

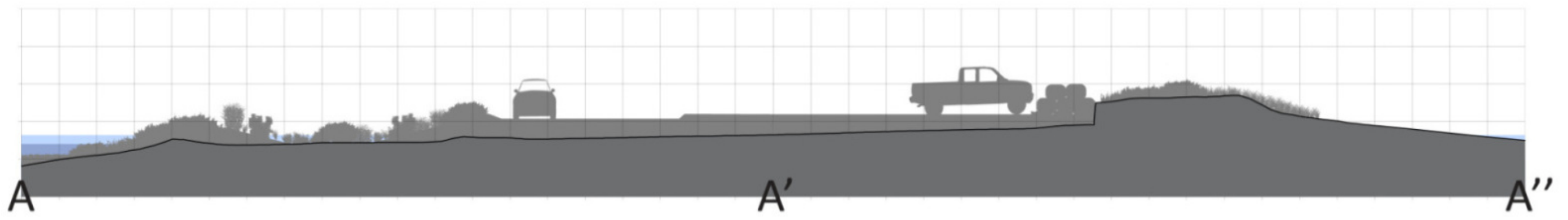
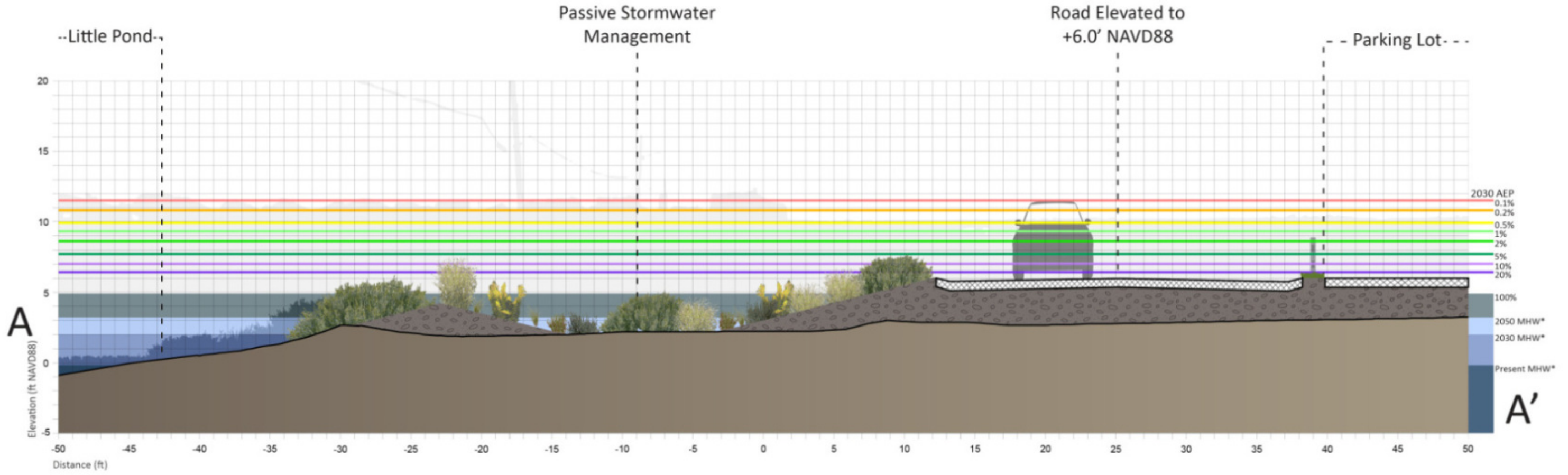


Note: Project overlap with wetland areas, rights of way and property lines is approximate and needs confirmation with a site survey

