

**Appendix O:
Final Preferred Solutions Cost
Estimates**

**Barrie Drainage Master Plan
Final Preferred Alternative Solution
Project Cost Estimate
February 2019**

**Project No. 1
SWMF Retrofit No. 11 (KD06)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Connect to Maintenance Hole	LS	3	\$5,000.00	\$15,000
1.02	Strip and Stockpile Topsoil	m ²	7,000	\$13.00	\$91,000
1.03	Excavation and Grading	m ³	7,170	\$24.00	\$172,080
1.04	Geotechnical Sampling for Off-site Disposal	m ³	5,915	\$1.00	\$5,915
1.05	Remove and Dispose of Excess Material	m ³	5,915	\$30.00	\$177,450
1.06	3000 mm Dia. Maintenance Hole	ea	2	\$27,900.00	\$55,800
1.07	2400 mm Dia. Maintenance Hole	ea	2	\$19,200.00	\$38,400
1.08	1500 mm Dia. Maintenance Hole	ea	2	\$8,600.00	\$17,200
1.09	1800 mm Dia. Maintenance Hole	ea	8	\$12,600.00	\$100,800
1.10	Oil/Grit Separator (Vortech 16000)	ea	3	\$120,000.00	\$360,000
1.11	Oil/Grit Separator (Vortech 7000)	ea	1	\$63,000.00	\$63,000
1.12	525 mm Dia. Storm Sewer	m	50	\$445.00	\$22,250
1.13	675 mm Dia. Storm Sewer	m	10	\$495.00	\$4,950
1.14	750 mm Dia. Storm Sewer	m	95	\$640.00	\$60,800
1.15	1650 mm Dia. Storm Sewer	m	20	\$1,960.00	\$39,200
1.16	1095 mm x 1730 mm HE Concrete Storm Sewer	m	40	\$2,425.00	\$97,000
1.17	Filter Fabric	m ²	3,340	\$6.00	\$20,040
1.18	Perforated 1200 mm CMP	m	845	\$660.00	\$557,700
1.19	2" Clear Stone	m ³	1,495	\$45.00	\$67,275
1.20	Place Topsoil and Hydroseed	m ²	1,530	\$10.00	\$15,300
1.21	Construction Access Mud Mat	ea	3	\$6,000.00	\$18,000
1.22	Flow Diversion	wks	6	\$20,000.00	\$120,000
			Subtotal: SWMF Retrofit		\$2,119,160
			Construction Contingency:	30%	\$635,748
			Engineering Design Fee:	20%	\$423,832
			Contract Administration / Construction Inspection:	10%	\$211,916
			Utilities / Services Relocation Cost:	15%	\$317,874
			Environmental Assessment Costs:		\$0
			Construction Cost Estimate (2018 Unit Prices):		\$3,708,530
			Construction Index:	5.2%	\$192,844
			HST:	1.76%	\$68,664
			Total Construction Cost (2019 Unit Prices):		\$3,970,038
			Total Estimated Project Cost		\$3,970,038

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**Project No. 2
SWMF Retrofit No. 18 (KD05)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Connect to Maintenance Hole	LS	2	\$5,000.00	\$10,000
1.02	Strip and Stockpile Topsoil	m ²	620	\$13.00	\$8,060
1.03	Excavation and Grading	m ³	1,770	\$24.00	\$42,480
1.04	Geotechnical Sampling for Off-site Disposal	m ³	1,005	\$1.00	\$1,005
1.05	Remove and Dispose of Excess Material	m ³	1,005	\$30.00	\$30,150
1.06	3000 mm Dia. Maintenance Hole	ea	6	\$27,900.00	\$167,400
1.07	Oil/Grit Separator (Vortech 16000)	ea	1	\$120,000.00	\$120,000
1.08	675 mm Dia. Storm Sewer	m	20	\$495.00	\$9,900
1.09	1050 mm Dia. Storm Sewer	m	6	\$985.00	\$5,910
1.10	Filter Fabric	m ²	815	\$6.00	\$4,890
1.11	Perforated 2100 mm CMP	m	115	\$2,055.00	\$236,325
1.12	2" Clear Stone	m ³	535	\$45.00	\$24,075
1.13	Place Topsoil and Hydroseed	m ²	620	\$10.00	\$6,200
1.14	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.15	Flow Diversion	wks	4	\$20,000.00	\$80,000
				Subtotal: SWMF Retrofit	\$752,395
				Construction Contingency: 30%	\$225,719
				Engineering Design Fee: 20%	\$150,479
				Contract Administration / Construction Inspection: 10%	\$75,240
				Utilities / Services Relocation Cost: 15%	\$112,859
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$1,316,691
				Construction Index: 5.2%	\$68,468
				HST: 1.76%	\$24,379
				Total Construction Cost (2019 Unit Prices):	\$1,409,538
				Total Estimated Project Cost:	\$1,409,538

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Project No. 3
SWMF Retrofit No. 13 (KD03)
Kidd's Creek Watershed

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Connect to Maintenance Hole	LS	1	\$5,000.00	\$5,000
1.02	Strip and Stockpile Topsoil	m ²	450	\$13.00	\$5,850
1.03	Excavation and Grading	m ³	1,680	\$24.00	\$40,320
1.04	Geotechnical Sampling for Off-site Disposal	m ³	1,240	\$1.00	\$1,240
1.05	Remove and Dispose of Excess Material	m ³	1,240	\$30.00	\$37,200
1.06	3000 mm Dia. Maintenance Hole	ea	1	\$27,900.00	\$27,900
1.07	1800 mm Dia. Maintenance Hole	ea	6	\$12,600.00	\$75,600
1.08	Oil/Grit Separator (Vortech 16000)	ea	2	\$120,000.00	\$240,000
1.09	750 mm Dia. Storm Sewer	m	30	\$640.00	\$19,200
1.10	1350 mm Dia. Storm Sewer	m	6	\$1,335.00	\$8,010
1.11	Filter Fabric	m ²	1,190	\$6.00	\$7,140
1.12	Perforated 1800 mm CMP	m	187	\$1,400.00	\$261,800
1.13	2" Clear Stone	m ³	750	\$45.00	\$33,750
1.14	Place Topsoil and Hydroseed	m ²	450	\$10.00	\$4,500
1.15	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.16	Road Reinstatement	m ²	90	\$75.00	\$6,750
1.17	Flow Diversion	wks	5	\$20,000.00	\$100,000
				Subtotal: SWMF Retrofit	\$880,260
				Construction Contingency:	30% \$264,078
				Engineering Design Fee:	20% \$176,052
				Contract Administration / Construction Inspection:	10% \$88,026
				Utilities / Services Relocation Cost:	15% \$132,039
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$1,540,455
				Construction Index:	5.2% \$80,104
				HST:	1.76% \$28,522
				Total Construction Cost (2019 Unit Prices):	\$1,649,080
				Total Estimated Project Cost	\$1,649,080

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**Project No. 4
Watercourse Improvement No. 1 (Reach Ki-01 Through Ki-02)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvements				
1.01	Clearing and Grubbing (sq.m)	m ²	1,700	\$2.00	\$3,400
1.02	Strip and Stockpile Topsoil	m ²	1,700	\$13.00	\$22,100
1.03	Excavation and Grading	m ³	2,500	\$24.00	\$60,000
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	2,500	\$1.00	\$2,500
1.05	Remove and Dispose of Excess Material	m ³	2,500	\$30.00	\$75,000
1.06	Watercourse Improvements	m	300	\$2,000.00	\$600,000
1.07	Place Topsoil and Hydroseed	m ²	1,700	\$10.00	\$17,000
1.08	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.09	Flow Diversion	wks	3	\$20,000.00	\$60,000
	Subtotal - Watercourse Improvement:				\$846,000
	Construction Contingency:			30%	\$253,800
	Engineering Design Fee:			20%	\$169,200
	Contract Administration / Construction Inspection:			10%	\$84,600
	Utilities / Services Relocation Cost:			15%	\$126,900
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,480,500
	Construction Index:			5.2%	\$76,986
	HST:			1.76%	\$27,412
	Total Construction Cost (2019 Unit Prices):				\$1,584,898
	Total Estimated Project Cost				\$1,584,898

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**Project No. 5
Culvert Improvement No. 13 (Cundles Road W)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	88	\$85.00	\$7,480
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Remove Asphalt	m ²	270	\$9.00	\$2,430
1.04	Remove Granular Road Base	m ²	270	\$7.00	\$1,890
1.05	Remove Existing Concrete Curb and Gutter	m	30	\$36.00	\$1,080
1.06	Remove Existing Sidewalk	m ²	40	\$18.00	\$720
1.07	Remove Existing Driveway	m ²	100	\$10.00	\$1,000
1.08	Remove Existing Storm Sewer	m	20	\$65.00	\$1,300
1.09	Remove Existing Maintenance Holes	ea	1	\$1,100.00	\$1,100
1.10	3455 mm x 2195 mm Conc. Elliptical Culvert	m	88	\$4,650.00	\$409,200
1.11	Connect to Maintenance Hole	LS	1	\$5,000.00	\$5,000
1.12	900 mm Dia. Storm Sewer	m	20	\$890.00	\$17,800
1.13	Connect to Culvert	LS	1	\$5,000.00	\$5,000
1.14	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.15	Granular 'B' (450 mm)	m ²	270	\$20.00	\$5,400
1.16	Granular 'A' (150 mm)	m ²	270	\$11.00	\$2,970
1.17	100 mm HL8 Base Course Asphalt	m ²	270	\$39.50	\$10,665
1.18	40 mm HL3 Surface Course Asphalt	m ²	270	\$17.00	\$4,590
1.19	Concrete Curb and Gutter	m	30	\$75.00	\$2,250
1.20	Concrete Sidewalk	m ²	40	\$100.00	\$4,000
1.21	Reinstate Grassed Boulevard	m ²	80	\$26.00	\$2,080
1.22	Reinstate Driveway	m ²	100	\$38.00	\$3,800
1.23	Flow Diversion	wks	2	\$20,000.00	\$40,000
	Subtotal: Culvert Improvement				\$582,255
	Construction Contingency:			30%	\$174,677
	Engineering Design Fee:			20%	\$116,451
	Contract Administration / Construction Inspection:			10%	\$58,226
	Utilities / Services Relocation Cost:			15%	\$87,338
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,018,946
	Construction Index:			5.2%	\$52,985
	HST:			1.76%	\$18,866
	Total Construction Cost (2019 Unit Prices):				\$1,090,797
	Total Estimated Project Cost				\$1,090,797

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**Project No. 161
Watercourse Improvement No. 34 (Reach Ki-03 Through Ki-06)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	1,350	\$2.00	\$2,700
1.02	Strip and Stockpile Topsoil	m ²	1,350	\$13.00	\$17,550
1.03	Excavation and Grading	m ³	2,025	\$24.00	\$48,600
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	2,025	\$1.00	\$2,025
1.05	Remove and Dispose of Excess Material	m ³	2,025	\$30.00	\$60,750
1.06	Watercourse Improvements	m	270	\$2,000.00	\$540,000
1.07	Place Topsoil and Hydroseed	m ²	1,350	\$10.00	\$13,500
1.08	Construction Access Mud Mat	ea	3	\$6,000.00	\$18,000
1.09	Flow Diversion	wks	12	\$20,000.00	\$240,000
	Subtotal: Watercourse Improvement				\$943,125
	Construction Contingency:			30%	\$282,938
	Engineering Design Fee:			20%	\$188,625
	Contract Administration / Construction Inspection:			10%	\$94,313
	Utilities / Services Relocation Cost:			15%	\$141,469
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,650,469
	Construction Index:			5.2%	\$85,824
	HST:			1.76%	\$30,559
	Total Construction Cost (2019 Unit Prices):				\$1,766,852
	Total Estimated Project Cost				\$1,766,852

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**Project No. 8A
Culvert Improvement No. 16 (Thomson Street)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	56	\$85.00	\$4,760
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Remove Asphalt	m ²	238	\$9.00	\$2,142
1.04	Remove Granular Road Base	m ²	238	\$7.00	\$1,666
1.05	Remove Existing Concrete Curb and Gutter	m	14	\$36.00	\$490
1.06	1800 x 1200 mm Conc. Box Culvert	m	46	\$3,970.00	\$182,620
1.07	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.08	Granular 'B' (450 mm)	m ²	238	\$20.00	\$4,760
1.09	Granular 'A' (150 mm)	m ²	238	\$11.00	\$2,618
1.10	100 mm HL8 Base Course Asphalt	m ²	238	\$39.50	\$9,401
1.11	40 mm HL3 Surface Course Asphalt	m ²	238	\$17.00	\$4,046
1.12	Concrete Curb and Gutter	m	14	\$75.00	\$1,050
1.13	Remove Existing Buildings	ea	1	\$25,000.00	\$25,000
1.14	Place Topsoil and Hydroseed	m ²	520	\$10.00	\$5,200
1.15	Watercourse Improvements	m	20	\$2,000.00	\$40,000
1.16	Flow Diversion	wks	3	\$20,000.00	\$60,000
	Subtotal: Culvert Improvement				\$396,253
	Construction Contingency:			30%	\$118,876
	Engineering Design Fee:			20%	\$79,251
	Contract Administration / Construction Inspection:			10%	\$39,625
	Utilities / Services Relocation Cost:			15%	\$59,438
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$693,442
	Construction Index:			5.2%	\$36,059
	HST:			1.76%	\$12,839
	Total Construction Cost (2019 Unit Prices):				\$742,340
2	Property Acquisition				\$331,000
2.01	27 Thomson St.				\$286,000
2.02	22 Thomson St. (portion of)				\$45,000
	Adjusted Value:			165%	\$546,150
	Acquisition Contingency:			30%	\$163,845
	Property Acquisition:				\$709,995
	Total Estimated Project Cost:				\$1,452,335

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**Project No. 162A
Trunk Storm Sewer No. 9 (Thomson, Sophia, Florence and Eccles Streets)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Trunk Storm Sewer				
1.01	Remove Existing Maintenance Holes	ea	2	\$1,100.00	\$2,200
1.02	Remove Existing Storm Sewer	m	90	\$65.00	\$5,850
1.03	1345 mm x 855 mm HE Concrete Storm Sewer	m	485	\$1,575.00	\$763,875
1.04	1800 mm Dia. Maintenance Hole	ea.	2	\$12,600.00	\$25,200
1.05	2400 mm Dia. Maintenance Hole	ea.	8	\$19,200.00	\$153,600
1.06	Connect to Culvert	LS	1	\$5,000.00	\$5,000
Subtotal: Trunk Storm Sewer Improvement					\$955,725
				Construction Contingency:	30%
					\$286,718
				Engineering Design Fee:	20%
					\$191,145
				Contract Administration / Construction Inspection:	10%
					\$95,573
				Utilities / Services Relocation Cost:	15%
					\$143,359
				Environmental Assessment Costs:	\$0
Construction Cost Estimate (2018 Unit Prices):					\$1,672,519
				Construction Index:	5.2%
					\$86,971
				HST:	1.76%
					\$30,967
Total Construction Cost (2019 Unit Prices):					\$1,790,457
Total Estimated Project Cost:					\$1,790,457

