

Calgary



Glenmore Trail East Interchanges Functional Planning Study

Appendix I - Construction Cost Estimates

Prepared By:

PARSONS

ISL Engineering
and Land Services



Item #	Description	Unit	Unit Rate	100 Street				116 Street SE (Conrich Road)				Rainbow Road					
				QUANTITY	TOTAL AMOUNT	QUANTITY	TOTAL AMOUNT	QUANTITY	TOTAL AMOUNT	QUANTITY	TOTAL AMOUNT	QUANTITY	TOTAL AMOUNT	QUANTITY	TOTAL AMOUNT		
1	REMOVALS																
1.1	Remove and Dispose of Existing Pavement Structure - Glenmore	m ²	\$11	50,000	\$550,000	20,000	\$220,000		\$0	24,902	\$273,922		\$0	29,438	\$323,818		\$0
1.2	Remove and Dispose of Existing Gravel Structure	m ²	\$8	0	\$0	0	\$0		\$0	1197	\$9,576		\$0		\$0		\$0
1.3	Remove and Dispose of Existing Fence	km	\$3,000	4.40	\$13,200	0.00	\$0		\$0	1.56	\$4,680		\$0	1.63	\$4,890		\$0
1.4	Remove and Dispose of Existing Pavement Structure N-S Connector	m ²	\$11	11,330	\$124,630	10,000	\$110,000	4,737	\$52,107		\$0	26,405	\$290,455		\$0	26,405	\$290,455
1.5	Future N-S Connector Streetlight Removal	ea.	\$4,000	0	\$0	3	\$12,000		\$0		\$0	31	\$124,800		\$0	31.20	\$124,800
1.6	Future At Grade Intersection Removal	LS	\$500,000	0	\$0	1	\$500,000		\$0		\$0	1	\$500,000		\$0	1	\$500,000
2	GRADING																
2.1	Stripping (+/- 300mm)	m ³	\$15	25,000	\$375,000	95,000	\$1,425,000	20,000	\$300,000	27,600	\$414,000	83,700	\$1,255,500	28,500	\$427,500	93,000	\$1,395,000
2.2	Waste Excavation	m ³	\$25	0	\$0	0	\$0	2,000	\$50,000	25,000	\$625,000		\$0		\$0	240,000	\$6,000,000
2.3	Embankment	m ³	\$25	50,000	\$1,250,000	450,000	\$11,250,000	0	\$0		\$0	152,000	\$3,800,000	47,000	\$1,175,000		\$0
2.4	Common Excavation	m ³	\$5	155,000	\$250,000	80,000	\$2,250,000	90,000	\$450,000	56,000	\$280,000	244,000	\$1,220,000	93,000	\$465,000	168,100	\$840,500
3	PAVEMENT STRUCTURE																
3.1	Pavement Structure (including Subgrade, Granular Subbase, Base & Asphalt Structure) - Glenmore Trail	m ²	\$130	110,000	\$14,300,000	20,000	\$2,600,000	0	\$0	65,767	\$8,549,710	5,792	\$752,960	65,441	\$8,507,330	5825	\$757,250
3.2	Pavement Structure (including Subgrade, Granular Subbase, Base & Asphalt Structure) - N-S Connector	m ²	\$125	30,000	\$3,750,000	10,000	\$1,250,000	41,100	\$5,137,500	17,510	\$2,188,750	49,414	\$6,176,750	17,510	\$2,188,750	46687	\$5,835,875
3.3	3.0m Asphalt Pathway cw granular base and filter fabric	m ²	\$55	1,200	\$66,000	1,900	\$104,500	0	\$0	1,791	\$98,505	2,406	\$132,330	1,791	\$98,505	2,406	\$132,330
3.4	Future Glenmore Trail Milling and Overlay	m ²	\$40	0	\$0	20,000	\$800,000		\$0		\$0	65,767	\$2,630,680		\$0	65,441	\$2,617,640
4	CONCRETE																
4.1	Curb and Gutter (all heights)	m	\$143	1,500	\$214,500	3,700	\$529,100	300	\$42,900	3,722	\$532,246	4,420	\$632,060	3,722	\$532,246	4,420	\$632,060
4.2	Solid Concrete Islands	m ²	\$145	2,800	\$406,000	2,000	\$290,000	350	\$50,750	1,059	\$153,555	200	\$29,000	1,059	\$153,555	200	\$29,000
4.3	Concrete Separate Sidewalk incl. Tie-in to Existing Sidewalk	m ²	\$151	1,900	\$286,900	1,960	\$295,960	0	\$0	1,226	\$185,126	1,274	\$192,374	1,226	\$185,126	1,274	\$192,374
5	TRAFFIC CONTROL																
5.1	Supply and Install Guide Signs (Side-Mount)	ea.	\$55,000	4	\$220,000	0	\$0	2	\$110,000		\$0	4	\$220,000		\$0	4	\$220,000
5.2	Supply and Install Guide Signs (Overhead)	ea.	\$200,000	0	\$0	6	\$1,200,000	2	\$400,000		\$0	6	\$1,200,000		\$0	6	\$1,200,000
5.3	Supply and Install Traffic Signs Allowance	ea.	\$500	50	\$25,000	60	\$30,000	30	\$15,000	40	\$20,000	40	\$20,000	40	\$20,000	40	\$20,000
5.4	Street Light Standard - Supply and Install (ducting and base incl.)	units	\$7,500	50	\$375,000	90	\$675,000	33	\$247,500	96	\$720,000	86	\$645,000	96	\$720,000	86	\$645,000
