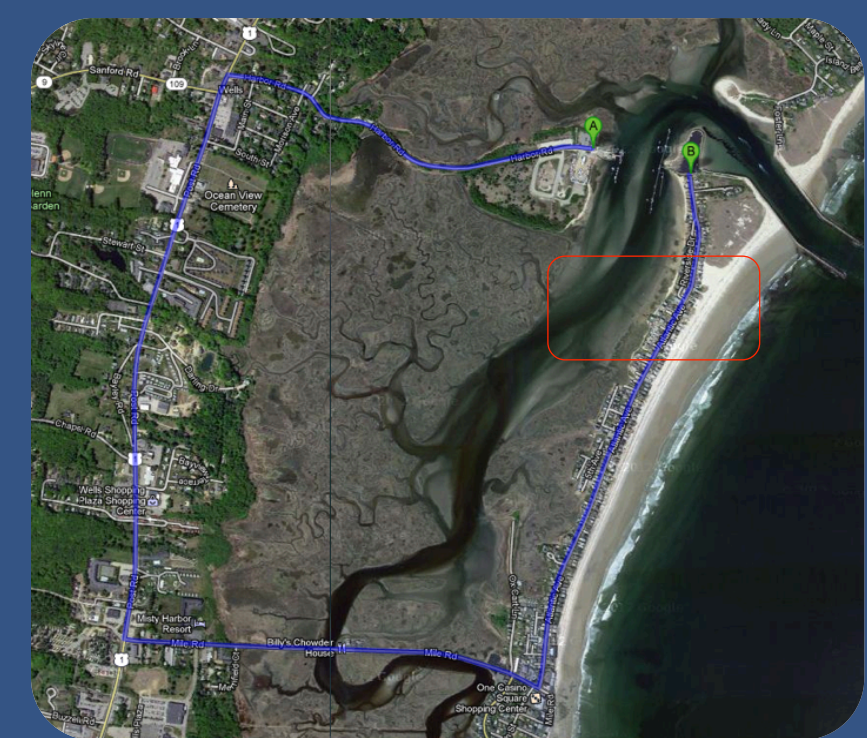


The town of Wells requested a feasibility study of a cross harbor pedestrian bridge connecting the east and west shores of Wells Harbor .

Need for Crossing

Wells Harbor consists of municipal waterfront facilities and tourist attractions on two separate shores with no convenient connection.



- Travel between shores requires:
- Five mile trip
 - Up to 40 minute drive during peak tourism season

