



APPENDIX
Detailed Cost Estimates
– Existing System Upgrading Considerations

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Appendix F - Detailed Cost Estimates - Existing System Upgrading Considerations

Spruce Grove Stormwater Master Plan

The City of Spruce Grove

Project No. 16462

7/16/2024

Engineering: 10%

Contingency: 30%

Table F.1 - Existing System Upgrading Consideration Detailed Cost Estimates

Item	Description	Unit Rate	Unit	Quantity	Cost	Engineering	Contingency	Total
		(\$/unit)						
Priority #1								
1.1	Excavation	7	m³	160,000	\$ 1,123,000	\$ 112,000	\$ 337,000	\$ 1,572,000
1.2	Topsoil and Sod (Based on existing 3.17 m live depth)	12	m²	50,500	\$ 596,000	\$ 60,000	\$ 179,000	\$ 835,000
1.3	Landscaping	50,000	L.S.	1	\$ 50,000	\$ 5,000	\$ 15,000	\$ 70,000
1.4	Land Acquisition	250,000	ha	5	\$ 1,263,000	\$ 126,000	\$ 379,000	\$ 1,768,000
1.5	Supply and Installation of 90 m of 1,800 mm Culvert at Highway 16 Crossing (Assuming Trenchless Installation)	12,000	m	90	\$ 1,080,000	\$ 108,000	\$ 324,000	\$ 1,512,000
Priority #1 Sub-Total					\$ 4,112,000	\$ 411,000	\$ 1,234,000	\$ 5,757,000
Priority #2								
2.1	Excavation, Backfill, Supply and Installation of 410 m of 750 mm Storm Sewer (~4.0 m Deep)	1,618	m	410	\$ 663,000	\$ 66,000	\$ 199,000	\$ 928,000
2.2	Re-grade, rehabilitate and remove overgrowth along 800 m of Highway 16 Ditch	101	m	800	\$ 80,000	\$ 8,000	\$ 24,000	\$ 112,000
Priority #2 Sub-Total					\$ 743,000	\$ 74,000	\$ 223,000	\$ 1,040,000
Priority #3								
3.1	Excavate, Backfill, Supply and Install 250mm PVC Catchbasin Lead	665	m	40	\$ 27,000	\$ 3,000	\$ 8,000	\$ 38,000
3.2	Upgrade 214 mm Orifice Plate to 376 mm Orifice Plate	10,000	ea	1	\$ 10,000	\$ 1,000	\$ 3,000	\$ 14,000
Priority #3 Sub-Total					\$ 37,000	\$ 4,000	\$ 11,000	\$ 52,000
Priority #4								
4.1	Excavation, Backfill, Supply and Installation of 46 m of 2x1,800 mm Culvert at Calahoo Road Crossing	2,096	m	92	\$ 193,000	\$ 19,000	\$ 58,000	\$ 270,000
4.2	Excavation, Backfill, Supply and Installation of 38 m of 2x1,800 mm Culvert at Avonlea Road Crossing	2,096	m	76	\$ 159,000	\$ 16,000	\$ 48,000	\$ 223,000
Priority #4 Sub-Total					\$ 352,000	\$ 35,000	\$ 106,000	\$ 493,000
Priority #5								
5.1	Excavation, Backfill, Supply and Installation of 51 m of 2x1,800 mm Culvert at Grove Drive Crossing	2,096	m	102	\$ 214,000	\$ 21,000	\$ 64,000	\$ 299,000
Priority #5 Sub-Total					\$ 214,000	\$ 21,000	\$ 64,000	\$ 299,000
Priority #6								
6.1	Installation of 900 mm Catchbasin with K7 Frame and Cover	6,765	ea	4	\$ 27,000	\$ 3,000	\$ 8,000	\$ 38,000
6.2	Excavate, Backfill, Supply and Install 250mm PVC Catchbasin Lead	665	m	80	\$ 53,000	\$ 5,000	\$ 16,000	\$ 74,000
6.3	Excavation, Backfill, Supply and Installation of 131 m of 1,200 mm Storm Sewer (~4.0 - 5.0 m Deep)	2,328	m	131	\$ 305,000	\$ 31,000	\$ 92,000	\$ 428,000
6.4	Excavation, Backfill, Supply and Installation of 206 m of 1,500 mm Storm Sewer (~4.0 - 5.0 m Deep)	2,801	m	206	\$ 577,000	\$ 58,000	\$ 173,000	\$ 808,000
Priority #6 Sub-Total					\$ 962,000	\$ 97,000	\$ 289,000	\$ 1,348,000
Priority #7								
7.1	Installation of 900 mm Catchbasin with K7 Frame and Cover	6,765	ea	4	\$ 27,000	\$ 3,000	\$ 8,000	\$ 38,000
7.2	Excavate, Backfill, Supply and Install 250mm PVC Catchbasin Lead	665	m	80	\$ 53,000	\$ 5,000	\$ 16,000	\$ 74,000
7.3	Excavation, Backfill, Supply and Installation of 59 m of 525 mm Storm Sewer (~3.0 - 6.0 m Deep)	1,263	m	59	\$ 75,000	\$ 8,000	\$ 23,000	\$ 106,000
Priority #7 Sub-Total					\$ 155,000	\$ 16,000	\$ 47,000	\$ 218,000
Priority #8								
8.1	Installation of 1,200 mm Catchbasin with F38 Frame and Cover	8,960	ea	4	\$ 36,000	\$ 4,000	\$ 11,000	\$ 51,000
8.2	Excavate, Backfill, Supply and Install 300mm PVC Catchbasin Lead	795	m	80	\$ 64,000	\$ 6,000	\$ 19,000	\$ 89,000
8.3	Excavation, Backfill, Supply and Installation of 205 m of 900 mm Storm Sewer (~3.0 - 4.0 m Deep)	1,855	m	205	\$ 380,000	\$ 38,000	\$ 114,000	\$ 532,000
Priority #8 Sub-Total					\$ 480,000	\$ 48,000	\$ 144,000	\$ 672,000
Priority #9								
9.1	Re-grade impacted backyards	14	m³	750	\$ 11,000	\$ 1,000	\$ 3,000	\$ 15,000
9.2	Topsoil and Sod	24	m²	1,500	\$ 36,000	\$ 4,000	\$ 11,000	\$ 51,000
9.3	Landscaping	25,000	L.S.	1	\$ 25,000	\$ 3,000	\$ 8,000	\$ 36,000



