



2025 Florida Shore & Beach Preservation Association

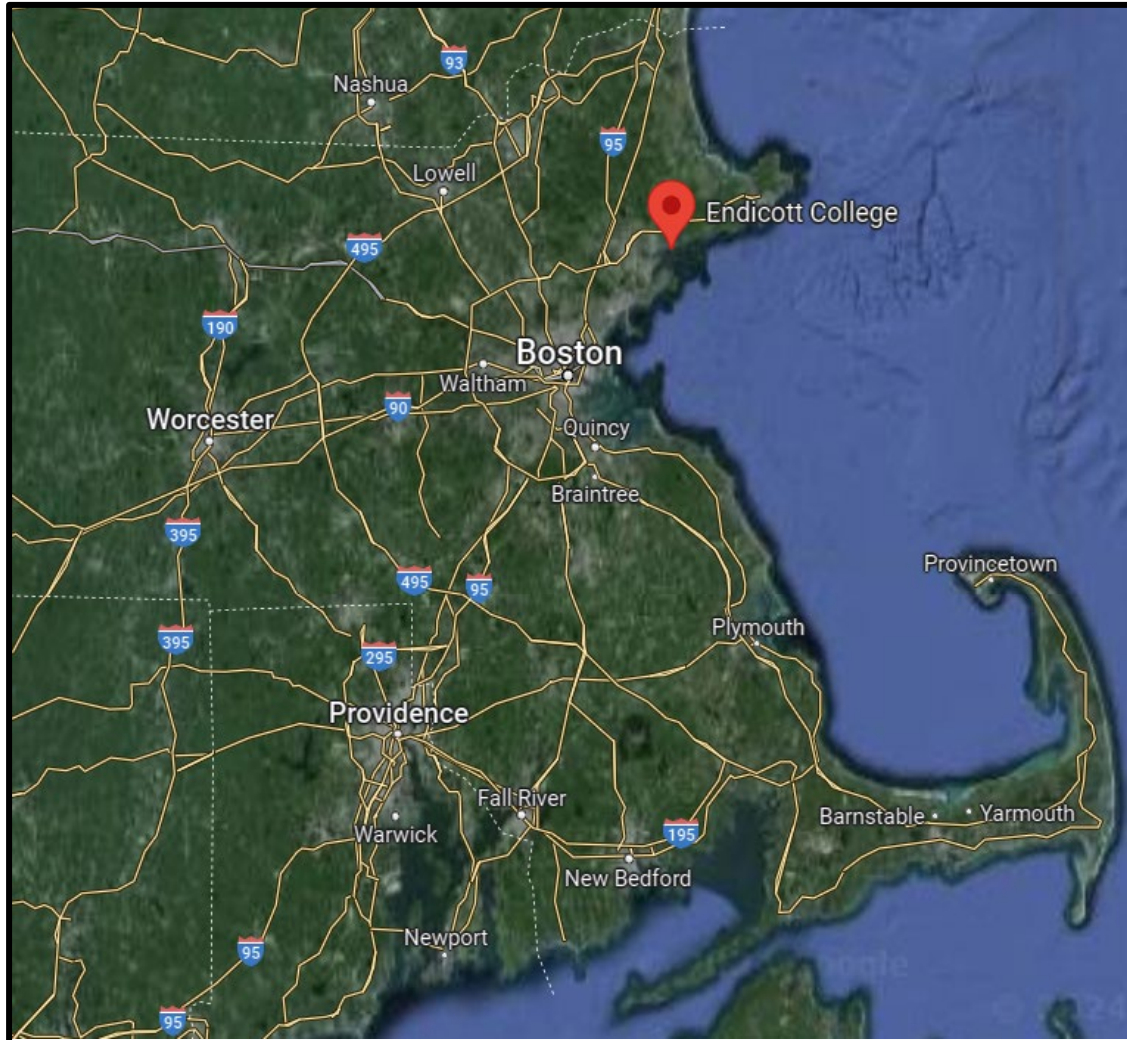
*Endicott College
Seawall Reconstruction
Beverly, Massachusetts*

February 6, 2025

Presentation by Jeramy Packard, P.E.



