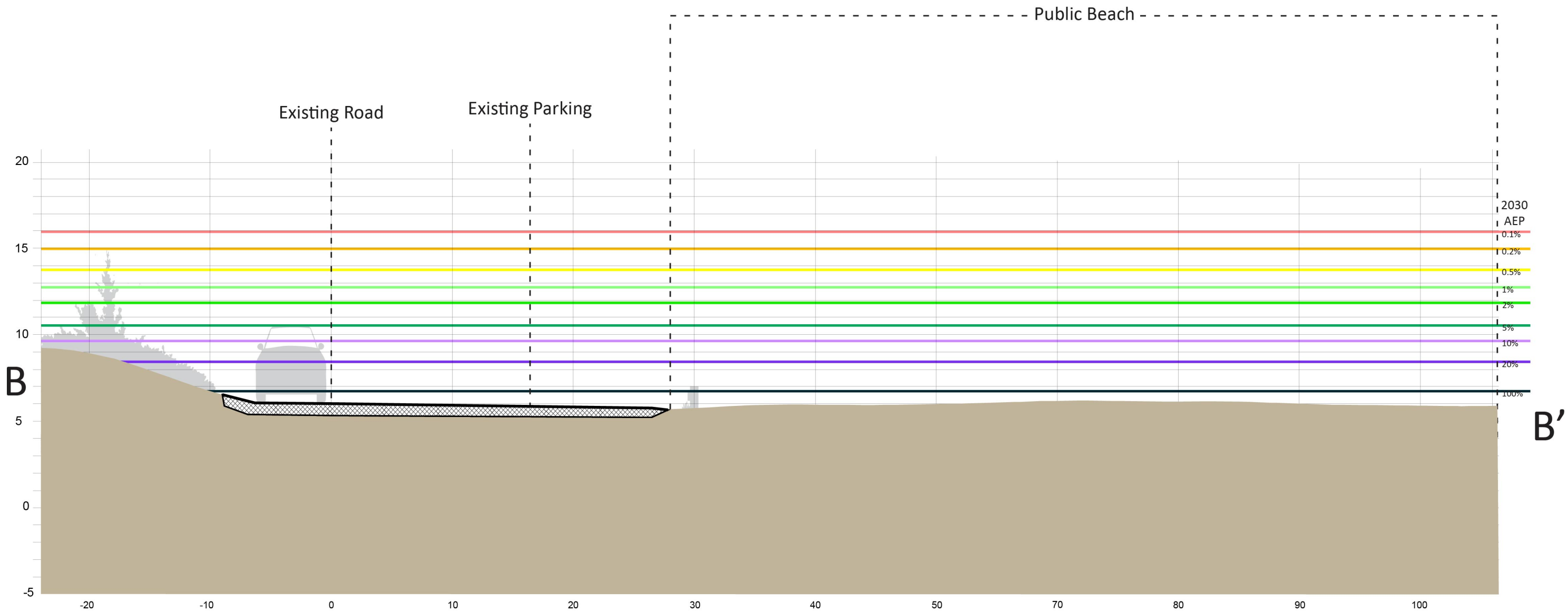
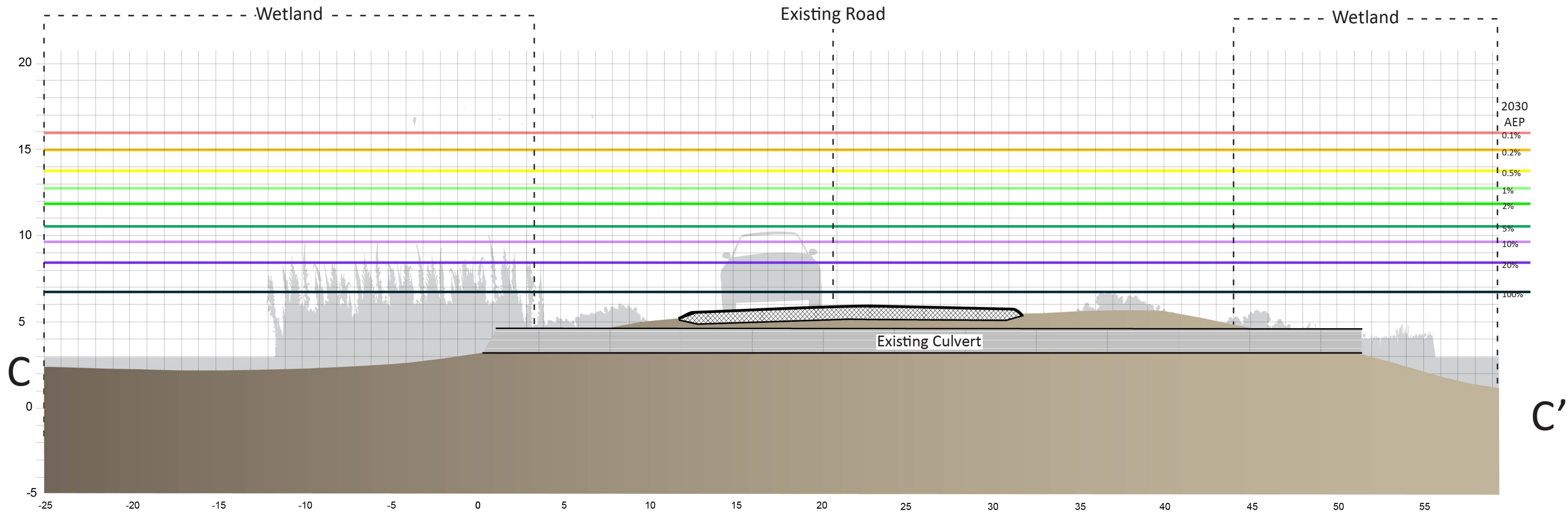


