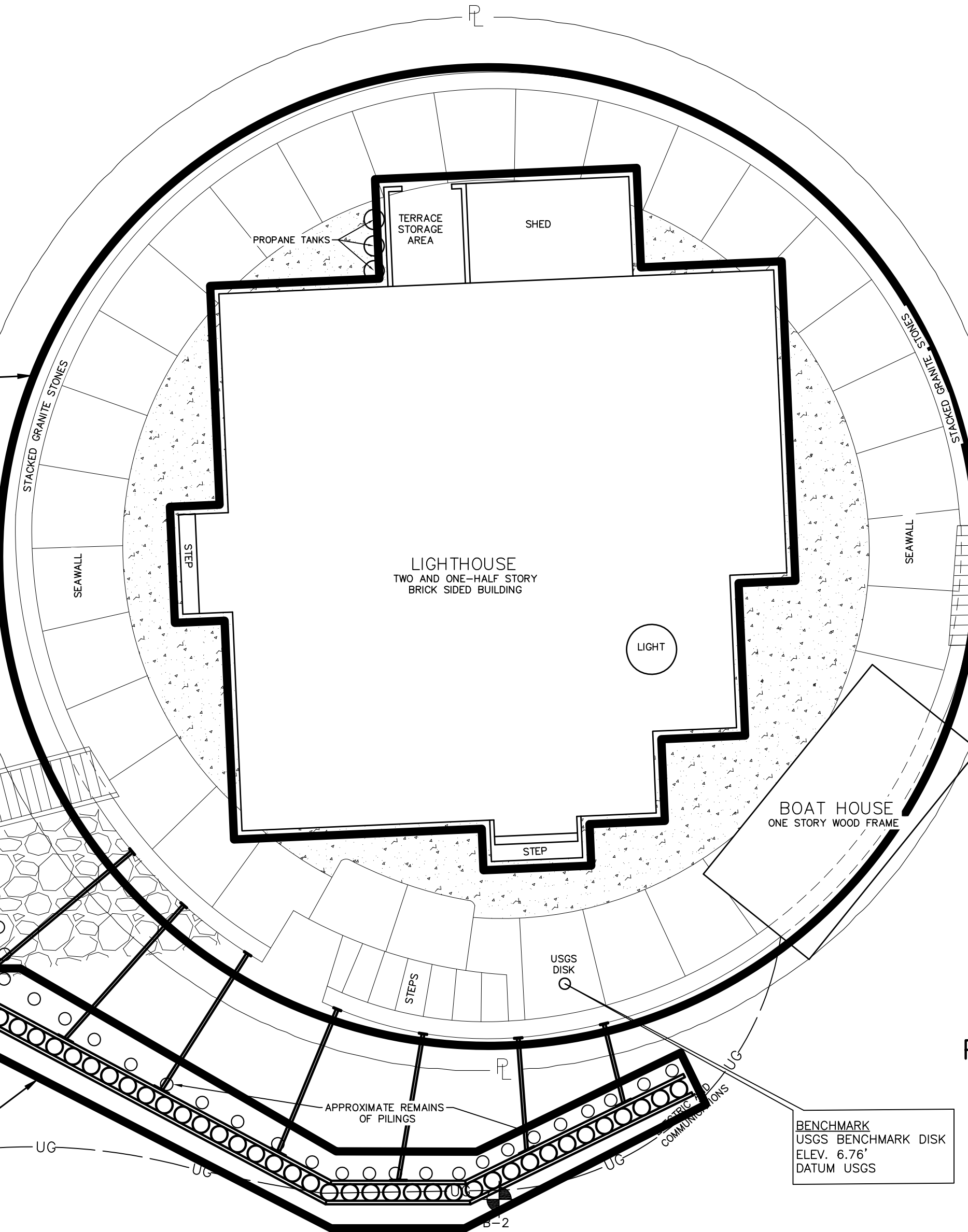
HUDSON RIVER
(MUD FLATS)

SEAWALL RESTORATION
SEE SHEET 4

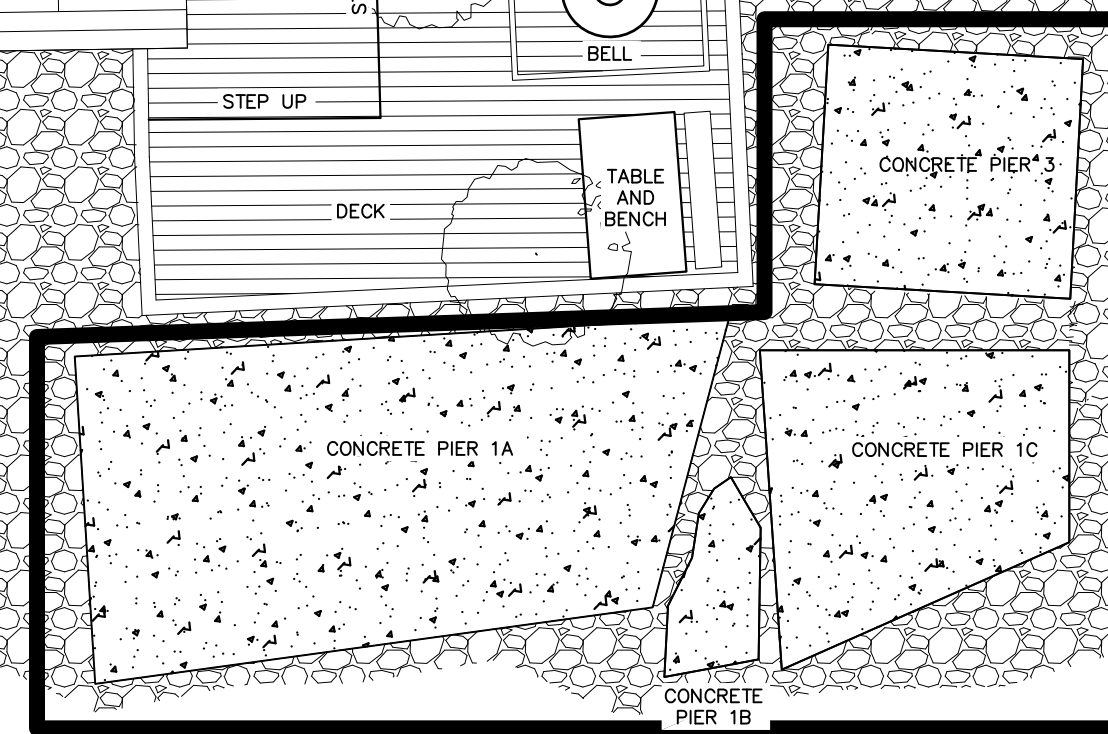


DOCK REPAIR
SEE SHEET 7

BULKHEAD RESTORATION
SEE SHEET 5



PIER STABILIZATION/BANK STABILIZATION
SEE SHEET 6



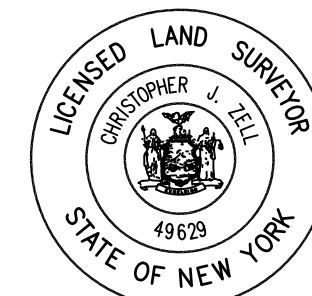
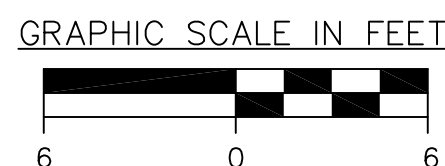
HUDSON RIVER (TIDAL)