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 163
Watercourse Improvement No. 2 (Reach Ki-08A)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	2,000	\$24.00	\$48,000
1.02	Geotechnical Sampling for Off-Site Disposal	m ³	2,000	\$1.00	\$2,000
1.03	Remove and Dispose of Excess Material	m ³	2,000	\$30.00	\$60,000
1.04	Armour Stone Retaining Wall	m	200	\$800.00	\$160,000
1.05	Watercourse Improvements	m	100	\$2,000.00	\$200,000
1.06	Flow Diversion	wks	2	\$20,000.00	\$40,000
	Subtotal: Watercourse Improvement				\$510,000
	Construction Contingency:			30%	\$153,000
	Engineering Design Fee:			20%	\$102,000
	Contract Administration / Construction Inspection:			10%	\$51,000
	Utilities / Services Relocation Cost:			15%	\$76,500
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$892,500
	Construction Index:			5.2%	\$46,410
	HST:			1.76%	\$16,525
	Total Construction Cost (2019 Unit Prices):				\$955,435
2	Property Acquisition				\$301,000
2.01	22 Thomson St. (portion of)				\$15,000
2.02	18 Thomson St. (portion of)				\$13,000
2.03	14 Thomson St. (portion of)				\$35,000
2.04	77 Eccles St. N. (portion of)				\$40,000
2.05	75 Eccles St. N. (portion of)				\$198,000
	Adjusted Value:			165%	\$496,650
	Acquisition Contingency:			30%	148,995
	Property Acquisition:				\$645,645
	Total Estimated Project Cost:				\$1,601,080

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**Project No. 9
Culvert Improvement No. 18 (Wellington Street W.)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	20	\$85.00	\$1,700
1.02	Remove Asphalt	m ²	58	\$9.00	\$522
1.03	Remove Granular Road Base	m ²	58	\$7.00	\$406
1.04	Remove Existing Concrete Curb and Gutter	m	9	\$36.00	\$324
1.05	Remove Existing Sidewalk	m ²	20	\$18.00	\$360
1.06	1345 mm x 855 mm HE Concrete Storm Sewer	m	20	\$1,575.00	\$31,500
1.07	Concrete Headwall - 1050 mm Dia.	ea	2	\$26,350.00	\$52,700
1.08	Granular 'B' (450 mm)	m ²	58	\$20.00	\$1,160
1.09	Granular 'A' (150 mm)	m ²	58	\$11.00	\$638
1.10	100 mm HL8 Base Course Asphalt	m ²	58	\$39.50	\$2,291
1.11	40 mm HL3 Surface Course Asphalt	m ²	58	\$17.00	\$986
1.12	Concrete Curb and Gutter	m	9	\$75.00	\$675
1.13	Concrete Sidewalk	m ²	20	\$100.00	\$2,000
Subtotal: Culvert Improvement					\$95,262
Construction Contingency:				30%	\$28,579
Engineering Design Fee:				20%	\$19,052
Contract Administration / Construction Inspection:				10%	\$9,526
Utilities / Services Relocation Cost:				15%	\$14,289
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$166,709
Construction Index:				5.2%	\$8,669
HST:				1.76%	\$3,087
Total Construction Cost (2019 Unit Prices):					\$178,464
Total Estimated Project Cost:					\$178,464

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**Project No. 10
Watercourse Improvement 3 (Reach Ki-10B Through Ki-10c)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	1,000	\$24.00	\$24,000
1.02	Geotechnical Sampling for Off-Site Disposal	m ³	1,000	\$1.00	\$1,000
1.03	Remove and Dispose of Excess Material	m ³	1,000	\$30.00	\$30,000
1.04	Armour Stone Retaining Wall	m	75	\$800.00	\$60,000
1.05	Watercourse Improvements	m	75	\$2,000.00	\$150,000
1.06	Flow Diversion	wks	2	\$20,000.00	\$40,000
	Subtotal: Watercourse Improvement				\$305,000
	Construction Contingency:			30%	\$91,500
	Engineering Design Fee:			20%	\$61,000
	Contract Administration / Construction Inspection:			10%	\$30,500
	Utilities / Services Relocation Cost:			15%	\$45,750
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$533,750
	Construction Index:			5.2%	\$27,755
	HST:			1.76%	\$9,882
	Total Construction Cost (2019 Unit Prices):				\$571,387
2	Property Acquisition				\$550,000
2.01	Address Not Available (portion of)				\$65,000
2.02	19 Donald St. (portion of)				\$53,000
2.03	11 Donald St. (portion of)				\$62,000
2.04	38 Eccles St. N. (portion of)				\$67,000
2.05	10 Henry St. (portion of)				\$58,000
2.06	17 Eccles St. N.				\$245,000
	Adjusted Value:			165%	\$907,500
	Acquisition Contingency:			30%	272,250
	Property Acquisition:				\$1,179,750
	Total Estimated Project Cost:				\$1,751,137

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**Project No. 165
Watercourse Improvement No. 25 (Reach Ki-10a)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Remove Existing Storm Sewer	m	75	\$65.00	\$4,875
1.02	Remove Existing Maintenance Holes	ea.	2	\$1,100.00	\$2,200
1.03	Excavation and Grading	m ³	750	\$24.00	\$18,000
1.04	Geotechnical Sampling for Off-site Disposal	m ³	750	\$1.00	\$750
1.05	Remove and Dispose of Excess Material	m ³	750	\$30.00	\$22,500
1.06	Daylight Channel	m	75	\$2,000.00	\$150,000
1.07	Flow Diversion	wks	3	\$20,000.00	\$60,000
				Subtotal: Watercourse Improvement	\$258,325
				Construction Contingency:	30%
					\$77,498
				Engineering Design Fee:	20%
					\$51,665
				Contract Administration / Construction Inspection:	10%
					\$25,833
				Utilities / Services Relocation Cost:	15%
					\$38,749
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$452,069
				Construction Index:	5.2%
					\$23,508
				HST:	1.76%
					\$8,370
				Total Construction Cost (2019 Unit Prices):	\$483,946
2	Property Acquisition				\$1,005,000
2.01	150 Dunlop St. W. (portion of)				\$1,005,000
				Adjusted Value:	165%
					\$1,658,250
				Acquisition Contingency:	30%
					497,475
				Property Acquisition:	\$2,155,725
				Total Estimated Project Cost:	\$2,639,671

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**Project No. 166
Culvert Improvement No. 145 (Dunlop Street W.)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	60	\$85.00	\$5,100
1.02	Remove Asphalt	m ²	385	\$9.00	\$3,465
1.03	Remove Granular Road Base	m ²	385	\$7.00	\$2,695
1.04	Remove Existing Concrete Curb and Gutter	m	22	\$36.00	\$792
1.05	Remove Existing Sidewalk	m ²	33	\$18.00	\$594
1.06	6000 x 1500 mm Conc. Box Culvert	m	60	\$15,800.00	\$948,000
1.07	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.08	Granular 'B' (450 mm)	m ²	385	\$20.00	\$7,700
1.09	Granular 'A' (150 mm)	m ²	385	\$11.00	\$4,235
1.10	100 mm HL8 Base Course Asphalt	m ²	385	\$39.50	\$15,208
1.11	40 mm HL3 Surface Course Asphalt	m ²	385	\$17.00	\$6,545
1.12	Concrete Curb and Gutter	m	22	\$75.00	\$1,650
1.13	Concrete Sidewalk	m ²	33	\$100.00	\$3,300
1.14	Flow Diversion	wks	3	\$20,000.00	\$60,000
	Subtotal: Culvert Improvement				\$1,109,284
	Construction Contingency:			30%	\$332,785
	Engineering Design Fee:			20%	\$221,857
	Contract Administration / Construction Inspection:			10%	\$110,928
	Utilities / Services Relocation Cost:			15%	\$166,393
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,941,246
	Construction Index:			5.2%	\$100,945
	HST:			1.76%	\$35,943
	Total Construction Cost (2019 Unit Prices):				\$2,078,133
2	Property Acquisition				\$1,005,000
2.01	150 Dunlop St. W. (portion of)				\$1,005,000
	Adjusted Value:			165%	\$1,658,250
	Acquisition Contingency:			30%	\$497,475
	Property Acquisition:				\$2,155,725
	Total Estimated Project Cost:				\$4,233,858

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**Project No. 167
Watercourse Improvement No. 26 (Reach Ki-11)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Remove Existing Storm Sewer	m	140	\$65.00	\$9,100
1.02	Remove Existing Maintenance Holes	ea.	2	\$1,100.00	\$2,200
1.03	Excavation and Grading	m ³	1,500	\$24.00	\$36,000
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	1,500	\$1.00	\$1,500
1.05	Remove and Dispose of Excess Material	m ³	1,500	\$30.00	\$45,000
1.06	Daylight Channel	m	140	\$2,000.00	\$280,000
1.07	Flow Diversion	wks	5	\$20,000.00	\$100,000
					Subtotal: Watercourse Improvement
					\$473,800
				Construction Contingency:	30%
					\$142,140
				Engineering Design Fee:	20%
					\$94,760
				Contract Administration / Construction Inspection:	10%
					\$47,380
				Utilities / Services Relocation Cost:	15%
					\$71,070
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$829,150
				Construction Index:	5.2%
					\$43,116
				HST:	1.76%
					\$15,352
				Total Construction Cost (2019 Unit Prices):	\$887,618
				Total Estimated Project Cost	\$887,618

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**Project No. 11A
Trunk Storm Sewer Improvement No. 11 (Bradford St.)
Kidd's Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	22	\$85.00	\$1,870
1.02	Remove Asphalt	m ²	242	\$9.00	\$2,178
1.03	Remove Granular Road Base	m ²	242	\$7.00	\$1,694
1.04	Remove Existing Concrete Curb and Gutter	m	22	\$36.00	\$792
1.05	Remove Existing Sidewalk	m ²	33	\$18.00	\$594
1.06	Connect to Storm Sewer	ea	1	\$5,000.00	\$5,000
1.07	6000 x 1500 mm Conc. Box Culvert	m	73	\$15,800.00	\$1,153,400
1.08	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.09	Granular 'B' (450 mm)	m ²	242	\$20.00	\$4,840
1.10	Granular 'A' (150 mm)	m ²	242	\$11.00	\$2,662
1.11	100 mm HL8 Base Course Asphalt	m ²	242	\$39.50	\$9,559
1.12	40 mm HL3 Surface Course Asphalt	m ²	242	\$17.00	\$4,114
1.13	Concrete Curb and Gutter	m	22	\$75.00	\$1,650
1.14	Concrete Sidewalk	m ²	22	\$100.00	\$2,200
1.15	Flow Diversion	wks	4	\$20,000.00	\$80,000
	Subtotal: Trunk Storm Sewer Improvement				\$1,320,553
	Construction Contingency:			30%	\$396,166
	Engineering Design Fee:			20%	\$264,111
	Contract Administration / Construction Inspection:			10%	\$132,055
	Utilities / Services Relocation Cost:			15%	\$198,083
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,310,968
	Construction Index:			5.2%	\$120,170
	HST:			1.76%	\$42,788
	Total Construction Cost (2019 Unit Prices):				\$2,473,926
	Total Estimated Project Cost				\$2,473,926

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 31
SWMF Retrofit No. 10 (BK03)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Connect to Maintenance Hole	LS	2	\$5,000.00	\$10,000
1.02	Strip and Stockpile Topsoil	m ²	640	\$13.00	\$8,320
1.03	Excavation and Grading	m ³	5,140	\$24.00	\$123,360
1.04	Geotechnical Sampling for Off-site Disposal	m ³	1,530	\$1.00	\$1,530
1.05	Remove and Dispose of Excess Material	m ³	1,530	\$30.00	\$45,900
1.06	3000 mm Dia. Maintenance Hole	ea	4	\$27,900.00	\$111,600
1.07	2400 mm Dia. Maintenance Hole	ea	3	\$19,200.00	\$57,600
1.08	1500 mm Dia. Maintenance Hole	ea	1	\$8,600.00	\$8,600
1.09	Oil/Grit Separator (Vortech 16000)	ea	1	\$120,000.00	\$120,000
1.10	750 mm Dia. Storm Sewer	m	50	\$640.00	\$32,000
1.11	1200 mm Dia. Storm Sewer	m	75	\$1,170.00	\$87,750
1.12	Concrete Headwall - 1200 mm Dia.	ea	1	\$28,200.00	\$28,200
1.13	Filter Fabric	m ²	1,460	\$6.00	\$8,760
1.14	Perforated 1800 mm CMP	m	535	\$1,400.00	\$749,000
1.15	2" Clear Stone	m ³	895	\$45.00	\$40,275
1.16	Place Topsoil and Hydroseed	m ²	650	\$10.00	\$6,500
1.17	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.18	Road Reinstatement	m ²	300	\$75.00	\$22,500
1.19	Orifice Plate	ea	1	\$500.00	\$500
1.20	Perforated Vertical Riser Outlet Structure	ea	1	\$12,000.00	\$12,000
1.21	1200 mm Dia. Storm Sewer	m	30	\$1,170.00	\$35,100
1.22	Remove Existing Storm Sewer	m	30	\$65.00	\$1,950
1.23	Flow Diversion	wks	2	\$20,000.00	\$40,000
			Subtotal: SWMF Retrofit		\$1,557,445
				Construction Contingency: 30%	\$467,234
				Engineering Design Fee: 20%	\$311,489
				Contract Administration / Construction Inspection: 10%	\$155,745
				Utilities / Services Relocation Cost: 15%	\$233,617
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$2,725,529
				Construction Index: 5.2%	\$141,727
				HST: 1.76%	\$50,464
				Total Construction Cost (2019 Unit Prices):	\$2,917,720
				Total Estimated Project Cost	\$2,917,720

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**Project No. 32
Trunk Storm Sewer No. 1 (Anne St. N.)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount	
1	Trunk Storm Sewer					
1.01	Remove Existing Storm Sewer	m	965	\$65.00	\$62,725	
1.02	Remove Existing Maintenance Holes	ea	14	\$1,100.00	\$15,400	
1.03	1200 mm Dia. Storm Sewer	m	965	\$1,170.00	\$1,129,050	
1.04	2311 mm x 1473 mm HE Concrete Storm Sewer	m	60	\$4,125.00	\$247,500	
1.05	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000	
1.06	1500 mm Dia. Maintenance Hole	ea	14	\$8,600.00	\$120,400	
1.07	3600 mm Dia. Maintenance Hole	ea	3	\$37,500.00	\$112,500	
1.08	Relocate Existing Sanitary Sewer	m	715	\$850.00	\$607,750	
1.09	Sanitary Maintenance Holes	ea	13	\$7,500.00	\$97,500	
1.10	Raise Existing Watermain	LS	1	\$20,000.00	\$20,000	
Subtotal: Trunk Storm Sewer Improvement					\$2,462,825	
				Construction Contingency:	30%	\$738,848
				Engineering Design Fee:	20%	\$492,565
				Contract Administration / Construction Inspection:	10%	\$246,283
				Utilities / Services Relocation Cost:	15%	\$369,424
				Environmental Assessment Costs:		\$0
					Construction Cost Estimate (2018 Unit Prices):	\$4,309,944
				Construction Index:	5.2%	\$224,117
				HST:	1.76%	\$79,799
					Total Construction Cost (2019 Unit Prices):	\$4,613,860
Total Estimated Project Cost					\$4,613,860	

