

# Appendix 6

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## Construction Cost Estimates

**Golf Road Feasibility Study**

City of Delafield, WI  
2009-0344

**OPINION OF PROBABLE COSTS**

April 23, 2010

Items	SY	Low Build			Medium Build Signal Option			Medium Build Roundabout Option			High Build Stop Control Option			High Build Signal Option			High Build Roundabout Option		
		QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$
Resurface Pavement with 2" Mill & Overlay	SY	14673	\$ 12.00	\$ 176,100	-	\$ 12.00	-	-	\$ 12.00	\$ -	-	\$ 12.00	\$ -	-	\$ 12.00	\$ -	-	\$ 12.00	\$ -
Remove Pavement	SY	-	\$ 5.00	-	15100	\$ 5.00	\$ 75,500	16960	\$ 5.00	\$ 84,800	15280	\$ 5.00	\$ 76,400	15100	\$ 5.00	\$ 75,500	16960	\$ 5.00	\$ 84,800
6" Asphaltic Pavement on 8" Base Aggregate	SY	1450	\$ 35.00	\$ 50,800	19400	\$ 35.00	\$ 679,000	21200	\$ 35.00	\$ 742,000	19100	\$ 35.00	\$ 668,500	19400	\$ 35.00	\$ 679,000	21200	\$ 35.00	\$ 742,000
Storm Sewer	LF	250	\$ 50.00	\$ 12,500	2800	\$ 50.00	\$ 140,000	2800	\$ 50.00	\$ 140,000	2950	\$ 50.00	\$ 147,500	2950	\$ 50.00	\$ 147,500	2950	\$ 50.00	\$ 147,500
Curb & Gutter	LF	2610	\$ 10.00	\$ 26,100	9640	\$ 10.00	\$ 96,400	10870	\$ 10.00	\$ 108,700	8936	\$ 10.00	\$ 89,400	9577	\$ 10.00	\$ 95,800	10870	\$ 10.00	\$ 108,700
Concrete Sidewalk	SF	2773	\$ 3.00	\$ 8,300	8733	\$ 3.00	\$ 26,200	10209	\$ 3.00	\$ 30,600	10097	\$ 3.00	\$ 30,300	8949	\$ 3.00	\$ 26,800	10949	\$ 3.00	\$ 32,800
Retaining Walls	SF	-	\$ 30.00	-	-	\$ 30.00	-	-	\$ 30.00	-	2020	\$ 30.00	\$ 60,600	1820	\$ 30.00	\$ 54,600	1840	\$ 30.00	\$ 55,200
Common Excavation	CY	-	\$ 8.00	-	-	\$ 8.00	-	-	\$ 8.00	-	4300	\$ 8.00	\$ 34,400	4300	\$ 8.00	\$ 34,400	4300	\$ 8.00	\$ 34,400
Roadway Lighting	EACH	-	\$ 3,000.00	-	13	\$ 3,000.00	\$ 39,000	13	\$ 3,000.00	\$ 39,000	13	\$ 3,000.00	\$ 39,000	13	\$ 3,000.00	\$ 39,000	13	\$ 3,000.00	\$ 39,000
Adjust Storm Sewer Inlets	EACH	18	\$ 150.00	\$ 2,700	-	\$ 150.00	-	-	\$ 150.00	-	-	\$ 150.00	-	-	\$ 150.00	-	-	\$ 150.00	-
Adjust Storm Sewer Manholes	EACH	7	\$ 150.00	\$ 1,100	-	\$ 150.00	-	-	\$ 150.00	-	-	\$ 150.00	-	-	\$ 150.00	-	-	\$ 150.00	-
Adjust Water Valves	EACH	6	\$ 200.00	\$ 1,200	6	\$ 200.00	\$ 1,200	8	\$ 200.00	\$ 1,600	6	\$ 200.00	\$ 1,200	6	\$ 200.00	\$ 1,200	8	\$ 200.00	\$ 1,600
Adjust Sanitary Manholes	EACH	3	\$ 150.00	\$ 500	3	\$ 150.00	\$ 500	3	\$ 150.00	\$ 500	3	\$ 150.00	\$ 500	3	\$ 150.00	\$ 500	3	\$ 150.00	\$ 500
Relocated Hydrants	EACH	-	\$ 2,500.00	-	3	\$ 2,500.00	\$ 7,500	3	\$ 2,500.00	\$ 7,500	3	\$ 2,500.00	\$ 7,500	3	\$ 2,500.00	\$ 7,500	3	\$ 2,500.00	\$ 7,500
Relocated Telephone Pedestals outside Ex -R/W	EACH	-	\$ 1,200.00	-	-	\$ 1,200.00	-	1	\$ 1,200.00	\$ 1,200	-	\$ 1,200.00	-	-	\$ 1,200.00	-	1	\$ 1,200.00	\$ 1,200
Tree Planting	EACH	20	\$ 500.00	\$ 10,000	20	\$ 500.00	\$ 10,000	20	\$ 500.00	\$ 10,000	20	\$ 500.00	\$ 10,000	20	\$ 500.00	\$ 10,000	20	\$ 500.00	\$ 10,000
Traffic Signals	LS	-	\$ 150,000.00	-	1	\$ 150,000.00	\$ 150,000	-	\$ 150,000.00	-	-	\$ 150,000.00	-	1	\$ 150,000.00	\$ 150,000	-	\$ 150,000.00	-
Real Estate	ACRES	-	\$ 375,000.00	-	0.31	\$ 375,000.00	\$ 116,300	0.45	\$ 375,000.00	\$ 168,800	0.29	\$ 375,000.00	\$ 108,800	0.5	\$ 375,000.00	\$ 187,500	0.62	\$ 375,000.00	\$ 232,500

