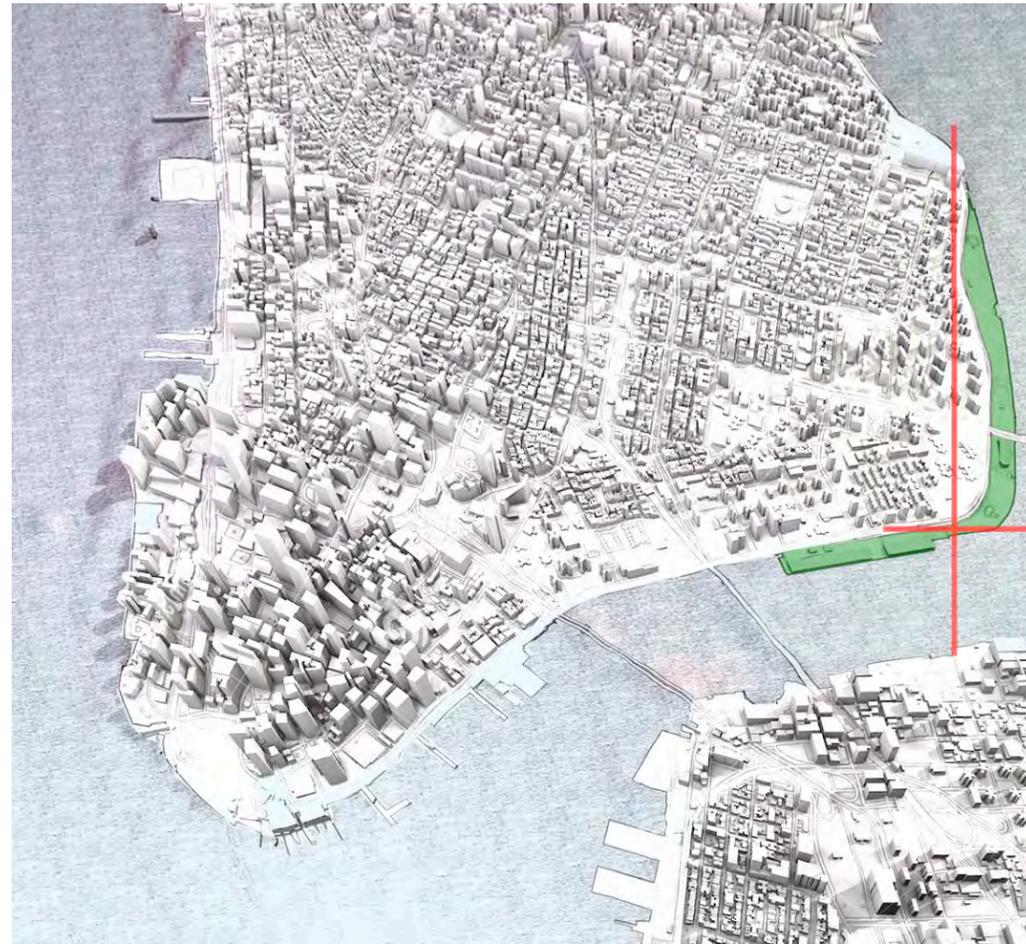


JACKSON STREET HEAD HOUSE STORM HARDENING



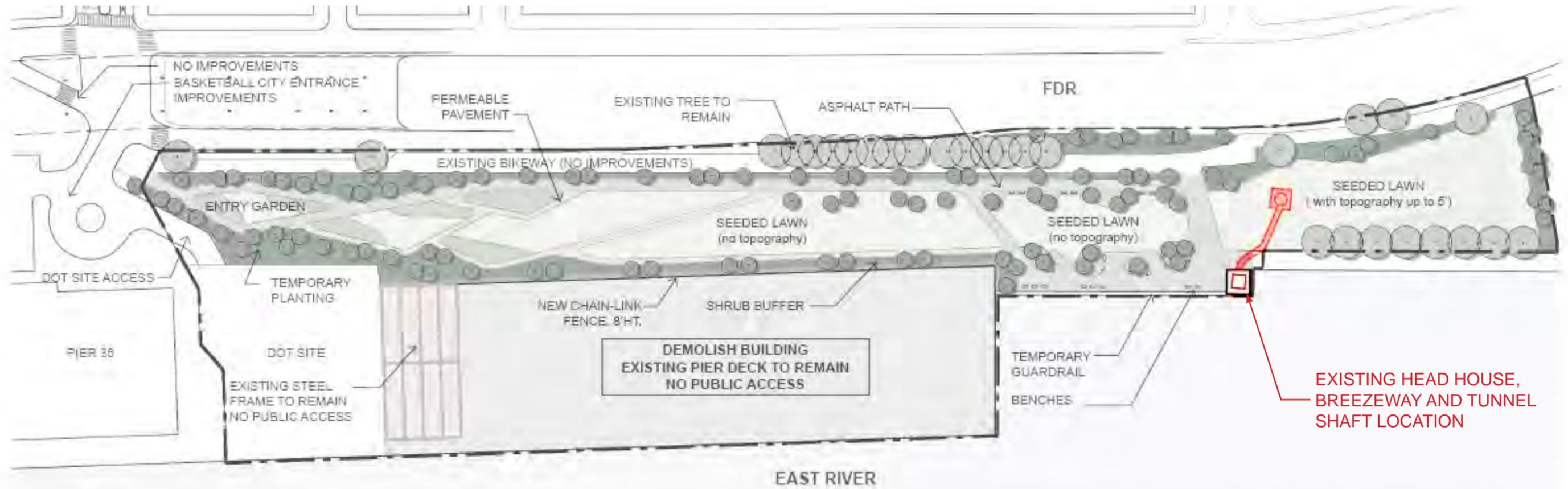
NYC Parks

+



conEdison

EAST RIVER PARK
INTERSECTION OF JACKSON STREET AND THE F.D.R.
MANHATTAN N.Y.



Legend:

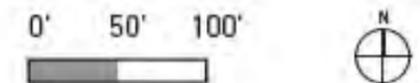
- Existing Trees
- Proposed Trees
- Project Limit
- Asphalt Path
- Permeable Pavement

Summary:

- Demolish majority of shed structure
- Stabilize and paint remaining shed frame
- Asbestos and lead paint removals
- Keep existing pier deck: no pile cap and concrete deck improvements
- Upland landscape: trees, shrubs and seeded lawn with and without topography
- Provide seating and gathering space along water edge
- Bulkhead stone repair
- Provide interim park lighting
- Asphalt major path and permeable pavement secondary path

ENHANCED PARTIAL DECK - PHASE 1

CONSTRUCTION COST: \$9,800,000



NYC Department of Parks and Recreation
Mathews Nielsen Landscape Architects

Pier 42 and Adjacent Landscape
1/6/2014

Phase 1 Plan



NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION
BOROUGH OF MANHATTAN

PIER 42 CON EDISON

JACKSON STREET HEAD HOUSE
PROPOSED STORM HARDENING

EXISTING HEAD HOUSE:

The Hudson Avenue Tunnel, owned and operated by Consolidated Edison, houses two 24” steam mains, six 345kV electrical feeders, one 136kV electrical feeder and other third party telecom facilities.

The tunnel offers a passageway for these utilities to cross under the East River between Brooklyn and Manhattan Boroughs.

Access to the tunnel is through two vertical shafts, one located at each end of the tunnel. One shaft is located in Brooklyn within a Con Edison owned facility while the other is located in Manhattan at the intersection of Jackson Street and the FDR Drive inside the East River Park.

Atop each tunnel shaft (above grade), is a building structure called a Head House.

The Jackson Street Head House is connected to the upper section of the Manhattan shaft via an underground breezeway.

EXISTING HEAD HOUSE (CONTINUED):

The Head House, breezeway and tunnel shaft are all located within property owned by the Parks Department of New York City.

The primary purpose of the Head House is to provide ventilation to the tunnel.

The Head House also shelters essential electrical and mechanical equipment necessary for the operation and maintenance of the tunnel.

The existing Jackson Street head House is constructed directly above the seawall along the riverside.

The existing building has a footprint of 14' x 14' and it's roof line is 11'-3" above the promenade grade level.

The building walls are constructed of 8" concrete block with 4" of brick on the external face for a total of a 12" thick wall. The roof is composed of concrete planks covered with EPDM roofing.