LEGEND

- P — PROPERTY LINE
- E — EDGE OF WATER
- UG — UNDER GROUND UTILITIES
- X0.55 — PATH
- SPOT ELEVATION
- RIPRAP
- BORING

NOTE:
The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

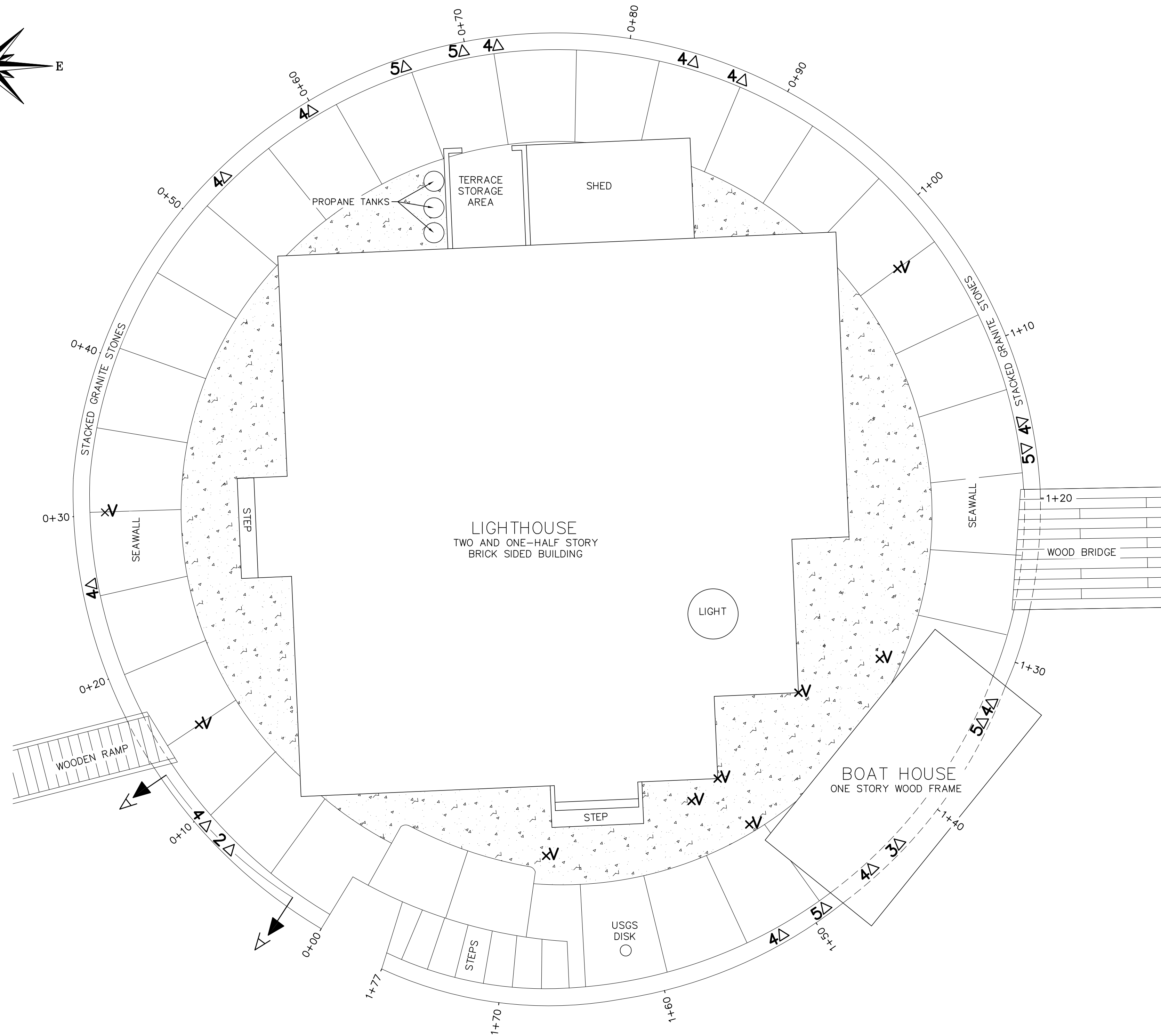
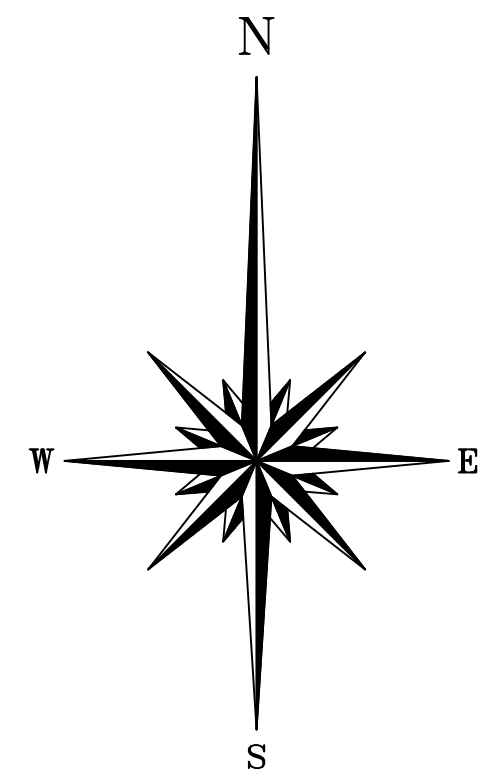
SITE PLAN
SCALE: 1" = 6'



Unauthorized alteration or addition to a plan bearing a licensed engineer's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

OVERALL PROJECT PLAN
CONTRACT NO. VSA-172

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE NY RISING COMMUNITY RECONSTRUCTION PROGRAM NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY VILLAGE OF SAUGERTIESULSTER COUNTYNEW YORK			
DATE	REVISION RECORD	BRINNIER & LARIOS, P.C. ENGINEERS & LAND SURVEYORS 67 MAIDEN LANE KINGSTON, N.Y. Phone: 845-338-7622 Fax: 845-338-7660	
4/20/17	30% DESIGN FOR AGENCY REVIEW		
SCALE	DATE	CHK	SHEET NO.
1" = 6'	APRIL 2017	DWC	3 OF 7
		RJS	

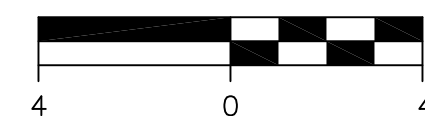


SEAWALL RESTORATION PLAN
SCALE: 1" = 4'

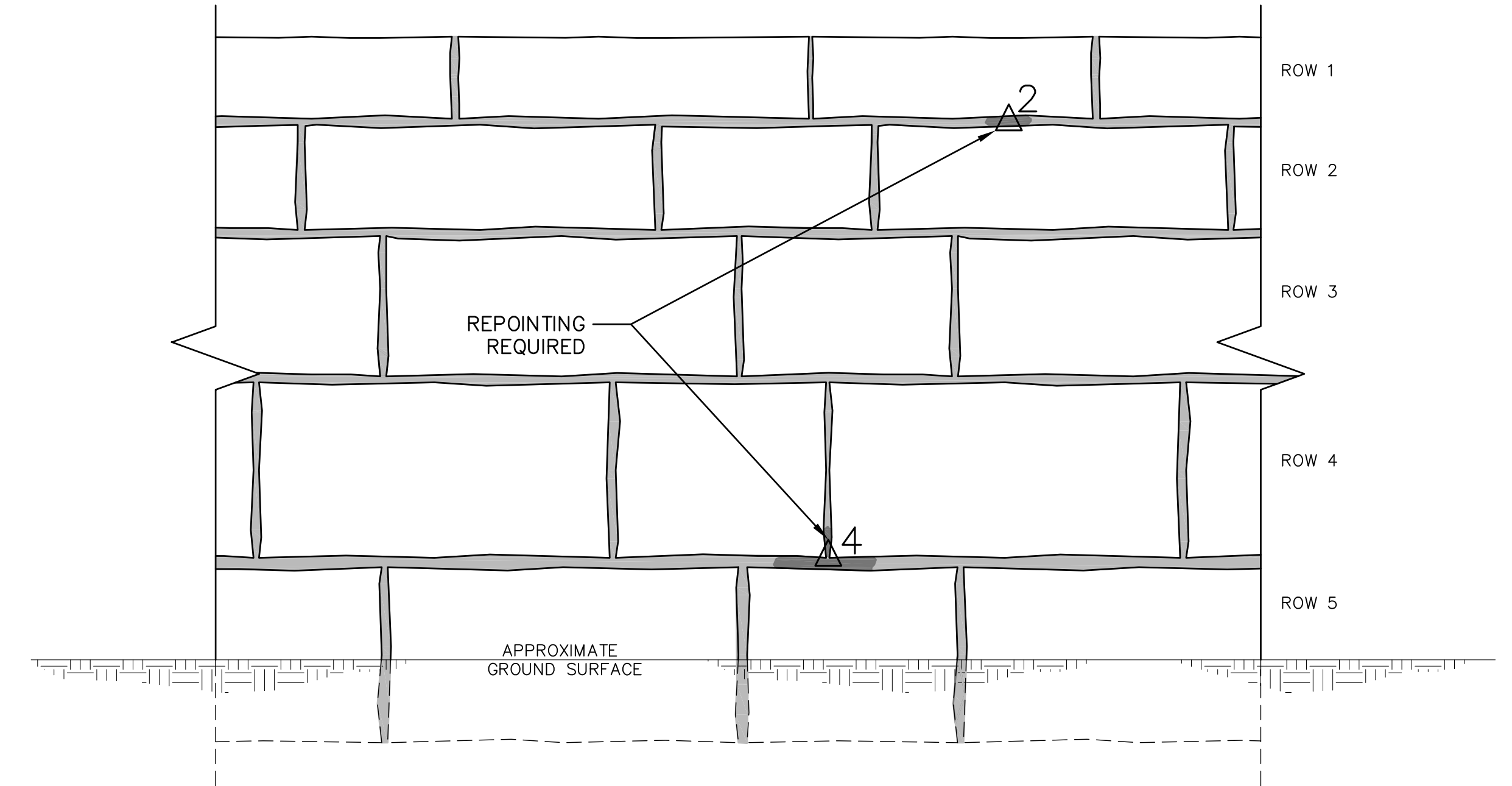
LEGEND

- △ 2 POINTING REQUIRED - ALONG THE 2ND COURSE
XV VOID AREA - TO BE PRESSURE GROUTED

GRAPHIC SCALE IN FEET



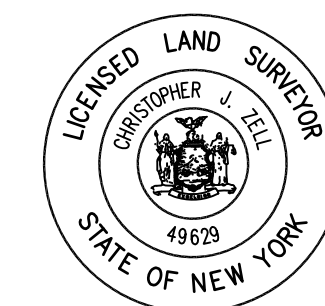
NOTE:
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SECTION A-A
NOT TO SCALE

- NOTES:
1. LOCATIONS OF REPOINTING AREAS ARE APPROXIMATE AND MUST BE FIELD VERIFIED.
 2. CONTRACTOR SHALL THOROUGHLY INSPECT ALL STACKED GRANITE STONE MORTAR JOINTS. REMOVE ALL DETERIORATED MORTAR AND REPLACE WITH NEW MORTAR.
 3. ALL VOID AREAS SHALL BE FILLED PER TECHNICAL SPECIFICATION SECTION 03600.
 4. REPOINTING SHALL BE PERFORMED PER TECHNICAL SPECIFICATION SECTION 04500.