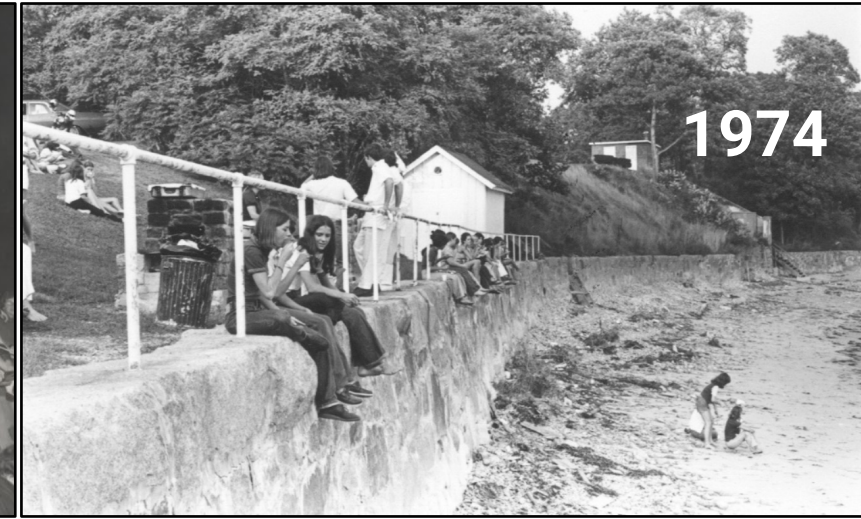
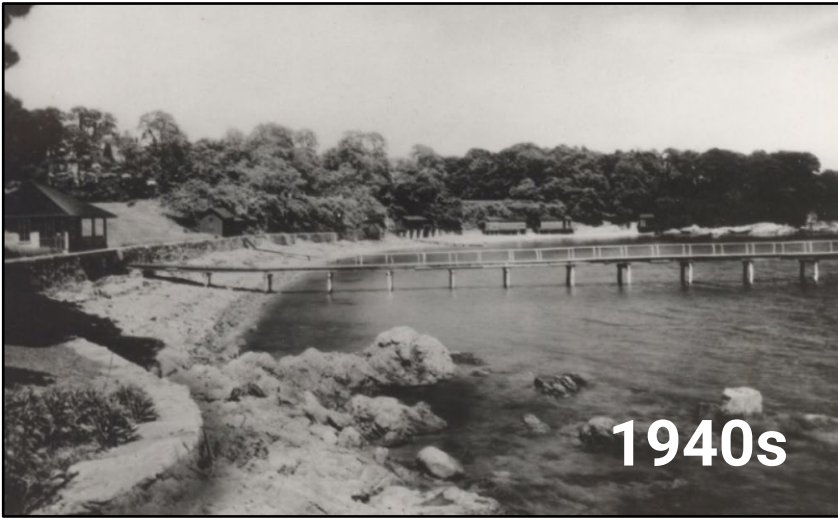
Endicott College



- Founded in 1939
- Located in Beverly, MA
- 235 acres of picturesque coastal campus



Seawall History



- Existing Seawall Constructed in 1930s
- Vertical faced, stacked stone w/mortar
- Crest elevation = 12.0 – 16.0' NAVD88
- Approximately 920 linear feet

