

Appendix 3-11

Ocean Outfall Cost Summary

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**Summary of Cost Comparison for
SBR and Denite-Filter Treatment at Blacksmith Shop Road WWTF and
Discharge Through an Ocean Outfall at Nobska Point**

Cost Component	Scenario 1D	
	High Priority Nitrogen Mitigation Area	Addl. Costs for Upperwatershed Areas
Capital Costs		
<i>Collection System</i>	<i>\$220,000,000</i>	<i>\$112,000,000</i>
Collection and Minor PS & FM	\$170,000,000	\$107,000,000
Major PS and FM	\$45,000,000	\$4,800,000
<i>Treatment Site and Systems</i>	<i>\$17,000,000</i>	<i>\$9,000,000</i>
Site Development	\$6,200,000	\$3,300,000
WW Treatment Systems	\$9,100,000	\$3,600,000
Sludge Management System	\$1,900,000	\$1,700,000
<i>Ocean Outfall</i>	<i>\$38,000,000</i>	<i>\$0</i>
Pump Station and Treated Water Force Main	\$14,000,000	\$0
Final Disinfection and Pump Station	\$1,700,000	
Ocean Outfall	\$24,000,000	
Total Construction Costs	\$275,000,000	\$121,000,000
Contingency (25%)	\$69,000,000	\$30,000,000
Fiscal, Legal and Engineering (25%)	\$69,000,000	\$30,000,000
Total Capital Costs	\$410,000,000	\$180,000,000
Cost Component	Scenario 1D	
	High Priority Nitrogen Mitigation Area	Addl. Costs for Upperwatershed Areas
O&M Costs		
Electrical Costs		
Collection System Lift Stations	\$290,000	\$190,000
Treatment Site	\$270,000	\$140,000
WWTF operations & repairs	\$380,000	\$200,000
Collection system operations & repairs	\$1,500,000	\$740,000
Sludge Disposal	\$300,000	\$200,000
Treated Water Discharge System (4)	\$100,000	\$67,000
Marine Water Quality Monitoring Allowance	\$100,000	\$0
Total O&M Costs per year	\$2,900,000	\$1,500,000
Discount Rate of 5% (P/A for 5% and 20 yr = 12.4622)		
Present Worth of O&M Costs	\$36,000,000	\$19,000,000
Total Present Worth Costs	\$450,000,000	\$200,000,000
General Notes:		
1. All costs are rounded to two significant digits except total construction costs which are rounded to three to reduce rounding error		
2. All cost are referenced to July 2009 costs		
3. Costs do not include potential costs for property purchase or easements		
4. Treated water discharge costs includes allowance for pump station O&M, chlorination/dechlorination system O&M		