SEAWALL RESTORATION
CONTRACT NO. VSA-172



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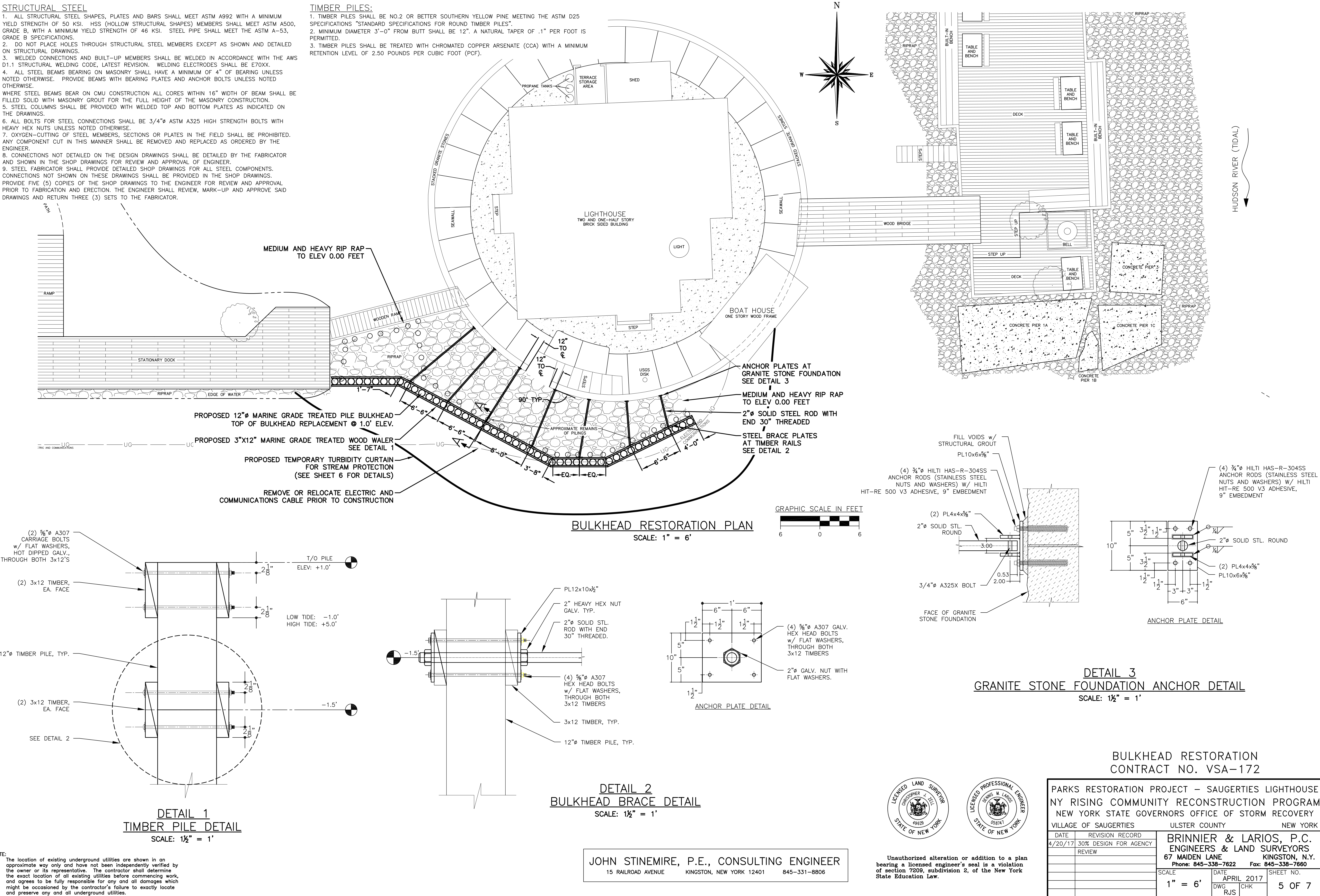
PARKS RESTORATION PROJECT - SAUGERTIES LIGHTHOUSE			
NY RISING COMMUNITY RECONSTRUCTION PROGRAM			
NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY NEW YORK	
DATE	REVISION RECORD	BRINNIER & LARIOS, P.C. ENGINEERS & LAND SURVEYORS 67 MAIDEN LANE KINGSTON, N.Y. Phone: 845-338-7622 Fax: 845-338-7660	
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SCALE	DATE	SHEET NO.	
AS SHOWN	APRIL 2017	4 OF 7	
	DWG CHK RJS		