5.5	Traffic Signal System - Supply and Install	ea.	\$350,000	1	\$350,000	1	\$350,000	0	\$0	1	\$350,000	2	\$700,000	1	\$350,000	2	\$700,000
5.6	Roadway Lines - Supply Paint and Painting	km	\$2,000	20	\$40,000	22	\$44,000	8	\$16,000	13	\$26,502	13	\$26,704	14	\$27,574	13	\$26,704
6	STRUCTURES																
6.1	New Bridge Structure	m ²	\$4,500	0	\$0	3,451	\$15,529,500	618	\$2,781,000		\$0	3306	\$14,878,800		\$0	3314	\$14,915,025
6.2	New Bridge Structure on Canal at Glenmore Trail	m ²	\$5,500	2,380	\$13,090,000	0	\$0	404	\$2,222,000		\$0		\$0		\$0		\$0
6.3	MSE Wall for New Bridge Structure	m ²	\$1,100	0	\$0	0	\$0	510	\$561,000		\$0		\$0		\$0		\$0
6.4	Demolition of Existing Bridge on Canal at Glenmore Trail	m ²	\$1,000	670	\$670,000	0	\$0	0	\$0		\$0		\$0		\$0		\$0
7	UTILITIES																
7.1	Utility Adjustments (Communications)	LS	\$250,000	0.50	\$125,000	0.50	\$125,000		\$0	0.20	\$50,000		\$0		\$0		\$0
7.2	Utility Adjustments (Gaslines)	LS	\$250,000	0.50	\$125,000	0.50	\$125,000		\$0		\$0		\$0		\$0		\$0
7.3	Utility Adjustments (Underground Power Lines)	LS	\$100,000	1.00	\$100,000	0.00	\$0		\$0		\$0		\$0		\$0		\$0
7.4	Utility Adjustments (Overhead Power Lines)	LS	\$500,000	0.40	\$200,000	0.00	\$0		\$0	0.30	\$150,000		\$0	0.30	\$150,000	0.10	\$50,000
7.5	Overhead (3209 JK Power Transmission Lines & Structures)	LS	\$3,000,000	1.00	\$3,000,000	0.20	\$600,000		\$0		\$0		\$0		\$0		\$0
7.6	Water	LS	\$250,000	0.00	\$0	0.00	\$0		\$0		\$0		\$0		\$0		\$0
7.7	Sanitary	LS	\$250,000	0	\$0	0	\$0		\$0		\$0		\$0		\$0		\$0
7.8	Storm Water & Drainage Works	LS	\$2,750,000	0.50	\$1,375,000	0.50	\$1,375,000	0.20	\$550,000	0.40	\$1,100,000	0.30	\$825,000	0.40	\$1,100,000	0.30	\$825,000
8	MISCELLANEOUS																
8.1	Construct Future At Grade Intersection	LS	\$5,000,000	1	\$5,000,000	0	\$0	0	\$0	1	\$5,000,000		\$0	1	\$5,000,000		\$0
8.2	Detour Traffic Accommodations & Temporary Construction	LS	\$1,000,000	0.40	\$400,000	0.60	\$600,000	0	\$0	0.50	\$500,000	0.50	\$500,000	0.50	\$500,000	0.50	\$500,000
8.3	Topsoil Placement	m ²	\$1	40,000	\$35,000	314,767	\$314,766.67	30,304	\$30,303.67	33,031	\$33,031	247,793	\$247,793	39,696	\$39,696	281,487	\$281,487
8.4	Hydro-Seeding	ha	\$14,400	4.00	\$57,600	31.48	\$453,264	3.03	\$43,637	3.30	\$47,565	24.78	\$356,832	3.97	\$57,162	28.15	\$405,341
8.5	Sedimentation & Erosion Control	LS	\$100,000	1.00	\$100,000	1.00	\$100,000	0.50	\$50,000	0.75	\$75,000	0.50	\$50,000	0.75	\$75,000	0.50	\$50,000
8.6	Public Art 1% of Construction Cost	LS	1	470,808	\$470,808	495,105	\$495,105	131,096	\$131,096	213,871	\$213,871	374,070	\$374,070	221,011	\$221,011	391,858	\$391,858
Construction Cost Sub-Total					\$47,344,638.21		\$43,653,196.09		\$13,240,793.95		\$21,601,038.64		\$37,781,108.00		\$22,322,163.24		\$39,577,699.28
Contingency 30%					\$14,203,391.46		\$13,095,958.83		\$3,972,238.18		\$6,480,311.59		\$11,334,332.40		\$6,696,648.97		\$11,873,309.78
Engineering fee/testing fee 15%					\$7,101,695.73		\$6,547,979.41		\$1,986,119.09		\$3,240,155.80		\$5,667,166.20		\$3,348,324.49		\$5,936,654.89
Subtotal					\$68,649,725.40		\$63,297,134.33		\$19,199,151.22		\$31,321,506.03		\$54,782,606.60		\$32,367,136.70		\$57,387,663.96
Order of Magnitude Construction Estimate by Segment - Rounded (2018 Dollars)					\$68,650,000		\$63,298,000		\$19,200,000		\$31,322,000		\$54,783,000		\$32,368,000		\$57,388,000
Order of Magnitude Construction Estimate Overall - Rounded (2018 Dollars)							\$151,148,000				\$86,105,000				\$89,756,000		
- 40% Budgeting Variance					\$41,190,000.00		\$37,978,800.00		\$11,520,000.00		\$18,793,200.00		\$32,869,800.00		\$19,420,800.00		\$34,432,800.00
+ 75% Budgeting Variance					\$120,137,500.00		\$110,771,500.00		\$33,600,000.00		\$54,813,500.00		\$95,870,250.00		\$56,644,000.00		\$100,429,000.00