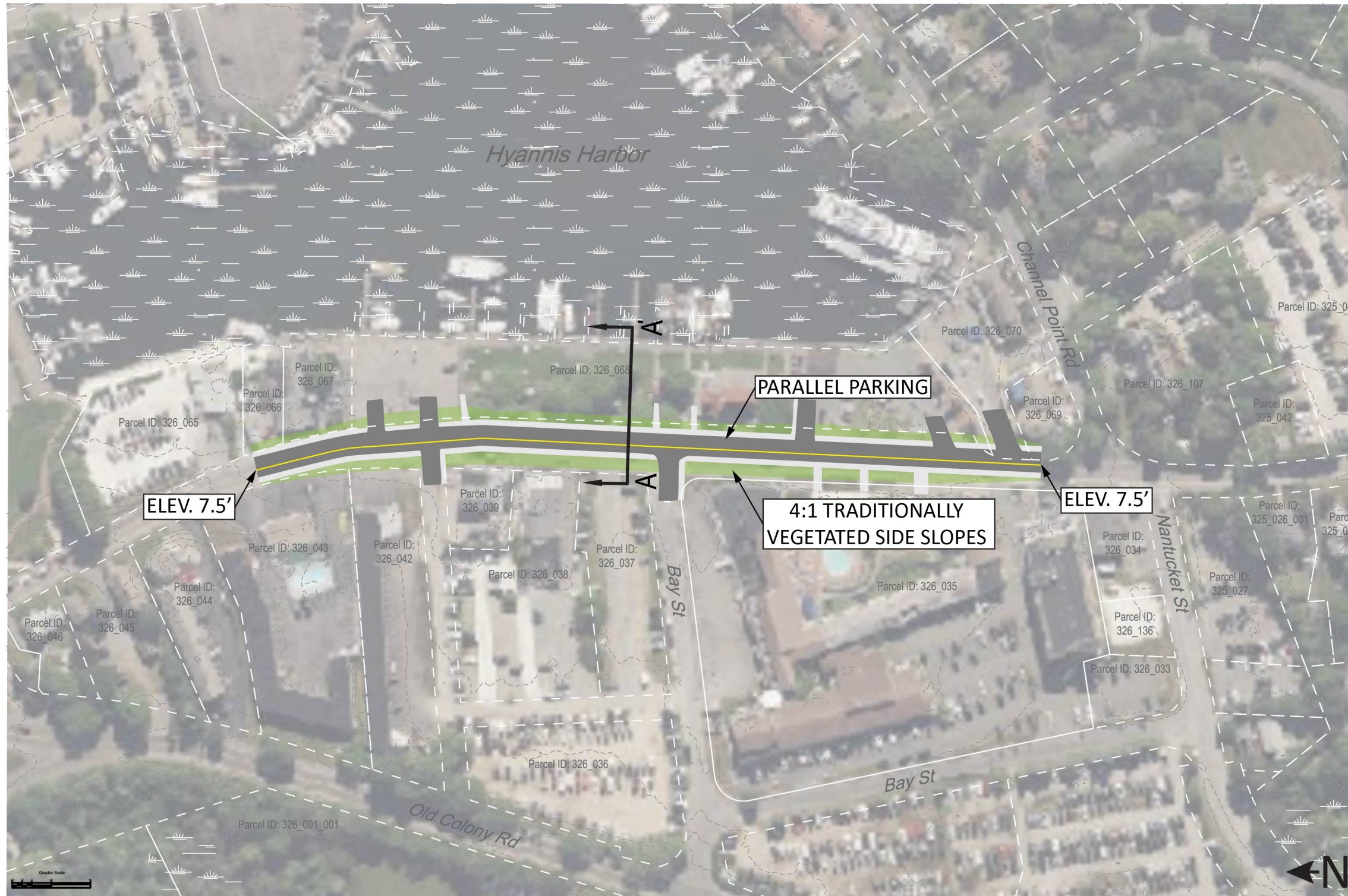
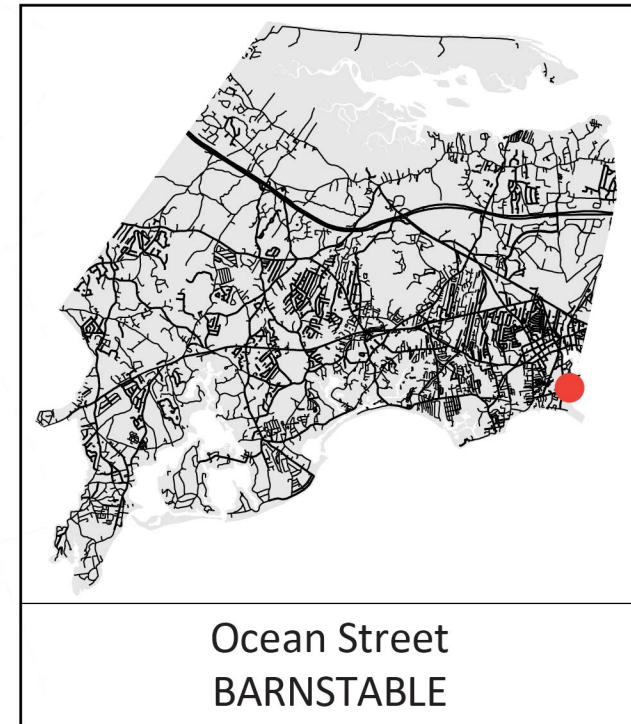