**EXISTING CONDITIONS**  
Circuit Avenue, Bourne

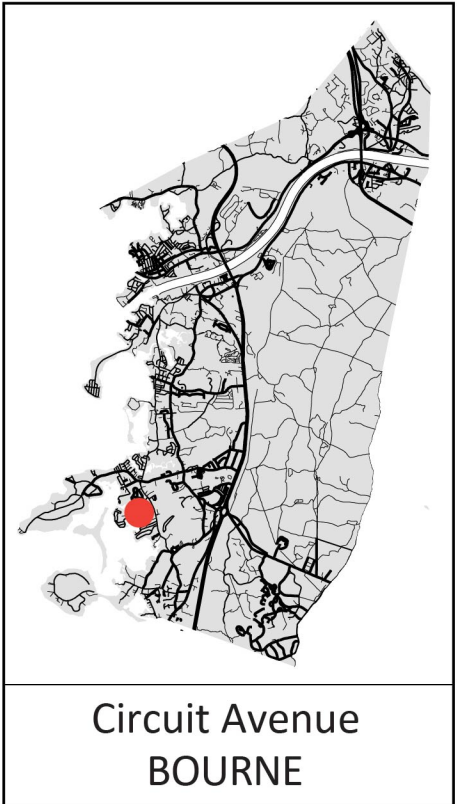


**EXISTING CONDITIONS**  
 Circuit Avenue, Bourne



**EXISTING CONDITIONS**  
 Circuit Avenue, Bourne



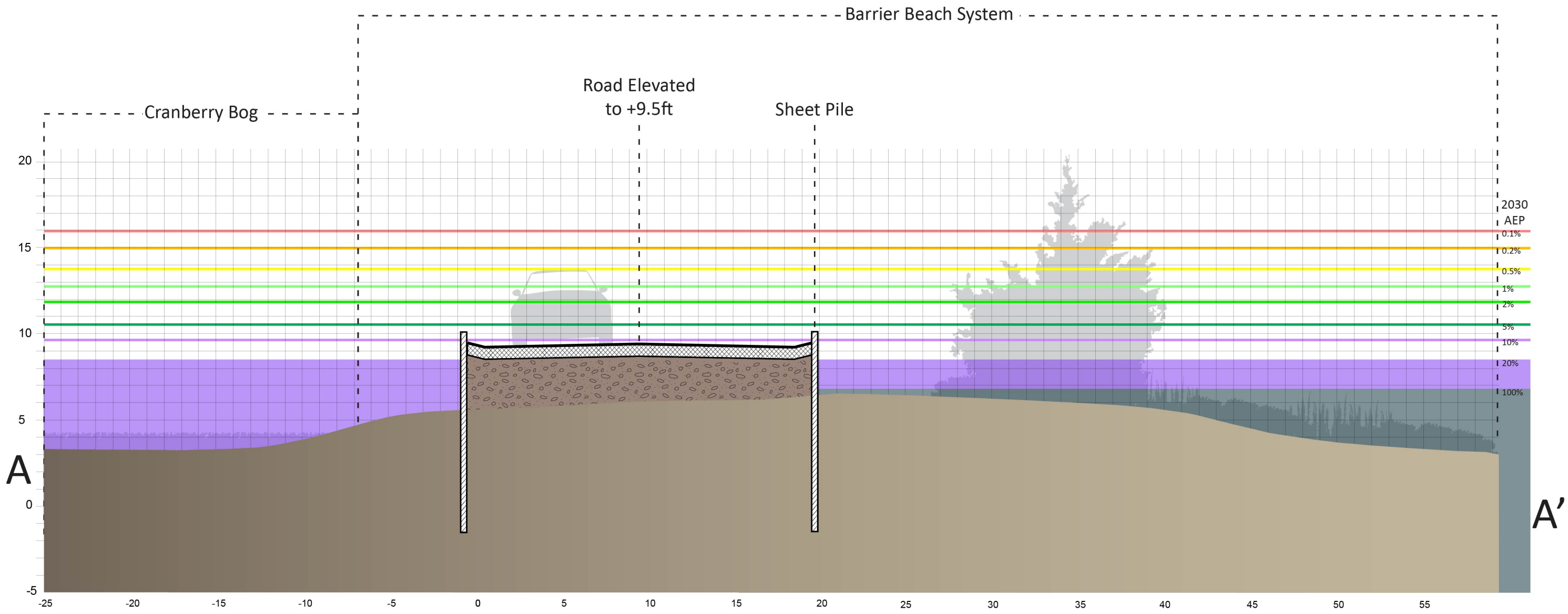


**ALTERNATIVE 1: GRAY**

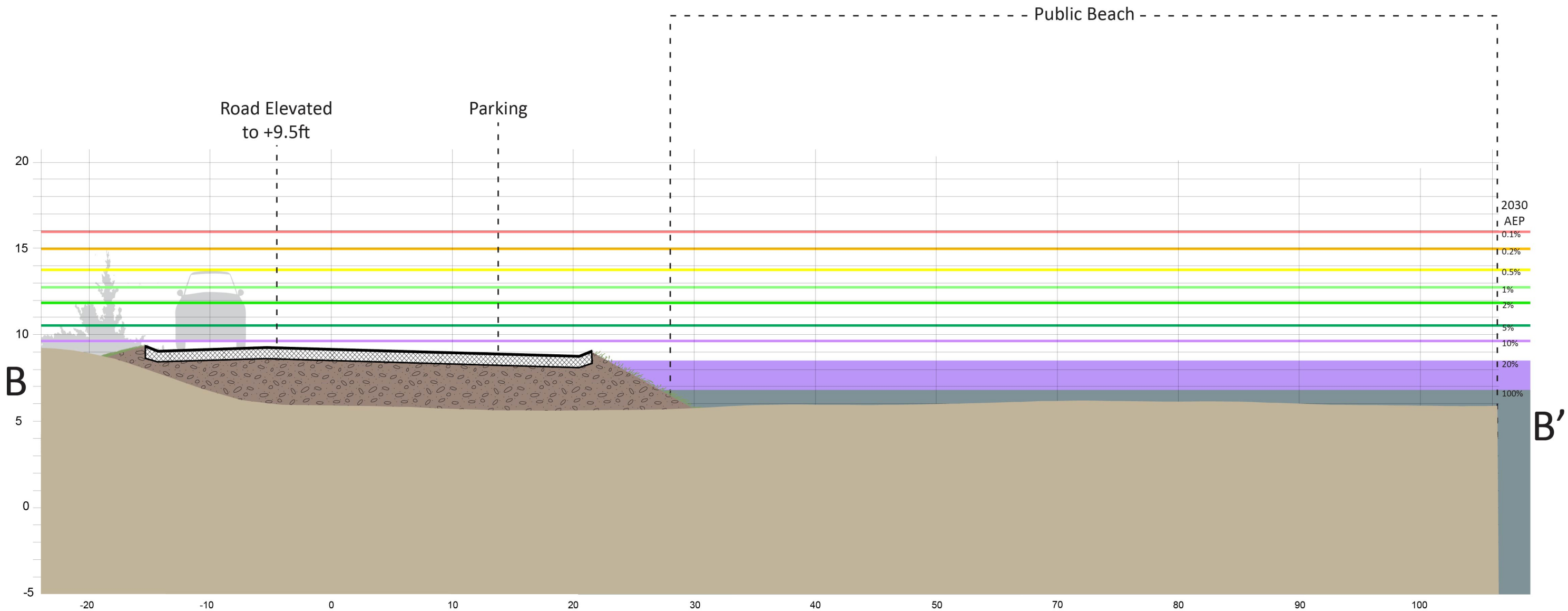
2452 linear feet of Town-owned road are elevated from a lowest point of 3.8 feet to a lowest point of 9.5 feet. Sheet pile is used to elevate the road at the cranberry bog and culvert crossing, and traditional vegetated side slopes are used at other locations.

