Electric Boat in Groton

Special Permit

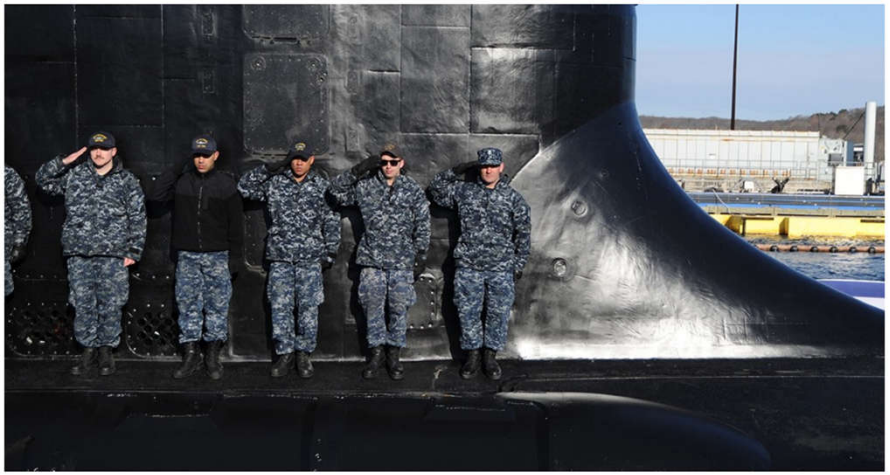
Presented to Planning & Zoning Commission

April 2019

Background – Importance to U.S. Navy

Interview: The Navy's top submarine builder talks Virginia-class challenges, successes

By: David B. Larter April 11



Sailors of Virginia-class Pre-Commissioning Unit Colorado salute in front of the sail during a rehearsal in preparation for Colorado's commissioning March 17. (MCC Darryl Wood/Navy)

DefenseNews
A GANNETT COMPANY

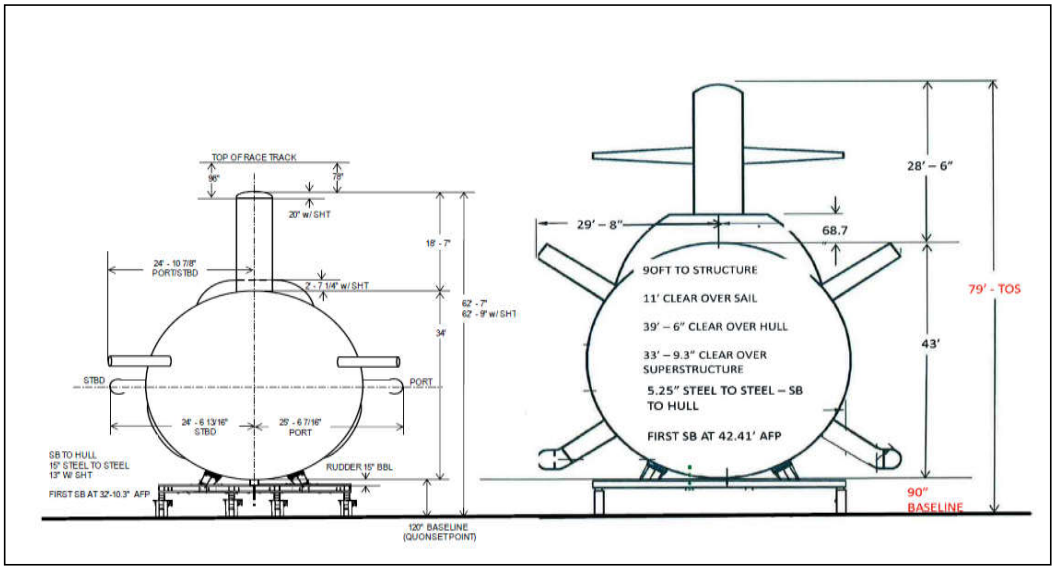
"The COLUMBIA Class acquisition program and the weapon system life extension efforts must remain on schedule to ensure an uninterrupted at-sea presence…I cannot emphasize enough how these programs are fundamental to our survival as a nation"

Admiral William Morgan
Vice Chief of Naval Operations

Ship Comparison

VA-Class SSN - Blocks III and IV Configuration

Length: 377 Feet; Hull Diameter: 34 feet;
Displacement: 7,800 Tons



VA-Class Block V SSN and Follow-on Blocks

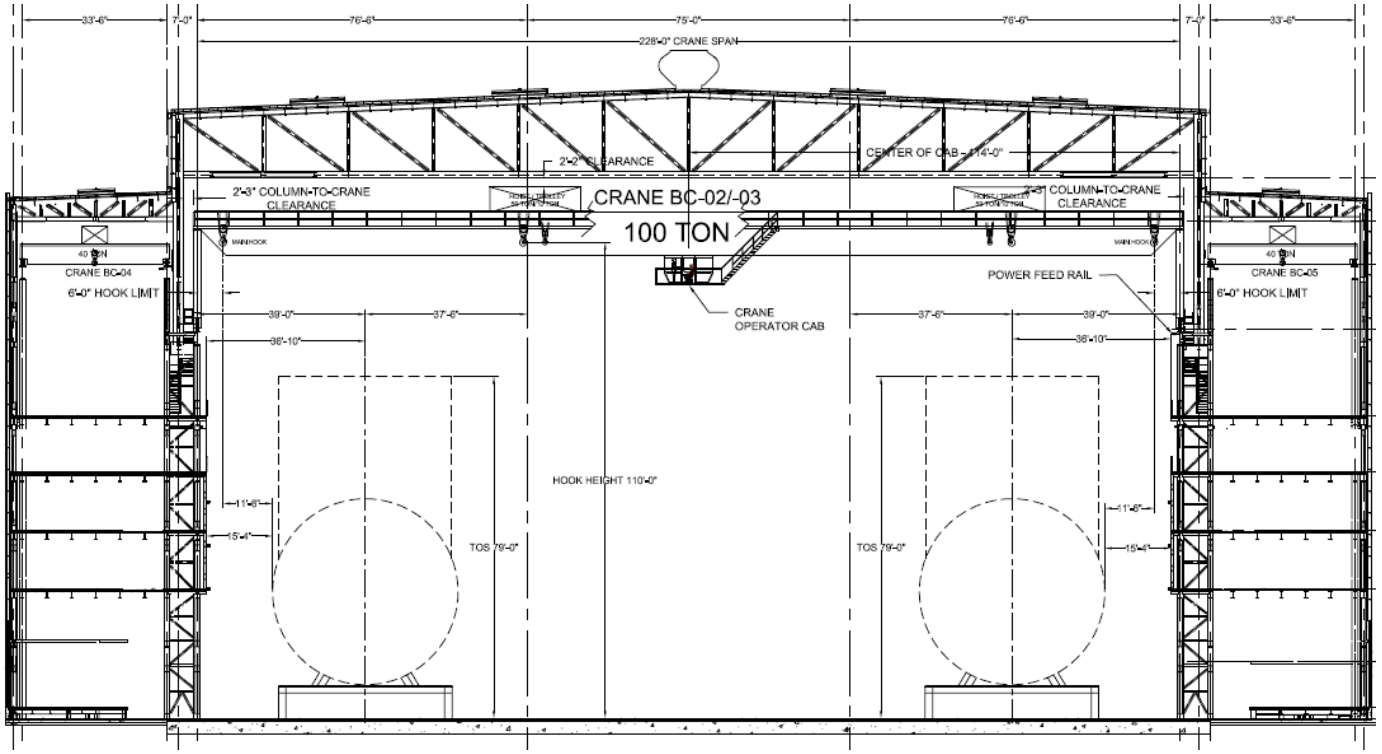
VIRGINIA Payload Module (VPM)