EXISTING CONDITIONS
 Ocean Street, Barnstable

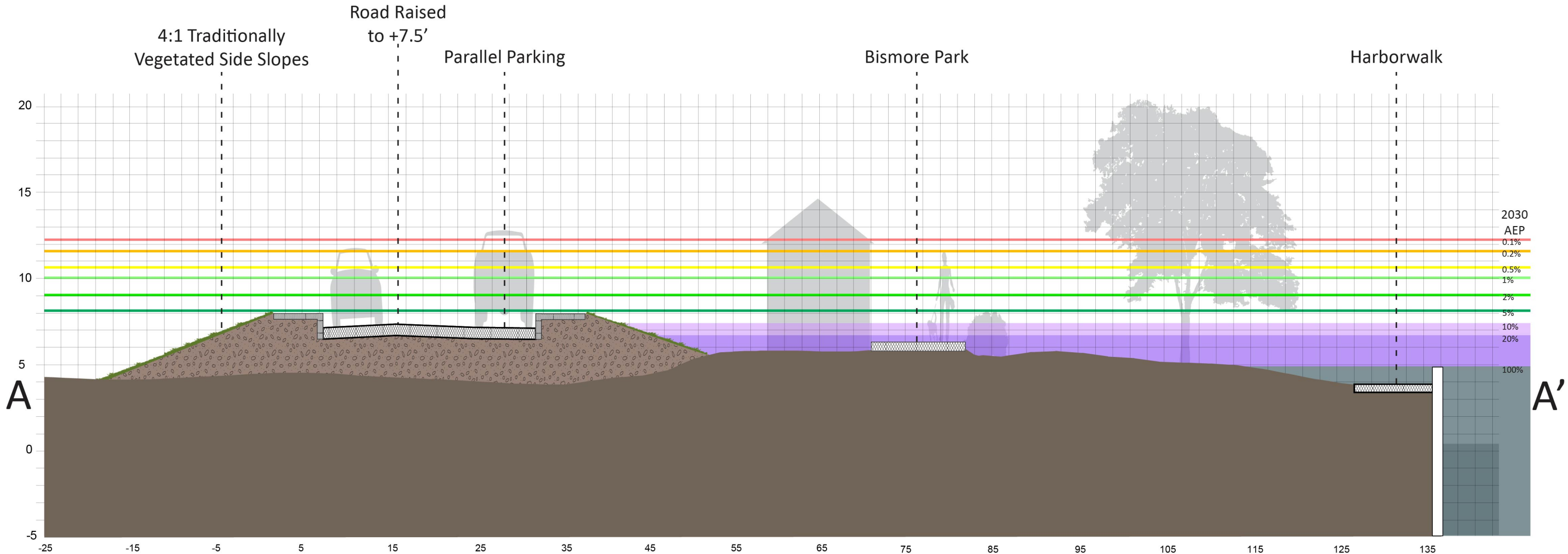


Note: Project overlap with wetland areas, rights of way and property lines is approximate and needs confirmation with a site survey