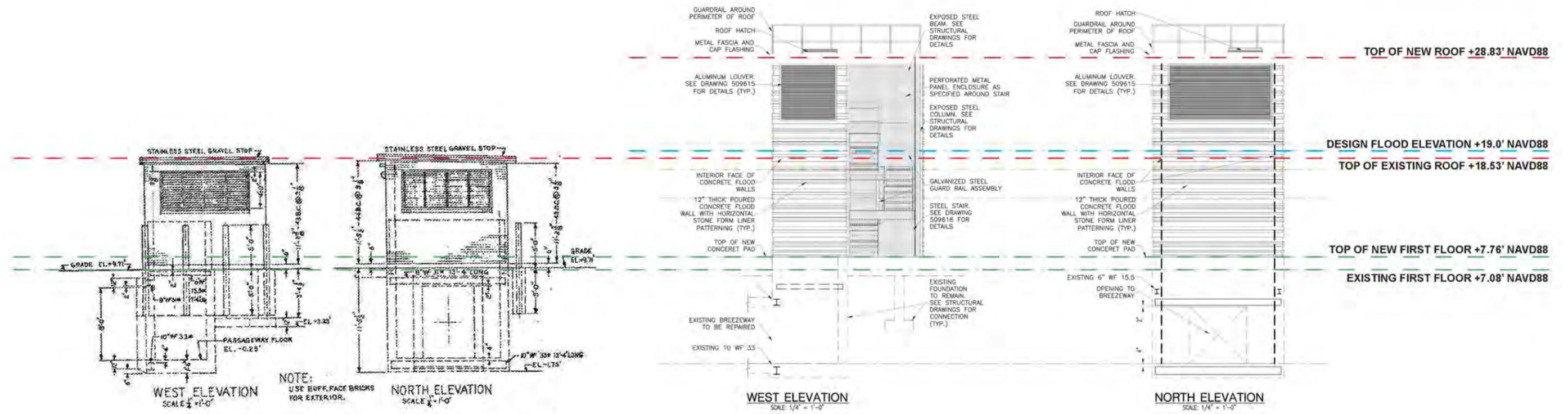
EXISTING HEAD HOUSE (CONTINUED):

Ventilation louvers are located on three sides of the existing head house.

Access to the building is through a door located on the east side of the building.

During Super Storm Sandy, the existing head house experienced extensive damage due to the storm surge from the East River. The building does not currently meet the flood protection measures established by FEMA, the Army Core of Engineers, or the ASCE-7. The existing access to the building is below the FEMA Design Flood Elevation (DFE).

EXISTING HEAD HOUSE:



EXISTING HEAD HOUSE ELEVATIONS

PROPOSED HEAD HOUSE ELEVATIONS

DESIGN INTENT:

The primary goal of this project is to provide a structure that complies with the new FEMA guidelines for Storm Hardening of Critical Systems while meeting the tunnel's operation and ventilation requirements including:

Providing a structure with a Design Flood Elevation in accordance with updated FEMA FIRM maps.

Providing a structure and components that can sustain 110 MPH wind speed due to anticipated storms.

Providing a structure that can sustain flood related loads, wave actions, Hydrostatic loads, Hydrodynamic loads and Debris Impact that accompany anticipated storms.

PROPOSED CONSTRUCTION OF NEW HEAD HOUSE:

The new Head House will have a foot print of 14' x 16' and a roof level that is 21'-0" above the promenade grade level.

The new building height is necessary to comply with the new FEMA DFE guidelines.

The walls will be constructed of 12" thick cast-in-place reinforced concrete flood walls with a horizontal, non-uniform Form-Liner exterior finish.

The roof will be constructed using precast concrete planks with an EPDM roof membrane.

A roof access hatch and 3'-6" high guardrail will be provided to allow secondary egress from the building to the roof.

Aluminum louvers capable of withstanding high wind forces will be installed on all 4 walls to provide adequate ventilation based on tunnel requirements.

The entrance to the Head House will be on the river side of the building via a staircase to an access door that is located above the DFE.