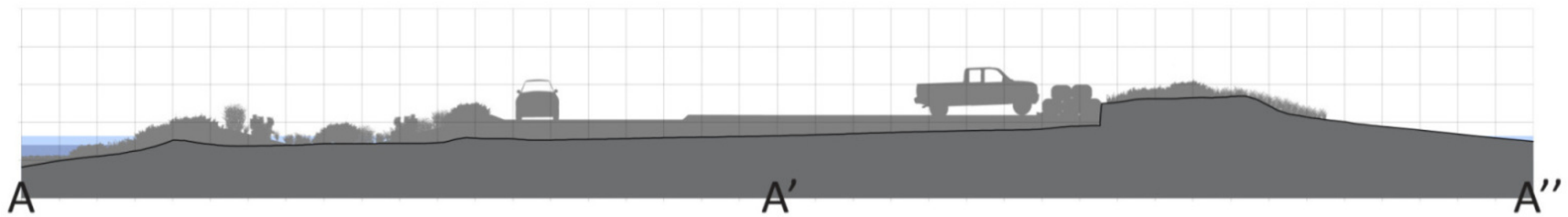
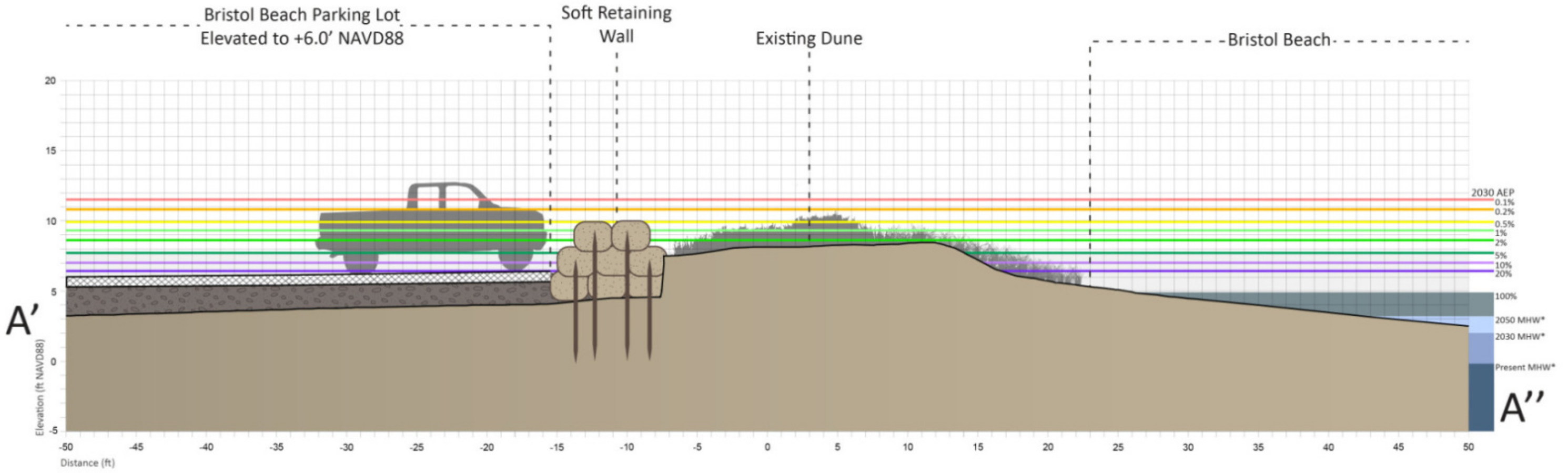


ALTERNATIVE 1: GRAY

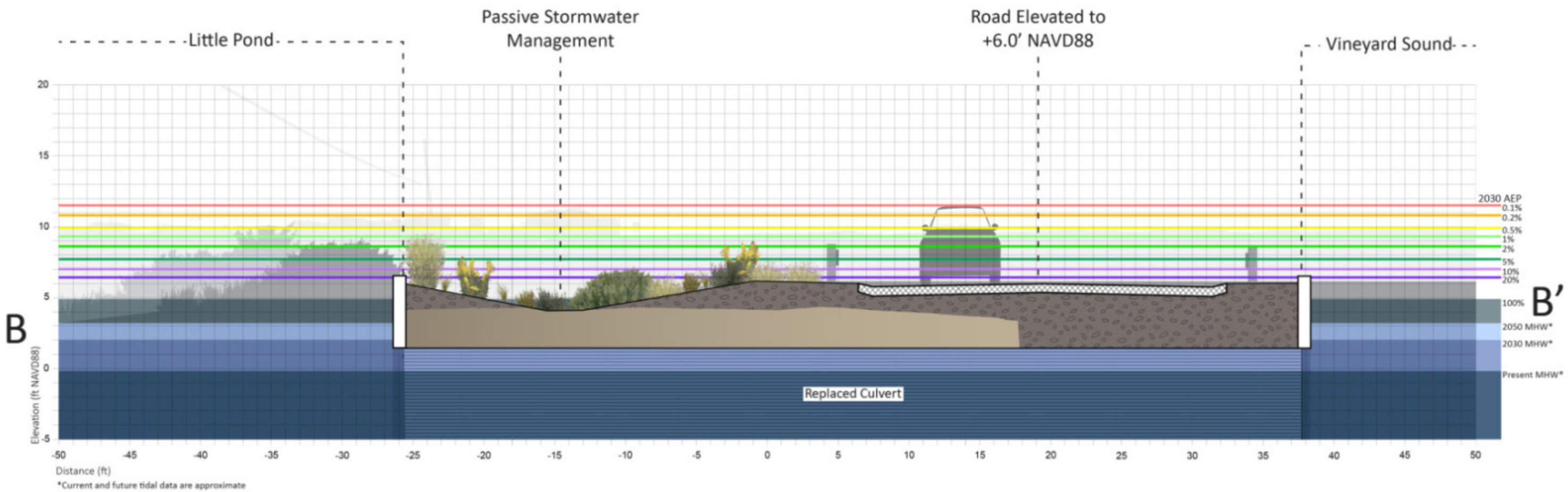
1810 linear feet of Town-owned road and parking lot are elevated to +6.0' NAVD88. The road is shifted south, and the parking lot is reconfigured to minimize loss of parking spaces. Space to the north of the road is used for a 4:1 side slope and large stormwater swale. The existing dune is backed by a soft retaining wall in order to minimize further erosion into the road.