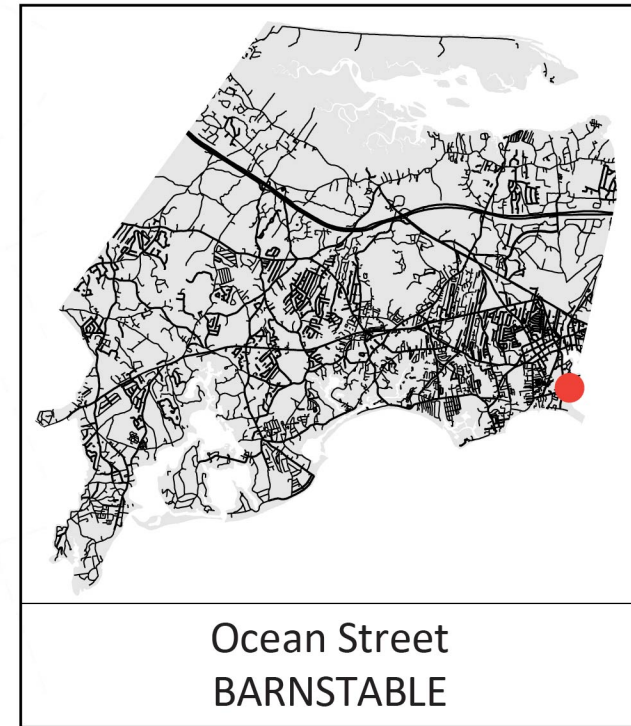
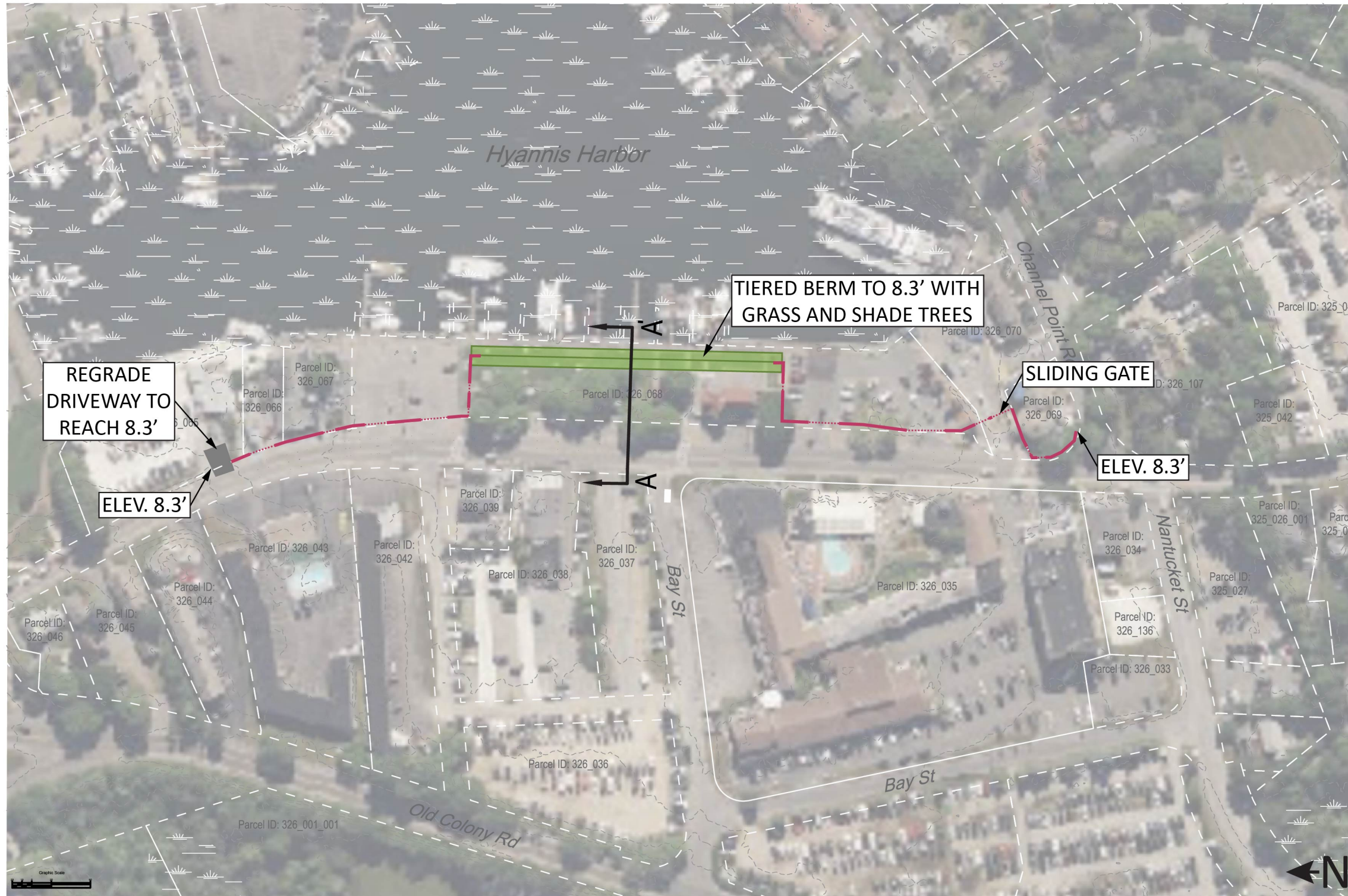
ALTERNATIVE 1: GRAY