2018 Storm Damage

- Series of Nor'easters in March 2018
- Significant damage to historic seawall

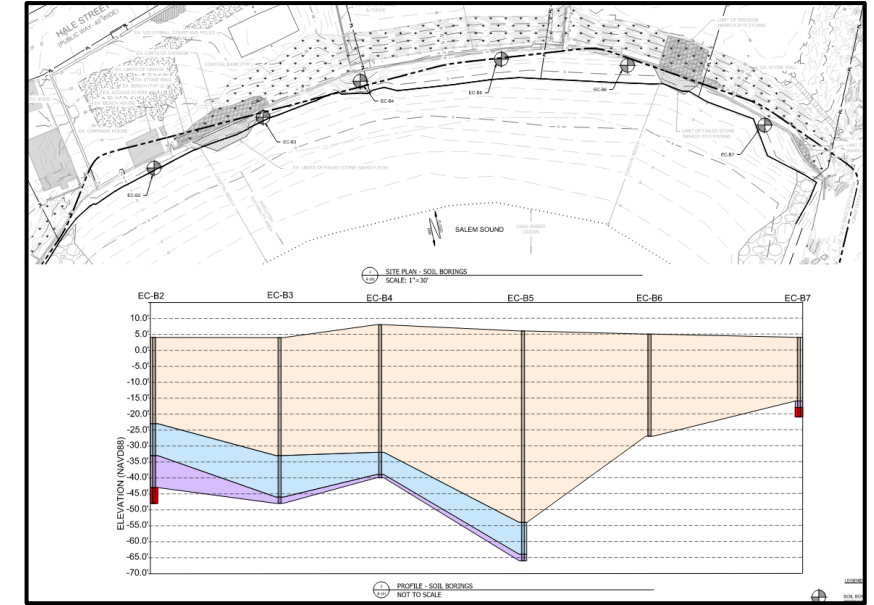


2018 Storm Damage



Existing Site Characteristics

- Vertical Seawall Crest El. = 12-16'±*
- Beach El. = 6.5' ±
- Coastal Bank El. = 16-35'±
- MLW = -4.8', MHW = +4.5' (9.3' tidal range)
- FEMA Flood Zone VE 21
- Exposed ledge at project limits
 - Bedrock/ledge elevation varies +13' to -60'
- Landward structures: 2 homes, 1 beach house, 1 carriage house
- 3 pedestrian beach access locations