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



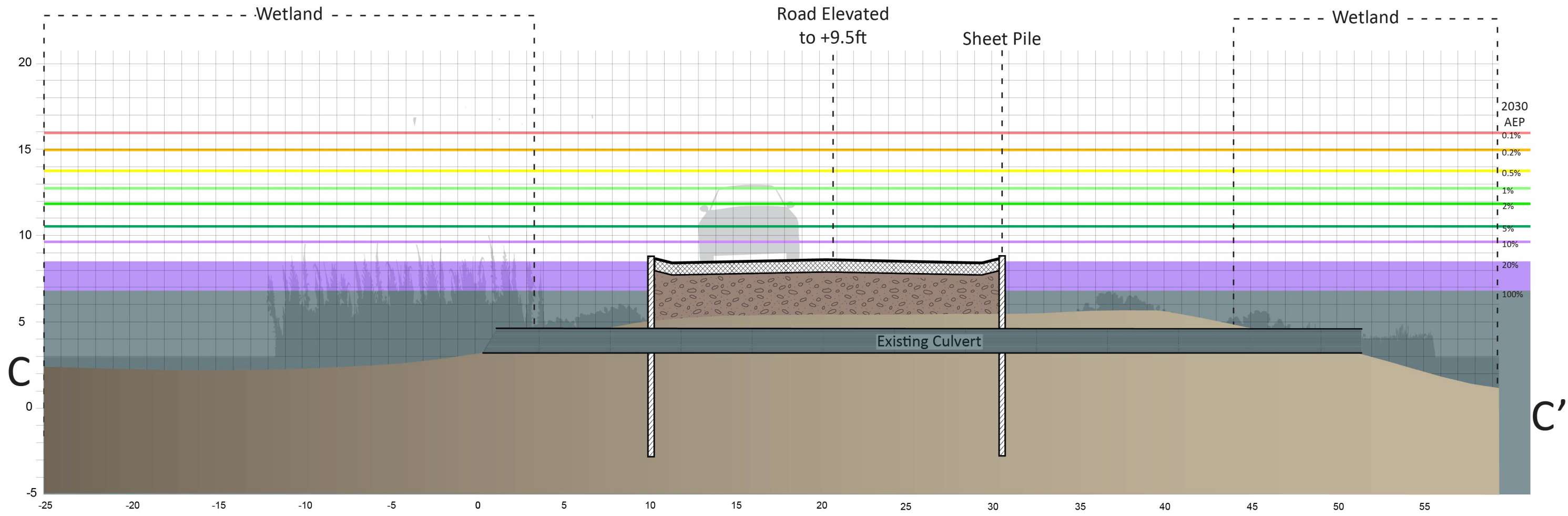


**ALTERNATIVE 1: GRAY**  
 Circuit Avenue, Bourne



**ALTERNATIVE 1: GRAY**  
Circuit Avenue, Bourne

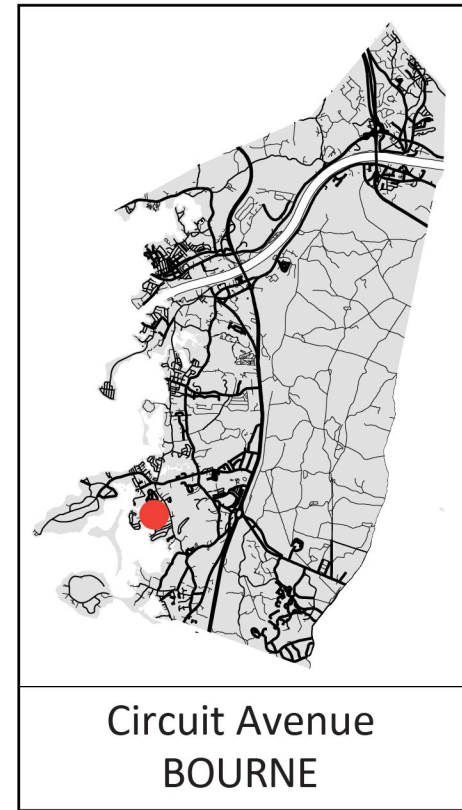




# ALTERNATIVE 1: GRAY

Circuit Avenue, Bourne



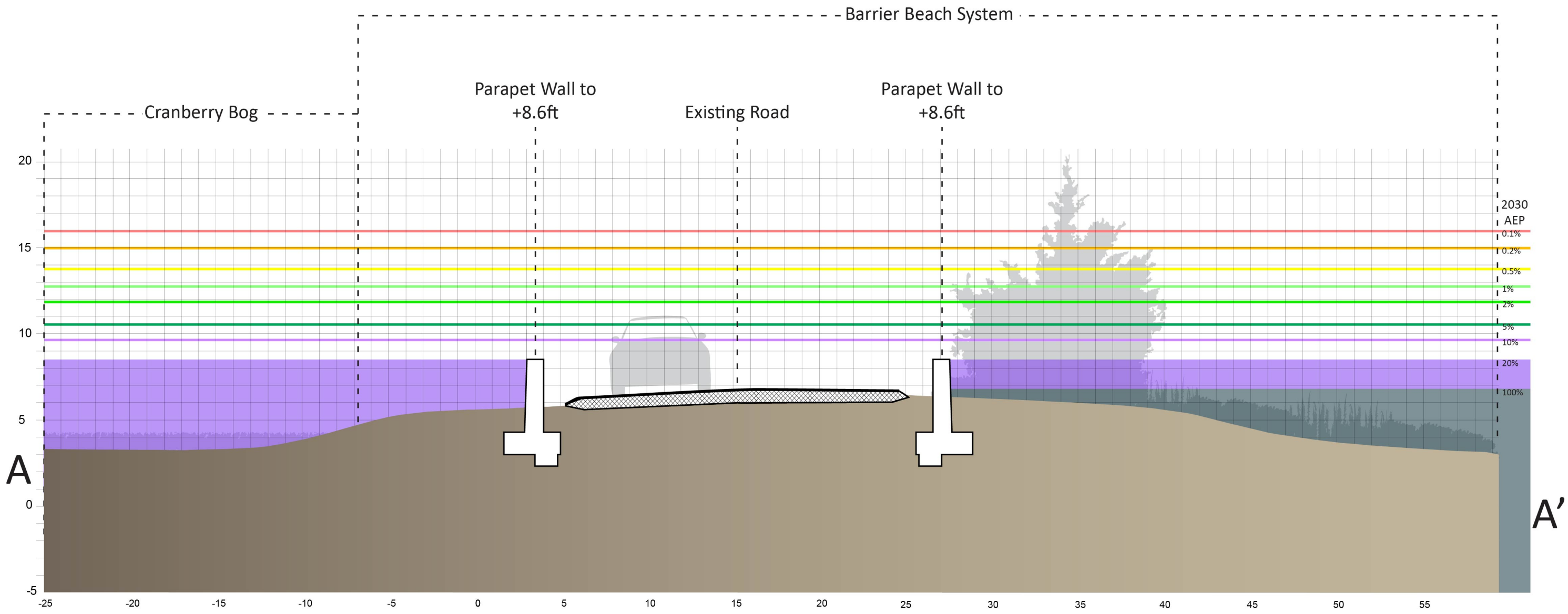