ALTERNATIVE 1: GRAY
Menauhant Road, Falmouth

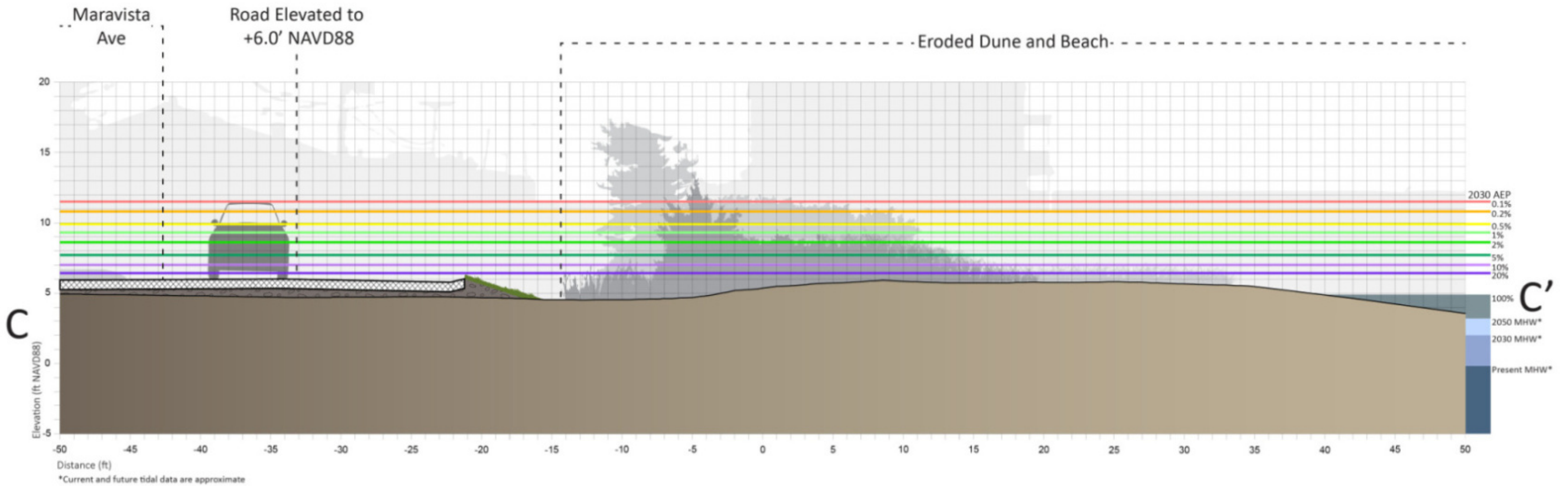


ALTERNATIVE 1: GRAY
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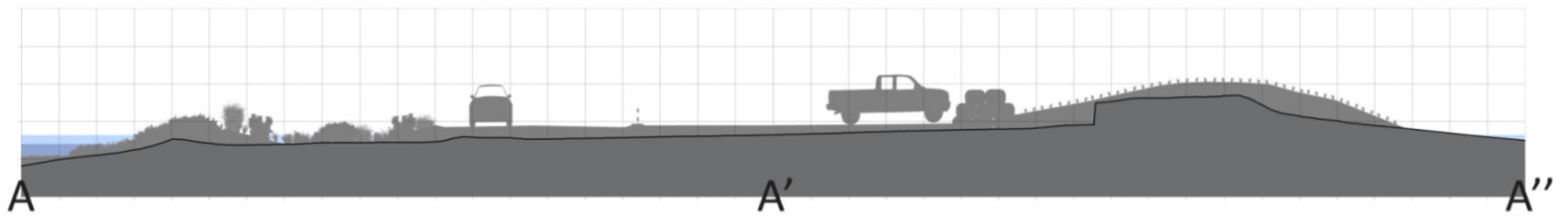