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 34
Watercourse Improvement No. 4 (Reach Bu-3)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	2,250	\$2.00	\$4,500
1.02	Strip and Stockpile Topsoil	m ²	2,250	\$13.00	\$29,250
1.03	Excavation and Grading	m ³	1,000	\$24.00	\$24,000
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	1,000	\$1.00	\$1,000
1.05	Remove and Dispose of Excess Material	m ³	1,000	\$30.00	\$30,000
1.06	Watercourse Improvements	m	150	\$2,000.00	\$300,000
1.07	Repair Existing Gabion Channel Lining	m	170	\$500.00	\$85,000
1.08	Place Topsoil and Hydroseed	m ²	2,250	\$10.00	\$22,500
1.09	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.10	Flow Diversion	wks	2	\$20,000.00	\$40,000
	Subtotal: Watercourse Improvement				\$542,250
	Construction Contingency:			30%	\$162,675
	Engineering Design Fee:			20%	\$108,450
	Contract Administration / Construction Inspection:			10%	\$54,225
	Utilities / Services Relocation Cost:			15%	\$81,338
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$948,938
	Construction Index:			5.2%	\$49,345
	HST:			1.76%	\$17,570
	Total Construction Cost (2019 Unit Prices):				\$1,015,852
	Total Estimated Project Cost				\$1,015,852

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**Project No. 35
Watercourse Improvement No. 5 (Reach Bu-7)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	1,575	\$2.00	\$3,150
1.02	Strip and Stockpile Topsoil	m ²	1,575	\$13.00	\$20,475
1.03	Excavation and Grading	m ³	500	\$24.00	\$12,000
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	500	\$1.00	\$500
1.05	Remove and Dispose of Excess Material	m ³	500	\$30.00	\$15,000
1.06	Watercourse Improvements	m	25	\$2,000.00	\$50,000
1.07	Repair Existing Gabion Channel Lining	m	105	\$500.00	\$52,500
1.08	Place Topsoil and Hydroseed	m ²	1,575	\$10.00	\$15,750
1.09	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.10	Flow Diversion	wks	1	\$20,000.00	\$20,000
	Subtotal: Watercourse Improvement				\$195,375
	Construction Contingency:			30%	\$58,613
	Engineering Design Fee:			20%	\$39,075
	Contract Administration / Construction Inspection:			10%	\$19,538
	Utilities / Services Relocation Cost:			15%	\$29,306
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$341,906
	Construction Index:			5.2%	\$17,779
	HST:			1.76%	\$6,330
	Total Construction Cost (2019 Unit Prices):				\$366,016
	Total Estimated Project Cost				\$366,016

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**Project No. 40B
Trunk Storm Sewer No. 2 (Dunlop St. W. and Anne St. S.)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Trunk Storm Sewer				
1.01	Remove Existing Storm Sewer	m	220	\$65.00	\$14,300
1.02	Remove Existing Maintenance Holes	ea	4	\$1,100.00	\$4,400
1.03	Connect to Culvert	ea	1	\$5,000.00	\$5,000
1.04	1800 x 1200 mm Conc. Box Culvert	m	380	\$3,970.00	\$1,508,600
1.05	Maintenance Access Port	ea	4	\$5,000.00	\$20,000
	Subtotal: Trunk Storm Sewer Improvement				\$1,552,300
	Construction Contingency:			30%	\$465,690
	Engineering Design Fee:			20%	\$310,460
	Contract Administration / Construction Inspection:			10%	\$155,230
	Utilities / Services Relocation Cost:			15%	\$232,845
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,716,525
	Construction Index:			5.2%	\$141,259
	HST:			1.76%	\$50,297
	Total Construction Cost (2019 Unit Prices):				\$2,908,081
	Total Estimated Project Cost				\$2,908,081

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 41
Watercourse Improvement No. 8 (Reach Bu-11 and Bu-14)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	750	\$2.00	\$1,500
1.02	Strip and Stockpile Topsoil	m ²	750	\$13.00	\$9,750
1.03	Excavation and Grading	m ³	1,500	\$24.00	\$36,000
1.04	Remove and Dispose of Excess Material	m ³	1,500	\$30.00	\$45,000
1.05	Geotechnical Sampling for Off-site Disposal	m ³	1,500	\$1.00	\$1,500
1.06	Watercourse Improvements	m	150	\$2,000.00	\$300,000
1.07	Place Topsoil and Hydroseed	m ²	750	\$10.00	\$7,500
1.08	Flow Diversion	wks	2	\$20,000.00	\$40,000
					Subtotal: Watercourse Improvement
					\$441,250
				Construction Contingency:	30%
					\$132,375
				Engineering Design Fee:	20%
					\$88,250
				Contract Administration / Construction Inspection:	10%
					\$44,125
				Utilities / Services Relocation Cost:	15%
					\$66,188
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$772,188
				Construction Index:	5.2%
					\$40,154
				HST:	1.76%
					\$14,297
				Total Construction Cost (2019 Unit Prices):	\$826,638
2	Property Acquisition				\$105,000
2.01	130 Vespra St. (portion of)				\$105,000
				Adjusted Value:	165%
					\$173,250
				Acquisition Contingency:	30%
					51,975
				Property Acquisition:	\$225,225
				Total Estimated Project Cost:	\$1,051,863

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**Project No. 42
SWMF Retrofit No. 95 (Milligan's Pond)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Dewatering	m ³	11,320	\$5.00	\$56,600
1.02	Excavation and Grading	m ³	5,660	\$24.00	\$135,840
1.03	Geotechnical Sampling for Off-site Disposal	m ³	5,660	\$1.00	\$5,660
1.04	Remove and Dispose of Excess Material	m ³	5,660	\$30.00	\$169,800
1.05	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.06	Heavy Duty Silt Fence	m	600	\$23.00	\$13,800
1.07	Place Topsoil and Hydroseed	m ²	1,500	\$10.00	\$15,000
1.08	SWMF Active Storage Landscaping	m ²	1,500	\$34.00	\$51,000
1.09	Watercourse Improvements	m	280	\$2,000.00	\$560,000
1.10	Remove Existing Outlet Control Structure	ea	1	\$5,000.00	\$5,000
1.11	Flow Diversion	wks	3	\$20,000.00	\$60,000
Subtotal: SWMF Retrofit					\$1,078,700
Construction Contingency:				30%	\$323,610
Engineering Design Fee:				20%	\$215,740
Contract Administration / Construction Inspection:				10%	\$107,870
Utilities / Services Relocation Cost:				15%	\$161,805
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$1,887,725
Construction Index:				5.2%	\$98,162
HST:				1.76%	\$34,952
Total Construction Cost (2019 Unit Prices):					\$2,020,838
Total Estimated Project Cost					\$2,020,838

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**Project No. 43
(Transportation Master Plan Project ID 1721)
Culvert Improvement No. 22 (Innisfil Street)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	36	\$85.00	\$3,060
1.02	10.06 m Open Bottom Span Structure	m	25	\$37,950.00	\$948,750
1.03	Concrete Distribution Slab	LS	1.25	\$20,000.00	\$25,000
1.04	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.05	Flow Diversion	wks	8	\$20,000.00	\$160,000
1.06	Excavation and Grading	m ³	500	\$24.00	\$12,000
1.07	Geotechnical Sampling for Off-site Disposal	m ³	500	\$1.00	\$500
1.08	Remove and Dispose of Excess Material	m ³	500	\$30.00	\$15,000
1.09	Watercourse Improvements	m	80	\$2,000.00	\$160,000
1.10	Place Topsoil and Hydroseed	m ²	800	\$10.00	\$8,000
1.11	Landscaping	m ²	800	\$34.00	\$27,200
	Subtotal: Culvert Improvement				\$1,409,510
	Construction Contingency:			30%	\$422,853.00
	Engineering Design Fee:			20%	\$281,902.00
	Contract Administration / Construction Inspection:			10%	\$140,951
	Utilities / Services Relocation Cost:			15%	\$211,426.50
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,466,643
	Construction Index:			5.2%	\$128,265.41
	HST:			1.76%	\$45,670.38
	Total Construction Cost (2019 Unit Prices):				\$2,640,578
2	Property Acquisition				\$228,000
2.01	80 Bradford St. (portion of)				\$228,000
	Adjusted Value:			165%	\$376,200
	Acquisition Contingency:			30%	\$112,860
	Property Acquisition:				\$489,060
	Total Estimated Project Cost:				\$3,129,638

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 44
Culvert Improvement No. 23 (Commercial Plaza Entrance Road Removal)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	36	\$85.00	\$3,060
1.02	Remove Asphalt	m ²	360	\$9.00	\$3,240
1.03	Remove Granular Road Base	m ²	360	\$7.00	\$2,520
1.04	Remove Existing Concrete Curb and Gutter	m	60	\$36.00	\$2,160
1.05	Excavation and Grading	m ³	720	\$24.00	\$17,280
1.06	Remove and Dispose of Excess Material	m ³	720	\$30.00	\$21,600
1.07	Geotechnical Sampling for Off-site Disposal	m ³	720	\$1.00	\$720
1.08	Construction Access Mud Mat	ea	2	\$6,000.00	\$12,000
1.09	Watercourse Improvements	m	110	\$2,000.00	\$220,000
1.10	Place Topsoil and Hydroseed	m ²	1,100	\$10.00	\$11,000
1.11	Landscaping	m ²	1,100	\$34.00	\$37,400
1.12	Flow Diversion	wks	2	\$20,000.00	\$40,000
1.13	New Concrete Substructure	m ³	66	\$2,200.00	\$145,200
1.14	New Pedestrian Bridge w Timber Deck (3 m wide)	LS	1	\$112,500.00	\$112,500
1.15	Backfill	m ³	100	\$45.00	\$4,500
1.16	Embankment Rock Protection	m ²	50	\$75.00	\$3,750
1.17	Paving Approaches	t	100	\$200.00	\$20,000
1.18	Site Restoration	L.S.	1	\$5,000.00	\$5,000
					Subtotal: Culvert Improvement
					\$661,930
					Construction Contingency: 30% \$198,579
					Engineering Design Fee: 20% \$132,386
					Contract Administration / Construction Inspection: 10% \$66,193
					Utilities / Services Relocation Cost: 15% \$99,290
					Environmental Assessment Costs: \$0
					Construction Cost Estimate (2018 Unit Prices): \$1,158,378
					Construction Index: 5.2% \$60,236
					HST: 1.76% \$21,448
					Total Construction Cost (2019 Unit Prices): \$1,240,061
2	Property Acquisition				\$228,000
2.01	80 Bradford St. (portion of)				\$228,000
					Adjusted Value: 165% \$376,200
					Acquisition Contingency: 30% \$112,860
					Property Acquisition: \$489,060
					Total Estimated Project Cost: \$1,729,121

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**Project No. 45
(Transportation Master Plan Project ID 1379)
Culvert Improvement No. 24 (Bradford Street)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	44	\$85.00	\$3,740
1.02	7.62 m Open Bottom Span Structure	m	66	\$32,600.00	\$2,151,600
1.03	Concrete Distribution Slab	LS	3	\$20,000.00	\$60,000
1.04	Concrete Headwall / Wingwalls	ea	4	\$25,000.00	\$100,000
1.05	Flow Diversion	wks	8	\$20,000.00	\$160,000
1.06	Excavation and Grading	m ³	420	\$24.00	\$10,080
1.07	Geotechnical Sampling for Off-site Disposal	m ³	420	\$1.00	\$420
1.08	Remove and Dispose of Excess Material	m ³	420	\$30.00	\$12,600
1.09	Watercourse Improvements	m	70	\$2,000.00	\$140,000
1.10	Place Topsoil and Hydroseed	m ²	700	\$10.00	\$7,000
1.11	Landscaping	m ²	700	\$34.00	\$23,800
	Subtotal: Culvert Improvement				\$2,669,240
	Construction Contingency:			30%	\$800,772
	Engineering Design Fee:			20%	\$533,848
	Contract Administration / Construction Inspection:			10%	\$266,924
	Utilities / Services Relocation Cost:			15%	\$400,386
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$4,671,170
	Construction Index:			5.2%	\$242,901
	HST:			1.76%	\$86,488
	Total Construction Cost (2019 Unit Prices):				\$5,000,558
2	Property Acquisition				\$80,000
2.01	100 Bradford St. (portion of)				\$80,000
	Adjusted Value:			165%	\$132,000
	Acquisition Contingency:			30%	\$39,600
	Property Acquisition:				\$171,600
	Total Estimated Project Cost:				\$5,172,158

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 46
Watercourse Improvement No. 27 (Reach Bu-16)
Bunkers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	2,150	\$24.00	\$51,600
1.02	Remove and Dispose of Excess Material	m ³	2,150	\$30.00	\$64,500
1.03	Geotechnical Sampling for Off-site Disposal	m ³	2,150	\$1.00	\$2,150
1.04	Watercourse Improvements	m	215	\$2,000.00	\$430,000
1.05	Remove Existing Buildings	ea	1	\$25,000.00	\$25,000
1.06	Remove Asphalt	m ²	1,700	\$9.00	\$15,300
1.07	Remove Granular Road Base	m ²	1,700	\$7.00	\$11,900
1.08	Imported Topsoil	m ³	260	\$56.00	\$14,560
1.09	Place Topsoil and Hydroseed	m ²	3,850	\$10.00	\$38,500
1.10	Landscaping	m ²	3,850	\$34.00	\$130,900
1.11	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.12	Flow Diversion	wks	6	\$20,000.00	\$120,000
	Subtotal: Watercourse Improvement				\$910,410
	Construction Contingency:			30%	\$273,123
	Engineering Design Fee:			20%	\$182,082
	Contract Administration / Construction Inspection:			10%	\$91,041
	Utilities / Services Relocation Cost:			15%	\$136,562
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,593,218
	Construction Index:			5.2%	\$82,847
	HST:			1.76%	\$29,499
	Total Construction Cost (2019 Unit Prices):				\$1,705,564
2	Property Acquisition				\$852,000
2.01	93 Bradford St.				\$449,000
2.02	20 Checkley St. (portion of)				\$403,000
	Adjusted Value:			165%	\$1,405,800
	Acquisition Contingency:			30%	421,740
	Property Acquisition:				\$1,827,540
	Total Estimated Project Cost:				\$3,533,104

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**Project No. 49
Watercourse Improvement No. 29 (Reach Dy-1)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	1,900	\$2.00	\$3,800
1.02	Strip and Stockpile Topsoil	m ²	1,900	\$13.00	\$24,700
1.03	Excavation and Grading	m ³	1,250	\$24.00	\$30,000
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	1,250	\$1.00	\$1,250
1.05	Remove and Dispose of Excess Material	m ³	1,250	\$30.00	\$37,500
1.06	Watercourse Improvements	m	125	\$2,000.00	\$250,000
1.07	Place Topsoil and Hydroseed	m ²	1,900	\$10.00	\$19,000
1.08	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.09	Flow Diversion	wks	3	\$20,000.00	\$60,000
	Subtotal: Watercourse Improvement				\$432,250
	Construction Contingency:			30%	\$129,675
	Engineering Design Fee:			20%	\$86,450
	Contract Administration / Construction Inspection:			10%	\$43,225
	Utilities / Services Relocation Cost:			15%	\$64,838
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$756,438
	Construction Index:			5.2%	\$39,335
	HST:			1.76%	\$14,006
	Total Construction Cost (2019 Unit Prices):				\$809,778
	Total Estimated Project Cost				\$809,778