PROPOSED CONSTRUCTION OF NEW HEAD HOUSE (CONTINUED):

The overall architectural finishes have been coordinated to blend the Head House in with the future East River Park Enhancement Project.

The non-uniform Form-Liner finish was chosen to blend in the horizontal ventilation louver blades and to mimic the river's "non-uniform" horizontal waves.

The concrete used for the walls will be dyed a light to medium shade of gray.

Cameras and low foot candle lighting (0.5 foot candle) will be installed on all four sides of the building for security purposes.

A 10'-0" decorative fence with an access gate located on the northwest corner will be constructed to surround the building on all 4 sides for further security. The fence will mimic the guardrail that runs along the promenade to help give the Head House a sense of belonging.

PROPOSED HEAD HOUSE



WEST ELEVATION OF HEAD HOUSE



SOUTH ELEVATION OF HEAD HOUSE



NORTH ELEVATION OF HEAD HOUSE

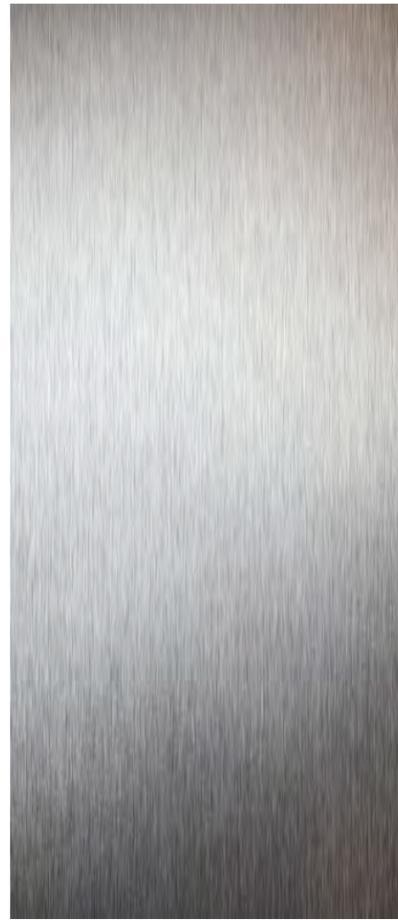


HEAD HOUSE ELEVATION FROM EAST RIVER

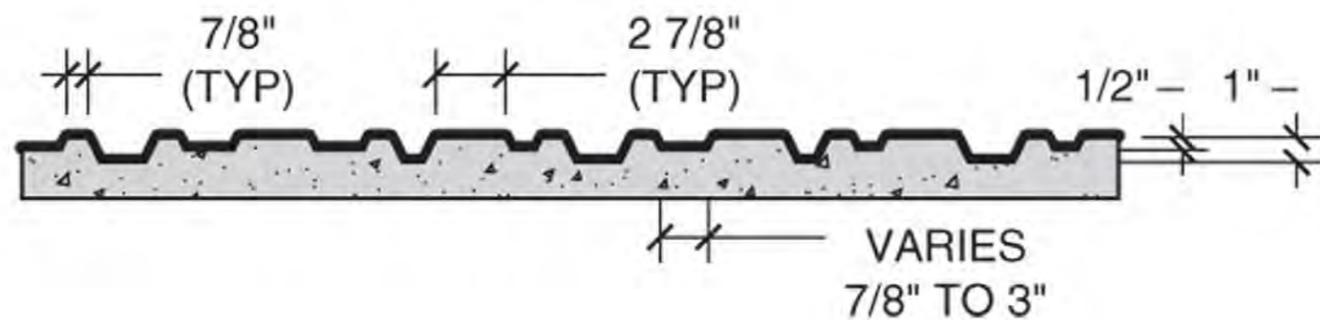
The new fence will be constructed using marine grade stainless steel to match the existing guard rail that runs along the promenade. Once introduced to the elements it will weather to match the existing conditions.

The exterior faces of the Head House will be concrete with horizontal reveals imprinted in the concrete while it is poured. The irregular pattern will break up the perceived height of the structure while also allowing the louvers to blend with the structure.

