

Dredging & Sediment Cost Review - Appendix 8

Source:

Moffatt & Nichol 2007. Deschutes Estuary Feasibility Study, Phase 3, Engineering Design and Cost Estimates, Final Report. Appendix E, page E-1

ITEM DESCRIPTION	QUANTITY	UNIT COST
<b>GENERAL DREDGING</b>		
1 CHANNEL PRE-DREDGING	<p>Low quantity is based on the erosion from the Middle Basin predicted by the USGS report, for lower erodibility. This is similar to the quantity needed for the dredge material placement requirement along Deschutes Parkway (Figure 8) with a 50% overflow ratio.</p> <p>High quantity is based on the lower of the erosion from the Middle Basin and the deposition in the Marina and Port areas predicted by the USGS report, for higher erodibility.</p>	<p>Dredging based on several recent maintenance projects; costs include mob/demob, transport, and disposal fees</p> <ul style="list-style-type: none"> <li>- Port of Everett 2001 maintenance dredging (\$640,000/44,000 cy) at \$15/cy (low), escalates to \$18/cy in 2006</li> <li>- Port of Seattle Duwamish maintenance dredging, \$18/cy in 2006</li> <li>- Port of Seattle Fisherman's Terminal, \$18/cy in 2006</li> <li>- Point Hudson Marina, \$20/cy plus 10% mob/demob gives \$22/cy overall, in 2006 (note the second low bid was \$40/cy)</li> <li>- Port of Skagit County maintenance dredging, \$40/cy in 2002, escalates to \$46/cy in 2006; included problems with debris in marina</li> </ul> <p>This line item is anticipated to be on the high side due to rehandling on the shoreline, therefore a range of \$18-\$46 and an average of \$30/cy is assumed</p>
2 CONTAMINATED SEDIMENT DISPOSAL	<p>Up to 25% of dredge material quantity may be contaminated. Larger contaminated quantities would call for redesign. Note this is just the disposal quantity - this quantity does not sum to the pre-dredging quantity.</p> <p>Even though the most likely quantity for contaminated sediments may be zero, the mean quantity (based on a minimum of zero and a non-zero maximum) must be greater than zero.</p>	<p>Disposal based on 2004 quotes by Rabanco from Seattle to Arlington, OR, Subtitle D landfill by 100-ton gondola at \$41/ton (low) or to Subtitle C landfill by 30-ton truck boxes at \$170/ton (high); prices converted at 1.5 ton/yard and escalated to 2006 dollars using standard 3.5% rate.</p>
3 INTERTIDAL ZONE DEBRIS REMOVAL	Allowance	Covers 3 weeks typical labor crew and equipment at \$3,200/day
<b>4TH / 5TH AVENUE CORRIDOR</b>		
4 MOB/DEMOB	Lump sum, based on construction cost for this item before contingency.	Mobilization/demobilization costs generally applied at 7% (low), 10% (mean), and 15% (high) of the total project construction costs.
5 FILL FOR NEW ROADWAY ALIGNMENT	Quantity based on design in Figure 5.	Used RSMeans (2006) Heavy Construction Cost Data unit costs for an aggregate base course with compaction.
6 TEMPORARY RETAINING WALL	Quantity based on design in Figure 5.	Unit prices from WSDOT (2006) Bridge Design Manual M 23-50 Appendix 12 - Structural Estimating Aids. Used Stabilized Earth Wall Welded Wire.
7 PERMANENT RETAINING WALL	Quantity based on design in Figure 5.	Unit prices from WSDOT (2006) Bridge Design Manual M 23-50 Appendix 12 - Structural Estimating Aids. Used Stabilized Earth Wall CIP Conc. Fascia Panels (Special Design)