Length: 471 Feet; Submerged Displacement: 10,040 tons;
6 Large Diameter Tubes

Columbia Class SSBN

Length: 562 Feet; Hull Diameter: 43 Feet; Submerged Displacement: 20,800 Tons;
16 Large Diameter Tubes

Height Driver

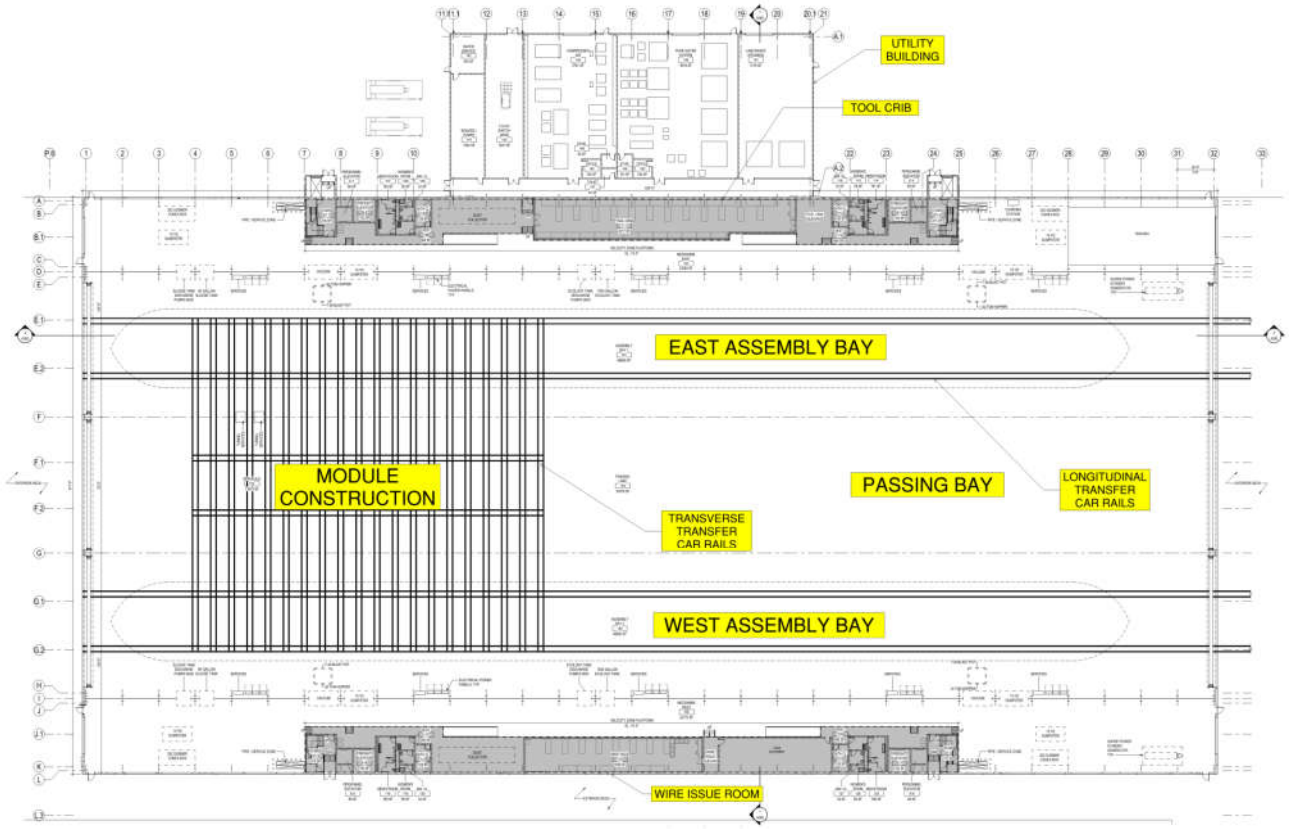


- 110’ Crane Hook Height Needed
- 26” of Clearance Between Top of Crane and Bottom of Roof Truss