**ALTERNATIVE 2: HYBRID**

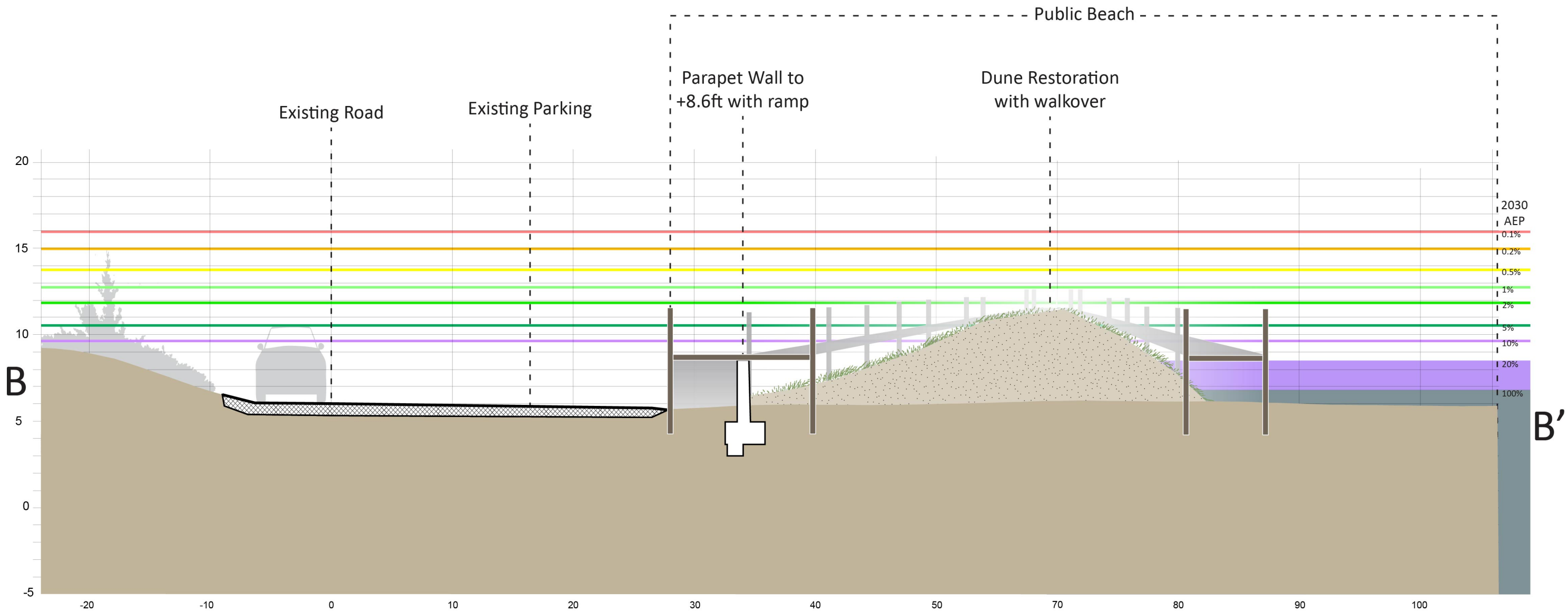
Parapet walls to 8.6 feet are installed to tie together high points along Circuit Ave. A tide gate is added to the culvert and raised sections of pavement to side streets to prevent flanking. A dune is constructed at the public beach, and access is preserved with a wooden walkover.