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Table F.1 - Existing System Upgrading Consideration Detailed Cost Estimates

Item	Description	Unit Rate	Unit	Quantity	Cost	Engineering	Contingency	Total
		(\$/unit)		(unit)	(\$)	(\$)	(\$)	(\$)
9.4	Public Engagement	30,000	ea	1	\$ 30,000	\$ 3,000	\$ 9,000	\$ 42,000
Priority #9 Sub-Total					\$ 102,000	\$ 11,000	\$ 31,000	\$ 144,000
Priority #10								
10.1	Installation of 900 mm Catchbasin with F51 Frame and Cover	6,665	ea	4	\$ 27,000	\$ 3,000	\$ 8,000	\$ 38,000
10.2	Excavate, Backfill, Supply and Install 250mm PVC Catchbasin Lead	665	m	80	\$ 53,000	\$ 5,000	\$ 16,000	\$ 74,000
10.3	Excavation, Backfill, Supply and Installation of 186 m of 600 mm Storm Sewer (~2.0 - 4.5 m Deep)	1,382	m	186	\$ 257,000	\$ 26,000	\$ 77,000	\$ 360,000
Priority #10 Sub-Total					\$ 337,000	\$ 34,000	\$ 101,000	\$ 472,000
Priority #11								
11.1	Installation of 900 mm Catchbasin with K7 Frame and Cover	6,765	ea	4	\$ 27,000	\$ 3,000	\$ 8,000	\$ 38,000
11.2	Excavate, Backfill, Supply and Install 250mm PVC Catchbasin Lead	665	m	80	\$ 53,000	\$ 5,000	\$ 16,000	\$ 74,000
11.3	Excavation, Backfill, Supply and Installation of 204 m of 1,200 mm Storm Sewer (~4.0 - 5.0 m Deep)	2,328	m	204	\$ 475,000	\$ 48,000	\$ 143,000	\$ 666,000
Priority #11 Sub-Total					\$ 555,000	\$ 56,000	\$ 167,000	\$ 778,000
Priority #12								
12.1	Re-grade, rehabilitate and remove overgrowth along 1,600 m of CNR ditch	101	m	1,600	\$ 161,000	\$ 16,000	\$ 48,000	\$ 225,000
Priority #12 Sub-Total					\$ 161,000	\$ 16,000	\$ 48,000	\$ 225,000
Priority #13								
13.1	Installation of 900 mm Catchbasin with F51 Frame and Cover	6,665	ea	4	\$ 27,000	\$ 3,000	\$ 8,000	\$ 38,000
13.2	Excavate, Backfill, Supply and Install 250mm PVC Catchbasin Lead	665	m	80	\$ 53,000	\$ 5,000	\$ 16,000	\$ 74,000
Priority #13 Sub-Total					\$ 80,000	\$ 8,000	\$ 24,000	\$ 112,000
Priority #14								
14.1	Excavation, Backfill, Supply and Installation of 55 m of 1,350 mm Culvert at McLeod Avenue crossing	1,673	m	55	\$ 92,000	\$ 9,000	\$ 28,000	\$ 129,000
14.2	Excavation, Backfill, Supply and Installation of 56 m of 1,500 mm Culvert at Nelson Drive crossing	1,814	m	56	\$ 102,000	\$ 10,000	\$ 31,000	\$ 143,000
Priority #14 Sub-Total					\$ 194,000	\$ 19,000	\$ 59,000	\$ 272,000
Priority #15								
15.1	Excavation, Backfill, Supply and Installation of 36 m of 1,650 mm Culvert at Pioneer Road Crossing	1,955	m	36	\$ 70,000	\$ 7,000	\$ 21,000	\$ 98,000
Priority #15 Sub-Total					\$ 70,000	\$ 7,000	\$ 21,000	\$ 98,000
Priority #16								
16.1	Upstream Undeveloped Basin Flow and Rainfall Monitoring (Assuming 10 Years)	139,650	yr	10	\$ 140,000	\$ 14,000	\$ 42,000	\$ 196,000
Priority #16 Sub-Total					\$ 140,000	\$ 14,000	\$ 42,000	\$ 196,000