



PORTLAND-MILWAUKIE
LIGHT RAIL PROJECT

Conceptual Design Estimate

December 11, 2008

	Cable Stayed 4 Pier 700' Clear		Cable Stayed 2 Pier 760' Clear		Wave Frame Girder 600' Clear	
	NCG ⁽¹⁾		NCG ⁽¹⁾		NCG ⁽¹⁾	
NCG Recommended Design-Build Contract Contingencies	37.0%	43.0%	37.0%	43.0%	37.1%	42.1%
Design Contingency	10.0%	13.0%	10.0%	13.0%	10.1%	10.1%
Design - Build Final Eng, Const, Inspection	22.0%	22.0%	22.0%	22.0%	22.0%	24.0%
Construction Reserve	5.0%	8.0%	5.0%	8.0%	5.0%	8.0%
National Constructors Group						
Quantity Based Construction Estimate	\$54,900,000	\$54,900,000	\$59,500,000	\$59,500,000	\$79,600,000	\$79,600,000
Design Contingency Cost ⁽²⁾	\$5,490,000	\$7,137,000	\$5,950,000	\$7,735,000	\$8,000,000	\$8,000,000
Design - Build Final Eng, Const, Inspection	\$12,078,000	\$12,078,000	\$13,090,000	\$13,090,000	\$17,512,000	\$19,104,000
Construction Reserve Cost	\$3,020,000	\$4,970,000	\$3,280,000	\$5,380,000	\$4,380,000	\$7,010,000
Total - National Constructors Group	\$75,488,000	\$79,085,000	\$81,820,000	\$85,705,000	\$109,492,000	\$113,714,000
Total - Other Risk Items	\$6,300,000	\$6,300,000	\$7,200,000	\$7,200,000	\$5,100,000	\$5,100,000
Grand Total (Cost Range)	\$81,788,000	\$85,385,000	\$89,020,000	\$92,905,000	\$114,592,000	\$118,814,000
	\$3,597,000		\$3,885,000		\$4,222,000	
Budget Summary						
Budget Amount(1,720' x 66' x \$725)	\$82,302,000	\$82,302,000	\$82,302,000	\$82,302,000	\$82,302,000	\$82,302,000
Amount Over (-) /Under (+)	\$514,000	(\$3,083,000)	(\$6,718,000)	(\$10,603,000)	(\$32,290,000)	(\$36,512,000)
Percentage Over /Under	0.6%	-3.7%	-8.2%	-12.9%	-39.2%	-44.4%

1: National Constructors Group Estimates (NCG): Developed using labor costs, production rates, equipment costs, permanent and temporary material costs and contractor margin

2: Wave Frame Design Contingency Cost fixed based on 12/5/08 risk workshop



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	Wave Frame Girder 600' Clear	
	Rosales ⁽²⁾	NCG ⁽¹⁾
Recommended Design-Build Contract Contingencies	39.8%	42.1%
Design Contingency	12.8%	10.1%
Design - Build Final Eng, Const, Inspection	22.0%	24.0%
Construction Reserve	5.0%	8.0%
Cost Estimates		
Quantity Based Construction Estimate	\$62,400,000	\$79,600,000
Design Contingency Cost ⁽³⁾	\$8,000,000	\$8,000,000
Design - Build Final Eng, Const, Inspection	\$13,728,000	\$19,104,000
Construction Reserve Cost	\$3,520,000	\$7,010,000
Totals - NCG and Rosales + Partners	\$87,648,000	\$113,714,000

Total - Other Risk Items	\$5,100,000	\$5,100,000
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Grand Total (Cost Range)	\$92,748,000	\$118,814,000
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Delta: Steel price volatility **\$26,066,000**

Budget Summary		
Budget Amount(1,720' x 66' x \$725)	\$82,302,000	\$82,302,000
Amount Over (-) /Under (+)	(\$10,446,000)	(\$36,512,000)
Percentage Over /Under	-12.7%	-44.4%

1: National Constructors Group Estimates (NCG) : Developed using labor costs, production rates, equipment costs, permanent and temporary material costs and contractor margin

2: Rosales + Partners Estimate: Developed using Unit Prices

3: Wave Frame Design Contingency Cost fixed based on 12/5/08 risk workshop