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**Project No. 181
SWMF Retrofit No. 78
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Clearing and Grubbing (sq.m)	m ²	27,500	\$2.00	\$55,000
1.02	Strip and Stockpile Topsoil	m ²	27,500	\$13.00	\$357,500
1.03	Supply, Place, Compact Imported Fill	m ³	13,200	\$30.00	\$396,000
1.04	Place Topsoil and Hydroseed	m ²	10,700	\$10.00	\$107,000
1.05	Excavation and Grading	m ³	2,050	\$24.00	\$49,200
1.06	Geotechnical Sampling for Off-site Disposal	m ³	2,050	\$1.00	\$2,050
1.07	Remove and Dispose of Excess Material	m ³	2,050	\$30.00	\$61,500
1.08	Watercourse Improvements	m	205	\$2,000.00	\$410,000
1.09	2438 mm x 914 mm Conc. Box Culvert	m	15	\$4,695.00	\$70,425
1.10	Concrete Headwall / Wingwalls	ea	1	\$25,000.00	\$25,000
1.11	Heavy Duty Silt Fence	m	1,300	\$23.00	\$29,900
1.12	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.13	Flow Diversion	wks	6	\$20,000.00	\$120,000
			Subtotal: SWMF Retrofit		\$1,689,575
				Construction Contingency: 30%	\$506,873
				Engineering Design Fee: 20%	\$337,915
				Contract Administration / Construction Inspection: 10%	\$168,958
				Utilities / Services Relocation Cost: 15%	\$253,436
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$2,956,756
				Construction Index: 5.2%	\$153,751
				HST: 1.76%	\$54,745
				Total Construction Cost (2019 Unit Prices):	\$3,165,253
2	Property Acquisition				\$1,023,000
2.01	Address Not Available				\$1,023,000
				Adjusted Value: 165%	\$1,687,950
				Acquisition Contingency: 30%	506,385
				Property Acquisition:	\$2,194,335
				Total Estimated Project Cost:	\$5,359,588

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**Project No. 182
(Transportation Master Plan Project ID 1206)
Culvert Improvement No. 28 (Dunlop St. W.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	3048 mm x 914 mm Conc. Box Culvert	m	56	\$7,010.00	\$392,560
1.02	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.03	Flow Diversion	wks	4	\$20,000.00	\$80,000
	Subtotal: Culvert Improvement				\$522,560
	Construction Contingency:				30%
					\$156,768
	Engineering Design Fee:				20%
					\$104,512
	Contract Administration / Construction Inspection:				10%
					\$52,256
	Utilities / Services Relocation Cost:				15%
					\$78,384
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$914,480
	Construction Index:				5.2%
					\$47,553
	HST:				1.76%
					\$16,932
	Total Construction Cost (2019 Unit Prices):				\$978,965
	Total Estimated Project Cost				\$978,965

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 183
Watercourse Improvement No. 9 (Reach Dy-2a)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	8,800	\$2.00	\$17,600
1.02	Strip and Stockpile Topsoil	m ²	8,800	\$13.00	\$114,400
1.03	Excavation and Grading	m ³	5,750	\$24.00	\$138,000
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	5,750	\$1.00	\$5,750
1.05	Remove and Dispose of Excess Material	m ³	5,750	\$30.00	\$172,500
1.06	Watercourse Improvements	m	440	\$2,000.00	\$880,000
1.07	Armour Stone Retaining Wall	m	120	\$800.00	\$96,000
1.08	Place Topsoil and Hydroseed	m ²	8,800	\$10.00	\$88,000
1.09	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.10	Flow Diversion	wks	4	\$20,000.00	\$80,000
	Subtotal: Watercourse Improvement				\$1,598,250
	Construction Contingency:			30%	\$479,475
	Engineering Design Fee:			20%	\$319,650
	Contract Administration / Construction Inspection:			10%	\$159,825
	Utilities / Services Relocation Cost:			15%	\$239,738
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,796,938
	Construction Index:			5.2%	\$145,441
	HST:			1.76%	\$51,786
	Total Construction Cost (2019 Unit Prices):				\$2,994,164
2	Property Acquisition				\$564,000
2.01	Address Not Available (portion of)				\$173,000
2.02	Address Not Available (portion of)				\$176,000
2.03	461 Dunlop St. W. (portion of)				\$67,000
2.04	100 Ferndale Dr. N. (portion of)				\$148,000
	Adjusted Value:			165%	\$930,600
	Acquisition Contingency:			30%	279,180
	Property Acquisition:				\$1,209,780
	Total Estimated Project Cost:				\$4,203,944

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**Project No. 50
Culvert Improvement No. 29 (Ferndale Dr. N.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	19	\$85.00	\$1,615
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Remove Asphalt	m ²	225	\$9.00	\$2,025
1.04	Remove Granular Road Base	m ²	225	\$7.00	\$1,575
1.05	Remove Existing Concrete Curb and Gutter	m	30	\$36.00	\$1,080
1.06	Remove Existing Sidewalk	m ²	45	\$18.00	\$810
1.07	10.67 m Open Bottom Span Structure	m	20	\$39,300.00	\$766,350
1.08	Concrete Distribution Slab	LS	1	\$20,000.00	\$20,000
1.09	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.10	Granular 'B' (450 mm)	m ²	225	\$20.00	\$4,500
1.11	Granular 'A' (150 mm)	m ²	225	\$11.00	\$2,475
1.12	Thickened Layer of Granular 'A'	m ²	225	\$27.50	\$6,188
1.13	100 mm HL8 Base Course Asphalt	m ²	225	\$39.50	\$8,888
1.14	40 mm HL3 Surface Course Asphalt	m ²	225	\$17.00	\$3,825
1.15	Concrete Curb and Gutter	m	30	\$75.00	\$2,250
1.16	Concrete Sidewalk	m ²	45	\$100.00	\$4,500
1.17	Reinstate Grassed Boulevard	m ²	100	\$26.00	\$2,600
1.18	Flow Diversion	wks	3	\$20,000.00	\$60,000
Subtotal: Culvert Improvement					\$941,180
Construction Contingency:				30%	\$282,354
Engineering Design Fee:				20%	\$188,236
Contract Administration / Construction Inspection:				10%	\$94,118
Utilities / Services Relocation Cost:				15%	\$141,177
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$1,647,065
Construction Index:				5.2%	\$85,647.4
HST:				1.76%	\$30,496
Total Construction Cost (2019 Unit Prices):					\$1,763,208
Total Estimated Project Cost					\$1,763,208

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**Project No. 51
Watercourse Improvement No. 10 (Reach Dy-2b)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	4,500	\$2.00	\$9,000
1.02	Strip and Stockpile Topsoil	m ²	4,500	\$13.00	\$58,500
1.03	Excavation and Grading	m ³	4,500	\$24.00	\$108,000
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	4,500	\$1.00	\$4,500
1.05	Remove and Dispose of Excess Material	m ³	4,500	\$30.00	\$135,000
1.06	Watercourse Improvements	m	300	\$2,000.00	\$600,000
1.07	Armour Stone Retaining Wall	m	260	\$800.00	\$208,000
1.08	Place Topsoil and Hydroseed	m ²	4,500	\$10.00	\$45,000
1.09	Flow Diversion	wks	6	\$20,000.00	\$120,000
	Subtotal: Watercourse Improvement				\$1,288,000
	Construction Contingency:			30%	\$386,400
	Engineering Design Fee:			20%	\$257,600
	Contract Administration / Construction Inspection:			10%	\$128,800
	Utilities / Services Relocation Cost:			15%	\$193,200
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,254,000
	Construction Index:			5.2%	\$117,208
	HST:			1.76%	\$41,733
	Total Construction Cost (2019 Unit Prices):				\$2,412,941
2	Property Acquisition				\$1,093,000
2.01	425 Dunlop St W. (portion of)				\$278,000
2.02	433 Dunlop St. W. (portion of)				\$110,000
2.03	441 Dunlop St. W. (portion of)				\$480,000
2.04	97 Ferndale Dr. N. (portion of)				\$37,000
2.05	105 Ferndale Dr. N. (portion of)				\$108,000
2.06	30 Elliott Ave. (portion of)				\$21,000
2.07	20 Elliott Ave. (portion of)				\$27,000
2.08	8 Sarjeant Dr. (portion of)				\$32,000
	Adjusted Value:			165%	\$1,803,450
	Acquisition Contingency:			30%	541,035
	Property Acquisition:				\$2,344,485
	Total Estimated Project Cost:				\$4,757,426

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**Project No. 52
Culvert Improvement No. 30 (Sarjeant Dr. and Dunlop St. W.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Asphalt	m ²	120	\$9.00	\$1,080
1.02	Remove Granular Road Base	m ²	120	\$7.00	\$840
1.03	Remove Existing Concrete Curb and Gutter	m	24	\$36.00	\$864
1.04	3000 x 1500 mm Conc. Box Culvert (Min. Cover)	m	410	\$9,740.00	\$3,993,400
1.05	Concrete Distribution Slab	LS	1	\$20,000.00	\$20,000
1.06	Concrete Headwall / Wingwalls	ea.	4	\$25,000.00	\$100,000
1.07	Maintenance Access Port	ea.	12	\$5,000.00	\$60,000
1.08	Granular 'B' (450 mm)	m ²	120	\$20.00	\$2,400
1.09	Granular 'A' (150 mm)	m ²	120	\$11.00	\$1,320
1.10	100 mm HL8 Base Course Asphalt	m ²	120	\$39.50	\$4,740
1.11	40 mm HL3 Surface Course Asphalt	m ²	120	\$17.00	\$2,040
1.12	Concrete Curb and Gutter	m	24	\$75.00	\$1,800
1.13	Reinstate Grassed Boulevard	m ²	1,200	\$26.00	\$31,200
1.14	Reinstate Driveway	m ²	200	\$38.00	\$7,600
1.15	Flow Diversion	wks	10	\$20,000.00	\$200,000
				Subtotal: Culvert Improvement	\$4,427,284
				Construction Contingency:	30%
					\$1,328,185
				Engineering Design Fee:	20%
					\$885,457
				Contract Administration / Construction Inspection:	10%
					\$442,728
				Utilities / Services Relocation Cost:	15%
					\$664,093
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$7,747,747
				Construction Index:	5.2%
					\$402,883
				HST:	1.76%
					\$143,451
				Total Construction Cost (2019 Unit Prices):	\$8,294,081
				Total Estimated Project Cost	\$8,294,081

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**Project No. 55
Culvert Improvement No. 32 (Extend Highway 400 Culvert Under Hart Dr.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	14	\$85.00	\$1,190
1.02	Remove Asphalt	m ²	300	\$9.00	\$2,700
1.03	Remove Granular Road Base	m ²	300	\$7.00	\$2,100
1.04	9000 mm x 2000 mm Conc. Box Culvert	m	45	\$23,135.00	\$1,041,075
1.05	Concrete Distribution Slab	LS	1	\$20,000.00	\$20,000
1.06	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.07	Granular 'B' (450 mm)	m ²	300	\$20.00	\$6,000
1.08	Granular 'A' (150 mm)	m ²	300	\$11.00	\$3,300
1.09	100 mm HL8 Base Course Asphalt	m ²	300	\$39.50	\$11,850
1.10	40 mm HL3 Surface Course Asphalt	m ²	300	\$17.00	\$5,100
1.11	Reinstate Grassed Boulevard	m ²	200	\$26.00	\$5,200
1.12	Flow Diversion	wks	5	\$20,000.00	\$100,000
Subtotal: Culvert Improvement					\$1,248,515
Construction Contingency:				30%	\$374,555
Engineering Design Fee:				20%	\$249,703
Contract Administration / Construction Inspection:				10%	\$124,852
Utilities / Services Relocation Cost:				15%	\$187,277
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$2,184,901
Construction Index:				5.2%	\$113,615
HST:				1.76%	\$40,454
Total Construction Cost (2019 Unit Prices):					\$2,338,970
Total Estimated Project Cost					\$2,338,970

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**Project No. 56
Watercourse Improvement No. 11 (Reach Dy-3 - 55 Hart Dr.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	1,200	\$24.00	\$28,800
1.02	Remove and Dispose of Excess Material	m ³	1,200	\$30.00	\$36,000
1.03	Geotechnical Sampling for Off-site Disposal	m ³	1,200	\$1.00	\$1,200
1.04	Watercourse Improvements	m	45	\$2,000.00	\$90,000
1.05	Armour Stone Retaining Wall	m	90	\$800.00	\$72,000
1.06	Flow Diversion	wks	2	\$20,000.00	\$40,000
	Subtotal: Watercourse Improvement				\$268,000
	Construction Contingency:			30%	\$80,400
	Engineering Design Fee:			20%	\$53,600
	Contract Administration / Construction Inspection:			10%	\$26,800
	Utilities / Services Relocation Cost:			15%	\$40,200
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$469,000
	Construction Index:			5.2%	\$24,388
	HST:			1.76%	\$8,684
	Total Construction Cost (2019 Unit Prices):				\$502,072
2	Property Acquisition				\$193,000
2.01	55 Hart Dr. (portion of)				\$193,000
	Adjusted Value:			165%	\$318,450
	Acquisition Contingency:			30%	\$95,535
	Property Acquisition:				\$413,985
	Total Estimated Project Cost:				\$916,057

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**Project No. 57
Culvert Improvement No. 34 (George St.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	20	\$85.00	\$1,700
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Remove Asphalt	m ²	110	\$9.00	\$990
1.04	Remove Granular Road Base	m ²	110	\$7.00	\$770
1.05	Remove Existing Concrete Curb and Gutter	m	25	\$36.00	\$900
1.06	Excavation and Grading	m ³	290	\$24.00	\$6,960
1.07	Remove and Dispose of Excess Material	m ³	290	\$30.00	\$8,700
1.08	Geotechnical Sampling for Off-site Disposal	m ³	290	\$1.00	\$290
1.09	Supply, Place, Compact Imported Fill	m ³	290	\$30.00	\$8,700
1.10	3600 mm x 1800 mm Conc. Box Culvert	m	40	\$8,825.00	\$353,000
1.11	Concrete Distribution Slab	LS	1	\$20,000.00	\$20,000
1.12	Concrete Headwall / Wingwalls	ea	4	\$25,000.00	\$100,000
1.13	Granular 'B' (450 mm)	m ²	110	\$20.00	\$2,200
1.14	Granular 'A' (150 mm)	m ²	110	\$11.00	\$1,210
1.15	100 mm HL8 Base Course Asphalt	m ²	110	\$39.50	\$4,345
1.16	40 mm HL3 Surface Course Asphalt	m ²	110	\$17.00	\$1,870
1.17	Concrete Curb and Gutter	m	25	\$75.00	\$1,875
1.18	Reinstate Grassed Boulevard	m ²	145	\$26.00	\$3,770
1.19	Watercourse Improvements	m	55	\$2,000.00	\$110,000
1.20	Flow Diversion	wks	2	\$20,000.00	\$40,000
	Subtotal: Culvert Improvement				\$669,780
	Construction Contingency:			30%	\$200,934
	Engineering Design Fee:			20%	\$133,956
	Contract Administration / Construction Inspection:			10%	\$66,978
	Utilities / Services Relocation Cost:			15%	\$100,467
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,172,115
	Construction Index:			5.2%	\$60,950
	HST:			1.76%	\$21,702
	Total Construction Cost (2019 Unit Prices):				\$1,254,767
	Total Estimated Project Cost				\$1,254,767