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



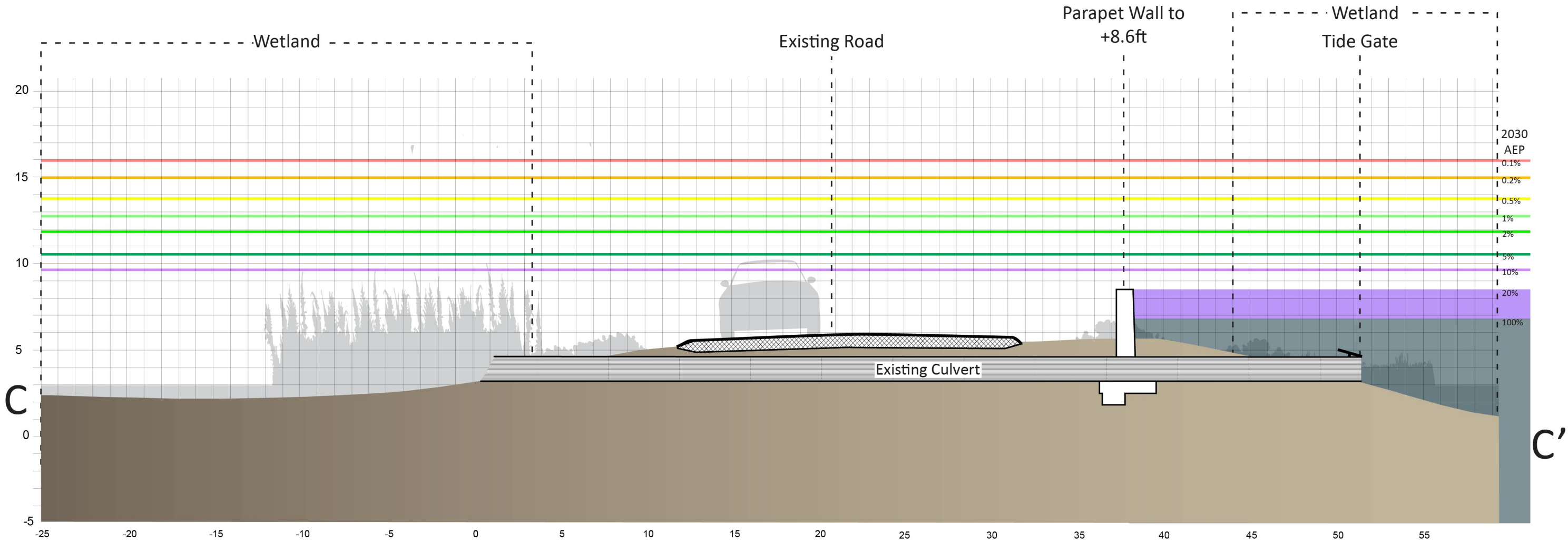


**ALTERNATIVE 2: HYBRID**  
 Circuit Avenue, Bourne