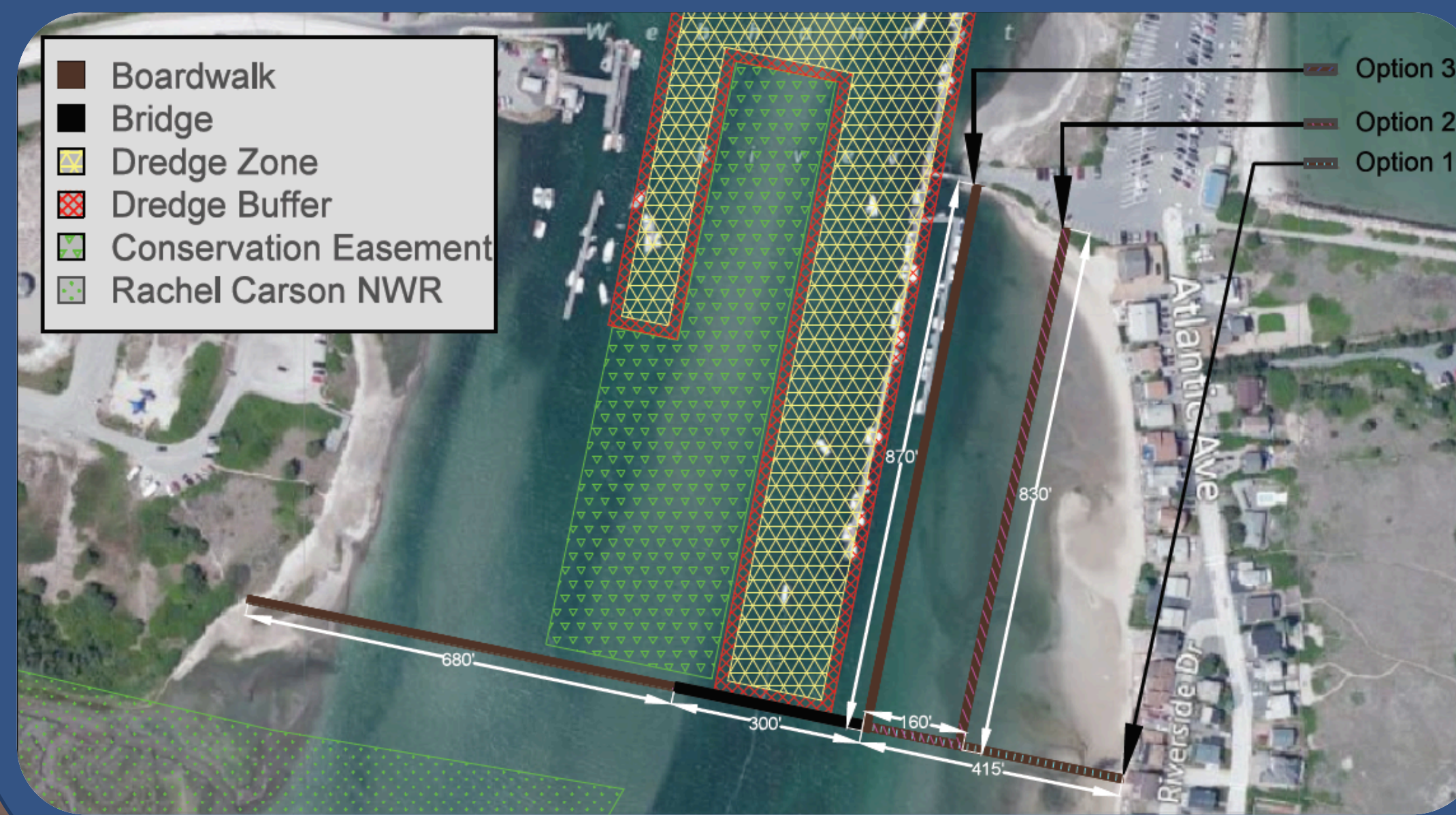
Routing

Challenge:

- Determine feasible location of crossing routes
- Maximize pedestrian accessibility

Solution:

- Three options use easily accessible public access points
- Avoid dredging, conservation easement, Rachel Carson National Wildlife Refuge and mooring field



Regulatory Considerations

- Maine Department of Environmental Protection
- United States Coast Guard
- United States Army Corps of Engineers
- Department of Transportation
- Local Ordinances