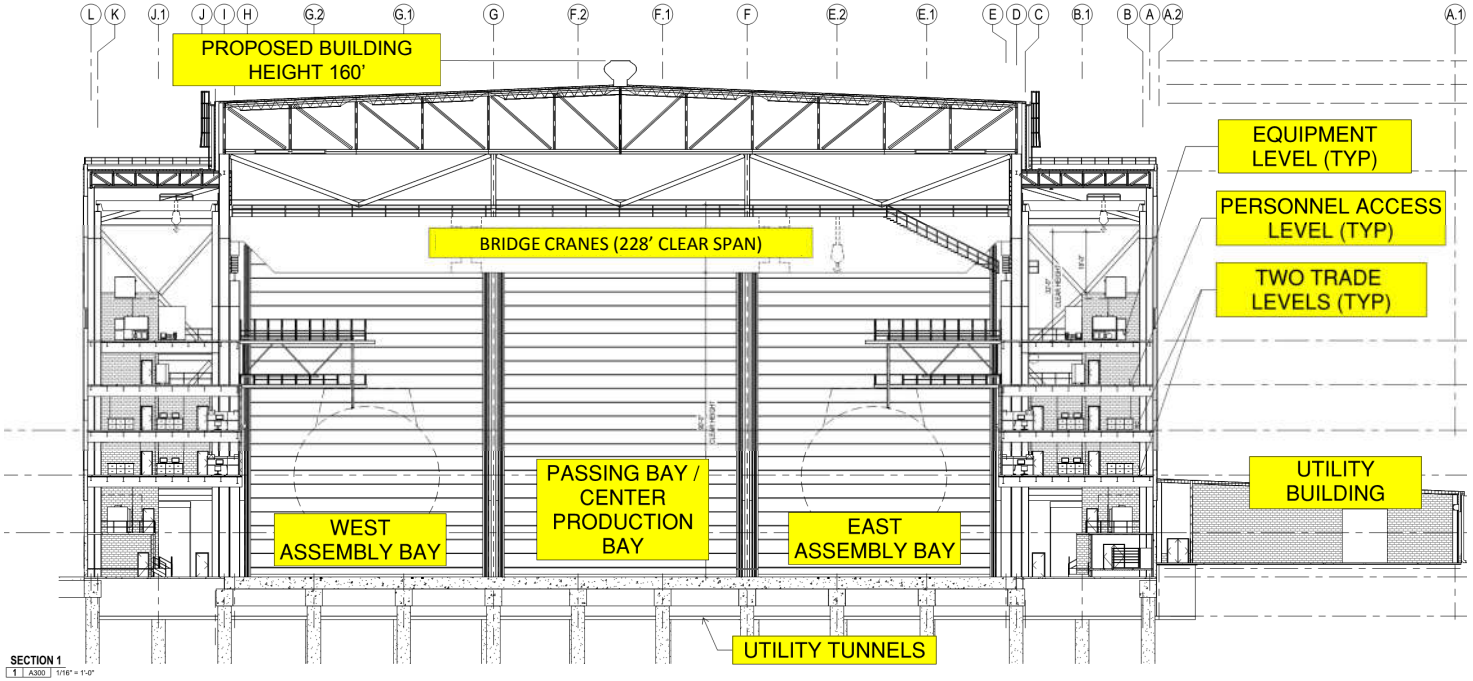
Site Contraints

Property, Channel, and Street lines for discussion purposes only – Not Surveyed

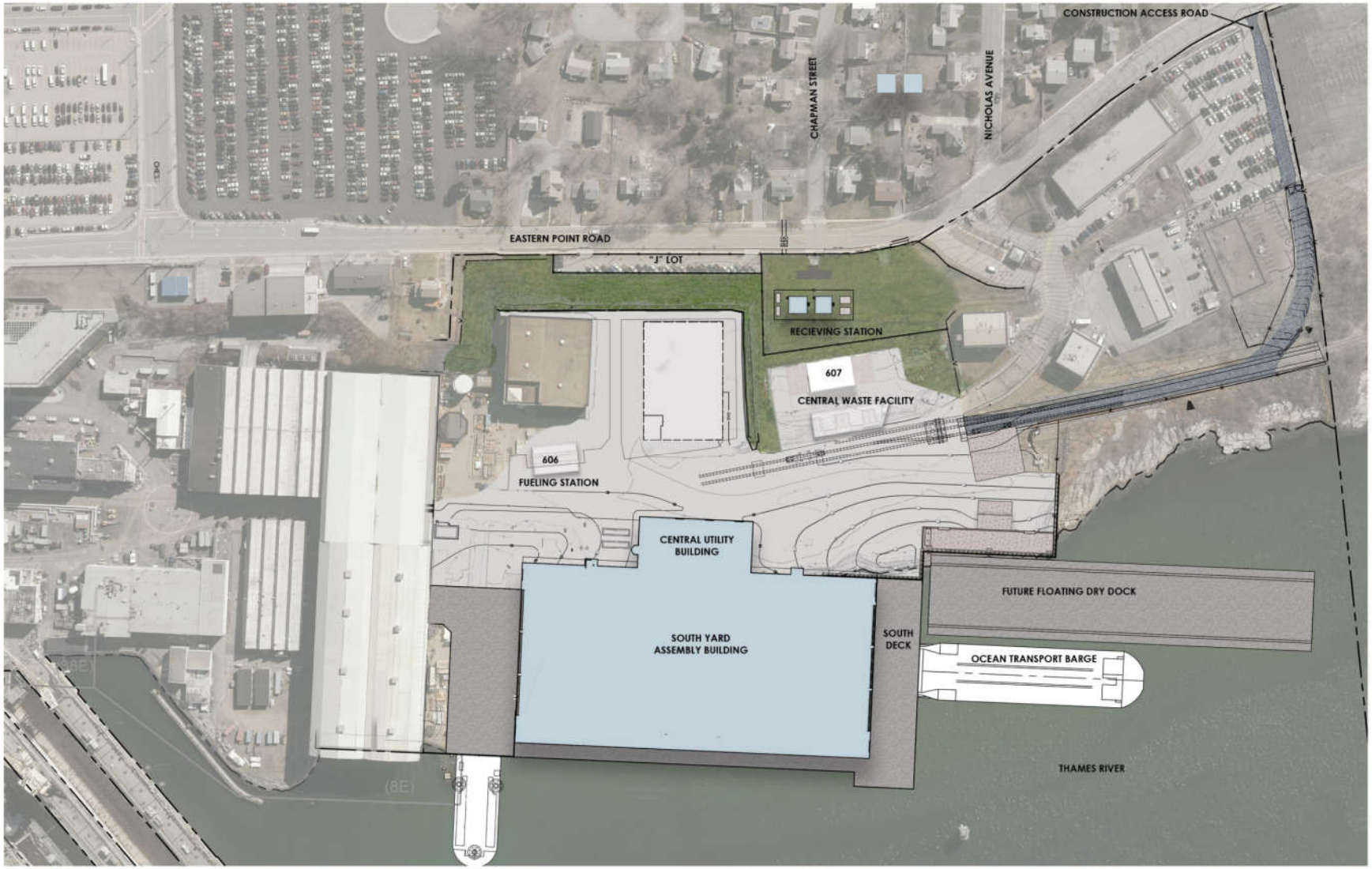
Assembly Building Plan



Assembly Building Section



Questions



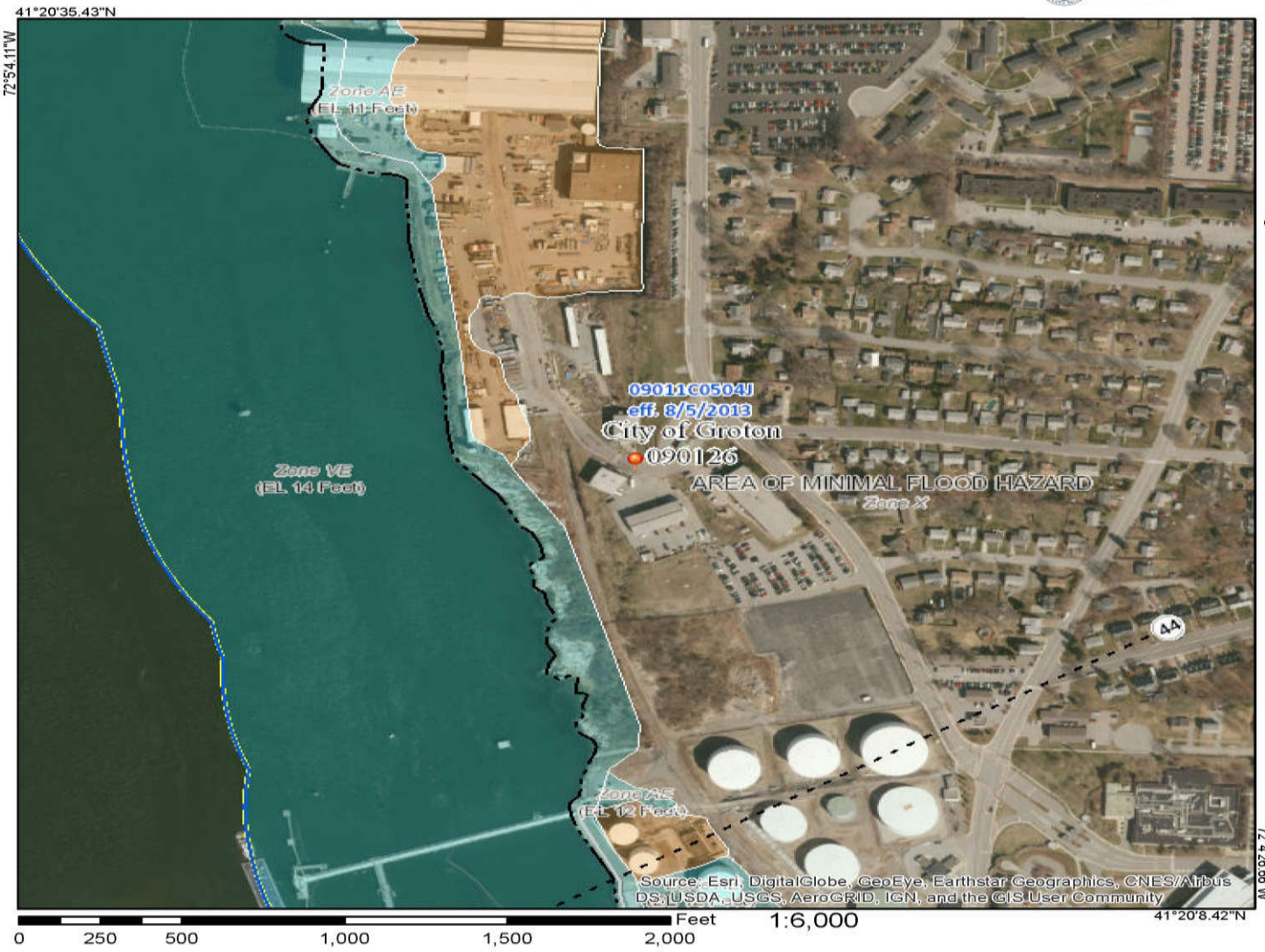
FUSS & O'NEILL

ELECTRIC BOAT
GROTON, CT.
APRIL 2019

SCALE: 1"=80'-0"
0' 40' 80' 120' 160'

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

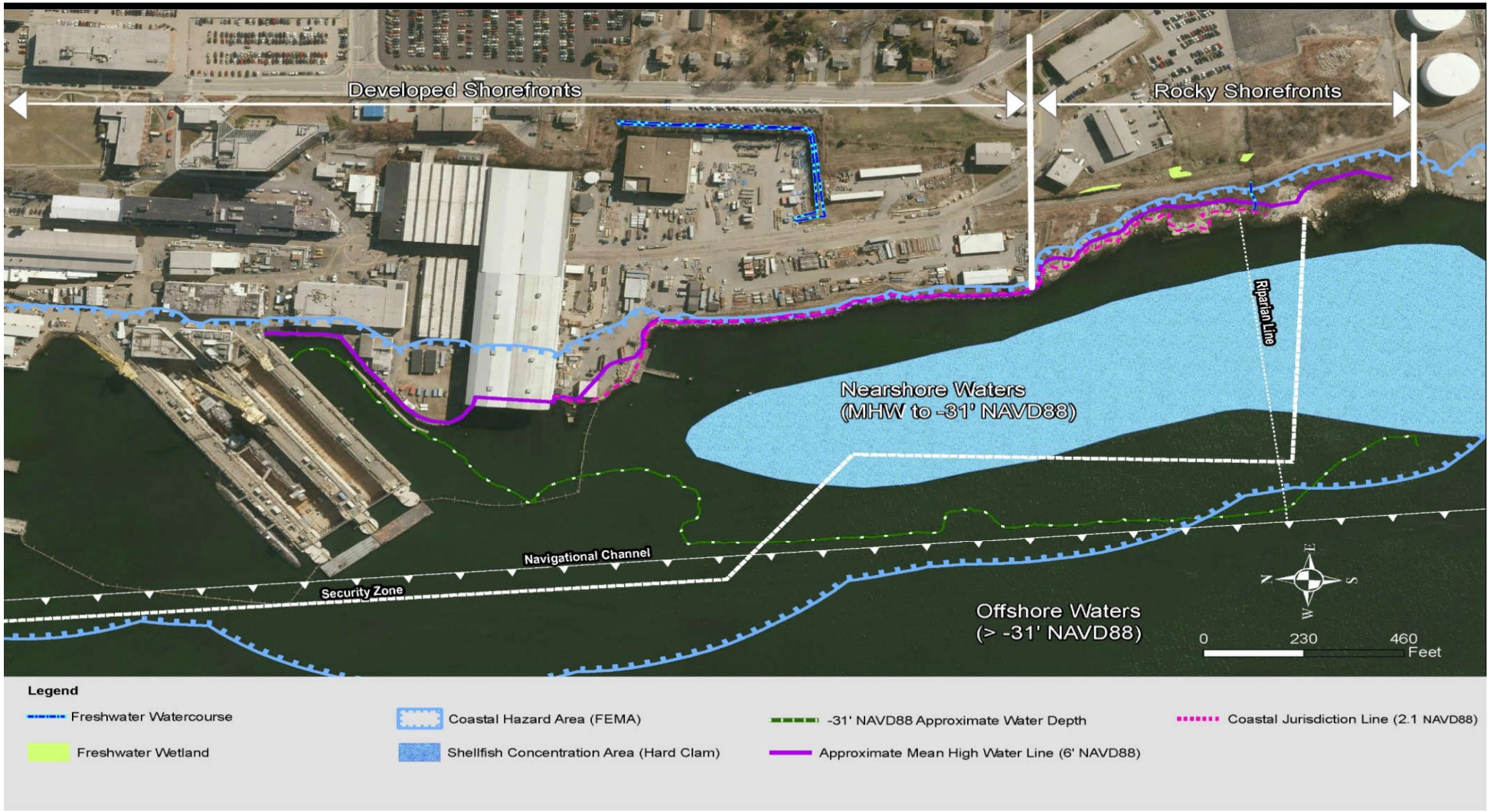
SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A, V, A99*
	With BFE or Depth
	Regulatory Floodway *Zone AE, AO, AH, VE, AR*
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
	Area with Flood Risk due to Levee *Zone D*
OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard *Zone X*
	Effective LOMRs
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
OTHER FEATURES	20.2 Cross Sections with 1% Annual Chance
	17.5 Water Surface Elevation
	Coastal Transect
	513 Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
MAP PANELS	Digital Data Available
	No Digital Data Available
	Unmapped