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**Project No. 169
Culvert Improvement No. 35 (Victoria St.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	38	\$85.00	\$3,230
1.02	Remove Asphalt	m ²	1,200	\$9.00	\$10,800
1.03	Remove Granular Road Base	m ²	1,200	\$7.00	\$8,400
1.04	Clearing and Grubbing (sq.m)	m ²	2,200	\$2.00	\$4,400
1.05	Strip and Stockpile Topsoil	m ²	2,200	\$13.00	\$28,600
1.06	Excavation and Grading	m ³	4,800	\$24.00	\$115,200
1.07	Geotechnical Sampling for Off-Site Disposal	m ³	4,800	\$1.00	\$4,800
1.08	Remove and Dispose of Excess Material	m ³	4,800	\$30.00	\$144,000
1.09	Watercourse Improvements	m	40	\$2,000.00	\$80,000
1.10	Place Topsoil and Hydroseed	m ²	4,800	\$10.00	\$48,000
1.11	Flow Diversion	wks	8	\$20,000.00	\$160,000
					Subtotal: Culvert Improvement
					\$607,430
				Construction Contingency: 30%	\$182,229
				Engineering Design Fee: 20%	\$121,486
				Contract Administration / Construction Inspection: 10%	\$60,743
				Utilities / Services Relocation Cost: 15%	\$91,115
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$1,063,003
				Construction Index: 5.2%	\$55,276
				HST: 1.76%	\$19,682
				Total Construction Cost (2019 Unit Prices):	\$1,137,960
				Total Estimated Project Cost	\$1,137,960

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**Project No. 170B
SWMF Retrofit No. 79 (DY01)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Dewatering	m ³	30,460	\$5.00	\$152,300
1.02	Clearing and Grubbing (sq.m)	m ²	30,460	\$2.00	\$60,920
1.03	Strip and Stockpile Topsoil	m ²	21,000	\$13.00	\$273,000
1.04	Excavation and Grading	m ³	5,000	\$24.00	\$120,000
1.05	Geotechnical Sampling for Off-site Disposal	m ³	5,000	\$1.00	\$5,000
1.06	Remove and Dispose of Excess Material	m ³	5,000	\$30.00	\$150,000
1.07	Construction Access Mud Mat	ea	3	\$6,000.00	\$18,000
1.08	Heavy Duty Silt Fence	m	900	\$23.00	\$20,700
1.09	Watercourse Improvements	m	300	\$2,000.00	\$600,000
1.10	2100 x 2100 mm Conc. Box Culvert	m	10	\$6,145.00	\$61,450
1.11	Connect to Culvert	ea	2	\$5,000.00	\$10,000
1.12	Place Topsoil and Hydroseed	m ²	21,000	\$10.00	\$210,000
1.13	SWMF Active Storage Landscaping	m ²	21,000	\$34.00	\$714,000
1.14	Flow Diversion	wks	15	\$20,000.00	\$300,000
Subtotal: SWMF Retrofit					\$2,695,370
Construction Contingency:				30%	\$808,611
Engineering Design Fee:				20%	\$539,074
Contract Administration / Construction Inspection:				10%	\$269,537
Utilities / Services Relocation Cost:				15%	\$404,306
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$4,716,898
Construction Index:				5.2%	\$245,279
HST:				1.76%	\$87,334
Total Construction Cost (2019 Unit Prices):					\$5,049,510
Total Estimated Project Cost					\$5,049,510

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**Project No. 58
Culvert Improvement No. 36 (Anne St. S and John St.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	40	\$85.00	\$3,400
1.02	Remove Asphalt	m ²	2,250	\$9.00	\$20,250
1.03	Remove Granular Road Base	m ²	2,250	\$7.00	\$15,750
1.04	Remove Existing Concrete Curb and Gutter	m	70	\$36.00	\$2,520
1.05	Excavation and Grading	m ³	2,180	\$24.00	\$52,320
1.06	Remove and Dispose of Excess Material	m ³	2,180	\$30.00	\$65,400
1.07	Geotechnical Sampling for Off-site Disposal	m ³	2,180	\$1.00	\$2,180
1.08	Supply, Place, Compact Imported Fill	m ³	2,180	\$30.00	\$65,400
1.09	3000 x 2100 mm Conc. Box Culvert	m	186	\$8,825.00	\$1,641,450
1.10	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.11	Granular 'B' (450 mm)	m ²	2,250	\$20.00	\$45,000
1.12	Granular 'A' (150 mm)	m ²	2,250	\$11.00	\$24,750
1.13	100 mm HL8 Base Course Asphalt	m ²	2,250	\$39.50	\$88,875
1.14	40 mm HL3 Surface Course Asphalt	m ²	2,250	\$17.00	\$38,250
1.15	Concrete Curb and Gutter	m	27	\$75.00	\$2,025
1.16	Flow Diversion	wks	8	\$20,000.00	\$160,000
	Subtotal: Culvert Improvement				\$2,277,570
	Construction Contingency:			30%	\$683,271
	Engineering Design Fee:			20%	\$455,514
	Contract Administration / Construction Inspection:			10%	\$227,757
	Utilities / Services Relocation Cost:			15%	\$341,636
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$3,985,748
	Construction Index:			5.2%	\$207,259
	HST:			1.76%	\$73,797
	Total Construction Cost (2019 Unit Prices):				\$4,266,803
2	Property Acquisition				\$410,000
2.01	71 Anne St. S. (portion of)				\$410,000
	Adjusted Value:			165%	\$676,500
	Acquisition Contingency:			30%	\$202,950
	Property Acquisition:				\$879,450
	Total Estimated Project Cost:				\$5,146,253

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Project No. 59
Watercourse Improvement No. 12 (Reach Dy-3)
Dyments Creek Watershed

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	75	\$24.00	\$1,800
1.02	Remove and Dispose of Excess Material	m ³	75	\$30.00	\$2,250
1.03	Geotechnical Sampling for Off-site Disposal	m ³	75	\$1.00	\$75
1.04	Watercourse Improvements	m	25	\$2,000.00	\$50,000
1.05	Flow Diversion	wks	1	\$20,000.00	\$20,000
			Subtotal: Watercourse Improvement		\$74,125
				Construction Contingency: 30%	\$22,238
				Engineering Design Fee: 20%	\$14,825
				Contract Administration / Construction Inspection: 10%	\$7,413
				Utilities / Services Relocation Cost: 15%	\$11,119
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$129,719
				Construction Index: 5.2%	\$6,745
				HST: 1.76%	\$2,402
				Total Construction Cost (2019 Unit Prices):	\$138,866
				Total Estimated Project Cost	\$138,866

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**Project No. 60
(Transportation Master Plan Project ID 1721)
Culvert Improvement No. 37 (Innisfil St.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	16	\$85.00	\$1,360
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Deep Foundation	m	2,855	\$425.00	\$1,213,375
1.04	6.71 m Open Bottom Span Structure	m	25	\$30,500.00	\$762,500
1.05	Concrete Distribution Slab	LS	1.5	\$20,000.00	\$30,000
1.06	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.07	Watercourse Improvements	m	30	\$2,000.00	\$60,000
1.08	Channel Cleanout	m	140	\$250.00	\$35,000
1.09	Flow Diversion	wks	3	\$20,000.00	\$60,000
	Subtotal: Culvert Improvement				\$2,214,735
	Construction Contingency:			30%	\$664,421
	Engineering Design Fee:			20%	\$442,947
	Contract Administration / Construction Inspection:			10%	\$221,474
	Utilities / Services Relocation Cost:			15%	\$332,210
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$3,875,786
	Construction Index:			5.2%	\$201,541
	HST:			1.76%	\$71,761
	Total Construction Cost (2019 Unit Prices):				\$4,149,088
	Total Estimated Project Cost				\$4,149,088

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 61
Culvert Improvement No. 38 (Sandford St.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	40	\$85.00	\$3,400
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Remove Asphalt	m ²	95	\$9.00	\$855
1.04	Remove Granular Road Base	m ²	95	\$7.00	\$665
1.05	Remove Existing Concrete Curb and Gutter	m	22	\$36.00	\$792
1.06	Deep Foundation	m	2,310	\$425.00	\$981,750
1.07	4267 mm x 2134 mm Conc. Box Culvert	m	20	\$13,500.00	\$270,000
1.08	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.09	Granular 'B' (450 mm)	m ²	95	\$20.00	\$1,900
1.10	Granular 'A' (150 mm)	m ²	95	\$11.00	\$1,045
1.11	100 mm HL8 Base Course Asphalt	m ²	95	\$39.50	\$3,753
1.12	40 mm HL3 Surface Course Asphalt	m ²	95	\$17.00	\$1,615
1.13	Concrete Curb and Gutter	m	22	\$75.00	\$1,650
1.14	Reinstate Grassed Boulevard	m ²	125	\$26.00	\$3,250
1.15	Flow Diversion	wks	3	\$20,000.00	\$60,000
	Subtotal: Culvert Improvement				\$1,383,175
	Construction Contingency:			30%	\$414,952
	Engineering Design Fee:			20%	\$276,635
	Contract Administration / Construction Inspection:			10%	\$138,317
	Utilities / Services Relocation Cost:			15%	\$207,476
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,420,555
	Construction Index:			5.2%	\$125,869
	HST:			1.76%	\$44,817
	Total Construction Cost (2019 Unit Prices):				\$2,591,241
2	Property Acquisition				\$150,000
2.01	100 Sanford St. (portion of)				\$47,000
2.02	95 Sanford St. (portion of)				\$103,000
	Adjusted Value:			165%	\$247,500
	Acquisition Contingency:			30%	\$74,250
	Property Acquisition:				\$321,750
	Total Estimated Project Cost:				\$2,912,991

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**Project No. 62
(Transportation Master Plan Project ID 1379)
Culvert Improvement No. 39 (Bradford St.)
Dyments Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	98	\$85.00	\$8,330
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Deep Foundation	m	2,925	\$425.00	\$1,243,125
1.04	10.67 m Open Bottom Span Structure	m	33	\$39,300.00	\$1,296,900
1.05	Concrete Distribution Slab	LS	1.25	\$20,000.00	\$25,000
1.06	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.07	Watercourse Improvements	m	120	\$2,000.00	\$240,000
1.08	Flow Diversion	wks	6	\$20,000.00	\$120,000
	Subtotal: Culvert Improvement				\$2,985,855
	Construction Contingency:			30%	\$895,757
	Engineering Design Fee:			20%	\$597,171
	Contract Administration / Construction Inspection:			10%	\$298,586
	Utilities / Services Relocation Cost:			15%	\$447,878
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$5,225,246
	Construction Index:			5.2%	\$271,713
	HST:			1.76%	\$96,746
	Total Construction Cost (2019 Unit Prices):				\$5,593,706
2	Property Acquisition				\$685,000
2.01	176 Bradford St.				\$685,000
	Adjusted Value:			165%	\$1,130,250
	Acquisition Contingency:			30%	\$339,075
	Property Acquisition:				\$1,469,325
	Total Estimated Project Cost:				\$7,063,031

Note: Construction cost estimate excludes watercourse improvements downstream of Bradford St.
Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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Project No. 63
Watercourse Improvement No. 28 (Reach Dy-6)
Dyments Creek Watershed

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Strip and Stockpile Topsoil	m ²	3,600	\$13.00	\$46,800
1.02	Excavation and Grading	m ³	4,000	\$24.00	\$96,000
1.03	Geotechnical Sampling for Off-Site Disposal	m ³	4,000	\$1.00	\$4,000
1.04	Remove and Dispose of Excess Material	m ³	4,000	\$30.00	\$120,000
1.05	Watercourse Improvements	m	120	\$2,000.00	\$240,000
1.06	Place Topsoil and Hydroseed	m ²	3,600	\$10.00	\$36,000
1.07	Flow Diversion	wks	6	\$20,000.00	\$120,000
			Subtotal: Watercourse Improvement		\$662,800
				Construction Contingency: 30%	\$198,840
				Engineering Design Fee: 20%	\$132,560
				Contract Administration / Construction Inspection: 10%	\$66,280
				Utilities / Services Relocation Cost: 15%	\$99,420
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$1,159,900
				Construction Index: 5.2%	\$60,315
				HST: 1.76%	\$21,476
				Total Construction Cost (2019 Unit Prices):	\$1,241,691
				Total Estimated Project Cost	\$1,241,691

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**Project No. 12
Culvert Improvement No. 41 (Mayfair Dr.)
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	36	\$85.00	\$3,060
1.02	Remove Concrete Headwall	ea.	2	\$650.00	\$1,300
1.03	Remove Asphalt	m ²	70	\$9.00	\$630
1.04	Remove Granular Road Base	m ²	70	\$7.00	\$490
1.05	Remove Existing Concrete Curb and Gutter	m	16	\$36.00	\$576
1.06	Remove Existing Sidewalk	m ²	16	\$18.00	\$288
1.07	750 mm Dia. Storm Sewer	m	36	\$640.00	\$23,040
1.08	Concrete Headwall - 750 mm Dia.	ea.	2	\$13,200.00	\$26,400
1.09	Connect to Maintenance Hole	LS	1	\$5,000.00	\$5,000
1.10	Granular 'B' (450 mm)	m ²	80	\$20.00	\$1,600
1.11	Granular 'A' (150 mm)	m ²	80	\$11.00	\$880
1.12	100 mm HL8 Base Course Asphalt	m ²	80	\$39.50	\$3,160
1.13	40 mm HL3 Surface Course Asphalt	m ²	80	\$17.00	\$1,360
1.14	Concrete Curb and Gutter	m	16	\$75.00	\$1,200
1.15	Concrete Sidewalk	m ²	16	\$100.00	\$1,600
1.16	Reinstate Grassed Boulevard	m ²	220	\$26.00	\$5,720
1.17	Watercourse Improvements	m	20	\$2,000.00	\$40,000
1.18	Flow Diversion	wks	2	\$20,000.00	\$40,000
				Subtotal: Culvert Improvement	\$156,304
				Construction Contingency:	30% \$46,891
				Engineering Design Fee:	20% \$31,261
				Contract Administration / Construction Inspection:	10% \$15,630
				Utilities / Services Relocation Cost:	15% \$23,446
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$273,532
				Construction Index:	5.2% \$14,224
				HST:	1.76% \$5,064
				Total Construction Cost (2019 Unit Prices):	\$292,820
				Total Estimated Project Cost	\$292,820

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**Project No. 13
(Transportation Master Plan Project ID 1378)
Culvert Improvement No. 42 (Ardagh Rd.)
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount	
1	Culvert Improvement					
1.01	Remove Existing Culvert	m	37	\$85.00	\$3,145	
1.02	Remove Concrete Headwall	ea.	1	\$650.00	\$650	
1.03	Remove Catch Basin / Ditch Inlet	ea.	1	\$700.00	\$700	
1.04	900 mm Dia. Storm Sewer	m	47	\$890.00	\$41,830	
1.05	600 mm x 1200 mm Ditch Inlet	ea.	2	\$4,100.00	\$8,200	
1.06	Concrete Headwall - 900 mm Dia.	ea.	1	\$24,500.00	\$24,500	
1.07	Connect to Maintenance Hole	LS	1	\$5,000.00	\$5,000	
1.08	Watercourse Improvements	m	10	\$2,000.00	\$20,000	
1.09	Flow Diversion	wks	3	\$20,000.00	\$60,000	
Subtotal: Culvert Improvement					\$164,025	
				Construction Contingency:	30%	\$49,208
				Engineering Design Fee:	20%	\$32,805
				Contract Administration / Construction Inspection:	10%	\$16,403
				Utilities / Services Relocation Cost:	15%	\$24,604
				Environmental Assessment Costs:		\$0
Construction Cost Estimate (2018 Unit Prices):					\$287,044	
				Construction Index:	5.2%	\$14,926
				HST:	1.76%	\$5,315
Total Construction Cost (2019 Unit Prices):					\$307,285	
Total Estimated Project Cost					\$307,285	