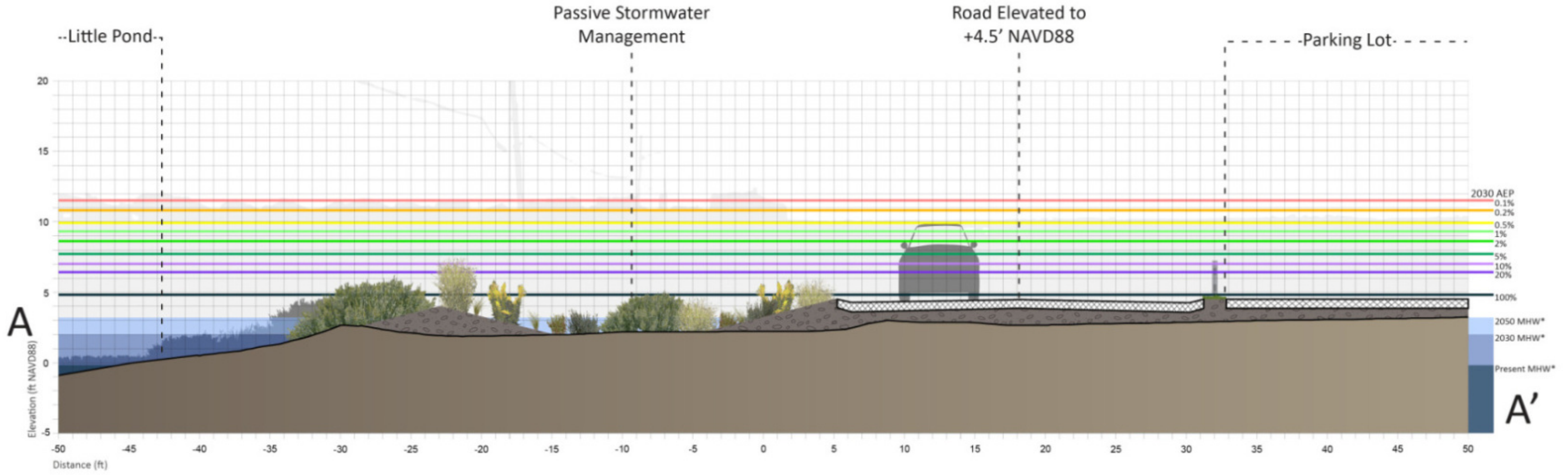


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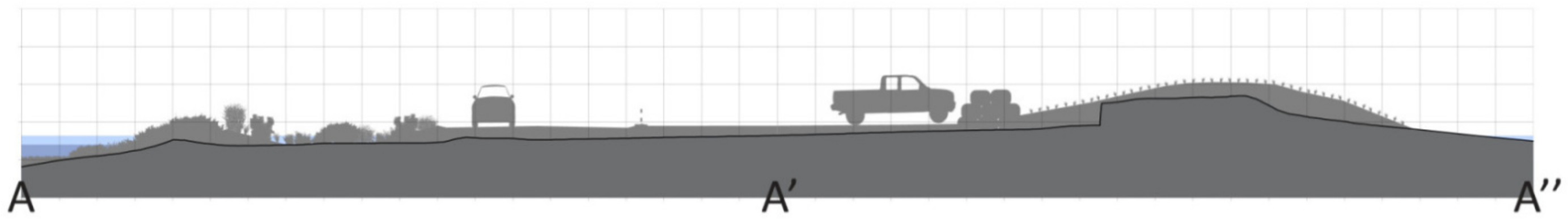
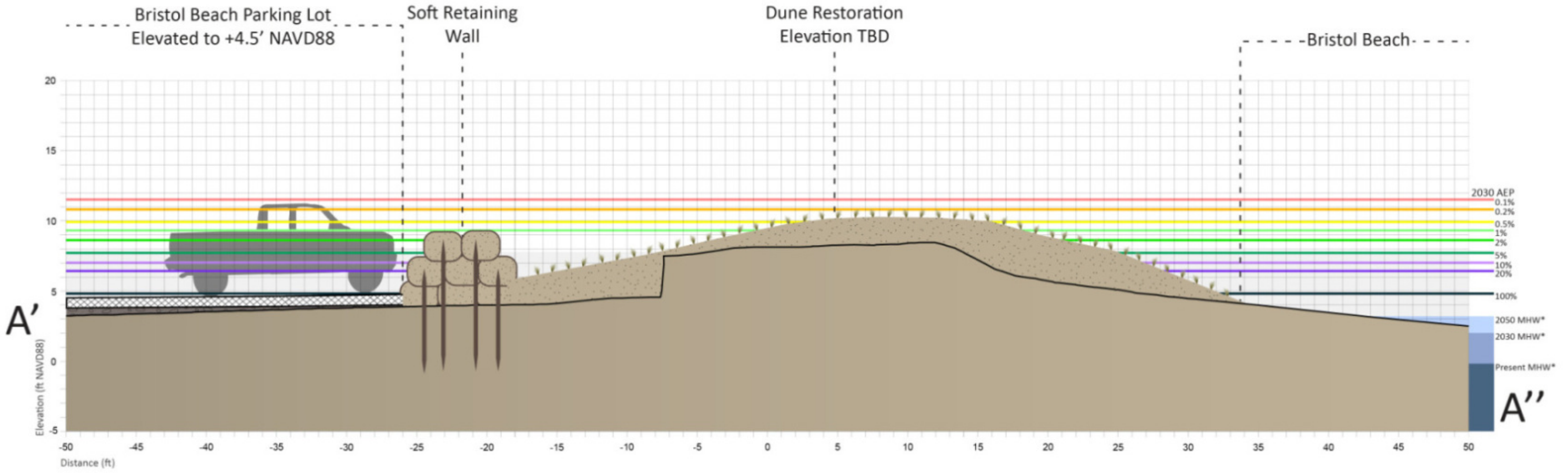