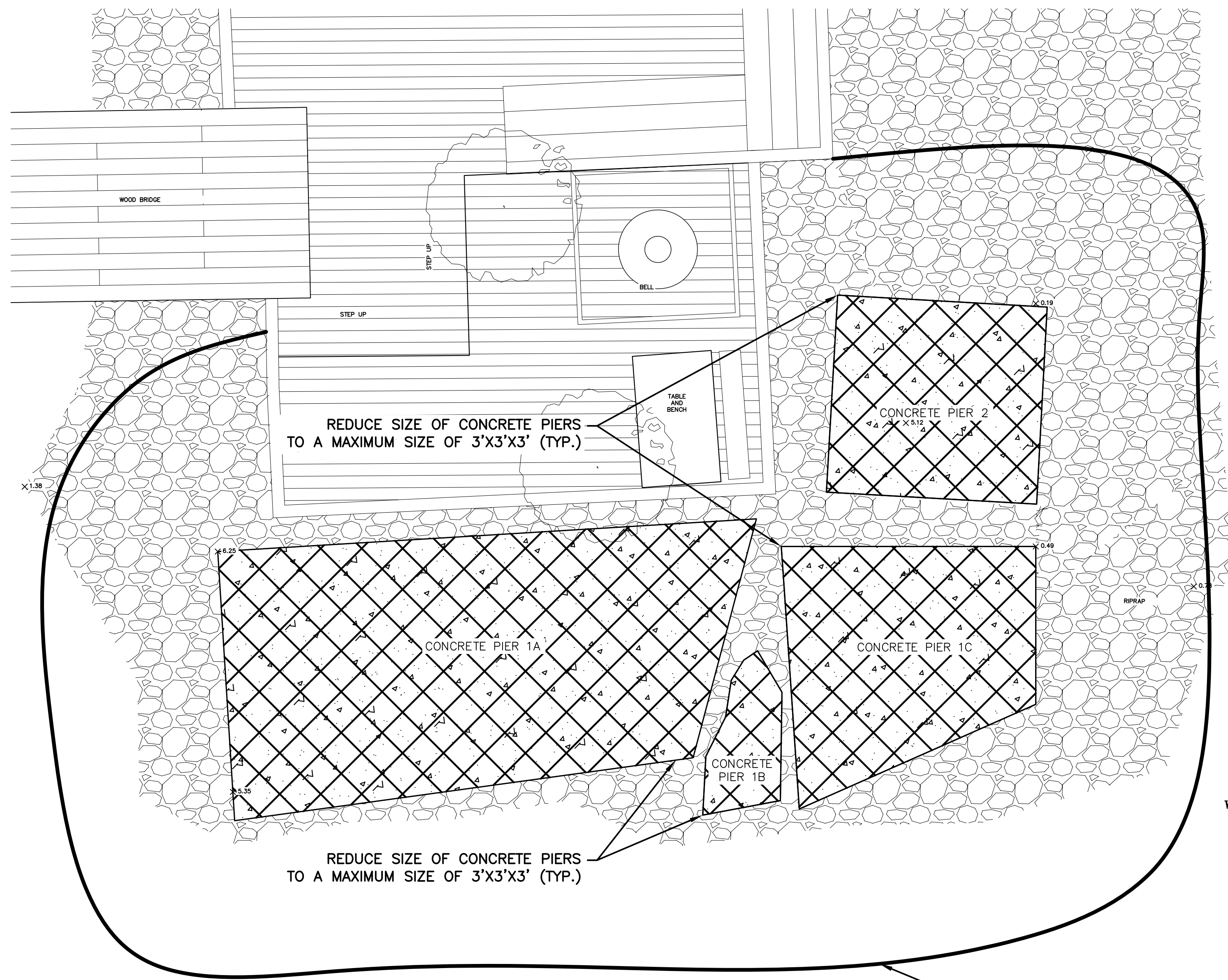
STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHAPES, PLATES AND BARS SHALL MEET ASTM A992 WITH A MINIMUM YIELD STRENGTH OF 50 KSI. HSS (HOLLOW STRUCTURAL SHAPES) MEMBERS SHALL MEET ASTM A500, GRADE B, WITH A MINIMUM YIELD STRENGTH OF 46 KSI. STEEL PIPE SHALL MEET THE ASTM A-53, GRADE B SPECIFICATIONS.
2. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
3. WELDED CONNECTIONS AND BUILT-UP MEMBERS SHALL BE WELDED IN ACCORDANCE WITH THE AWS D1.1 STRUCTURAL WELDING CODE, LATEST REVISION. WELDING ELECTRODES SHALL BE E70XX.
4. ALL STEEL BEAMS BEARING ON MASONRY SHALL HAVE A MINIMUM OF 4" OF BEARING UNLESS NOTED OTHERWISE. PROVIDE BEAMS WITH BEARING PLATES AND ANCHOR BOLTS UNLESS NOTED OTHERWISE.
- WHERE STEEL BEAMS BEAR ON CMU CONSTRUCTION ALL CORES WITHIN 16" WIDTH OF BEAM SHALL BE FILLED SOLID WITH MASONRY GROUT FOR THE FULL HEIGHT OF THE MASONRY CONSTRUCTION.
5. STEEL COLUMNS SHALL BE PROVIDED WITH WELDED TOP AND BOTTOM PLATES AS INDICATED ON THE DRAWINGS.
6. ALL BOLTS FOR STEEL CONNECTIONS SHALL BE 3/4"Ø ASTM A325 HIGH STRENGTH BOLTS WITH HEAVY HEX NUTS UNLESS NOTED OTHERWISE.
7. OXYGEN-CUTTING OF STEEL MEMBERS, SECTIONS OR PLATES IN THE FIELD SHALL BE PROHIBITED. ANY COMPONENT CUT IN THIS MANNER SHALL BE REMOVED AND REPLACED AS ORDERED BY THE ENGINEER.
8. CONNECTIONS NOT DETAILED ON THE DESIGN DRAWINGS SHALL BE DETAILED BY THE FABRICATOR AND SHOWN IN THE SHOP DRAWINGS FOR REVIEW AND APPROVAL OF ENGINEER.
9. STEEL FABRICATOR SHALL PROVIDE DETAILED SHOP DRAWINGS FOR ALL STEEL COMPONENTS. CONNECTIONS NOT SHOWN ON THESE DRAWINGS SHALL BE PROVIDED IN THE SHOP DRAWINGS. PROVIDE FIVE (5) COPIES OF THE SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND ERECTION. THE ENGINEER SHALL REVIEW, MARK-UP AND APPROVE SAID DRAWINGS AND RETURN THREE (3) SETS TO THE FABRICATOR.

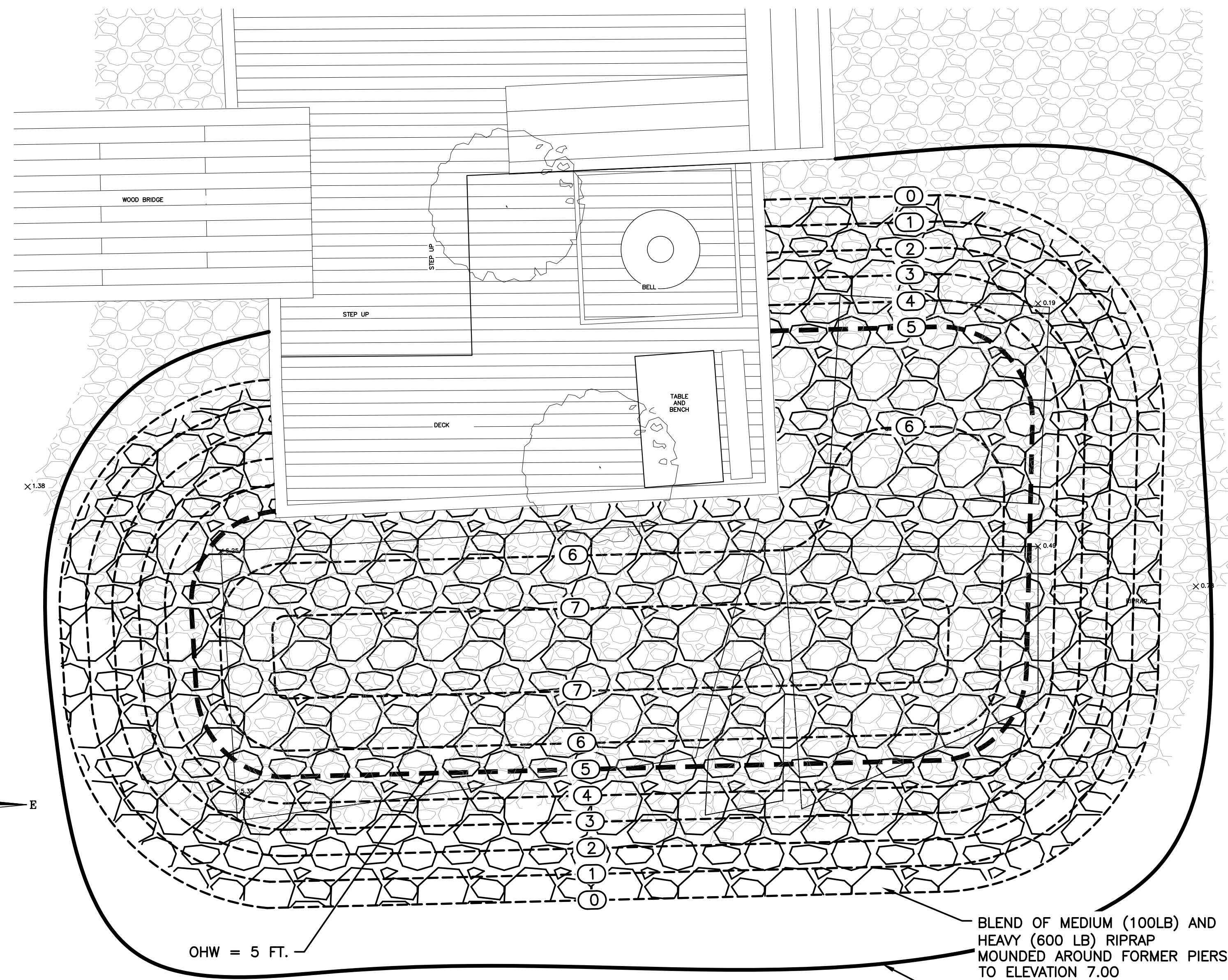
TIMBER PILES:

1. TIMBER PILES SHALL BE NO.2 OR BETTER SOUTHERN YELLOW PINE MEETING THE ASTM D25 SPECIFICATIONS "STANDARD SPECIFICATIONS FOR ROUND TIMBER PILES".
2. MINIMUM DIAMETER 3'-0" FROM BUTT SHALL BE 12". A NATURAL TAPER OF .1" PER FOOT IS PERMITTED.
3. TIMBER PILES SHALL BE TREATED WITH CHROMATED COPPER ARSENATE (CCA) WITH A MINIMUM RETENTION LEVEL OF 2.50 POUNDS PER CUBIC FOOT (PCF).