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 17
SWMF Retrofit No. 44A
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Strip and Stockpile Topsoil	m ²	14,850	\$13.00	\$193,050
1.02	Excavation and Grading	m ³	13,750	\$24.00	\$330,000
1.03	Geotechnical Sampling for Off-site Disposal	m ³	13,750	\$1.00	\$13,750
1.04	Remove and Dispose of Excess Material	m ³	13,750	\$30.00	\$412,500
1.05	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.06	Heavy Duty Silt Fence	m	560	\$23.00	\$12,880
1.07	Orifice Plate	ea	1	\$500.00	\$500
1.08	1200 mm Dia. Maintenance Hole	ea	1	\$6,250.00	\$6,250
1.09	300 mm Dia. Storm Sewer	m	20	\$295.00	\$5,900
1.10	600 mm x 1200 mm Ditch Inlet	ea	1	\$4,100.00	\$4,100
1.11	525 mm Dia. Storm Sewer	m	20	\$445.00	\$8,900
1.12	Perforated Vertical Riser Outlet Structure	ea	1	\$12,000.00	\$12,000
1.13	Concrete Headwall - 300 mm Dia.	ea	1	\$4,100.00	\$4,100
1.14	Concrete Headwall - 525 mm Dia.	ea	1	\$8,300.00	\$8,300
1.15	Place Topsoil and Hydroseed	m ²	10,760	\$10.00	\$107,600
1.16	Wetland Landscaping (Permanent Pool)	m ²	8,300	\$60.00	\$498,000
1.17	SWMF Active Storage Landscaping	m ²	2,460	\$34.00	\$83,640
				Subtotal: SWMF Retrofit	\$1,707,470
				Construction Contingency:	30%
					\$512,241
				Engineering Design Fee:	20%
					\$341,494
				Contract Administration / Construction Inspection:	10%
					\$170,747
				Utilities / Services Relocation Cost:	15%
					\$256,121
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$2,988,073
				Construction Index:	5.2%
					\$155,380
				HST:	1.76%
					\$55,325
				Total Construction Cost (2019 Unit Prices):	\$3,198,777
2	Property Acquisition				\$1,938,000
2.01	85 Morrow Rd. (portion of)				\$1,938,000
				Adjusted Value:	165%
					\$3,197,700
				Acquisition Contingency:	30%
					959,310
				Property Acquisition:	\$4,157,010
				Total Estimated Project Cost:	\$7,355,787

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**Project No. 19
SWMF Retrofit No. 81
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Strip and Stockpile Topsoil	m ²	20,200	\$13	\$262,600
1.02	Clearing and Grubbing (ha)	ha	2	\$20,000	\$40,000
1.03	Excavation and Grading	m ³	43,300	\$24	\$1,039,200
1.04	Geotechnical Sampling for Off-site Disposal	m ³	43,300	\$1	\$43,300
1.05	Remove and Dispose of Excess Material	m ³	43,300	\$30	\$1,299,000
1.06	4267 mm x 914 mm Conc. Box Culvert	m	20	\$9,740	\$194,800
1.07	Concrete Headwall / Wingwalls	ea	2	\$25,000	\$50,000
1.08	Place Topsoil and Hydroseed	m ²	20,200	\$10	\$202,000
1.09	Construction Access Mud Mat	ea	1	\$6,000	\$6,000
1.10	Watercourse Improvements	m	195	\$2,000	\$390,000
1.11	Flow Diversion	wks	12	\$20,000	\$240,000
1.12	SWMF Active Storage Landscaping	m ²	20,200	\$34	\$686,800
				Subtotal: SWMF Retrofit	\$4,453,700
				Construction Contingency:	30%
					\$1,336,110
				Engineering Design Fee:	20%
					\$890,740
				Contract Administration / Construction Inspection:	10%
					\$445,370
				Utilities / Services Relocation Cost:	15%
					\$668,055
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$7,793,975
				Construction Index:	5.2%
					\$405,287
				HST:	1.76%
					\$144,307
				Total Construction Cost (2019 Unit Prices):	\$8,343,569
2	Property Acquisition				\$1,297,000
2.01	50 Wood St. (portion of)				\$1,297,000
				Adjusted Value:	165%
					\$2,140,050
				Acquisition Contingency:	30%
					642,015
				Property Acquisition:	\$2,782,065
				Total Estimated Project Cost:	\$11,125,634

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**Project No. 20
SWMF Retrofit No. 96
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Strip and Stockpile Topsoil	m ²	900	\$13	\$11,700
1.02	Clearing and Grubbing (sq.m)	m ²	900	\$2	\$1,800
1.03	Excavation and Grading	m ³	1,800	\$24	\$43,200
1.04	Geotechnical Sampling for Off-site Disposal	m ³	1,800	\$1	\$1,800
1.05	Remove and Dispose of Excess Material	m ³	1,800	\$30	\$54,000
1.06	Remove Existing Buildings	ea	2	\$25,000	\$50,000
1.07	Flow Diversion	wks	4	\$20,000	\$80,000
1.08	Place Topsoil and Hydroseed	m ²	900	\$10	\$9,000
1.09	SWMF Active Storage Landscaping	m ²	900	\$34	\$30,600
				Subtotal: SWMF Retrofit	\$282,100
				Construction Contingency:	30% \$84,630
				Engineering Design Fee:	20% \$56,420
				Contract Administration / Construction Inspection:	10% \$28,210
				Utilities / Services Relocation Cost:	15% \$42,315
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$493,675
				Construction Index:	5.2% \$25,671
				HST:	1.76% \$9,140
				Total Construction Cost (2019 Unit Prices):	\$528,487
2	Property Acquisition				\$225,000
2.01	50 Wood St. (portion of)				\$225,000
				Adjusted Value:	165% \$371,250
				Acquisition Contingency:	30% 111,375
				Property Acquisition:	\$482,625
				Total Estimated Project Cost:	\$1,011,112

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**Project No. 21
Culvert Improvement No. 135 (BCRY Railway)
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	30	\$85.00	\$2,550
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	4878 mm x 914 mm Conc. Box Culvert	m	66	\$12,135.00	\$800,910
1.04	Excavation and Grading	m ³	1,600	\$24.00	\$38,400
1.05	Remove and Dispose of Excess Material	m ³	1,600	\$30.00	\$48,000
1.06	Geotechnical Sampling for Off-site Disposal	m ³	1,600	\$1.00	\$1,600
1.07	Watercourse Improvements	m	75	\$2,000.00	\$150,000
1.08	Strip and Stockpile Topsoil	m ²	2,250	\$13.00	\$29,250
1.09	Place Topsoil and Hydroseed	m ²	2,250	\$10.00	\$22,500
1.10	Flow Diversion	wks	1	\$20,000.00	\$20,000
1.11	Railway Reinstatement	m	30	\$1,500.00	\$45,000
	Subtotal: Culvert Improvement				\$1,160,710
	Construction Contingency:			30%	\$348,213
	Engineering Design Fee:			20%	\$232,142
	Contract Administration / Construction Inspection:			10%	\$116,071
	Utilities / Services Relocation Cost:			15%	\$174,107
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,031,243
	Construction Index:			5.2%	\$105,625
	HST:			1.76%	\$37,609
	Total Construction Cost (2019 Unit Prices):				\$2,174,476
2	Property Acquisition				\$512,000
2.01	155 Tiffin St. (portion of)				\$264,000
2.02	47 Alfred St.				\$248,000
	Adjusted Value:			165%	\$844,800
	Acquisition Contingency:			30%	\$253,440
	Property Acquisition:				\$1,098,240
	Total Estimated Project Cost:				\$3,272,716

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**Project No. 22
(Transportation Master Plan Project ID 1221)
Culvert Improvement No. 48 (Tiffin St.)
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	52	\$85.00	\$4,420
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Excavation and Grading	m ³	1,465	\$24.00	\$35,160
1.04	Remove and Dispose of Excess Material	m ³	1,465	\$30.00	\$43,950
1.05	Geotechnical Sampling for Off-site Disposal	m ³	1,465	\$1.00	\$1,465
1.06	Supply, Place, Compact Imported Fill	m ³	1,465	\$30.00	\$43,950
1.07	4267 mm x 1830 mm Open Bottom Structure	m	62	\$12,400.00	\$768,800
1.08	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.09	Watercourse Improvements	m	65	\$2,000.00	\$130,000
1.10	Flow Diversion	wks	7	\$20,000.00	\$140,000
	Subtotal: Culvert Improvement				\$1,220,245
	Construction Contingency:			30%	\$366,074
	Engineering Design Fee:			20%	\$244,049
	Contract Administration / Construction Inspection:			10%	\$122,025
	Utilities / Services Relocation Cost:			15%	\$183,037
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,135,429
	Construction Index:			5.2%	\$111,042
	HST:			1.76%	\$39,538
	Total Construction Cost (2019 Unit Prices):				\$2,286,009
	Total Estimated Project Cost				\$2,286,009

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 23
Watercourse Improvement No. 6 (Reach Ho-8)
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Remove Existing Culvert	m	80	\$85.00	\$6,800
1.02	Remove Asphalt	m ²	4,500	\$9.00	\$40,500
1.03	Remove Granular Road Base	m ²	4,500	\$7.00	\$31,500
1.04	Remove Existing Buildings	ea	1	\$25,000.00	\$25,000
1.05	Excavation and Grading	m ³	1,870	\$24.00	\$44,880
1.06	Remove and Dispose of Excess Material	m ³	1,870	\$30.00	\$56,100
1.07	Geotechnical Sampling for Off-site Disposal	m ³	1,870	\$1.00	\$1,870
1.08	Watercourse Improvements	m	80	\$2,000.00	\$160,000
1.09	Imported Topsoil	m ³	675	\$56.00	\$37,800
1.10	Place Topsoil and Hydroseed	m ²	4,500	\$10.00	\$45,000
1.11	Flow Diversion	wks	4	\$20,000.00	\$80,000
	Subtotal: Watercourse Improvement				\$529,450
	Construction Contingency:			30%	\$158,835
	Engineering Design Fee:			20%	\$105,890
	Contract Administration / Construction Inspection:			10%	\$52,945
	Utilities / Services Relocation Cost:			15%	\$79,418
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$926,538
	Construction Index:			5.2%	\$48,180
	HST:			1.76%	\$17,155
	Total Construction Cost (2019 Unit Prices):				\$991,872
2	Property Acquisition				\$1,213,000
2.01	128 Anne St. S. (portion of)				\$373,000
2.02	134 Tiffin St.				\$437,000
2.03	115 Brock St. (portion of)				\$403,000
	Adjusted Value:			165%	\$2,001,450
	Acquisition Contingency:			30%	600,435
	Property Acquisition:				\$2,601,885
	Total Estimated Project Cost:				\$3,593,757

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Project No. 24
Culvert Improvement No. 49 (Anne St.)
Hotchkiss Creek Watershed

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	22	\$85.00	\$1,870
1.02	4270 mm x 2440 mm Conc. Box Culvert	m	22	\$14,070.00	\$309,540
1.03	Deep Foundation	m	715	\$425.00	\$303,875
1.04	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.05	Connect to Culvert	ea	2	\$5,000.00	\$10,000
1.06	Flow Diversion	wks	3	\$20,000.00	\$60,000
				Subtotal: Culvert Improvement	\$735,285
				Construction Contingency: 30%	\$220,586
				Engineering Design Fee: 20%	\$147,057
				Contract Administration / Construction Inspection: 10%	\$73,529
				Utilities / Services Relocation Cost: 15%	\$110,293
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$1,286,749
				Construction Index: 5.2%	\$66,911
				HST: 1.76%	\$23,824
				Total Construction Cost (2019 Unit Prices):	\$1,377,484
				Total Estimated Project Cost	\$1,377,484

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Project No. 25
Watercourse Improvement No. 13 (Reach Ho-9)
Hotchkiss Creek Watershed

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Remove Existing Culvert	m	90	\$85.00	\$7,650
1.02	Strip and Stockpile Topsoil	m ²	3,600	\$13.00	\$46,800
1.03	Excavation and Grading	m ³	8,000	\$24.00	\$192,000
1.04	Remove and Dispose of Excess Material	m ³	8,000	\$30.00	\$240,000
1.05	Geotechnical Sampling for Off-site Disposal	m ³	8,000	\$1.00	\$8,000
1.06	Watercourse Improvements	m	90	\$2,000.00	\$180,000
1.07	Place Topsoil and Hydroseed	m ²	3,600	\$10.00	\$36,000
1.08	Flow Diversion	wks	4	\$20,000.00	\$80,000
					Subtotal: Watercourse Improvement
					\$790,450
				Construction Contingency:	30%
					\$237,135
				Engineering Design Fee:	20%
					\$158,090
				Contract Administration / Construction Inspection:	10%
					\$79,045
				Utilities / Services Relocation Cost:	15%
					\$118,568
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$1,383,288
				Construction Index:	5.2%
					\$71,931
				HST:	1.76%
					\$25,612
				Total Construction Cost (2019 Unit Prices):	\$1,480,830
2	Property Acquisition				\$394,000
2.01	Address Not Available				\$262,000
2.02	120 Tiffin St.				\$132,000
				Adjusted Value:	165%
					\$650,100
				Acquisition Contingency:	30%
					195,030
				Property Acquisition:	\$845,130
				Total Estimated Project Cost:	\$2,325,960

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**Project No. 27
(Transportation Master Plan Project ID 1721)
Culvert Improvement No. 50 (Innisfil St.)
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	37	\$85.00	\$3,145
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Excavation and Grading	m ³	330	\$24.00	\$7,920
1.04	Remove and Dispose of Excess Material	m ³	330	\$30.00	\$9,900
1.05	Geotechnical Sampling for Off-site Disposal	m ³	330	\$1.00	\$330
1.06	Supply, Place, Compact Imported Fill	m ³	330	\$30.00	\$9,900
1.07	3962 mm x 2134 mm Open Bottom Structure	m	37	\$11,300.00	\$418,100
1.08	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.09	Flow Diversion	wks	4	\$20,000.00	\$80,000
	Subtotal: Culvert Improvement				\$581,795
	Construction Contingency:			30%	\$174,539
	Engineering Design Fee:			20%	\$116,359
	Contract Administration / Construction Inspection:			10%	\$58,180
	Utilities / Services Relocation Cost:			15%	\$87,269
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,018,141
	Construction Index:			5.2%	\$52,943
	HST:			1.76%	\$18,851
	Total Construction Cost (2019 Unit Prices):				\$1,089,936
2	Property Acquisition				\$338,000
2.01	215 Innisfil St. (portion of)				\$113,000
2.02	108 Tiffin St. (portion of)				\$225,000
	Adjusted Value:			165%	\$557,700
	Acquisition Contingency:			30%	\$167,310
	Property Acquisition:				\$725,010
	Total Estimated Project Cost:				\$1,814,946