ALTERNATIVE 2: HYBRID

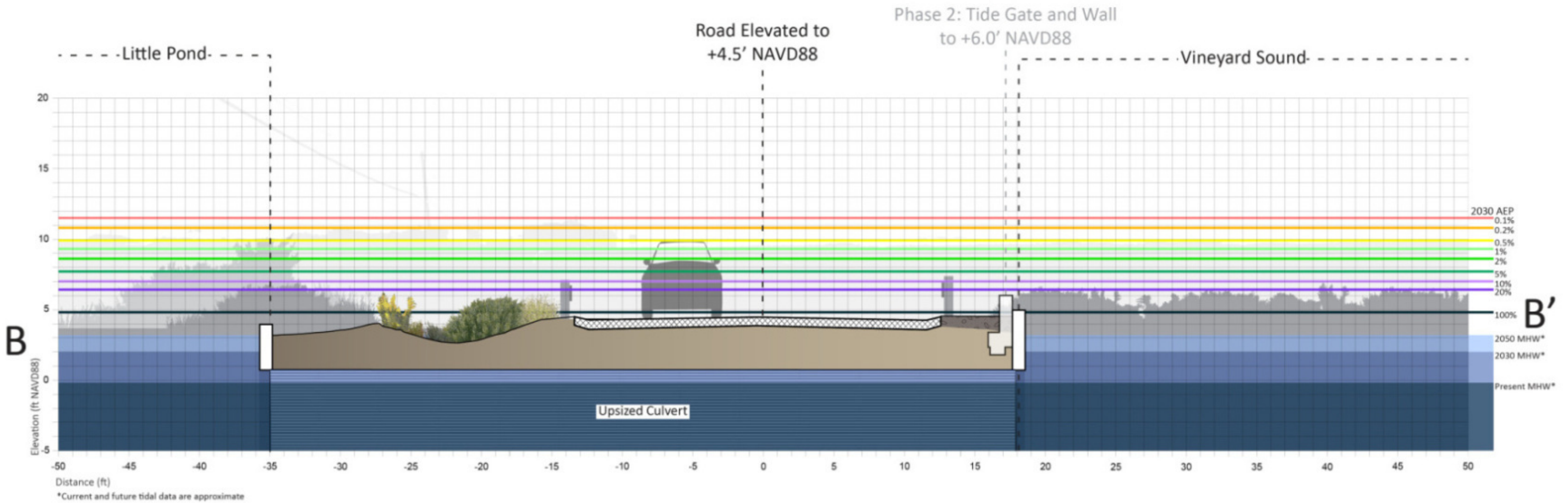
1480 linear feet of Town-owned road and parking lot are elevated to +4.5' NAVD88. A dune restoration backed by a soft wall takes over some parking lot space, and the parking lot is reconfigured. Space to the north of the road and near the channel is used for a 4:1 side slope and passive stormwater treatment. The culvert is upsized and the channel is widened. Phase 2 would involve the raising of Maravista Ave, addition of a tide gate, and repair of private seawalls to bring the target elevation to +6.0' NAVD88.