N

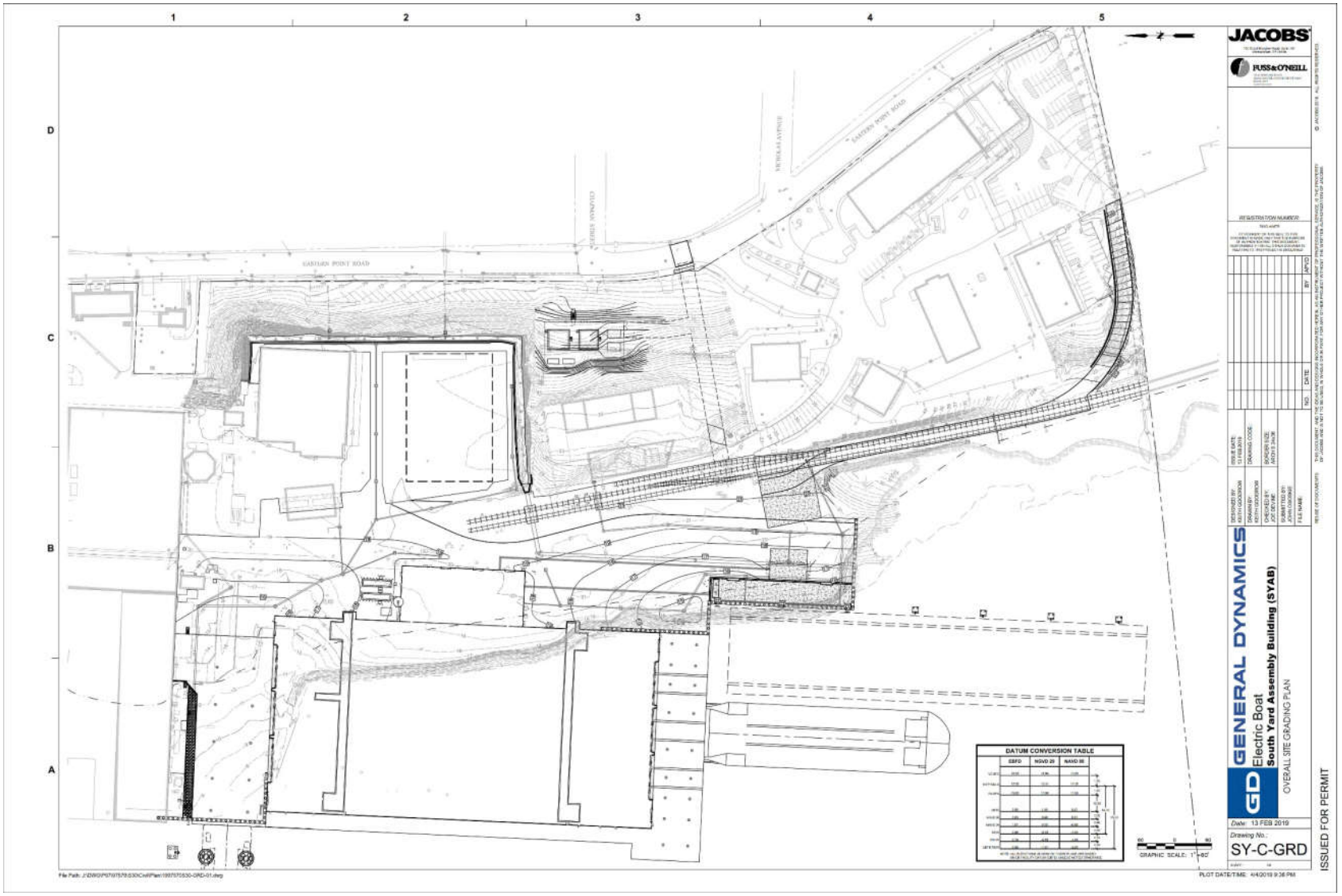
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The base map shown complies with FEMA's base map accuracy standards