*ELEVATIONS ARE IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

Regulatory Concerns

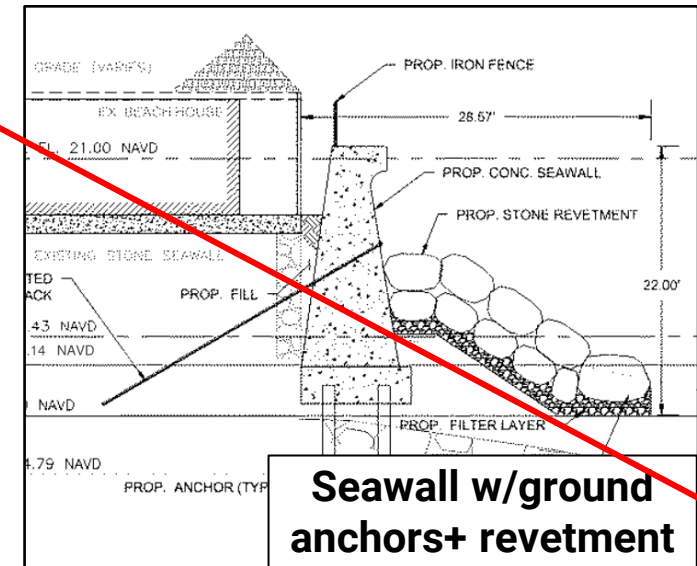
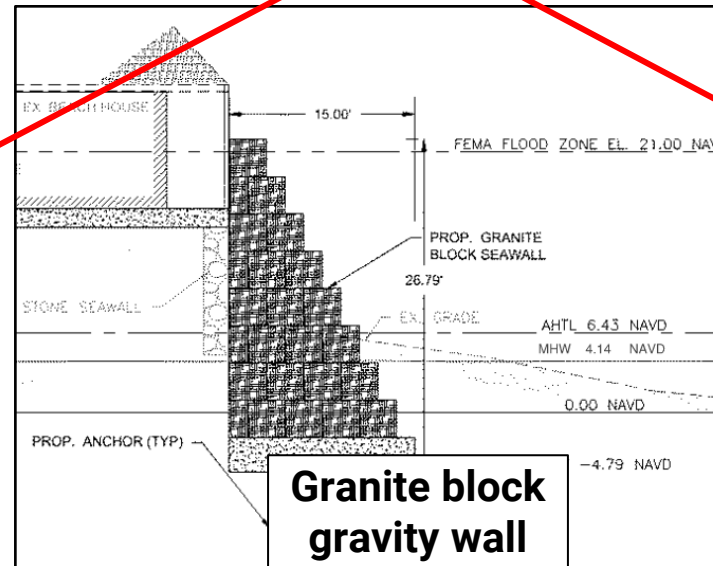
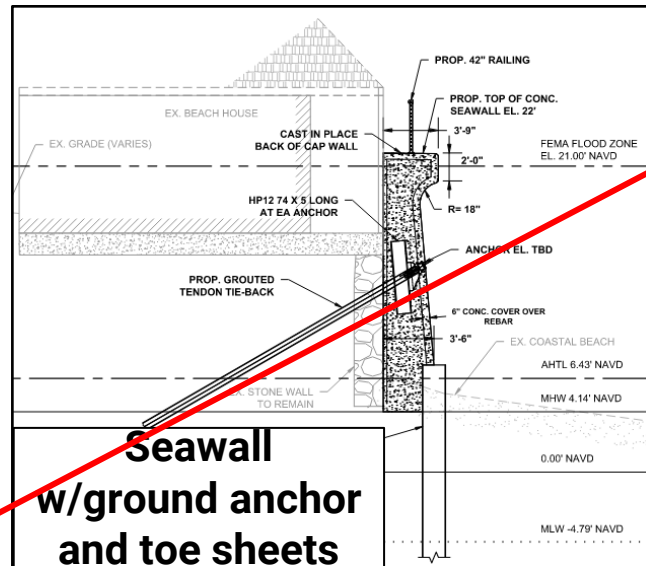
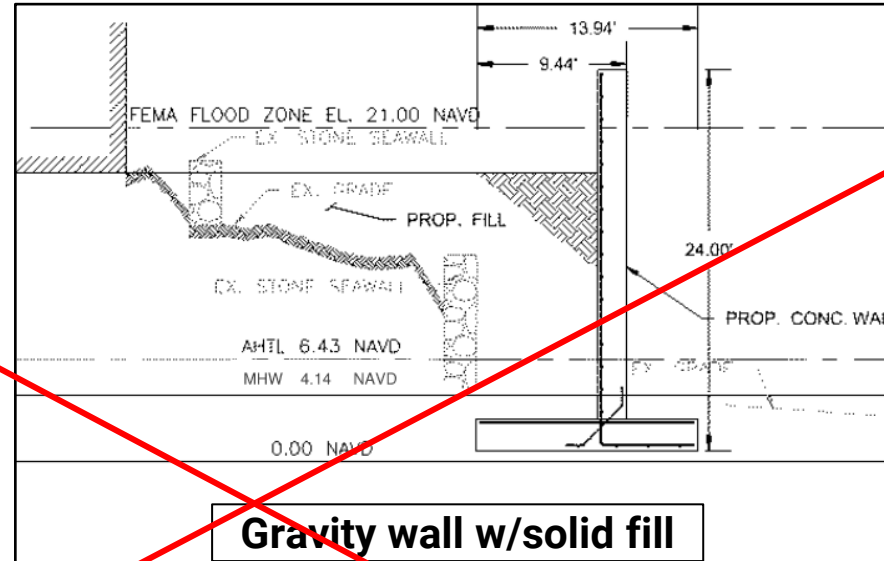
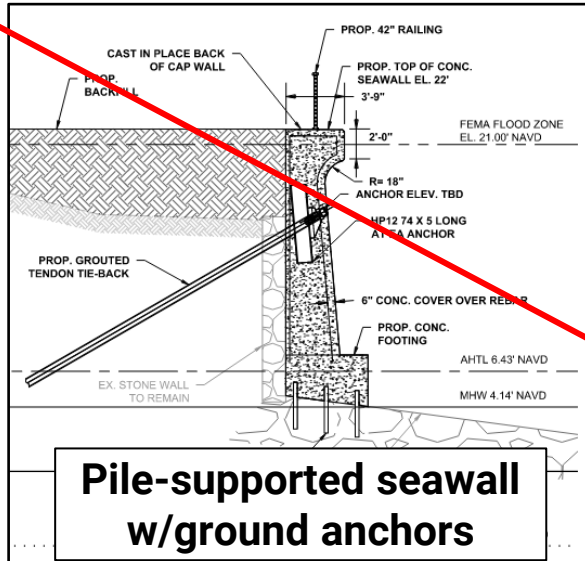
- Increased erosion from replacement vertical wall
- Beach impacts
- Turbidity impacts to eelgrass beds
- Carriage House protection
- Pedestrian beach access
- Design storm & service life