Cost Estimation

Option 1:	\$2,093,117
Option 2:	\$2,666,589
Option 3:	\$2,675,575

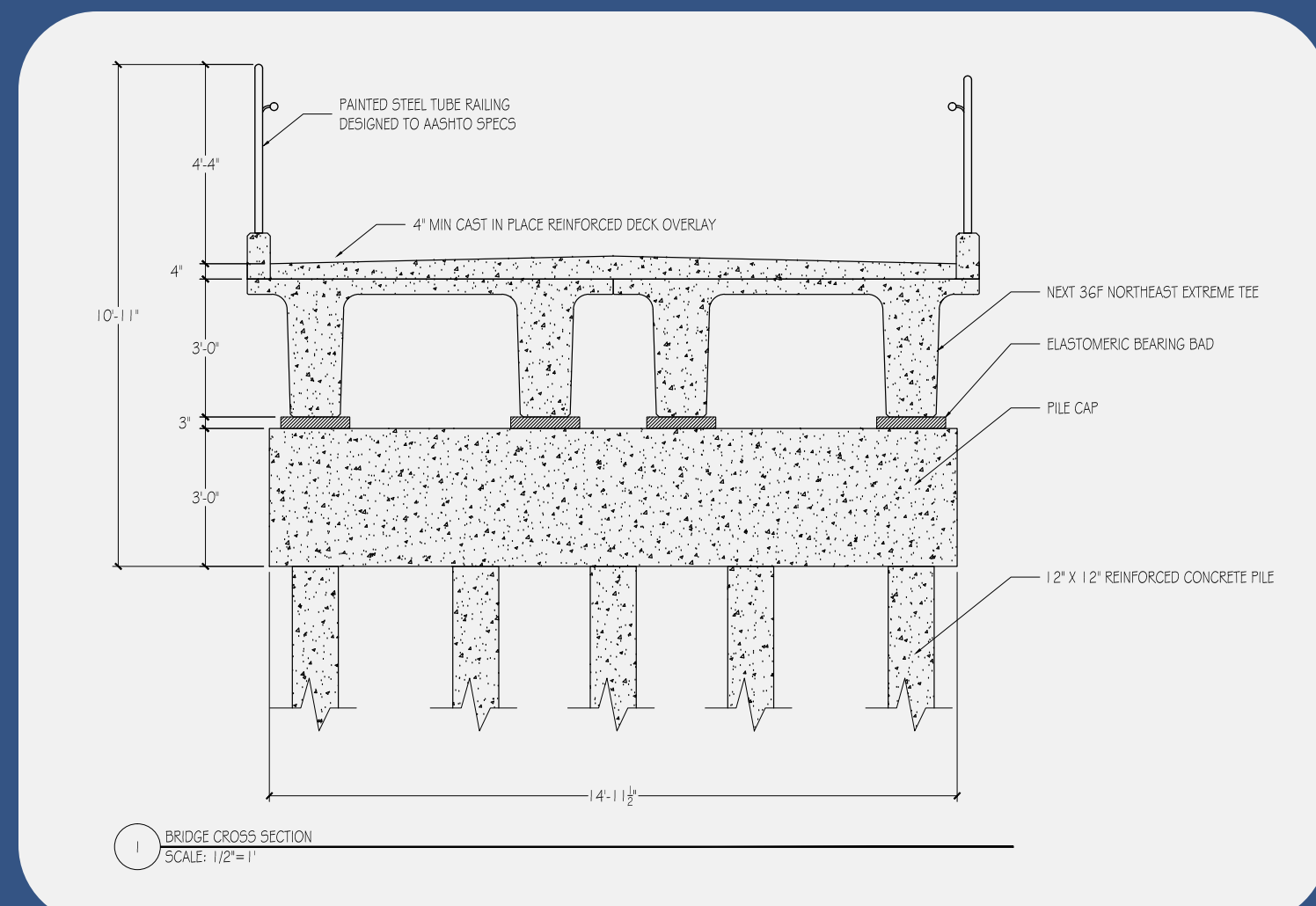
Bridge Design

Challenge:

- Design bridge structure to traverse 300 foot section of harbor and support required loads

Solution:

- Four span arrangement
- Precast concrete Northeast Extreme Tee (NEXT) Beams



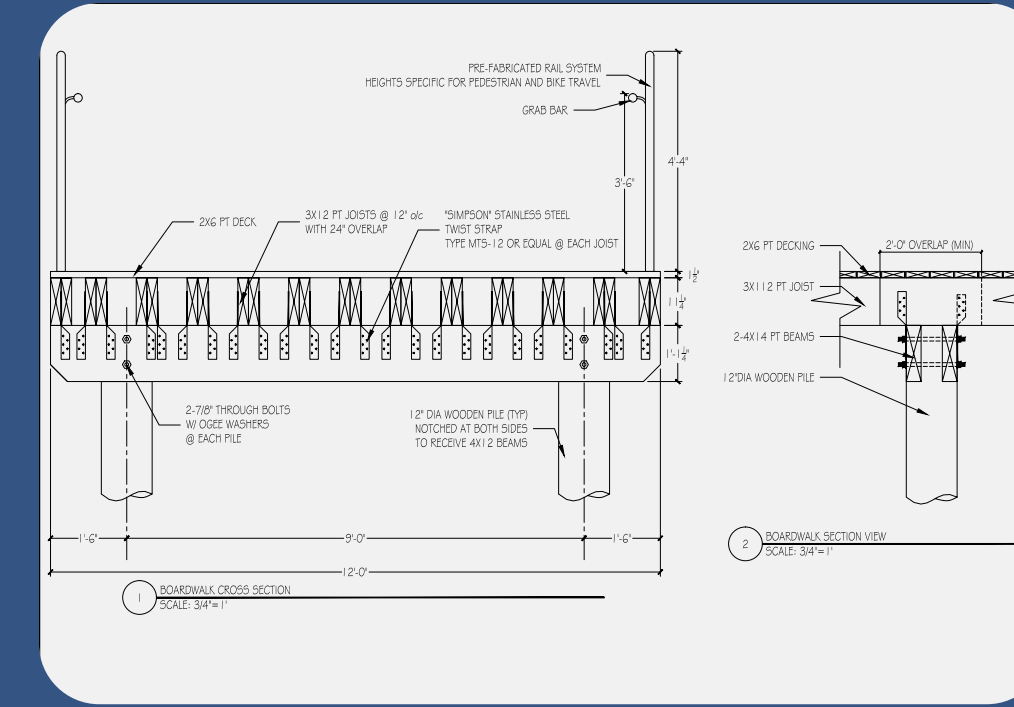
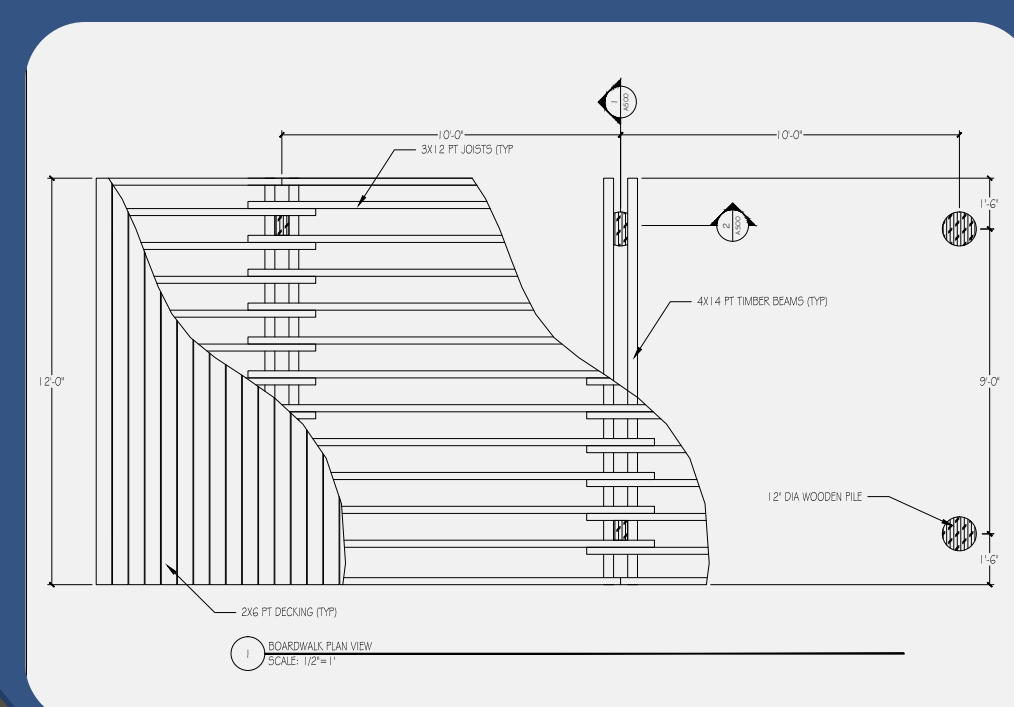
Boardwalk Design

Challenge:

- Design boardwalk system to support required loads

Solution:

- Two transverse 4"x14" timber beams fastened to pile with two 7/8" through bolts
- 2"x6" deck supported by 3"x12" timber joists secured to transverse beam with stainless steel twist straps



Foundation Design

Challenge:

- No detailed soil profile
- Design piles to support superstructure in clay soil environment

Solution:

- Assume soil profile from boring logs
- Boardwalk: 12" diameter wooden piles 45' long spaced at 10' on center
- Bridge: 12"x12" square reinforced concrete piles 65-75' long spaced at 75' on center