944 linear feet of town-owned road is elevated to 7.5 feet with 4:1 traditionally vegetated side slopes. The road slopes to parking lots and side streets, and the current perpendicular parking on the east side of the road becomes parallel parking.



ALTERNATIVE 1: GRAY

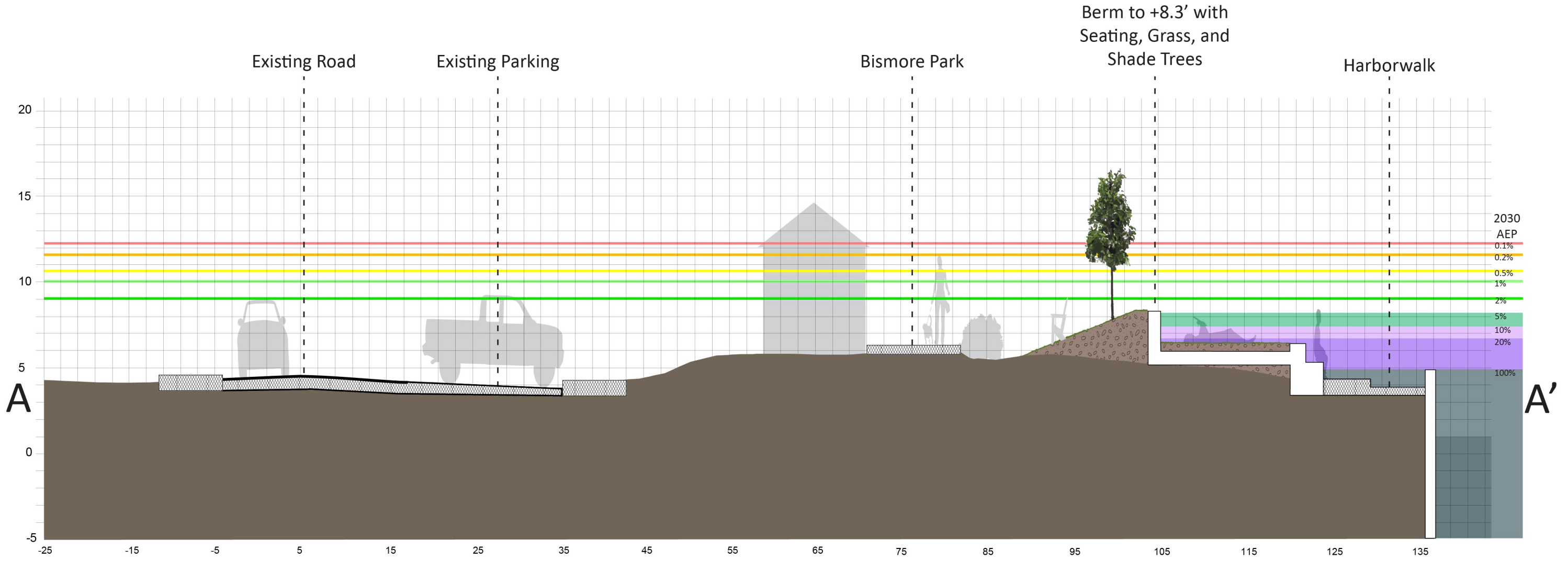
Ocean Street, Barnstable



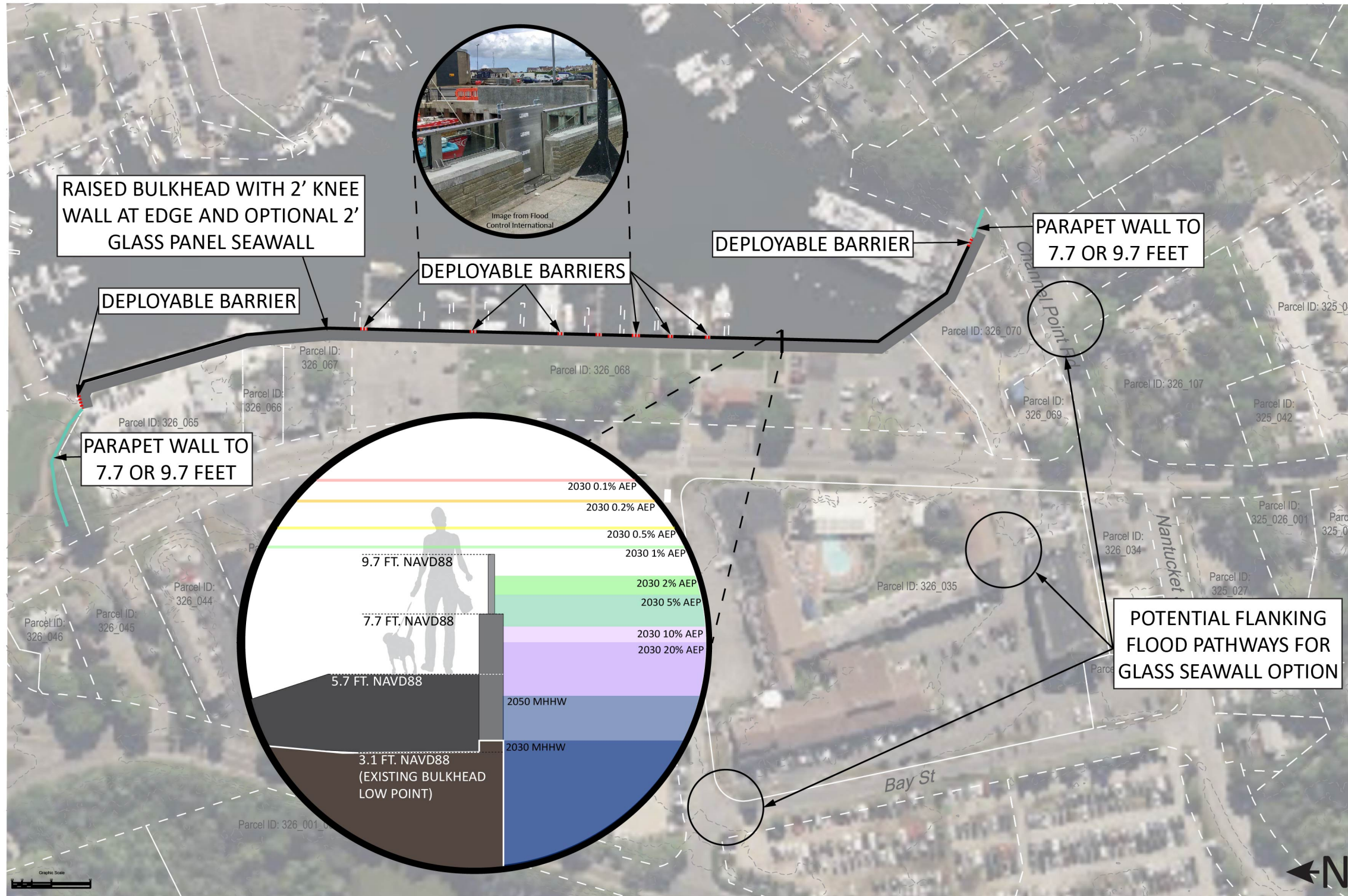
ALTERNATIVE 2: HYBRID

A system of parapet walls, berms, and sliding gates protect the road to 8.3 feet. Some negotiation with private property owners is necessary.