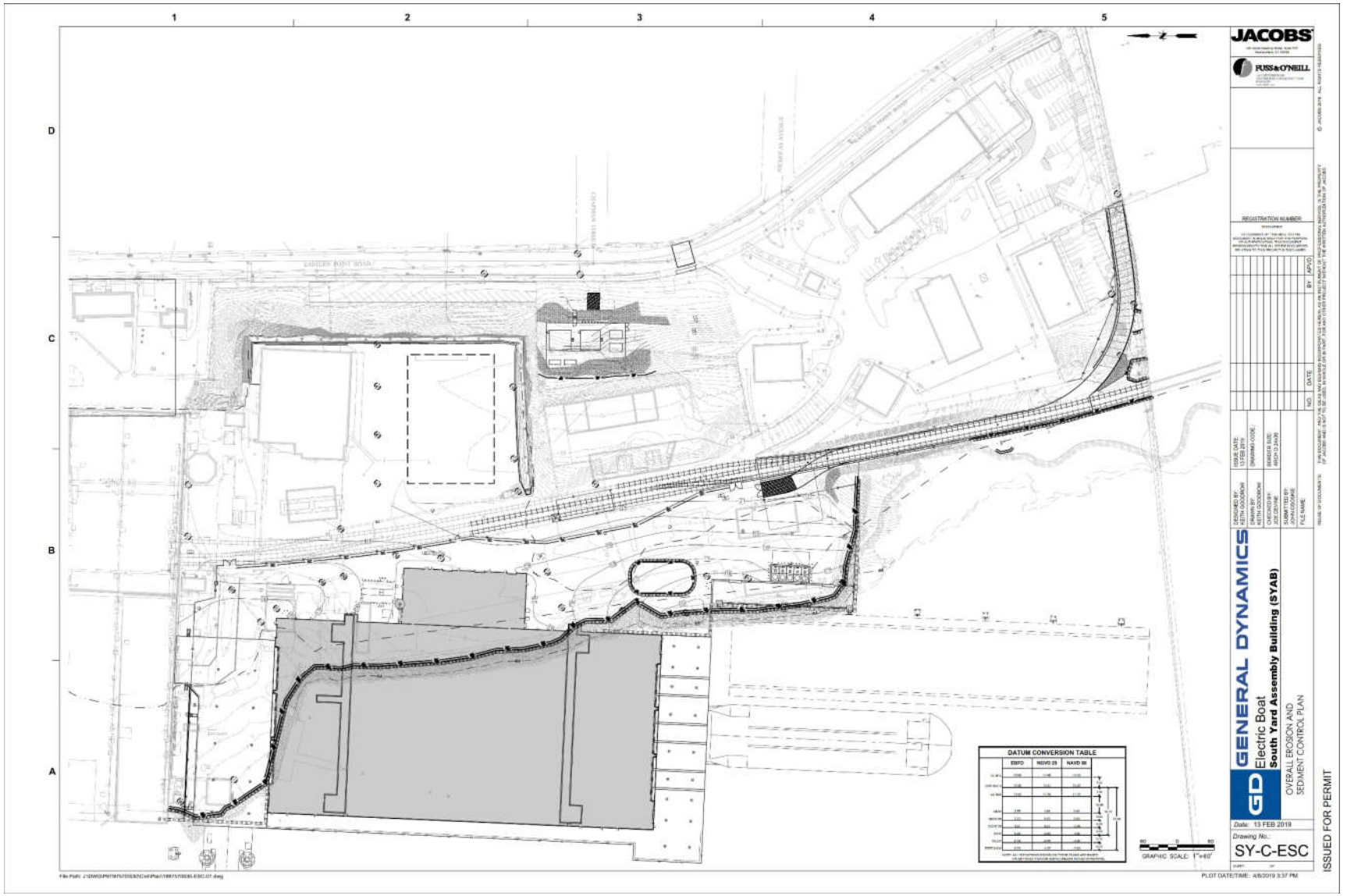
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/5/2018 at 3:50:27 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.


Developed Shorefronts
Rocky Shorefronts
Riparian Line
Nearshore Waters
(MHW to -31' NAVD88)
Navigational Channel
Security Zone
Offshore Waters
(> -31' NAVD88)
N
E
S
W
0
230
460
Feet
Legend
Freshwater Watercourse
Coastal Hazard Area (FEMA)
-31' NAVD88 Approximate Water Depth
Coastal Jurisdiction Line (2.1 NAVD88)
Freshwater Wetland
Shellfish Concentration Area (Hard Clam)
Approximate Mean High Water Line (6' NAVD88)