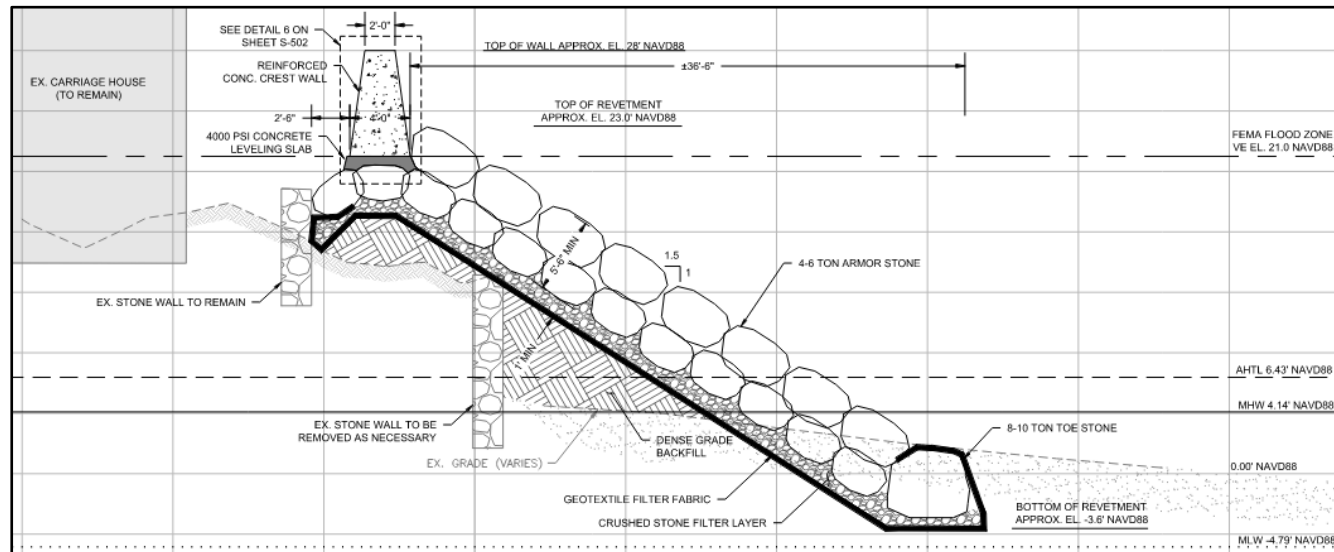
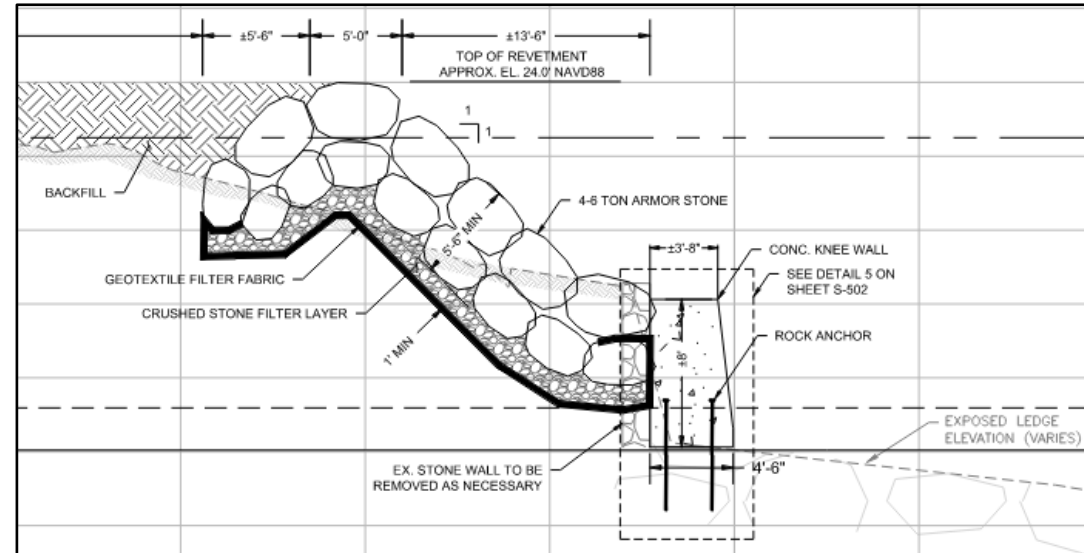
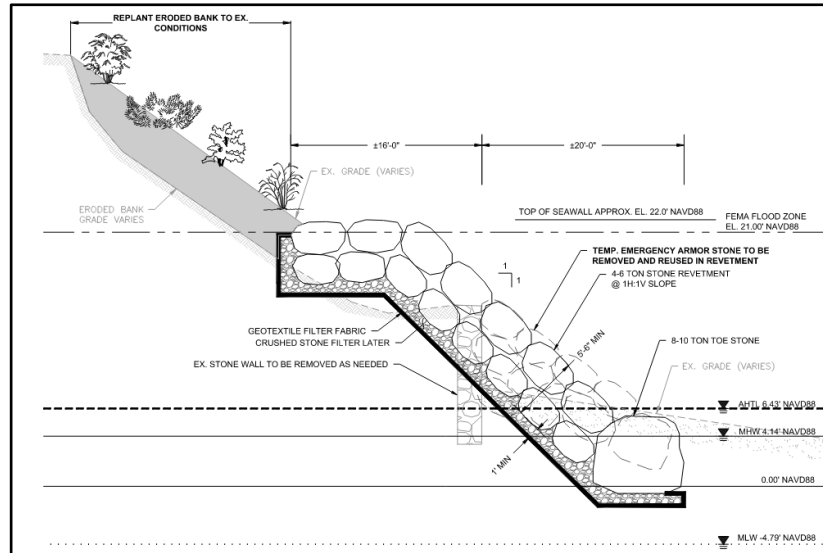
Coastal Resource Areas (310 CMR 10.00)