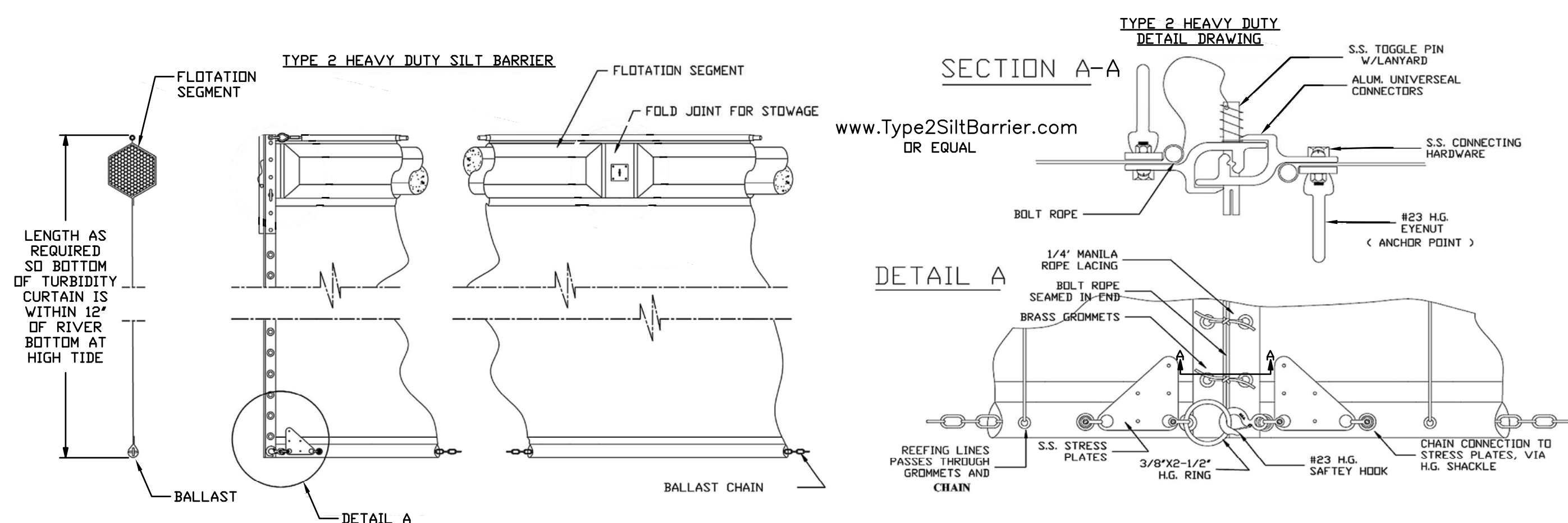




CONCRETE PIER SIZE REDUCTION PLAN
SCALE: 1" = 3'

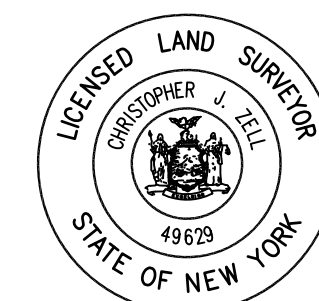


RIVER BARRIER STABILIZATION PLAN
SCALE: 1" = 3'



FLOATING TURBIDITY CURTAIN DETAIL
NOT TO SCALE

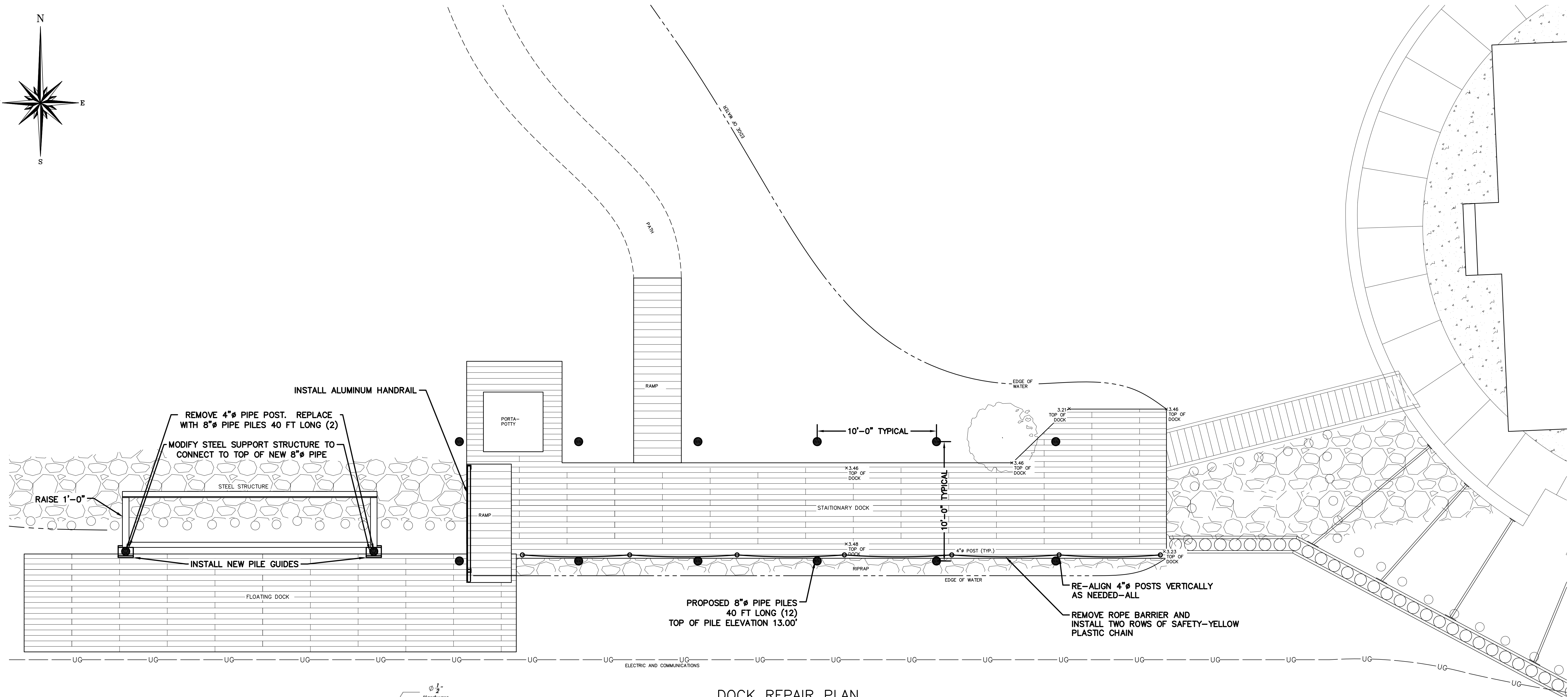
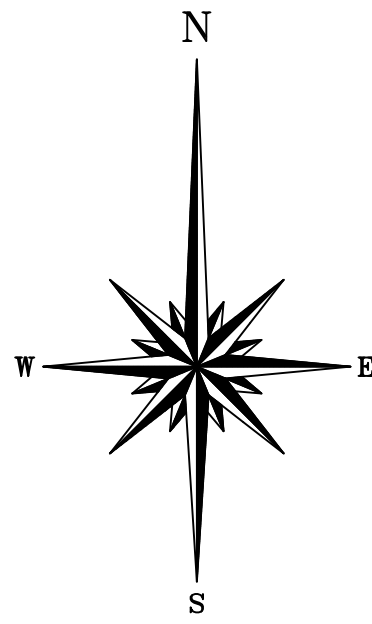
USACE PARAMETERS - NATIONWIDE PERMIT NWP-13, BANK STABILIZATION			
LENGTH ALONG BANK	FILL BELOW OHW		
	AREA	FILL VOLUME	CY FILL PER RUNNING FOOT
80 LF	445 FT ²	50 CY	0.63 CY/RUNNING FOOT



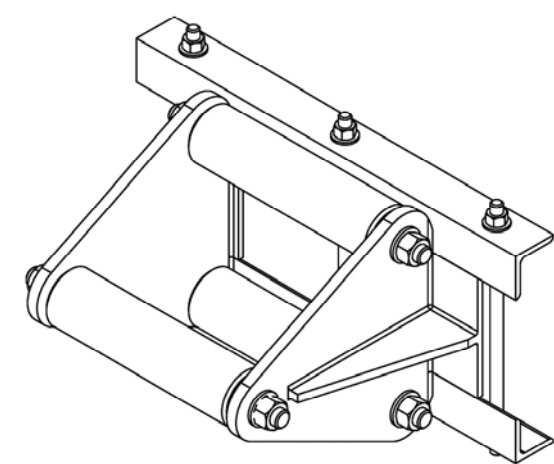
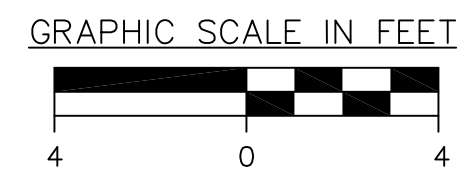
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BANK STABILIZATION
CONTRACT NO. VSA-172