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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Project No. 28
Watercourse Improvement No. 14 (Reach Ho-9)
Hotchkiss Creek Watershed

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	75	\$24.00	\$1,800
1.02	Remove and Dispose of Excess Material	m ³	75	\$30.00	\$2,250
1.03	Geotechnical Sampling for Off-site Disposal	m ³	75	\$1.00	\$75
1.04	Watercourse Improvements	m	25	\$2,000.00	\$50,000
1.05	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.06	Flow Diversion	wks	2	\$20,000.00	\$40,000
					Subtotal: Watercourse Improvement
					\$100,125
				Construction Contingency: 30%	\$30,038
				Engineering Design Fee: 20%	\$20,025
				Contract Administration / Construction Inspection: 10%	\$10,013
				Utilities / Services Relocation Cost: 15%	\$15,019
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$175,219
				Construction Index: 5.2%	\$9,111
				HST: 1.76%	\$3,244
				Total Construction Cost (2019 Unit Prices):	\$187,574
2	Property Acquisition				\$220,000
2.01	Address Not Available (portion of)				\$220,000
				Adjusted Value: 165%	\$363,000
				Acquisition Contingency: 30%	108,900
				Property Acquisition:	\$471,900
				Total Estimated Project Cost:	\$659,474

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**Project No. 30
Trunk Storm Sewer No. 10
Hotchkiss Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Trunk Storm Sewer				
1.01	Connect to Maintenance Hole	ea	1	\$5,000.00	\$5,000
1.02	Connect to Storm Sewer	ea	1	\$5,000.00	\$5,000
1.03	Remove Existing Storm Sewer	m	425	\$65.00	\$27,625
1.04	Remove Existing Maintenance Holes	ea	9	\$1,100.00	\$9,900
1.05	1200 mm Dia. Storm Sewer	m	425	\$1,170.00	\$497,250
1.06	1500 mm Dia. Maintenance Hole	ea.	9	\$8,600.00	\$77,400
	Subtotal: Trunk Storm Sewer Improvement				\$622,175
	Construction Contingency:			30%	\$186,653
	Engineering Design Fee:			20%	\$124,435
	Contract Administration / Construction Inspection:			10%	\$62,218
	Utilities / Services Relocation Cost:			15%	\$93,326
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,088,806
	Construction Index:			5.2%	\$56,618
	HST:			1.76%	\$20,159
	Total Construction Cost (2019 Unit Prices):				\$1,165,584
	Total Estimated Project Cost				\$1,165,584

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 67A
SWMF Retrofit No. 42
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Clearing and Grubbing (sq.m)	m ²	4,620	\$2.00	\$9,240
1.02	Strip and Stockpile Topsoil	m ²	4,620	\$13.00	\$60,060
1.03	Excavation and Grading	m ³	11,573	\$24.00	\$277,740
1.04	Geotechnical Sampling for Off-site Disposal	m ³	11,573	\$1.00	\$11,573
1.05	Remove and Dispose of Excess Material	m ³	8,681	\$30.00	\$260,438
1.06	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.07	Heavy Duty Silt Fence	m	440	\$23.00	\$10,120
1.08	1500 mm Dia. Ditch Inlet Maintenance Hole	ea	2	\$9,900.00	\$19,800
1.09	1800 mm Dia. Maintenance Hole	ea	1	\$12,600.00	\$12,600
1.10	Connect to Storm Sewer	ea	1	\$5,000.00	\$5,000
1.11	Remove Existing Storm Sewer	m	85	\$65.00	\$5,525
1.12	1050 mm Dia. Storm Sewer	m	35	\$985.00	\$34,475
1.13	Concrete Headwall - 1050 mm Dia.	ea	1	\$26,350.00	\$26,350
1.14	300 mm Dia. Storm Sewer	m	20	\$295.00	\$5,900
1.15	Orifice Plate	ea	1	\$500.00	\$500
1.16	Perforated Vertical Riser Outlet Structure	ea	1	\$12,000.00	\$12,000
1.17	Concrete Reinforcement (spillway for SWM pond)	m ²	265	\$185.00	\$49,025
1.18	Cultec Recharger 330XLHD	m ³	605	\$325.00	\$196,625
1.19	2" Clear Stone	m ³	845	\$45.00	\$38,025
1.20	Filter Fabric	m ²	2,343	\$6.00	\$14,055
1.21	Place Topsoil and Hydroseed	m ²	4,620	\$10.00	\$46,200
1.22	SWMF Active Storage Landscaping	m ²	4,620	\$34.00	\$157,080
			Subtotal: SWMF Retrofit		\$1,258,330
			Construction Contingency: 30%		\$377,499
			Engineering Design Fee: 20%		\$251,666
			Contract Administration / Construction Inspection: 10%		\$125,833
			Utilities / Services Relocation Cost: 15%		\$188,750
			Environmental Assessment Costs:		\$0
			Construction Cost Estimate (2018 Unit Prices):		\$2,202,078
			Construction Index: 5.2%		\$114,508
			HST: 1.76%		\$40,772
			Total Construction Cost (2019 Unit Prices):		\$2,357,357
2	Property Acquisition				\$582,000
2.01	Address Not Available (portion of)				\$582,000
			Adjusted Value: 165%		\$960,300
			Acquisition Contingency: 30%		288,090
			Property Acquisition:		\$1,248,390
			Total Estimated Project Cost:		\$3,605,747

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**Project No. 68
(Transportation Master Plan Project ID 1211)
Culvert Improvement No. 53 (Harvie Rd.)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	13	\$85.00	\$1,105
1.02	1800 mm Dia. Storm Sewer	m	110	\$2,310.00	\$254,100
1.03	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.04	Watercourse Improvements	m	12	\$2,000.00	\$24,000
1.05	Flow Diversion	wks	8	\$20,000.00	\$160,000
Subtotal: Culvert Improvement					\$489,205
Construction Contingency:				30%	\$146,762
Engineering Design Fee:				20%	\$97,841
Contract Administration / Construction Inspection:				10%	\$48,921
Utilities / Services Relocation Cost:				15%	\$73,381
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$856,109
Construction Index:				5.2%	\$44,518
HST:				1.76%	\$15,851
Total Construction Cost (2019 Unit Prices):					\$916,477
Total Estimated Project Cost					\$916,477

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 70
(Transportation Master Plan Project ID 1104)
Culvert Improvement No. 54 (Harvie Rd.)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	31	\$85.00	\$2,635
1.02	1800 mm Dia. Storm Sewer	m	38	\$2,310.00	\$87,780
1.03	Concrete Headwall - 1800 mm Dia.	ea	2	\$32,000.00	\$64,000
1.04	Flow Diversion	wks	3	\$20,000.00	\$60,000
Subtotal: Culvert Improvement					\$214,415
				Construction Contingency:	30%
				Engineering Design Fee:	20%
				Contract Administration / Construction Inspection:	10%
				Utilities / Services Relocation Cost:	15%
				Environmental Assessment Costs:	\$0
Construction Cost Estimate (2018 Unit Prices):					\$375,226
				Construction Index:	5.2%
				HST:	1.76%
Total Construction Cost (2019 Unit Prices):					\$401,685
Total Estimated Project Cost					\$401,685

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 171
Watercourse Improvement No. 15 (Reach Wh-3)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	750	\$24.00	\$18,000
1.02	Remove and Dispose of Excess Material	m ³	750	\$30.00	\$22,500
1.03	Geotechnical Sampling for Off-site Disposal	m ³	750	\$1.00	\$750
1.04	Strip and Stockpile Topsoil	m ²	600	\$13.00	\$7,800
1.05	Flow Diversion	wks	3	\$20,000.00	\$60,000
1.06	Watercourse Improvements	m	40	\$2,000.00	\$80,000
				Subtotal: Watercourse Improvement	\$189,050
				Construction Contingency: 30%	\$56,715
				Engineering Design Fee: 20%	\$37,810
				Contract Administration / Construction Inspection: 10%	\$18,905
				Utilities / Services Relocation Cost: 15%	\$28,358
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$330,838
				Construction Index: 5.2%	\$17,203.55
				HST: 1.76%	\$6,125.52
				Total Construction Cost (2019 Unit Prices):	\$354,167
				Total Estimated Project Cost	\$354,167

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Project No. 172A
Culvert Improvement No. 55 (Highway 400)
Whiskey Creek Watershed

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Jack and Bore 2250 mm Dia. Conc. Storm Sewer	m	208	\$13,750.00	\$2,860,000
1.02	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.03	3600 mm Dia. Maintenance Hole	ea	1	\$37,500.00	\$37,500
				Subtotal: Culvert Improvement	\$2,947,500
				Construction Contingency:	30% \$884,250
				Engineering Design Fee:	20% \$589,500
				Contract Administration / Construction Inspection:	10% \$294,750
				Utilities / Services Relocation Cost:	15% \$442,125
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$5,158,125
				Construction Index:	5.2% \$268,223
				HST:	1.76% \$95,504
				Total Construction Cost (2019 Unit Prices):	\$5,521,851
				Total Estimated Project Cost	\$5,521,851

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**Project No. 71
(Transportation Master Plan Project ID 1538)
Culvert Improvement No. 56 (Fairview Rd.)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	30	\$85.00	\$2,550
1.02	3000 x 1200 mm Conc. Box Culvert	m	89	\$7,475.00	\$665,275
1.03	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.04	Flow Diversion	wks	12	\$20,000.00	\$240,000
Subtotal: Culvert Improvement					\$957,825
				Construction Contingency:	30%
					\$287,348
				Engineering Design Fee:	20%
					\$191,565
				Contract Administration / Construction Inspection:	10%
					\$95,783
				Utilities / Services Relocation Cost:	15%
					\$143,674
				Environmental Assessment Costs:	\$0
Construction Cost Estimate (2018 Unit Prices):					\$1,676,194
				Construction Index:	5.2%
					\$87,162
				HST:	1.76%
					\$31,035
Total Construction Cost (2019 Unit Prices):					\$1,794,391
Total Estimated Project Cost					\$1,794,391

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 72
(Transportation Master Plan Project ID 1301)
Culvert Improvement No. 57 (Bayview Dr.)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	51	\$85.00	\$4,335
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Thickened Layer of Granular 'A'	m ²	540	\$27.50	\$14,850
1.04	2400 x 900 mm Conc. Box Culvert	m	148	\$4,695.00	\$694,860
1.05	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.06	Flow Diversion	wks	6	\$20,000.00	\$120,000
	Subtotal: Culvert Improvement				\$886,545
	Construction Contingency:			30%	\$265,964
	Engineering Design Fee:			20%	\$177,309
	Contract Administration / Construction Inspection:			10%	\$88,655
	Utilities / Services Relocation Cost:			15%	\$132,982
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,551,454
	Construction Index:			5.2%	\$80,676
	HST:			1.76%	\$28,725
	Total Construction Cost (2019 Unit Prices):				\$1,660,855
2	Property Acquisition				\$15,000
2.01	Address not Available (portion of)				\$15,000
	Adjusted Value:			165%	\$24,750
	Acquisition Contingency:			30%	\$7,425
	Property Acquisition:				\$32,175
	Total Estimated Project Cost:				\$1,693,030

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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Project No. 73
Watercourse Improvement No. 16 (Reach Wh-4a)
Whiskey Creek Watershed

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	325	\$24.00	\$7,800
1.02	Remove and Dispose of Excess Material	m ³	325	\$30.00	\$9,750
1.03	Geotechnical Sampling for Off-site Disposal	m ³	325	\$1.00	\$325
1.04	Clearing and Grubbing (sq.m)	m ²	2,250	\$2.00	\$4,500
1.05	Strip and Stockpile Topsoil	m ²	2,250	\$13.00	\$29,250
1.06	Flow Diversion	wks	3	\$20,000.00	\$60,000
1.07	Watercourse Improvements	m	150	\$2,000.00	\$300,000
					Subtotal: Watercourse Improvement
					\$411,625
				Construction Contingency:	30%
					\$123,488
				Engineering Design Fee:	20%
					\$82,325
				Contract Administration / Construction Inspection:	10%
					\$41,163
				Utilities / Services Relocation Cost:	15%
					\$61,744
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$720,344
				Construction Index:	5.2%
					\$37,458
				HST:	1.76%
					\$13,337
				Total Construction Cost (2019 Unit Prices):	\$771,139
2	Property Acquisition				\$368,000
2.01	Address Not Available (portion of)				\$368,000
				Adjusted Value:	165%
					\$607,200
				Acquisition Contingency:	30%
					182,160
				Property Acquisition:	\$789,360
				Total Estimated Project Cost:	\$1,560,499

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**Project No. 74
Watercourse Improvement No. 30 (Reach Wh-4a)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	4,700	\$2.00	\$9,400
1.02	Strip and Stockpile Topsoil	m ²	4,700	\$13.00	\$61,100
1.03	Excavation and Grading	m ³	7,300	\$24.00	\$175,200
1.04	Remove and Dispose of Excess Material	m ³	7,300	\$30.00	\$219,000
1.05	Geotechnical Sampling for Off-site Disposal	m ³	7,300	\$1.00	\$7,300
1.06	Watercourse Improvements	m	730	\$2,000.00	\$1,460,000
1.07	Flow Diversion	wks	8	\$20,000.00	\$160,000
1.08	Remove Existing Buildings	ea	1	\$25,000.00	\$25,000
	Subtotal: Watercourse Improvement				\$2,117,000
	Construction Contingency:			30%	\$635,100
	Engineering Design Fee:			20%	\$423,400
	Contract Administration / Construction Inspection:			10%	\$211,700
	Utilities / Services Relocation Cost:			15%	\$317,550
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$3,704,750
	Construction Index:			5.2%	\$192,647
	HST:			1.76%	\$68,594
	Total Construction Cost (2019 Unit Prices):				\$3,965,991
2	Property Acquisition				\$1,599,000
2.01	50 Welham Rd. (portion of)				\$118,000
2.02	279 Bayview Dr. (portion of)				\$1,182,000
2.03	Address Not Available (portion of)				\$186,000
2.04	Address Not Available (portion of)				\$113,000
	Adjusted Value:			165%	\$2,638,350
	Acquisition Contingency:			30%	791,505
	Property Acquisition:				\$3,429,855
	Total Estimated Project Cost:				\$7,395,846