- Land Subject to Coastal Storm Flowage
- Coastal Bank
- Coastal Beach
- Land Containing Shellfish
- Rocky Intertidal Shoreline
- Land Under Ocean

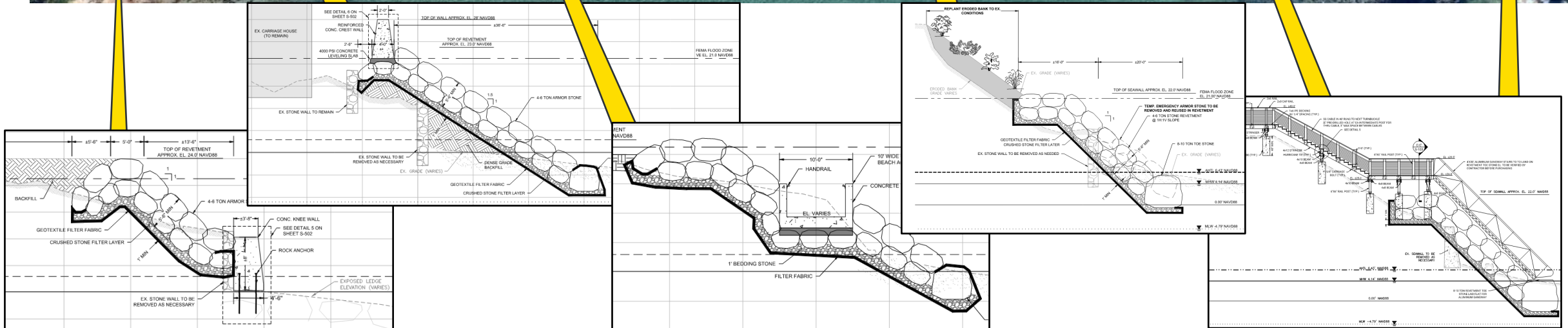
Seawall Replacement Alternatives



Preferred Design Alternative



Preferred Design Alternative



Regulatory Review

- **Beverly Conservation Commission (Conservation)**
- **Beverly Building Department**
- **MA Department of Environmental Protection (MassDEP)**
 - MassDEP Chapter 91 Waterways License
 - MassDEP 401 Water Quality Certification
- **US Army Corps of Engineers (USACE)**
- **MA Environmental Policy Act Office (MEPA)**
- **MA Coastal Zone Management (MCZM)**
- **MA Division of Marine Fisheries (DMF)**



US Army Corps
of Engineers®
New England District



Massachusetts Office of
Coastal Zone Management

Construction

- Construction team mobilized January 18, 2023
- Design-Build Contract
 - Endicott College - Owner
 - Foth Infrastructure & Environment, LLC – OPM/CM Services
 - Northern Construction, LLC – Construction Services