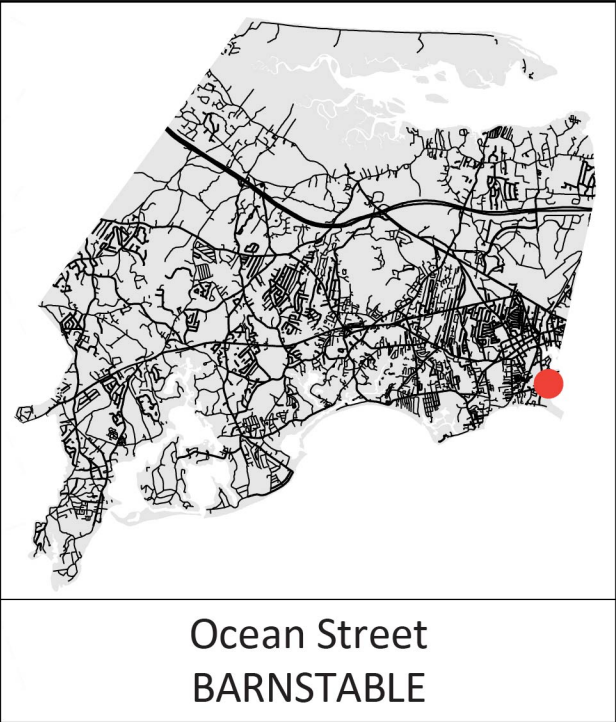
Note: Project overlap with wetland areas, rights of way and property lines is approximate and needs confirmation with a site survey



ALTERNATIVE 2: HYBRID
 Ocean Street, Barnstable



Note: Project overlap with wetland areas, rights of way and property lines is approximate and needs confirmation with a site survey



Ocean Street
BARNSTABLE

ALTERNATIVE 3: BULKHEAD EXTENSION

Land at the existing bulkhead, which has a lowest point of 3.1ft, is raised to 5.7ft to maintain the waterfront’s usability during the approximated highest tides in 2050. The bulkhead edge’s cap is constructed an additional 2.0ft tall to reach elevation 7.7ft and protect against the 10% storm in 2030. A glass panel seawall 2.0ft high can also be added to protect against the 2% storm in 2030, but flanking flood pathways would need to be addressed in order to achieve the full 9.7ft of protection. Deployable barriers or gates are needed at nine locations.

OCEAN STREET, BARNSTABLE

Summary of alternatives

	Description	Critical Elevation	Annual Exceedance Probability			Vulnerable to Tidal Flooding	Impacts to Resource Area(s)	Impacts to Private Property	Estimated Cost*
			2030	2050	2070				
EXISTING	A segment of 20 foot wide road adjacent to Hyannis Harbor.	4.2 feet	100%	100%	100%	2050	N/A	N/A	N/A
ALTERNATIVE 1: GRAY	944 linear feet of town-owned road is elevated to 7.5 feet with 4:1 traditionally vegetated side slopes. The road slopes to parking lots and side streets, and the current perpendicular parking on the east side of the road becomes parallel parking.	7.5 feet	5%	20%	100%	N/A	N/A	Yes	\$626,000
ALTERNATIVE 2: HYBRID	A system of parapet walls, berms, and sliding gates protect the road to 8.3 feet. Some negotiation with private property owners is necessary.	8.3 feet	2%	20%	100%	2050	N/A	Yes	\$1,870,000
ALTERNATIVE 3: BULKHEAD EXTENSION	Land at the existing bulkhead is raised to maintain the waterfront's usability during the highest tides in 2050. The bulkhead edge's cap is raised to protect against the 10% storm in 2030. A glass panel seawall can also be added to protect against the 2% storm in 2030, but flanking flood pathways would need to be addressed. Deployable barriers are needed at nine locations.	7.7 feet	5%	20%	100%	2070 (unless adjusted over time)	Possible	Yes	TBD
		9.7 feet	1%	20%	20%				

*2023 installed material cost +40% escalation (through 2029) and 15% contingency. Excludes design, permitting, mobilization, stormwater and wastewater infrastructure, and site controls. Costs based on experienced contractor opinion and MassDOT costing data.