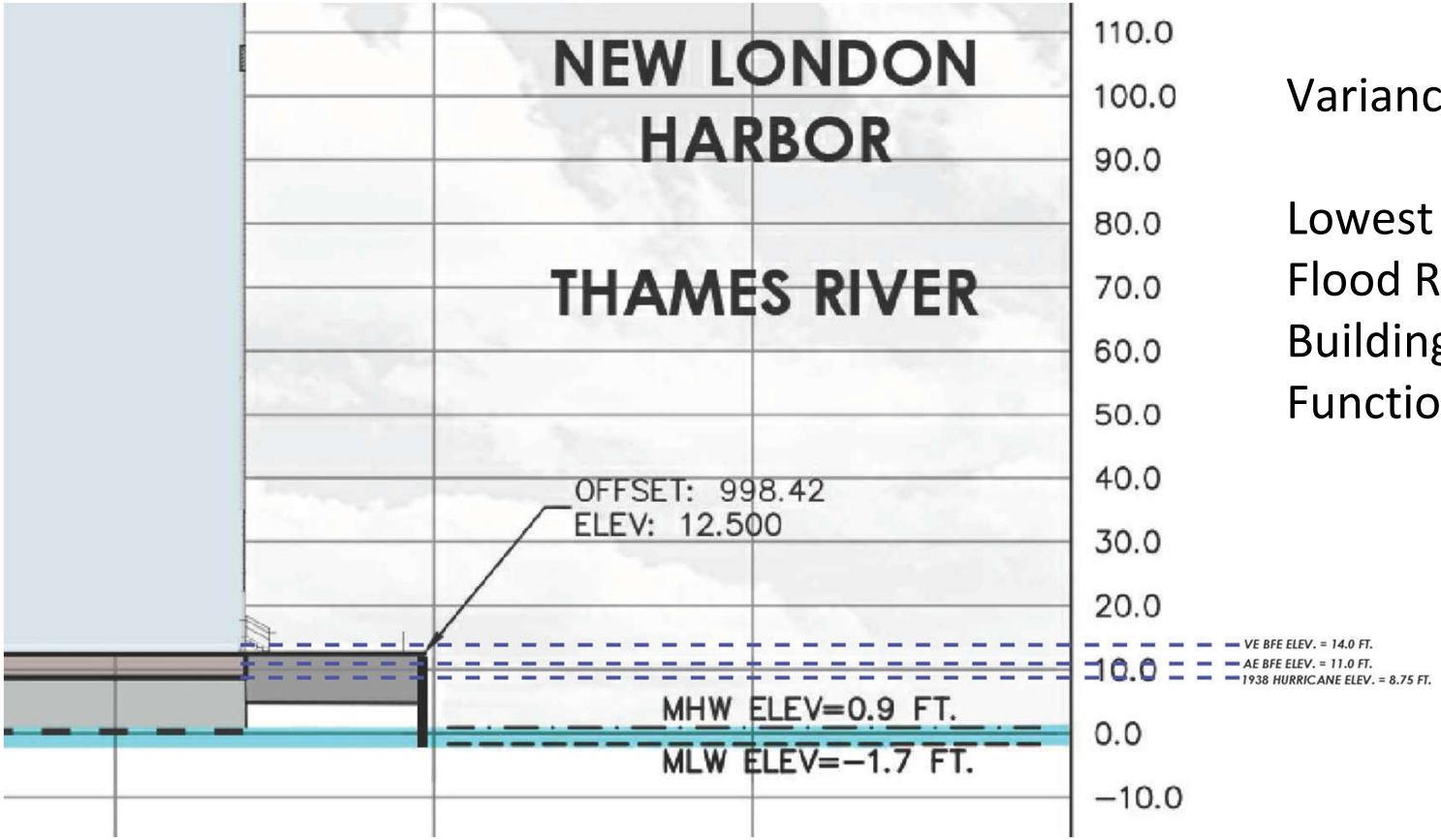
Questions


EASTERN POINT ROAD
DATUM CONVERSION TABLE
DBFD
NGVD 29
NAVD 88
GRAPHIC SCALE: 1" = 80'
JACOBS
FUSS&O'NEILL
GENERAL DYNAMICS
Electric Boat
South Yard Assembly Building (SYAB)
OVERALL SITE GRADING PLAN
Date: 13 FEB 2019
Drawing No.:
SY-C-GRD
ISSUED FOR PERMIT
PLOT DATE/TIME: 4/4/2019 9:36 PM


1
2
3
4
5
A
B
C
D
EASTERN POINT ROAD
CHEVERUS AVENUE
PREBLE AVENUE
DATUM CONVERSION TABLE
ESTD
NGVD 29
NAVD 88
GRAPHIC SCALE: 1"=60'
JACOBS
FUSS & O'NEILL
GENERAL DYNAMICS
Electric Boat
South Yard Assembly Building (SYAB)
OVERALL EROSION AND SEDIMENT CONTROL PLAN
Date: 13 FEB 2019
Drawing No.:
SY-C-ESC
ISSUED FOR PERMIT
REGISTRATION NUMBER
PLOT DATE/TIME: 4/8/2019 3:37 PM

Questions

Flood Hazard Area Building Code Compliance



Variances Granted:

Lowest Floor at Elev. 12.5 ft.
Flood Resistant Construction
Building Anchored to Rock
Functionally Dependent Use