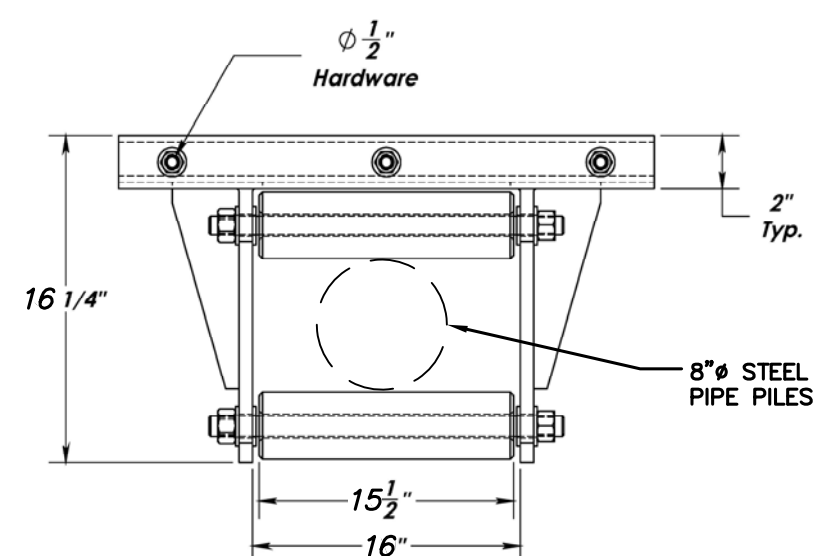
PARKS RESTORATION PROJECT - SAUGERTIES LIGHTHOUSE NY RISING COMMUNITY RECONSTRUCTION PROGRAM NEW YORK STATE GOVERNORS OFFICE OF STORM RECOVERY			
VILLAGE OF SAUGERTIES		ULSTER COUNTY NEW YORK	
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SCALE	DATE	CHK	SHEET NO.
1" = 3'	APRIL 2017	DWC	6 OF 7
		RJS	



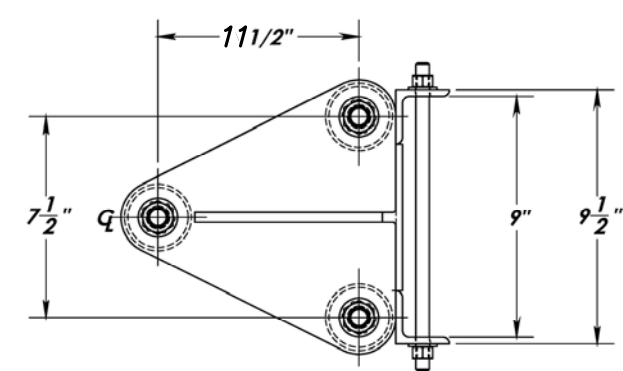
DOCK REPAIR PLAN
SCALE: 1" = 4'



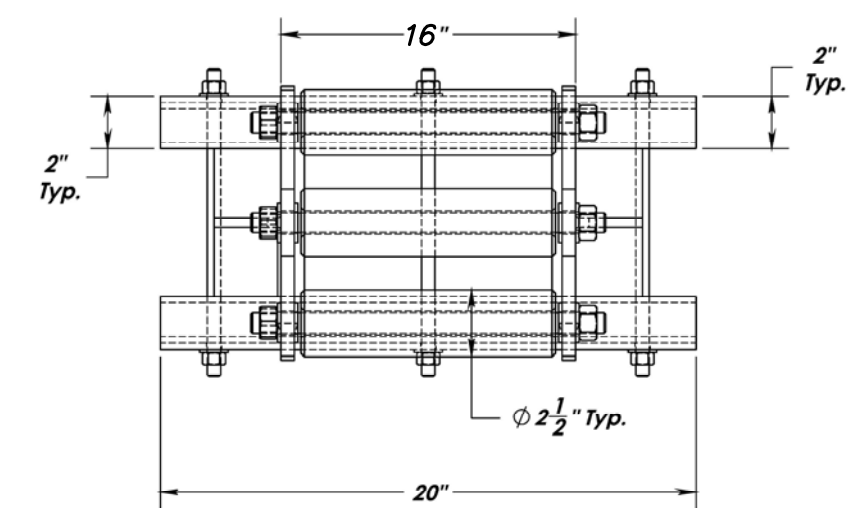
ISOMETRIC VIEW



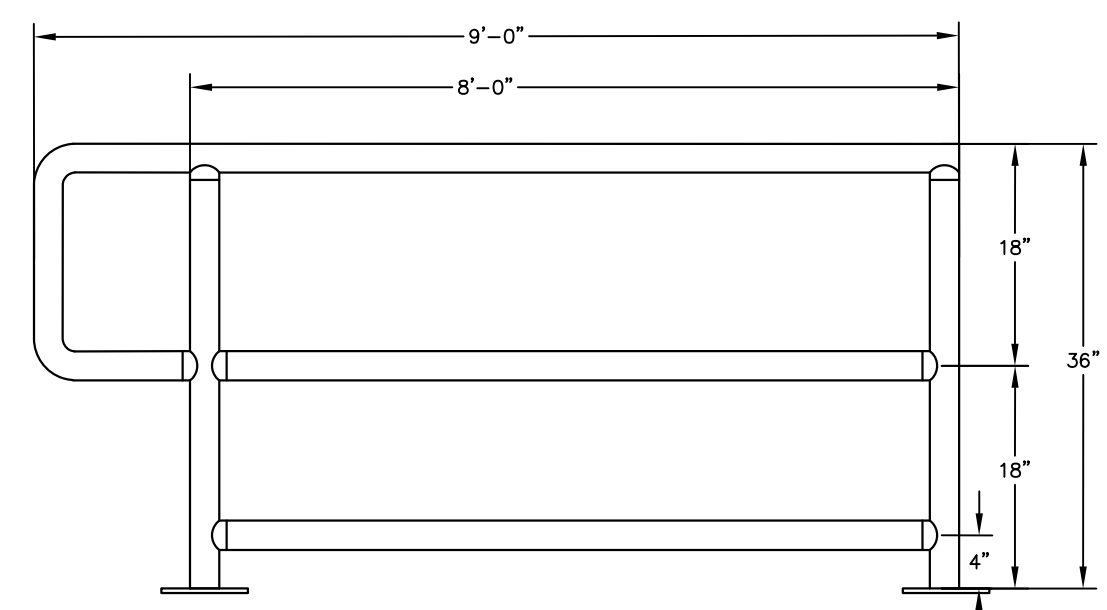
TOP VIEW



SIDE VIEW



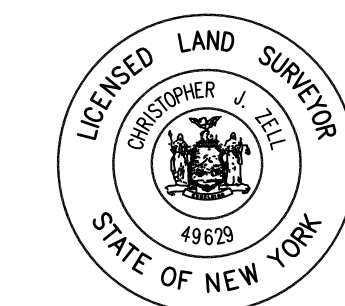
FRONT VIEW



HANDRAIL DETAIL
NOT TO SCALE

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PILE GUIDE
NOT TO SCALE



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DOCK REPAIRS
CONTRACT NO. VSA-172

PARKS RESTORATION PROJECT – SAUGERTIES LIGHTHOUSE			
NY RISING COMMUNITY RECONSTRUCTION PROGRAM			
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VILLAGE OF SAUGERTIES		ULSTER COUNTY NEW YORK	
DATE	REVISION RECORD		
4/20/17	30% DESIGN FOR AGENCY		
	REVIEW		
SCALE		DATE	SHEET NO.
1" = 4'		APRIL 2017	7 OF 7
		DWG	CHK
		RJS	

APPENDIX D

DRAFT TECHNICAL SPECIFICATIONS

DRAFT

SECTION 03600 – PRESSURE GROUTING

PART 1 - GENERAL

1.01 SCOPE

- A. The work consists of drilling grout holes, exploratory holes, and check holes; pressure testing, pressure washing, and injecting suspension grout under pressure; and includes furnishing of all materials, labor, and equipment as described and specified.
- B. Related Documents:
 - 1. Drawings and general provisions of the Contract apply to this Section.
 - 2. Review these documents for coordination with additional requirements and information that apply to work under this Section.
- C. Related Sections:
 - 1. Division 01 Section “General Requirements.”
 - 2. Division 01 Section “Special Procedures.”

1.02 REFERENCES

- A. General
 - 1. The following documents form part of the Specifications to the extent stated. Where differences exist between codes and standards, the one affording the greatest protection shall apply.
 - 2. Unless otherwise noted, the referenced standard edition is the current one at the time of commencement of the Work.
 - 3. Refer to Division 01 Section "General Requirements" for the list of applicable regulatory requirements.
- B. ASTM International:
 - 1. ASTM C33 Concrete Aggregates
 - 2. ASTM C40 Organic Impurities in Fine Aggregates for Concrete
 - 3. ASTM C88 Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
 - 4. ASTM C117 Material Finer Than 75µm Sieve in Mineral Aggregates by Washing
 - 5. ASTM C136 Sieve Analysis of Fine and Coarse Aggregates
 - 6. ASTM C150 Portland Cement
 - 7. ASTM D2419 Sand Equivalent Value of Soils and Fine Aggregate

1.03 SUBMITTALS

- A. Submit under provisions of Division 01 Section “General Requirements.”
- B. Manufacturer’s data shall be provided for pressure grout.