ALTERNATIVE 2: HYBRID
 Menauhant Road, Falmouth



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Menauhant Road, Falmouth

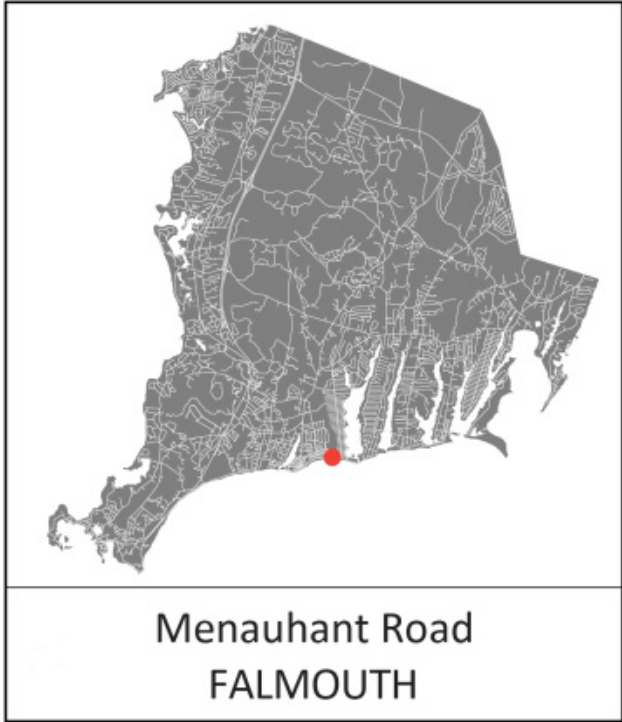


ALTERNATIVE 2: HYBRID

Menauhant Road, Falmouth

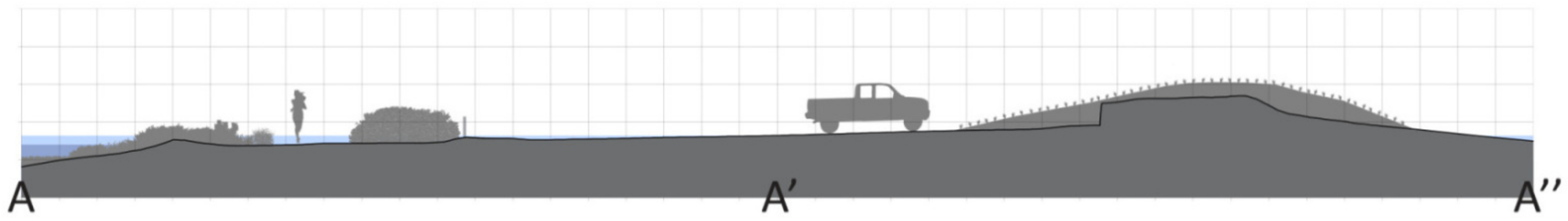
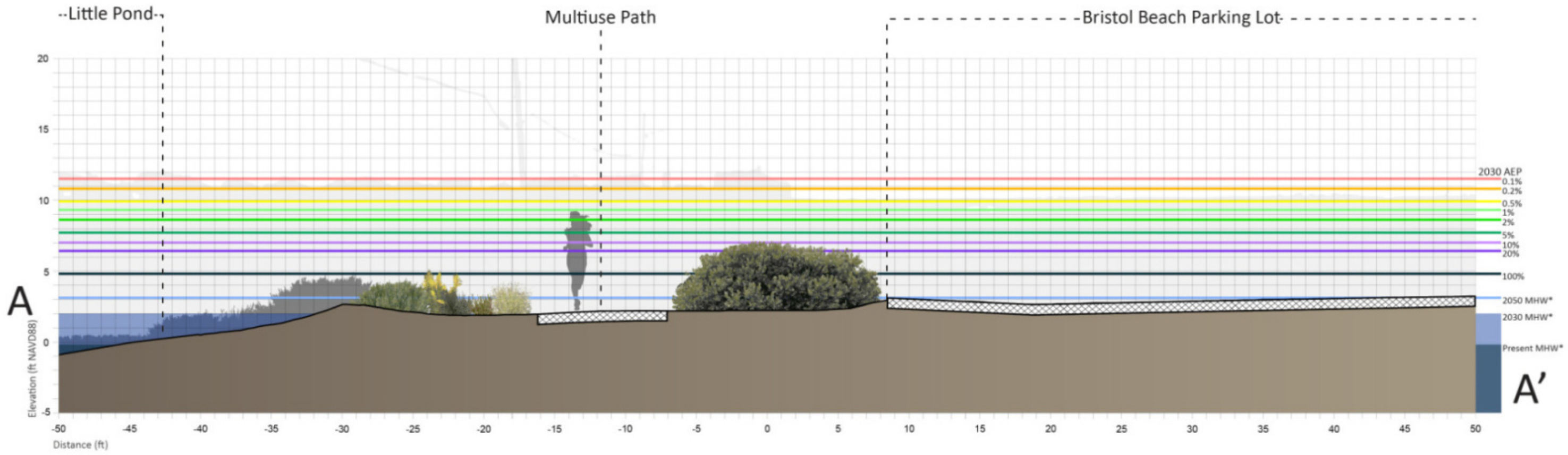