Network: Feb 22, 2023 8:31:04 AM EST
Local: Feb 22, 2023 8:31:04 AM EST
42°33'4.192"N -70°50'5.077"W
425 Hale Street
Beverly
Essex County
Massachusetts



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Local: Mar 6, 2023 8:02:28 AM EST
42°33'2.888"N -70°50'24.385"W
Hale Street
Beverly
Essex County
Massachusetts



Network: Apr 11, 2023 at 11:55:57 AM EDT
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N 42° 33' 8.640", W 70° 50' 12.359"
Beverly, MA 01915



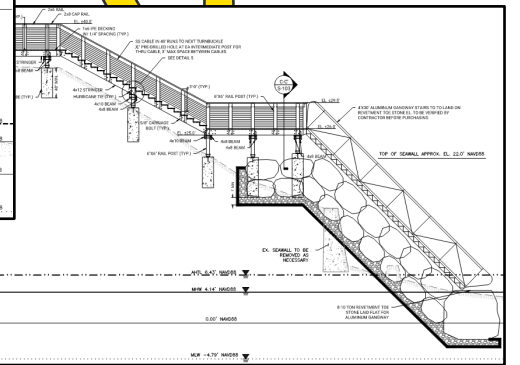
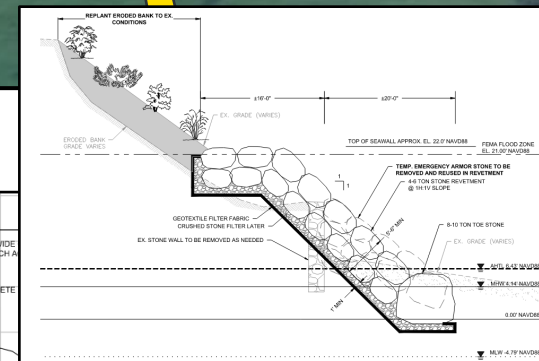
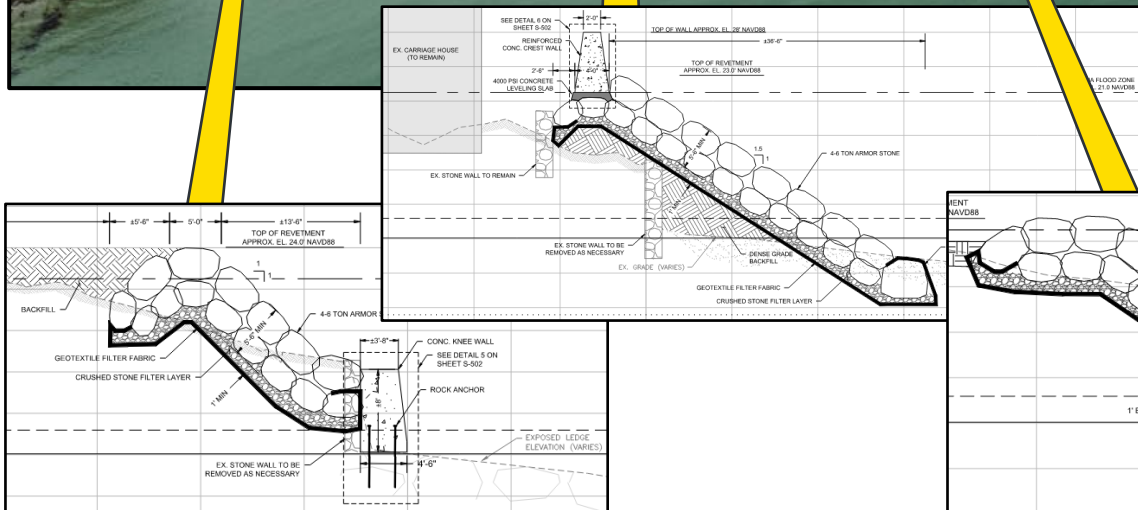
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Beverly, MA 01915















Closing Thoughts



- **Endicott seawall history & legacy**
- **Design-build construction**
- **Revetment design**
- **Aesthetics**
- **Evidence of changing storm environment**

Comments & Questions