- C. Test reports, accompanied by a manufacturer's statement that previously tested material is of similar type, quality, and manufacture as that which is proposed for use on this projects, shall be submitted for:
1. Cement.
 2. Aggregates.
 3. Retardants.
 4. Bonding compounds.

1.04 QUALITY ASSURANCE

- A. Conformance with the specified requirements will be demonstrated testing performed by an independent testing laboratory retained by the Contractor and acceptable to the Owner.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cement: Portland cement shall be ASTM C150 Type II or Type S, containing less than 0.6 percent alkali.
- B. Aggregate:
1. General: Aggregate shall be non reactive and shall be washed before use. When sources of aggregate are changed, test reports shall be provided for the material from the new source prior to commencing grout work.
 2. Fine Aggregate: Fine aggregate shall be sand or crushed stone conforming to ASTM C33 as modified herein. When tested in accordance with ASTM C136, gradation shall be such that 100 percent by weight passes a standard No. 8 sieve and not less than 45 percent by weight pass a standard No. 40 sieve. Variation from the specified gradation in individual tests will be accepted if the average of three consecutive tests is within the following variation:

Standard Sieve	Permissible variation in individual test
No. 30 or coarser	2 percent by weight
No. 50 or finer	0.5 percent by weight

- C. Admixtures:
1. General: Admixtures shall be compatible with the grout and shall comply with the manufacturer's recommendations. Admixtures shall be added to the grout mix separately.
 2. Water Reducing Retarder: Water reducing retarder shall comply with ASTM C494, Type D and shall be Master Builders Pozzoloth 300-R, Sika Corporation Plastiment or approved equal.

3. Lubricant: Lubricant additive for cement pressure grouting shall be Intrusion Prepakt Intrusion Aid, Sika Intraplast N, or approved equal.

D. Water: Water used shall be clean and free from injurious amounts of oil, acid, organic matter, or other deleterious substances.

2.02 GROUT

A. Cement Grout:

1. Cement grout shall be a mixture of one part cement, two parts sand proportioned by volume admixtures for pressure grouting and sufficient water to form a workable mix.

2.03 PRESSURE GROUTING EQUIPMENT

A. The equipment shall be capable of mixing and pumping grout having a mix ratio, by volume, of one part water, one part cement, and two parts bulk filler, such as sand or fly ash.

1. Mixers – Unless otherwise specified, mixers shall be high speed colloidal type and capable of thoroughly mixing water, cement, and bulk fillers to produce a grout of uniform texture and consistency. Mixers shall match the capacity of the pumping plant.
2. Holdover tank – A holdover tank shall be furnished if a single compartment mixer is used. It shall be equipped with mechanical agitators to prevent segregation of the grout and shall have sufficient capacity to temporarily store the grout and thus provide a continuous supply. The outflow shall pass through a No. 16 wire mesh screen if the grout contains particles or foreign matter that would interfere with its proper flow into the voids it is intended to fill.
3. Pumps – Grout pumps shall be long stroke, multiple piston or the helical screw type. The capacity shall be not less than 3 cubic feet per minute at 200 pounds per square inch for the maximum grout mix of 1:1:2 (w:c:bf), by volume.
4. Cement and fly ash-handling equipment – If bulk cement or fly ash is used, it shall be stored in weather tight bins or silos equipped and arranged to discharge directly into a weighing hopper, and hence, directly into the grout mixer without spillage and without intermediate handling.
5. Air supply – The air supply shall meet the requirement of the pumps and shall not be less than 200 cubic feet per minute per plant.
6. Water meter – One water meter that has a reset and is graduated in tenths of gallons or hundredths of cubic feet shall be used with each mixer.
7. Pressure gauges – One pressure gauge shall be installed at the pump and one at the collar of the hole. Gauges shall be nonclogging or use gauge savers or grease to prevent clogging. Spare gauges shall be available at the plant at all times.
8. Hoses, valves, and fittings – Hoses, valves, and fittings shall be compatible with the maximum pressures specified. Hose from pump to grout header and return shall not be smaller than 1.5-inch (ID), and the pipe between header and packer shall not be smaller than 0.75-inch (ID). Double or single packers may be

required for grouting and pressure testing. Packers shall fit tightly in the holes at all testing and grouting pressures.

2.04 DRILLING EQUIPMENT

- A. Drilling equipment shall be capable of drilling angle holes up to 45 degrees from vertical unless otherwise specified in section 18 of this specification.
- B. For exploratory holes, all drilling equipment used in rock shall be the rotary type and shall be equipped with hydraulic feed.
- C. Cores shall be drilled with standard ballbearing, swivel type, N-size, double or triple tube split inner core barrels or equivalent size wire-line coring equipment.
- D. Equipment for drilling grout and check holes shall be rotary, percussion, or rotary-percussion type. No core recovery will be required, and the type of bit used shall be optional. Equipment using air alone for flushing cuttings shall not be used. When percussion drilling equipment using water for flushing cuttings is used, the lifting rate of the flushing water shall be not less than 18 inches per second.

PART 3 - EXECUTION

3.01 CEMENT GROUT

- A. Cement grout is to be used for filling void areas.
- B. Except for the specialized requirements for pressure grouting, grout is to be mixed and placed in the same manner as cast-in-place concrete. Grout is to be mixed for at least one minute and diluted grout is to be agitated until placed.

3.02 PRESSURE GROUTING

- A. Prior to grouting, cracks and holes to be grouted shall be washed clean. Washing is not required for grouting soil voids. Once started, grouting shall be continuous until completed. In case of a mechanical failure or other stoppage of the work, the grout equipment shall be washed out sufficiently to ensure that fresh only grout is pumped when the work is restarted.
- B. Unless on-the-site experience indicates otherwise and in lieu of pressure testing, each stage or lift of a hole to be grouted shall be started with about 15 cubic feet (three batches) of water:cement mix to be no thinner than 5:1 (w:c), by volume.
- C. If the hole continues to take grout at a pumping rate not to exceed 3 cubic feet per minute and at a pressure equal to or less than specified as refusal pressure, the mix ratio shall be changed to 3:1 (w:c). If the majority of the holes accept the 3:1 without signs of slowdown in the rate of take, holes in that stage or location may be started with a 3:1 instead of the 5:1 mix. A change to a different location or stage may require a return to the 5:1 starter mix.

- D. Grout mixes shall be thickened from 5:1 to 3:1 to 2:1 to 1:1 after which sand and/or fly ash shall be added to the mix in a graduated manner (5:5:1S, 5:5:2S, ...). The water-cement ratio shall not be less than one.

3.03 FIELD QUALITY CONTROL

A. Records

1. Unless otherwise specified, the contractor shall keep drilling logs and complete records of all grouting operations. These records include time logs of grout mixes and admixtures used in each stage or lift for each hole, related pressures and pumping rates, back-pressures, and observations on excessive leakage and other nonroutine conditions. The drilling log shall include date, hole location, depth of rock, and depths to various rock features. Rock features shall be described as hard, soft, weathered, cracks, or cavities. The contractor quality control activities are outlined in Construction Specification 94, when applicable.
2. Unless otherwise specified, the contractor shall cooperate in providing all information related to drilling and grouting activities required by the contract.
3. Unless otherwise specified, one copy of the records shall be provided the engineer at the completion of each shift.

- B. Testing of grout mixes for conformance to manufacturer's specified strength: The independent testing laboratory shall take four test samples of each day's grout mix and test grout mix samples at 7 and 28 days. Test reports shall be submitted for review under the provisions of Division 01 Section "General Requirements."

END OF SECTION 03600

DRAFT

SECTION 04500 – MASONRY RESTORATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK

- A. Extent of masonry restoration work is indicated on drawings.
- B. Masonry restoration work includes the following:
 - 1. Repointing mortar joints where shown.
 - 2. Repointing of loose or deteriorating mortar joints in the stacked granite stone seawall.

1.03 QUALITY ASSURANCE

- A. Restoration Specialist: Work must be performed by a firm having not less than 5 years successful experience in comparable masonry restoration projects and employing personnel skilled in the restoration processes and operations indicated.
- B. Repointing: Prepare 2 separate sample areas of approximately 2 feet high by 2 feet wide for each type of repointing required, one for demonstrating methods and quality of workmanship expected in removal of mortar from joints and the other for demonstrating quality of materials and workmanship expected in pointing mortar joints appearance to adjacent existing joints. The intent of the new pointing work is to match cleaned existing mortar. Newly pointed areas shall be consistent with existing adjacent mortar joints for color and texture.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data for each product indicated including recommendations for their application and use. Include test reports and certifications substantiating that products comply with requirements.
- B. Samples: Submit, for verification purposes, samples of the following:
 - 1. Each new exposed masonry mortar to be used for replacing existing materials. Include in each set of samples the full range of colors and textures to be expected in completed work.
 - 2. Each type of chemical cleaning material data.
 - 3. Each type of chemical clear sealer provide manufacturers data.
 - 4. Stone masonry patching materials product data and application instructions.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products and manufacturers.
- B. Protect masonry restoration materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.
- C. Protect grout, mortar and other materials from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

1.06 PROJECT CONDITIONS

- A. Do not repoint mortar joints or repair masonry unless air temperatures are between 40 deg.F (4 deg.C) and 80 deg.F (27 deg.C) and will remain so for at least 48 hours after completion of work.
- B. Prevent grout or mortar used in repointing and repair work from staining face of surrounding masonry and other surfaces. Remove immediately grout and mortar in contact with exposed masonry and other surfaces.
- C. Protect sills, ledges and projections from mortar droppings.