**ALTERNATIVE 2: HYBRID**  
 Circuit Avenue, Bourne

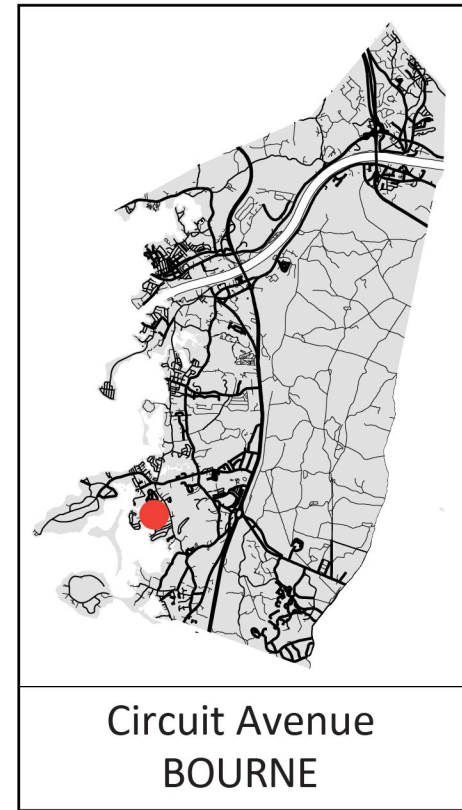
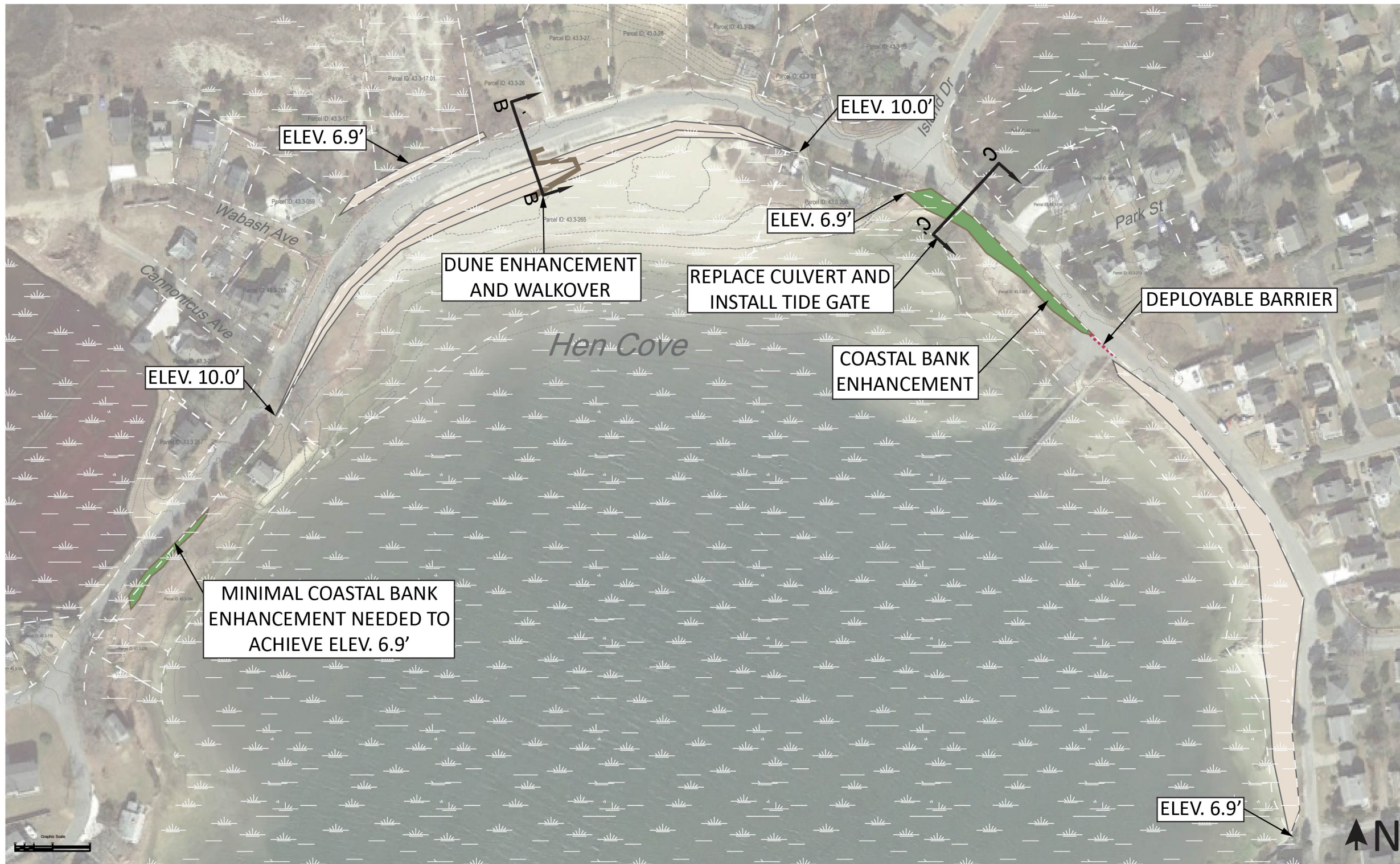