Assembly Building

Assembly Building

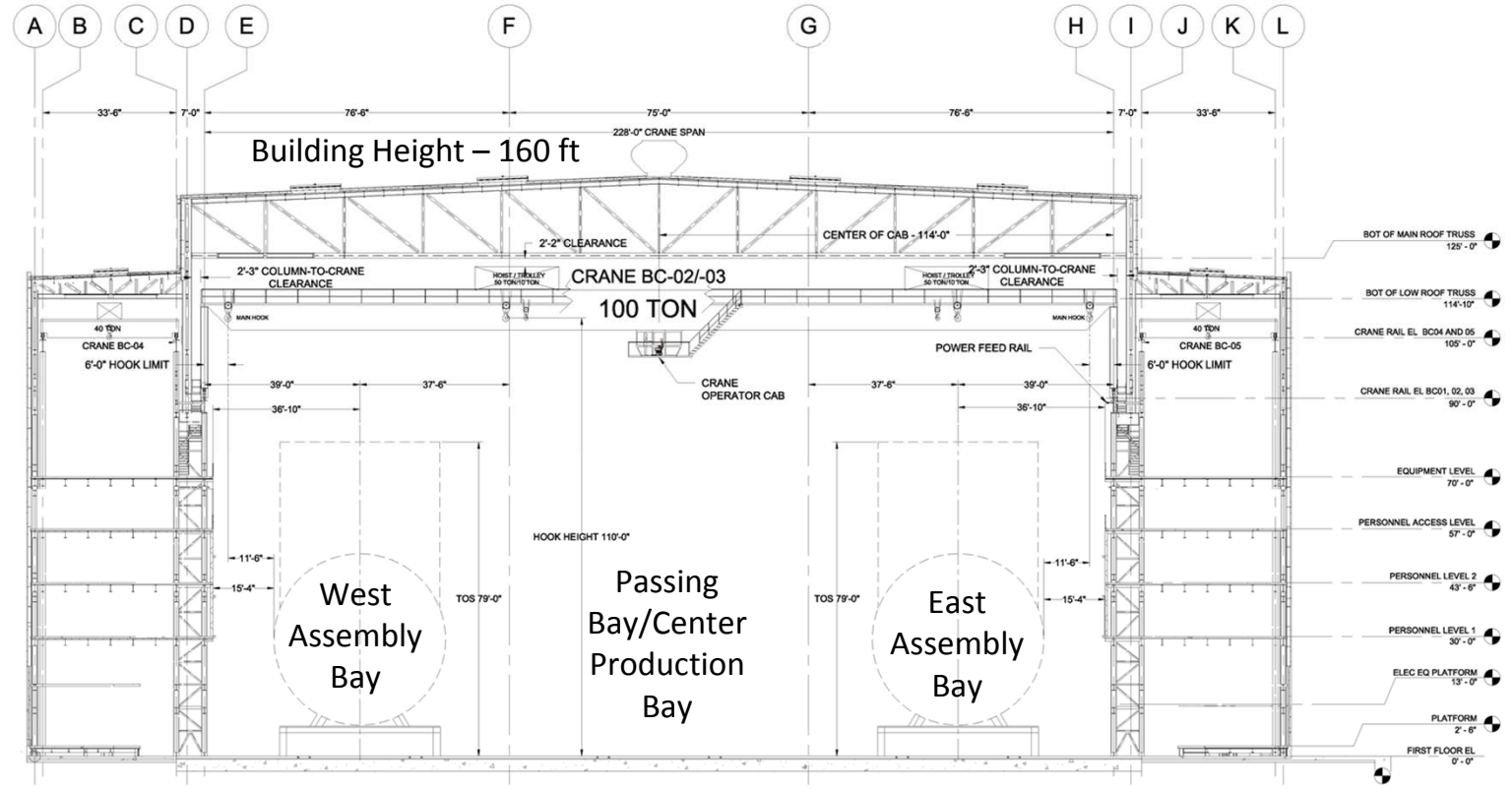
Assembly Building Section

Equipment Level

Personnel Access

Trades Level

Trades Level

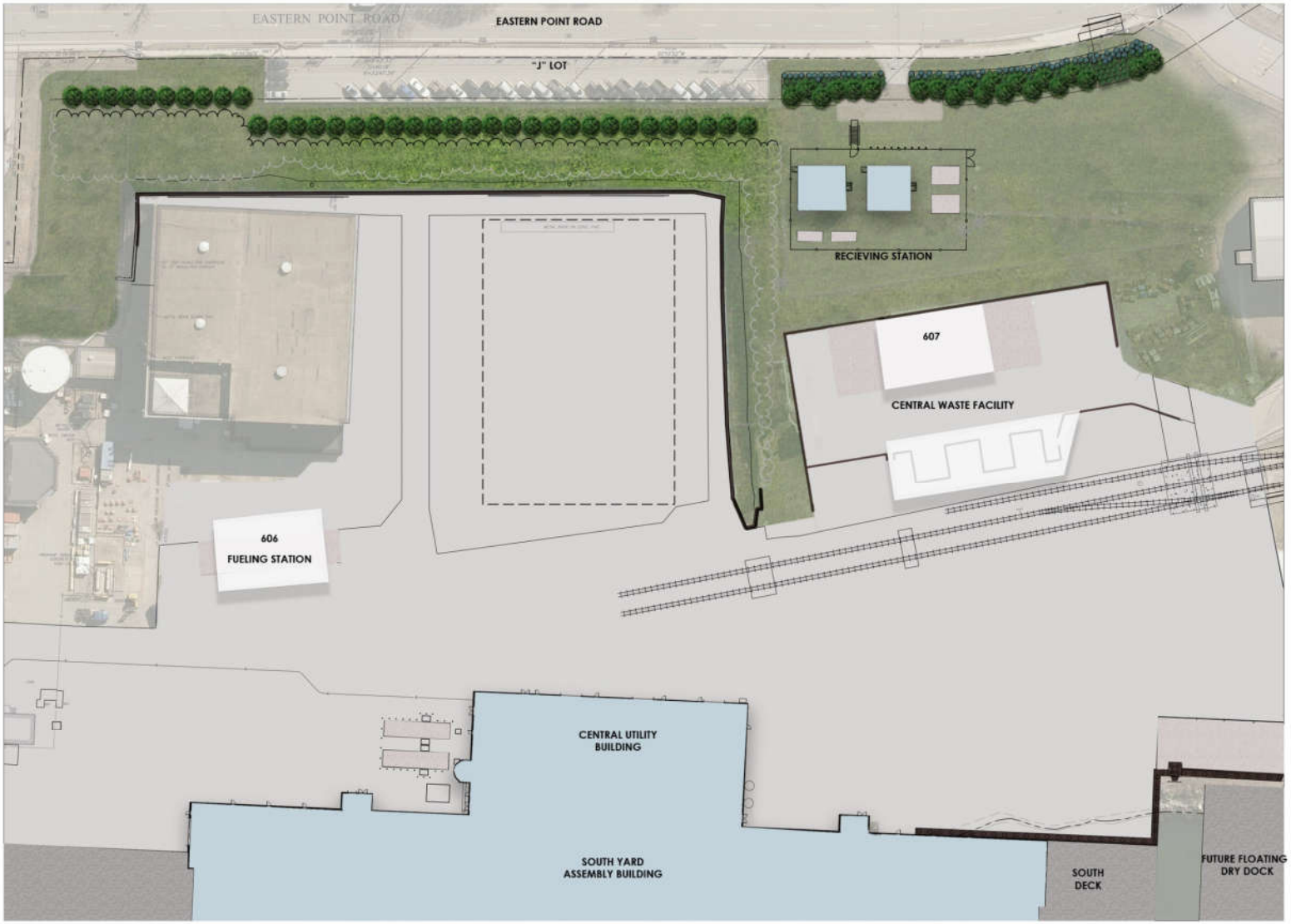


2 CRANE BC-02 AND BC-03 ELEVATION

1" = 20'

SK-IE-001

Questions



FUSS & O'NEILL

ELECTRIC BOAT
GROTON, CT.
APRIL 2019

SCALE: 1"=30'-0"
15' 30' 45' 60'


EASTERN POINT
STOP


EASTERN POINT
STOP


TRUCK
ENTRANCE

Questions

Parking Requirements

Year	Employees		Existing EB Parking Spaces	Required Parking Spaces (City of Groton Zoning)
	Total	1st Shift		
2019	8,000	6,600	3,800	2,200
2020	8,000	6,400	3,800	2,140
2021	8,300	6,400	3,800	2,140
2022	8,300	6,600	3,800	2,200
2023	8,500	6,700	3,800	2,240
2024	8,900	7,000	3,800	2,340
2025	9,000	7,200	3,800	2,400
2026	9,100	7,000	3,800	2,340
2027	9,700	7,600	3,800	2,540
2028	10,100	7,600	3,800	2,530
2029	10,900	8,200	3,800	2,740

Questions

Noise Study

Development of Existing Conditions Sound Profile
Monitor Located at End of Chapman Street
Continuous Monitoring of Ambient Sound at South Yard

Development of Post-Development Sound Profile
Utilized 60% Design Proposed Equipment Sound Data

Noise Study

TABLE 2
Typical Sound Levels Measured in the Environment and Industry

Noise Source At a Given Distance	A-Weighted Sound Level in Decibels	Qualitative Description
Carrier Deck Jet Operation	140	
	130	Pain threshold
Jet takeoff (200 feet)	120	
Auto Horn (3 feet)	110	Maximum Vocal Effort
Jet takeoff (2,000 feet) Shout (0.5 foot)	100	
N.Y. Subway Station Heavy Truck (50 feet)	90	Very Annoying Hearing Damage (8-hour, continuous exposure)
Pneumatic drill (50 feet)	80	Annoying
Freight Train (50 feet) Freeway Traffic (50 feet)	70 to 80	
	70	Intrusive Telephone Use Difficult
Air Conditioning Unit (20 feet)	60	
Light auto traffic (50 feet)	50	Quiet
Living Room Bedroom	40	
Library Soft whisper (5 feet)	30	Very Quiet
Broadcasting Studio	20	Recording studio
	10	Just Audible

Adapted from Table E, New York Department of Environmental Conservation (2001).

Existing Sound Levels at Monitoring Location:
40dBA to 70dBA

Future Sound Levels (Facility Only):
50dBA to 54dBA

Conclusion: Future Facility Operations Sound Levels Consistent with Existing Conditions

Questions

Construction Logistics

Questions