1.07 SEQUENCING/SCHEDULING

- A. Perform masonry restoration work in the following sequence:
 - 1. Chemically clean cut stone and rough cut stone masonry;
 - 2. Rake-out existing mortar from joints indicated to be repointed;
 - 3. Repoint existing mortar joints of masonry indicated to be restored;
 - 4. Chemically cut stone and rough cut stone masonry.

PART 2 - PRODUCTS

2.01 MASONRY MATERIALS

- A. Mortar materials:
 - 1. Portland Cement: ASTM C 150, Type S.
 - 2. Hydrated Lime: ASTM C 207, Type S.
 - 3. Colored Mortar Aggregate: Natural or manufactured sand selected to produce mortar color to match adjacent existing mortar color.
 - 4. For pointing mortar provide sand with rounded edges.
 - 5. Match size, texture and gradation of existing mortar as closely as possible.

6. Colored Mortar Pigment: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with record of satisfactory performance in masonry mortars.
7. Water: Clean, free of oils, acids, alkalis and organic matter.

2.02 CLEANING MATERIALS AND EQUIPMENT

- A. Cleaner: Manufacturer's as indicated below for cleaning for cut and rough cut stone work.
- B. Approved Manufactures:
 1. Sika Corporation
 2. ProSoCo Inc. (Used as standard)
 3. Thuro
- C. Materials: The specified cleaning application is a three- (3) step process requiring all of the following products. ProSoCo Sure Klean products are used as a standard. Equal products for each application by Sika or Thuro are acceptable for cut stone and rough cut stone.
- D. For spot problem stains were required:
 1. Product: Subject to compliance with requirements, provide "Sure Klean Limestone Restorer," ProSoCo, Inc.
- E. Water for Cleaning: Clean, potable, free of oils, acids, alkalis, salts, and organic matter.
 1. Warm Water: Heat water to temperature of 140 deg.F-180 deg.F (60 deg.C-82 deg.C)
- F. Brushes: Fiber bristle only.
- G. Spray Equipment: Provide equipment for controlled spray application of water and chemical cleaners, if any, at rates indicated for pressure, measured at spray tip, and for volume.
 1. For spray application of chemical cleaners provide low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray-tip.
 2. For spray application of water provide fan-shaped spray-tip which disperses water at angle of not less than 15 degrees.

2.03 POINT MORTAR MIXES

- A. General:
 1. Measurement and Mixing: Measure cementitious and aggregate material in a dry condition by volume or equivalent weight. Do not measure by shovel, use known measure. Mix materials in a clean mechanical batch mixer.
 2. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding any water. Then mix again adding only enough water to

produce a damp, unworkable mix, which will retain its form when, pressed into a ball. Maintain mortar in this dampened condition for 1-to-2 hours. Add remaining water in small portions until mortar of desired consistency is reached. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.

3. Colored Mortar: Produce mortar of color required by use of selected ingredients. Do not adjust proportions without Architect's approval.

2.04 POINTING MORTAR FOR ROUGH CUT STONE

- A. One part white Portland cement, 1 part lime, 6 parts colored mortar aggregate.
- B. Rough cut stone is to have square ribbon mortar joint to match existing profile.

2.05 CHEMICAL SEALERS

- A. Chemical penetrating sealer is for brick, cut stone and rough cut stone. Is to be one of the following:
 1. ProsoCo Siloxane PD
 2. Sika Corporation Silane/Siloxane water repellent
 3. Throro Silane/siloxane water repellent

PART 3 - EXECUTION

3.01 MASONRY CLEANING

- A. Preparation:
 1. General: Comply with recommendations of manufacturers of chemical cleaners for protecting building surfaces against damage from exposure to their products.
 2. Protect persons, motor vehicles, surrounding surfaces of building whose masonry surfaces are being restored, building site, mask windows and window frames.
 3. Prevent chemical cleaning solutions from coming into contact with pedestrians, motor vehicles, landscaping, buildings and other surfaces, which could be injured by such contact.
 4. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
 5. Dispose of run off from cleaning operations by legal means and in manner which prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
 6. Erect temporary protection covers over pedestrian walkways and at points of entrance and exit for persons and vehicles, which must remain in operation during course of masonry restoration work.
 7. Protect glass and unpainted metal trim from contact with chemical cleaners by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape. Apply masking agent to comply with manufacturer's

recommendations. Do not apply liquid masking agent to painted or porous surfaces.

B. Chemical Cleaner Application Methods:

1. General: Apply chemical cleaners to masonry surfaces to comply with chemical manufacturer's recommendations using brush or spray application methods, at Contractor's option, unless otherwise indicated. Do not allow chemicals to remain on surface for periods longer than that indicated or recommended by manufacturer.

C. Cleaning Cut and Rough Cut Stonework:

1. Pretest a small area to ensure suitability and desired results. If test areas with concentrated material are cleaned effectively additional tests may be run with dilutions of one part cleaner to three parts water. Greater dilution of 1 part cleaner to 4 or more parts water is desired to avoid staining of adjacent masonry if approved by manufacture and results are achieved. Allow to dry thoroughly before inspection by Owner's Representative.

3.02 REPOINTING EXISTING MASONRY

A. Joint Raking:

1. Rake out mortar from joints to depths equal to 2 1/2 times their widths but not less than 3/4" nor less than that required to expose sound, unweathered mortar.
2. Remove mortar from masonry surfaces within raked out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum or flush joints to remove dirt and loose debris.
3. Do not spall edges of masonry units or widen joints. Replace any masonry units, which become damaged.
4. Cut out old mortar by hand with chisel and mallet, unless otherwise indicated.
5. Power operated rotary hand saws and grinders will be permitted but only on specific written approval of Engineer based on submission by Contractor of a satisfactory quality control program and demonstrated ability of operators to use tools without damage to masonry. Quality control program shall include provisions for supervising performance and preventing damage due to worker fatigue.

B. Joint Pointing:

1. Rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.
2. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8" until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint hard before applying next layer.
3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling approximately 2/5 of joint

depth and third layer the remaining 1/5. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have rounded edges recess tool final layer slightly back from face of brick. Take care not to spread mortar over edges onto exposed masonry surfaces, or to feather edge mortar.

4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
5. Cure mortar by maintaining in a damp condition for not less than 72 hours.
6. Where repointing work precedes cleaning of existing masonry allow mortar to harden not less than 30 days before beginning cleaning work.
7. Owner shall have the right to perform periodic tests to verify depth of repointing. Contractor shall repair with like materials area where mortar has been removed to ascertain depth of repointing.

3.03 FINAL CLEANING

- A. After mortar has fully hardened thoroughly clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water, spray applied at low pressure.
- B. Use of metal scrapers or brushes will not be permitted.
- C. Use of acid or alkali cleaning agents will not be permitted.

3.04 MASONRY SEALING

- A. Protection: mask windows and window frames as sealer is being applied.
- B. Do not apply sealer in windy when air temperature is above 95 degrees F
- C. Test each surface to be covered. Wet each surface with as a test too determine suitability and results. Wet surfaces without creating drip or rundowns.
- D. Spray apply from bottom up creating 4 to 8 inch rundown below the spray contact point. Brush out heavy runs and drips that do not penetrate.
- E. Treated surfaces are dry too tough in one hour and protect from rain for six hours following application

END OF SECTION 04500



Parks, Recreation and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

MEMORANDUM

To: Merrick W. Koch, Governor

From: Alan Adamson, Director of Historic Preservation

Re: Madison

On March 22, 2022, the Commissioner of Historic Preservation and the Madison County Board of Supervisors met to discuss the Madison County Board of Supervisors' request for the Madison County Board of Supervisors to purchase the Madison County Board of Supervisors' property.

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Based on the review of the materials, the Commissioner has determined the Madison County Board of Supervisors' request for the Madison County Board of Supervisors to purchase the Madison County Board of Supervisors' property is appropriate and that the project content has been addressed in the Madison County Board of Supervisors' request.

The Commissioner appreciates the Madison County Board of Supervisors' comment on this matter and will continue to work with the Madison County Board of Supervisors on the Madison County Board of Supervisors' request for the Madison County Board of Supervisors to purchase the Madison County Board of Supervisors' property. Please contact me at 516-222-2222 or email at alan.adamson@parks.ny.gov.