## ALTERNATIVE 2: HYBRID

Circuit Avenue, Bourne



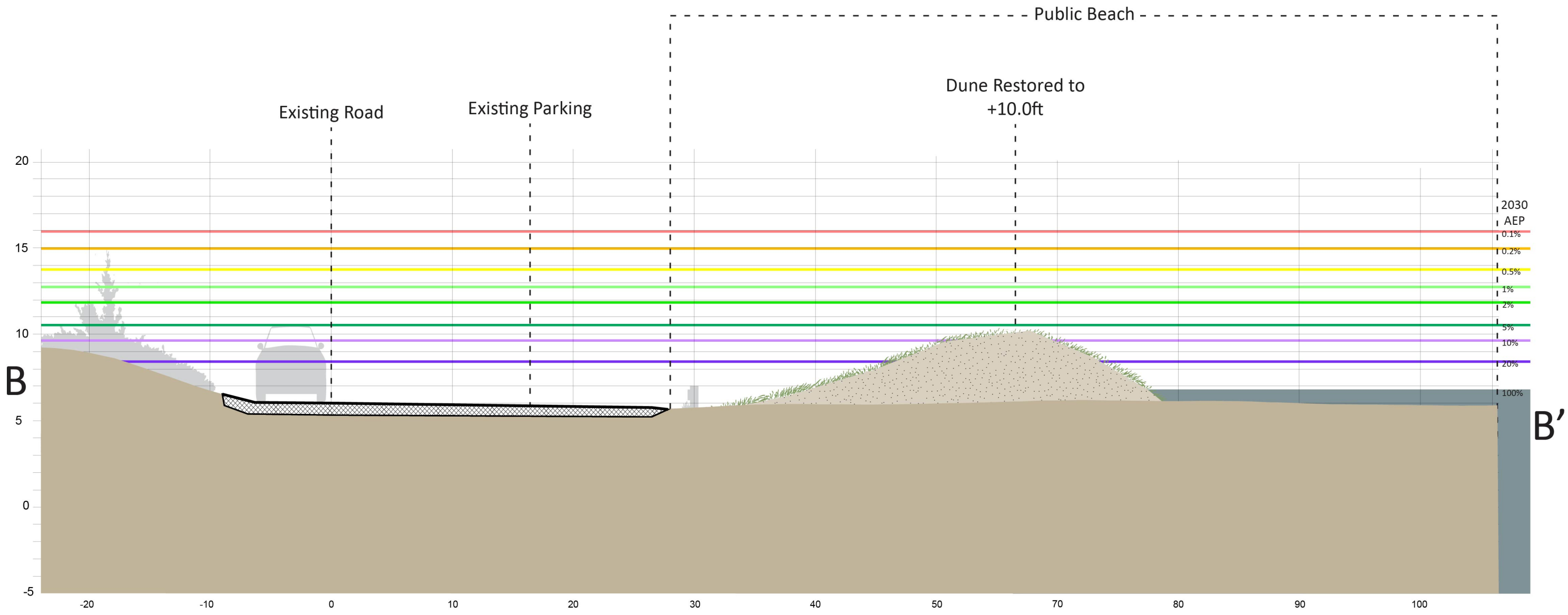


**ALTERNATIVE 3: GREEN**

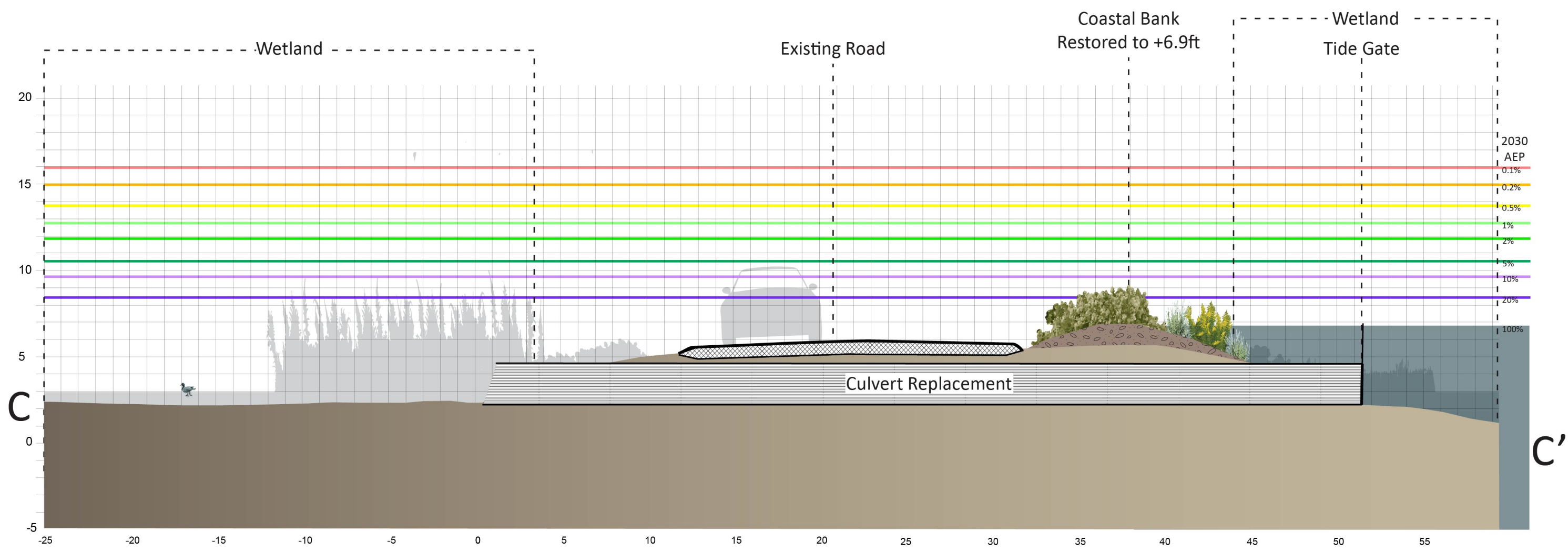
A combination of coastal bank and dune enhancements protect the road to 6.9 feet. A dune enhancement to 10.0 feet protects the beach and parking lot from erosion. The culvert is replaced and an operable tide gate is installed.

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





**ALTERNATIVE 3: GREEN**  
 Circuit Avenue, Bourne



# ALTERNATIVE 3: GREEN

Circuit Avenue, Bourne

# CIRCUIT AVENUE, BOURNE

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				
<b>EXISTING</b>	A segment of 20 foot wide road with a public beach and a culvert.	3.8 feet	100%	100%	100%	2050	N/A	N/A	N/A
<b>ALTERNATIVE 1: GRAY</b>	2452 linear feet of Town-owned road are elevated from a lowest point of 3.8 feet to a lowest point of 9.5 feet. Sheet pile is used to elevate the road at the cranberry bog and culvert crossing, and traditional vegetated side slopes are used at other locations.	9.5 feet	10%	20%	100%	N/A	N/A	Yes	\$3,190,000
<b>ALTERNATIVE 2: HYBRID</b>	A parapet wall to 8.6 feet is installed to tie together high points along Circuit Ave. A tide flap is added to the culvert to prevent flanking. A dune is constructed at the public beach, and access is preserved with a wooden walkover.	8.6 feet	10%	20%	100%	N/A	Possible Positive	No	\$1,760,000
<b>ALTERNATIVE 3: GREEN</b>	A combination of coastal bank and dune enhancements protect the road to 6.9 feet. Additional dune enhancements at the beach protect the parking lot and beach from erosion. The culvert is replaced and an operable tide gate is installed.	6.9 feet	20%	100%	100%	N/A	Positive	Yes	\$1,980,000

\*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.