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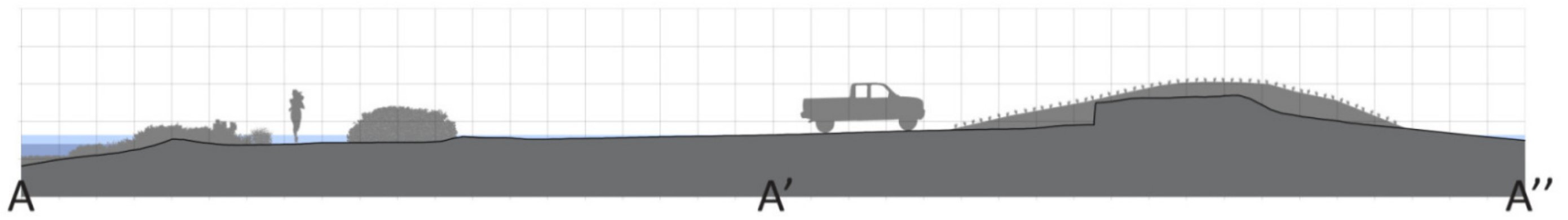
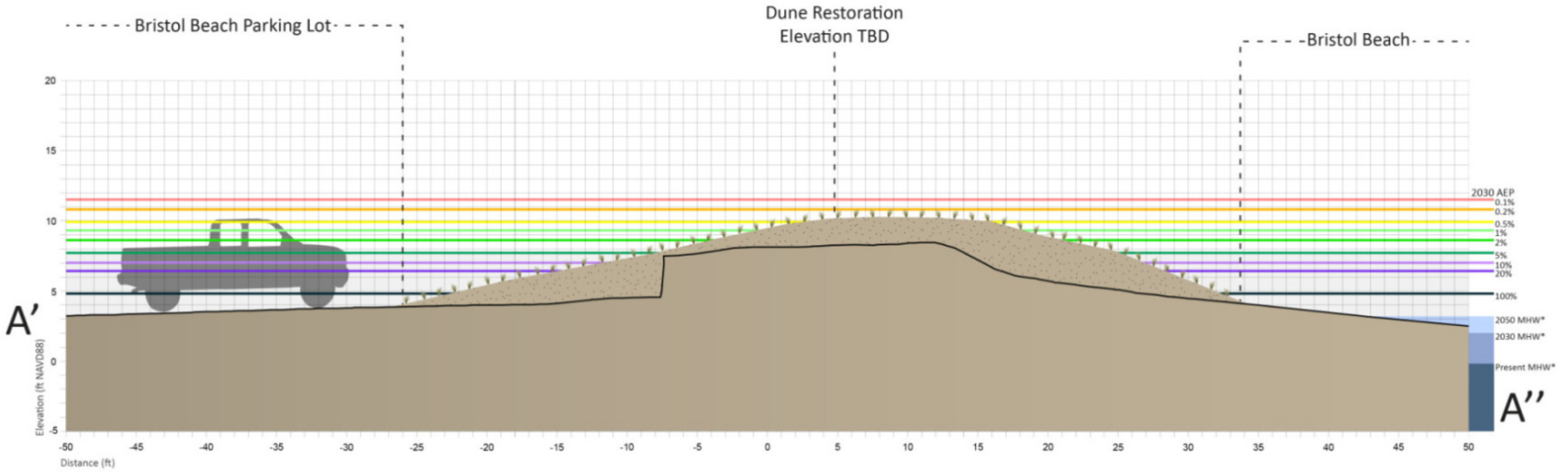