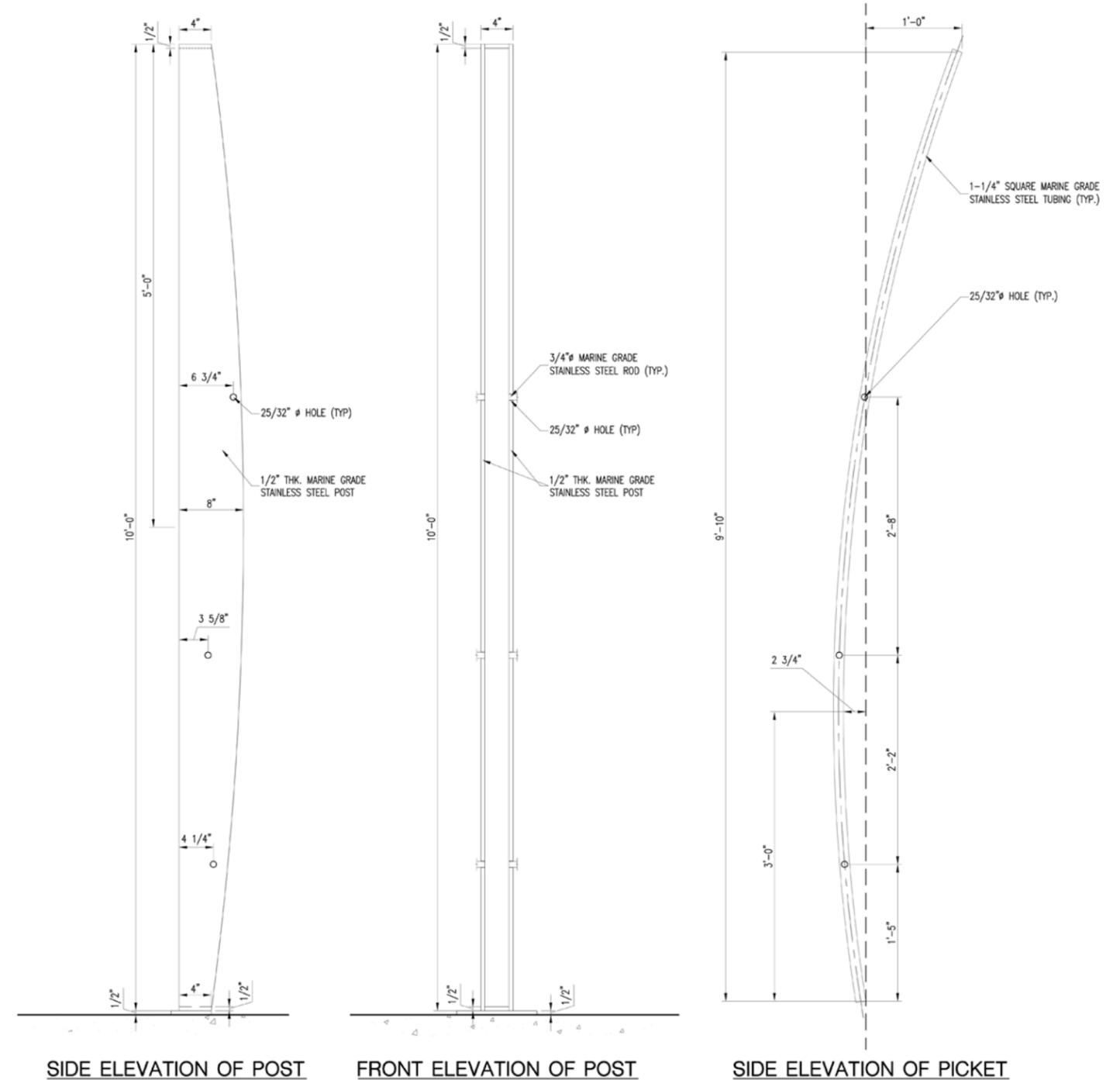
The muted colors of the materials and simple design of the new Head House will allow it to match the existing built condition in order to maintain the prevalence of the natural environment the park provides. It will stand in the background as a silent provider of vital systems for the borough of Manhattan.



Marine Grade Stainless Steel



PROPOSED CONCRETE FORM-LINER



FENCE POST DETAILS



NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION
BOROUGH OF MANHATTAN

PIER 42

CON EDISON

JACKSON STREET HEAD HOUSE
PROPOSED STORM HARDENING