

## Attachment 8. Heron's Head Park Shoreline Resilience Project Construction Cost Detail

Construction	Estimated Cost	Notes
1. Mobilization	\$116,000	10% of itemized construction costs
2. Build temp access roads	\$63,000	On-site construction labor
3. Earthwork	\$8,000	Excavate up to 500 cy [E] material, place to form pond sills
4. Gravel & Sand beach (purchased)	\$517,000	Purchase and deliver gravel & sand (11,500 cy)- transportation
4. Gravel beach		Transport donated gravel from Pier 92 (11,100 cy)
5. Sand	\$55,000	Purchase and deliver clean sand (460 cy)
6. Place beach material	\$287,000	On-site construction labor
7. Rock groynes	\$157,000	Purchase, deliver, and place large rock, bedding rock, fabric.
8. Drift sills	\$48,000	Purchase, deliver, and place large rock, cobble
9. Wood habitat features	\$25,000	Lump sum, up to 50 cy.
<u>Repair temporary impacts from construction</u>		
10. repave DG and asphalt path	\$367,000	
11. high marsh plants	\$3,000	Assumes 0.1 ac. high marsh impacted by construction
12. Upland plants	\$14,000	Assumes 0.32acres upland vegetn. impacted by construction
<u>Surveys</u>	\$30,000	
13. Environmental Protection	\$116,000	10% of itemized construction costs
<b>Subtotal</b>	<b>\$1,806,000</b>	
14. Contingency	\$278,000	
<b>Shoreline Construction</b>	<b>\$2,084,000</b>	<b>\$417,000</b> value of donated material - cost to transport it
15. Construction Inspection	\$250,000	15% of Construction Cost with donation, excluding contingency
16. Biological Monitor	\$110,000	90 days, 10 hr/day, \$120/hr + expenses
17. Oyster Reef Balls (ORBs)	\$60,000	Fabricate 60 ORBs @ \$1,000 ea.
18. Transport	\$120,000	Mobilize marine installation
19. Place ORBs in subtidal	\$60,000	Place ORBs, \$1,000 ea.
<b>Subtotal ORBs</b>	<b>\$350,000</b>	
<b>20. Marsh Planting</b>	<b>\$610,000</b>	purchase, cultivate, plant. 5 yrs. SFBRA grant
21. Post-construction Monitoring*	\$308,000	Monitoring & Adaptive Mngmnt Plan, 5 yrs, SFBRA grant
22. Habitat Stewardship*	\$180,000	Maintain plantings, remove invasives, 5 yrs. SFBRA grant
<b>Subtotal SFBRA Tasks</b>	<b>\$1,098,000</b>	
<b>Total Project Cost</b>	<b>\$3,892,000</b>	

\* Currently recommended for award, subject to future project-specific SFBRA Board approval