ALTERNATIVE 3: GREEN

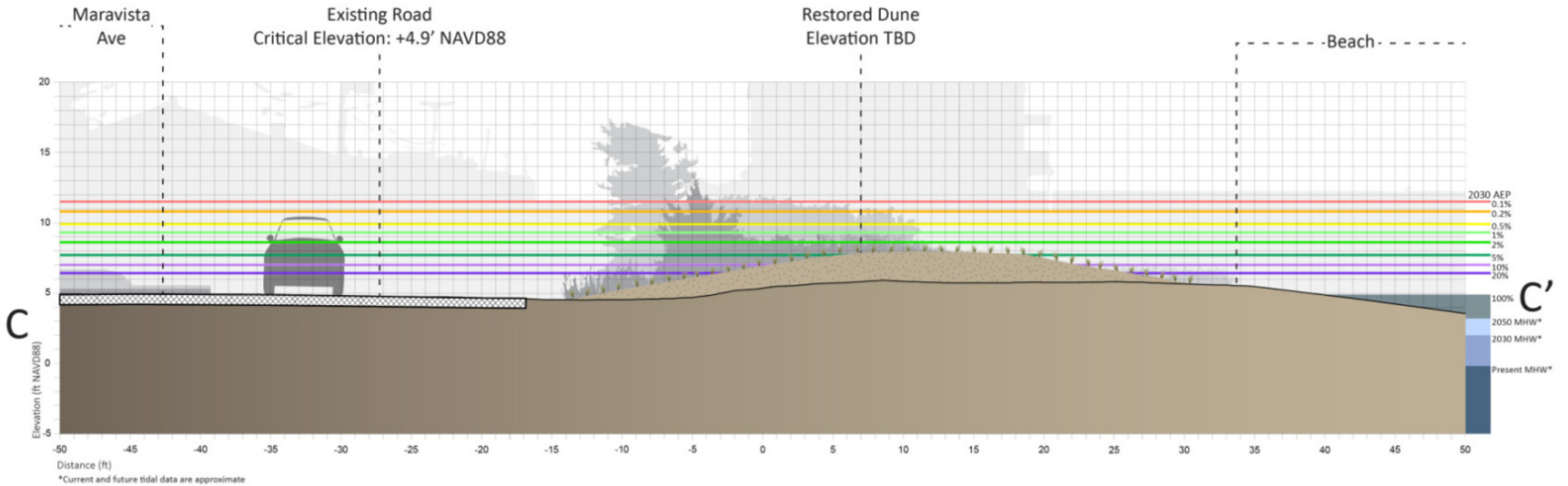
In the long term, the culvert and surrounding road are removed, and Spring Bars Road (to the north of Little Pond) is adapted and maintained as the Little Pond crossing. Beach parking remains on the west side of a widened inlet. The groin on the east side of the inlet is removed, and the dune is widened and restored. A gravel road and parallel parking remain on the east side of the inlet for kayak launch access. Three vulnerable properties are acquired in order to facilitate a dune restoration, which provides protection from erosion.



ALTERNATIVE 3: GREEN
 Menauhant Road, Falmouth



ALTERNATIVE 3: GREEN
Menauhant Road, Falmouth



ALTERNATIVE 3: GREEN

Menauhant Road, Falmouth

MENAUHANT ROAD, FALMOUTH

Summary of alternatives

	Description	Critical Elevation (NAVD88)	Annual Exceedance Probability			Vulnerable to Tidal Flooding†	Permitability Concerns	Impacts to Private Property	Estimated Cost*
			2030	2050	2070				
EXISTING	A town-owned road at Bristol Beach, crossing the mouth of Little Pond.	2.2 feet	100%	100%	100%	2050	N/A	N/A	N/A
ALTERNATIVE 1: GRAY	1810 linear feet of Town-owned road and parking lot are elevated to +6.0'. The road is shifted south, and the parking lot is reconfigured. Space to the north of the road is used for passive stormwater management. The existing dune is backed by a soft retaining wall.	6.0 feet	20%	100%	100%	No	Potential for wetland impacts	Minimal	\$1,640,000
ALTERNATIVE 2: HYBRID (PHASE 1)	1480 linear feet of Town-owned road and parking lot are elevated to +4.5'. A dune restoration backed by a soft wall takes over some parking lot space The culvert is upsized, a tide gate is added, and the channel is widened.	4.5 feet	100%	100%	100%	2070	Resource area restoration, potential for wetland impacts	Minimal	\$2,870,000
ALT. 2 PHASE 2	Optional raising of Maravista Ave and repair of private seawalls for Alt. 2.	6.0 feet	20%	100%	100%	2070	Private seawalls, restoration	Moderate	\$880,000
ALTERNATIVE 3: GREEN	In the long term, the vehicle connection at Bristol Beach is eliminated, and Spring Bars Road is targeted for adaptation. Three vulnerable properties are acquired in order to facilitate the dune restoration. A variety of options exist for maintaining recreational use and pedestrian connectivity.	N/A	N/A	N/A	N/A	N/A	Private property acquisition, resource area restoration	Severe	\$1,290,000+ (includes only minimum elements and no acquisitions)

*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.

†Future tidal data are approximate.