<b>Sub Total Costs</b>		\$ 289,300	\$ 1,341,600	\$ 1,334,700	\$ 1,274,100	\$ 1,509,300	\$ 1,497,700
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Items as Percentage of Subtotal Cost	%	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$
Pavement Marking	%	7%	\$ 289,300.00	\$ 20,300	0.9%	\$ 1,341,600.00	\$ 12,100	0.8%	\$ 1,334,700.00	\$ 10,700	0.7%	\$ 1,274,100.00	\$ 8,900	0.75%	\$ 1,509,300.00	\$ 11,300	0.75%	\$ 1,497,700.00	\$ 11,200
Signing	%	1%	\$ 289,300.00	\$ 2,900	0.8%	\$ 1,341,600.00	\$ 10,700	1.0%	\$ 1,334,700.00	\$ 13,300	0.6%	\$ 1,274,100.00	\$ 7,600	0.7%	\$ 1,509,300.00	\$ 9,800	1.0%	\$ 1,497,700.00	\$ 15,000
Landscaping (Terrace, Medians, Restoration)	%	2%	\$ 289,300.00	\$ 5,800	2%	\$ 1,341,600.00	\$ 26,800	2%	\$ 1,334,700.00	\$ 26,700	2%	\$ 1,274,100.00	\$ 25,500	2%	\$ 1,509,300.00	\$ 30,200	2%	\$ 1,497,700.00	\$ 30,000
Traffic Control	%	5%	\$ 289,300.00	\$ 14,500	5%	\$ 1,341,600.00	\$ 67,100	5%	\$ 1,334,700.00	\$ 66,700	5%	\$ 1,274,100.00	\$ 63,700	5%	\$ 1,509,300.00	\$ 75,500	5%	\$ 1,497,700.00	\$ 74,900
Miscellaneous	%	5%	\$ 289,300.00	\$ 14,500	5%	\$ 1,341,600.00	\$ 67,100	5%	\$ 1,334,700.00	\$ 66,700	5%	\$ 1,274,100.00	\$ 63,700	5%	\$ 1,509,300.00	\$ 75,500	5%	\$ 1,497,700.00	\$ 74,900
Mobilization	%	25%	\$ 289,300.00	\$ 72,300	10%	\$ 1,341,600.00	\$ 134,200	10%	\$ 1,334,700.00	\$ 133,500	10%	\$ 1,274,100.00	\$ 127,400	10%	\$ 1,509,300.00	\$ 150,900	10%	\$ 1,497,700.00	\$ 149,800

Design Costs for preparation of Construction Documents <sup>5</sup>	8%	\$ 34,000	\$ 133,000	\$ 132,000	\$ 126,000	\$ 149,000	\$ 148,000
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<b>Total Planning\Budgeting Project Cost<sup>6</sup></b>		\$ 454,000	\$ 1,793,000	\$ 1,784,000	\$ 1,697,000	\$ 2,012,000	\$ 2,002,000
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Optional Items	SY	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$	QTY	Unit Cost	\$
Backage Road <sup>1</sup>	LS	1	\$ 260,000.00	\$ 260,000	1	\$ 260,000.00	\$ 260,000	1	\$ 260,000.00	\$ 260,000	1	\$ 260,000.00	\$ 260,000	1	\$ 260,000.00	\$ 260,000	1	\$ 260,000.00	\$ 260,000
Optional Access at Driveways 11 & 12 <sup>2</sup>	LS	N/A	\$ (5,000.00)	\$ -	1	\$ (5,000.00)	\$ (5,000)	1	\$ (5,000.00)	\$ (5,000)	1	\$ (5,000.00)	\$ (5,000)	1	\$ (5,000.00)	\$ (5,000)	1	\$ (5,000.00)	\$ (5,000)
5-ft wide Bike Lanes <sup>3</sup>	LS	N/A	\$ 42,000.00	\$ -	N/A	\$ 42,000.00	\$ -	N/A	\$ 42,000.00	\$ -	1	\$ 42,000.00	\$ 42,000	1	\$ 42,000.00	\$ 42,000	1	\$ 42,000.00	\$ 42,000
10-ft wide Shared-Use Path (south side of road) <sup>4</sup>	LS	N/A	\$ 56,000.00	\$ -	1	\$ 56,000.00	\$ 56,000	1	\$ 56,000.00	\$ 56,000	1	\$ 56,000.00	\$ 56,000	1	\$ 56,000.00	\$ 56,000	1	\$ 56,000.00	\$ 56,000

<sup>1</sup> Cost of backage road includes fill (5500 CY @ \$12/CY), pavement (950 SY @ \$33/SY), curb & gutter (729 LF @ \$10/LF), and retaining wall (5100 SF @ \$30/SF) costs  
<sup>2</sup> Cost of optional access at Driveways 11 & 12 includes a credit for costs related to less curb & gutter (-130 LF @ \$10/LF) and less pavement (-102 SY @ \$33/SY)  
<sup>3</sup> Cost of bike lanes includes additional costs related to extra 2-ft pavement width (1050 SY @ \$33/SY) and pavement marking (4700 LF \* \$1.50/LF)  
<sup>4</sup> Shared-Use Path includes a credit for costs related to less sidewalk along the south side of Golf Road (-3985 SF @ \$3/SF and additional cost for 5" asphaltic pavement with 6" base aggregate (2600 SY @ \$26/SY)  
<sup>5</sup> Design costs for construction documents are based on 8% of construction cost due to the completion of the planning level concepts as part of this study.  
<sup>5 & 6</sup> Total project costs have been rounded to the nearest \$1000 for summary purposes.  
<sup>6</sup> Planning\Budgeting project costs do not assume **construction and design costs** for optional items within each alternative.  
<sup>7</sup> Right-of-way costs include costs for FEE acquisition, in addition to Temporary Limited Easements

Notes:  
 1. This opinion of probable costs is for alternate comparison purposes, and can vary +/- 20% given construction industry economic trends  
 2. Optional Items are not included in the Planning\Budgeting Project Cost