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**Project No. 75
SWMF Retrofit No. 40
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Strip and Stockpile Topsoil	m ²	540	\$13.00	\$7,020
1.02	Excavation and Grading	m ³	1,265	\$24.00	\$30,360
1.03	Geotechnical Sampling for Off-site Disposal	m ³	629	\$1.00	\$629
1.04	Remove and Dispose of Excess Material	m ³	629	\$30.00	\$18,870
1.05	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.06	Heavy Duty Silt Fence	m	100	\$23.00	\$2,300
1.07	1200 mm Dia. Maintenance Hole	ea	4	\$6,250.00	\$25,000
1.08	525 mm Dia. Storm Sewer	m	10	\$445.00	\$4,450
1.09	675 mm Dia. Storm Sewer	m	30	\$495.00	\$14,850
1.10	Place Topsoil and Hydroseed	m ²	540	\$10.00	\$5,400
1.11	Oil/Grit Separator (Vortech 9000)	ea	1	\$78,900.00	\$78,900
1.12	Perforated 1800 mm CMP	m	31	\$1,400.00	\$42,700
1.13	2" Clear Stone	m ³	21	\$45.00	\$945
1.14	Filter Fabric	m ²	184	\$6.00	\$1,104
1.15	Remove Existing Buildings	ea	1	\$25,000.00	\$25,000
				Subtotal: SWMF Retrofit	\$263,528
				Construction Contingency:	30% \$79,058
				Engineering Design Fee:	20% \$52,706
				Contract Administration / Construction Inspection:	10% \$26,353
				Utilities / Services Relocation Cost:	15% \$39,529
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$461,174
				Construction Index:	5.2% \$23,981
				HST:	1.76% \$8,539
				Total Construction Cost (2019 Unit Prices):	\$493,694
2	Property Acquisition				\$291,000
2.01	43 Chieftain Cres.				\$291,000
				Adjusted Value:	165% \$480,150
				Acquisition Contingency:	30% 144,045
				Property Acquisition:	\$624,195
				Total Estimated Project Cost:	\$1,117,889

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**Project No. 76
Watercourse Improvement No. 17 (Reach Wh-4c, Wh-5 and Wh-6)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	325	\$24.00	\$7,800
1.02	Remove and Dispose of Excess Material	m ³	325	\$30.00	\$9,750
1.03	Geotechnical Sampling for Off-site Disposal	m ³	325	\$1.00	\$325
1.04	Clearing and Grubbing (sq.m)	m ²	600	\$2.00	\$1,200
1.05	Strip and Stockpile Topsoil	m ²	600	\$13.00	\$7,800
1.06	Flow Diversion	wks	3	\$20,000.00	\$60,000
1.07	Watercourse Improvements	m	65	\$2,000.00	\$130,000
					Subtotal: Watercourse Improvement
					\$216,875
				Construction Contingency:	30%
					\$65,063
				Engineering Design Fee:	20%
					\$43,375
				Contract Administration / Construction Inspection:	10%
					\$21,688
				Utilities / Services Relocation Cost:	15%
					\$32,531
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$379,531
				Construction Index:	5.2%
					\$19,736
				HST:	1.76%
					\$7,027
				Total Construction Cost (2019 Unit Prices):	\$406,294
				Total Estimated Project Cost	\$406,294

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**Project No. 77
Watercourse Improvement No. 18 (Reach Wh-6)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	100	\$24.00	\$2,400
1.02	Remove and Dispose of Excess Material	m ³	100	\$30.00	\$3,000
1.03	Geotechnical Sampling for Off-site Disposal	m ³	100	\$1.00	\$100
1.04	Clearing and Grubbing (sq.m)	m ²	400	\$2.00	\$800
1.05	Strip and Stockpile Topsoil	m ²	400	\$13.00	\$5,200
1.06	Flow Diversion	wks	2	\$20,000.00	\$40,000
1.07	Watercourse Improvements	m	40	\$2,000.00	\$80,000
					Subtotal: Watercourse Improvement
					\$131,500
				Construction Contingency:	30%
					\$39,450
				Engineering Design Fee:	20%
					\$26,300
				Contract Administration / Construction Inspection:	10%
					\$13,150
				Utilities / Services Relocation Cost:	15%
					\$19,725
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$230,125
				Construction Index:	5.2%
					\$11,967
				HST:	1.76%
					\$4,261
				Total Construction Cost (2019 Unit Prices):	\$246,352
				Total Estimated Project Cost	\$246,352

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**Project No. 78
Culvert Improvement No.147 (BCRY Railway)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	22	\$85.00	\$1,870
1.02	Remove Existing Headwalls	LS	1	\$2,500.00	\$2,500
1.03	Excavation and Grading	m ³	120	\$24.00	\$2,880
1.04	Remove and Dispose of Excess Material	m ³	120	\$30.00	\$3,600
1.05	Geotechnical Sampling for Off-site Disposal	m ³	120	\$1.00	\$120
1.06	Jack and Bore 1800 mm Dia. Conc. Culvert	m	44	\$5,775.00	\$254,100
1.07	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.08	Flow Diversion	wks	3	\$20,000.00	\$60,000
					Subtotal: Culvert Improvement
					\$375,070
				Construction Contingency: 30%	\$112,521
				Engineering Design Fee: 20%	\$75,014
				Contract Administration / Construction Inspection: 10%	\$37,507
				Utilities / Services Relocation Cost: 15%	\$56,261
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$656,373
				Construction Index: 5.2%	\$34,131
				HST: 1.76%	\$12,153
				Total Construction Cost (2019 Unit Prices):	\$702,657
				Total Estimated Project Cost	\$702,657

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**Project No. 80
(Transportation Master Plan Project ID 1308)
Culvert Improvement No. 60 (Huron Road)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	21	\$85.00	\$1,785
1.02	10.67 m Open Bottom Span Structure	m	32	\$39,300.00	\$1,257,600
1.03	Concrete Distribution Slab	LS	1	\$20,000.00	\$25,000
1.04	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.05	Flow Diversion	wks	5	\$20,000.00	\$100,000
1.06	Watercourse Improvements	m	40	\$2,000.00	\$80,000
1.07	Excavation and Grading	m ³	1,000	\$24.00	\$24,000
1.08	Remove and Dispose of Excess Material	m ³	1,000	\$30.00	\$30,000
1.09	Geotechnical Sampling for Off-site Disposal	m ³	1,000	\$1.00	\$1,000
1.10	Strip and Stockpile Topsoil	m ²	800	\$13.00	\$10,400
1.11	Place Topsoil and Hydroseed	m ²	800	\$10.00	\$8,000
	Subtotal: Culvert Improvement				\$1,587,785
	Construction Contingency:			30%	\$476,336
	Engineering Design Fee:			20%	\$317,557
	Contract Administration / Construction Inspection:			10%	\$158,779
	Utilities / Services Relocation Cost:			15%	\$238,168
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,778,624
	Construction Index:			5.2%	\$144,488
	HST:			1.76%	\$51,447
	Total Construction Cost (2019 Unit Prices):				\$2,974,559
	Total Estimated Project Cost				\$2,974,559

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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Project No. 81
Watercourse Improvement No. 31 (Reach Wh-7b)
Whiskey Creek Watershed

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	1000	\$2.00	\$2,000
1.02	Strip and Stockpile Topsoil	m ²	1000	\$13.00	\$13,000
1.03	Excavation and Grading	m ³	750	\$24.00	\$18,000
1.04	Remove and Dispose of Excess Material	m ³	750	\$30.00	\$22,500
1.05	Geotechnical Sampling for Off-site Disposal	m ³	750	\$1.00	\$750
1.06	Watercourse Improvements	m	70	\$2,000.00	\$140,000
1.07	Flow Diversion	wks	4	\$20,000.00	\$80,000
					Subtotal: Watercourse Improvement
					\$276,250
				Construction Contingency:	30%
					\$82,875
				Engineering Design Fee:	20%
					\$55,250
				Contract Administration / Construction Inspection:	10%
					\$27,625
				Utilities / Services Relocation Cost:	15%
					\$41,438
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$483,438
				Construction Index:	5.2%
					\$25,139
				HST:	1.76%
					\$8,951
				Total Construction Cost (2019 Unit Prices):	\$517,527
2	Property Acquisition				\$167,000
2.01	205 Huronia Rd. (portion of)				\$167,000
				Adjusted Value:	165%
					\$275,550
				Acquisition Contingency:	30%
					82,665
				Property Acquisition:	\$358,215
				Total Estimated Project Cost:	\$875,742

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**Project No. 83
SWMF Retrofit No. 25 (WK01)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Dewatering	m ³	750	\$5.00	\$3,750
1.02	Strip and Stockpile Topsoil	m ²	2,960	\$13.00	\$38,480
1.03	Excavation and Grading	m ³	850	\$24.00	\$20,400
1.04	Geotechnical Sampling for Off-site Disposal	m ³	850	\$1.00	\$850
1.05	Remove and Dispose of Excess Material	m ³	850	\$30.00	\$25,500
1.06	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.07	Heavy Duty Silt Fence	m	200	\$23.00	\$4,600
1.08	Connect to Storm Sewer	LS	1	\$5,000.00	\$5,000
1.09	Connect to Maintenance Hole	LS	1	\$5,000.00	\$5,000
1.10	1200 mm Dia. Maintenance Hole	ea	2	\$6,250.00	\$12,500
1.11	375 mm Dia. Storm Sewer	m	30	\$305.00	\$9,150
1.12	Concrete Headwall - 375 mm Dia.	ea	1	\$6,000.00	\$6,000
1.13	Oil/Grit Separator (Vortech 7000)	ea	1	\$63,000.00	\$63,000
1.14	600 mm Dia. Storm Sewer	m	40	\$465.00	\$18,600
1.15	Concrete Headwall - 600 mm Dia.	ea	1	\$9,400.00	\$9,400
1.16	Oil/Grit Separator (Vortech 11000)	ea	1	\$86,200.00	\$86,200
1.17	Place Topsoil and Hydroseed	m ²	2,960	\$10.00	\$29,600
1.18	Wetland Landscaping (Permanent Pool)	m ²	2,960	\$60.00	\$177,600
1.19	Concrete Reinforcement (spillway for SWM pond)	m ²	80	\$185.00	\$14,800
1.20	Flow Diversion	wks	3	\$20,000.00	\$60,000
				Subtotal: SWMF Retrofit	\$596,430
				Construction Contingency:	30%
					\$178,929
				Engineering Design Fee:	20%
					\$119,286
				Contract Administration / Construction Inspection:	10%
					\$59,643
				Utilities / Services Relocation Cost:	15%
					\$89,465
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$1,043,753
				Construction Index:	5.2%
					\$54,275
				HST:	1.76%
					\$19,325
				Total Construction Cost (2019 Unit Prices):	\$1,117,353
				Total Estimated Project Cost	\$1,117,353

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**Project No. 84
(Transportation Master Plan Project ID 1380)
Culvert Improvement No. 62 (Little Ave.)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	18	\$85.00	\$1,530
1.02	7.32 m Open Bottom Span Structure	m	60	\$31,900.00	\$1,914,000
1.03	Concrete Distribution Slab	LS	3	\$20,000.00	\$60,000
1.04	Concrete Headwall / Wingwalls	ea	4	\$25,000.00	\$100,000
1.05	Watercourse Improvements	m	7	\$2,000.00	\$14,000
1.06	Flow Diversion	wks	11	\$20,000.00	\$220,000
Subtotal: Culvert Improvement					\$2,309,530
Construction Contingency:				30%	\$692,859
Engineering Design Fee:				20%	\$461,906
Contract Administration / Construction Inspection:				10%	\$230,953
Utilities / Services Relocation Cost:				15%	\$346,430
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$4,041,678
Construction Index:				5.2%	\$210,167
HST:				1.76%	\$74,832
Total Construction Cost (2019 Unit Prices):					\$4,326,677
Total Estimated Project Cost					\$4,326,677

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 179
Watercourse Improvement No. 32 (Reach Wh-9)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	8,100	\$2.00	\$16,200
1.02	Strip and Stockpile Topsoil	m ²	8,100	\$13.00	\$105,300
1.03	Excavation and Grading	m ³	6,300	\$24.00	\$151,200
1.04	Remove and Dispose of Excess Material	m ³	6,300	\$30.00	\$189,000
1.05	Geotechnical Sampling for Off-site Disposal	m ³	6,300	\$1.00	\$6,300
1.06	Place Topsoil and Hydroseed	m ²	8,100	\$10.00	\$81,000
1.07	Watercourse Improvements	m	180	\$2,000.00	\$360,000
1.08	Landscaping	m ²	8,100	\$34.00	\$275,400
1.09	Flow Diversion	wks	12	\$20,000.00	\$240,000
1.10	Remove Existing Buildings	ea	1	\$25,000.00	\$25,000
	Subtotal: Watercourse Improvement				\$1,449,400
	Construction Contingency:			30%	\$434,820
	Engineering Design Fee:			20%	\$289,880
	Contract Administration / Construction Inspection:			10%	\$144,940
	Utilities / Services Relocation Cost:			15%	\$217,410
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,536,450
	Construction Index:			5.2%	\$131,895
	HST:			1.76%	\$46,963
	Total Construction Cost (2019 Unit Prices):				\$2,715,308
2	Property Acquisition				\$230,000
2.01	322 Little Ave.				\$230,000
	Adjusted Value:			165%	\$379,500
	Acquisition Contingency:			30%	113,850
	Property Acquisition:				\$493,350
	Total Estimated Project Cost:				\$3,208,658

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**Project No. 85
(Transportation Master Plan Project ID 1534)
Culvert Improvement No. 63 (Yonge St.)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	39	\$85.00	\$3,315
1.02	Excavation and Grading	m ³	350	\$24.00	\$8,400
1.03	Remove and Dispose of Excess Material	m ³	350	\$30.00	\$10,500
1.04	Geotechnical Sampling for Off-site Disposal	m ³	350	\$1.00	\$350
1.05	Supply, Place, Compact Imported Fill	m ³	350	\$30.00	\$10,500
1.06	3000 x 1800 mm Conc. Box Culvert	m	90	\$8,375.00	\$753,750
1.07	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.08	Watercourse Improvements	m	20	\$2,000.00	\$40,000
1.09	Flow Diversion	wks	7	\$20,000.00	\$140,000
	Subtotal: Culvert Improvement				\$1,016,815
	Construction Contingency:			30%	\$305,045
	Engineering Design Fee:			20%	\$203,363
	Contract Administration / Construction Inspection:			10%	\$101,682
	Utilities / Services Relocation Cost:			15%	\$152,522
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,779,426
	Construction Index:			5.2%	\$92,530
	HST:			1.76%	\$32,946
	Total Construction Cost (2019 Unit Prices):				\$1,904,903
	Total Estimated Project Cost				\$1,904,903

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 88
(Transportation Master Plan Project ID 1222)
Culvert Improvement No. 64 (Hurst Dr.)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	40	\$85.00	\$3,400
1.02	3000 x 2100 mm Conc. Box Culvert	m	50	\$8,825.00	\$441,250
1.03	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.04	Deep Foundation	m	1,100	\$425.00	\$467,500
1.05	Flow Diversion	wks	8	\$20,000.00	\$160,000
Subtotal: Culvert Improvement					\$1,122,150
				Construction Contingency:	30%
					\$336,645
				Engineering Design Fee:	20%
					\$224,430
				Contract Administration / Construction Inspection:	10%
					\$112,215
				Utilities / Services Relocation Cost:	15%
					\$168,323
				Environmental Assessment Costs:	\$0
Construction Cost Estimate (2018 Unit Prices):					\$1,963,763
				Construction Index:	5.2%
					\$102,116
				HST:	1.76%
					\$36,359
Total Construction Cost (2019 Unit Prices):					\$2,102,238
Total Estimated Project Cost					\$2,102,238

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 89
Watercourse Improvement No. 19 (Reach Wh-10)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	75	\$24.00	\$1,800
1.02	Remove and Dispose of Excess Material	m ³	75	\$30.00	\$2,250
1.03	Geotechnical Sampling for Off-site Disposal	m ³	75	\$1.00	\$75
1.04	Clearing and Grubbing (sq.m)	m ²	250	\$2.00	\$500
1.05	Strip and Stockpile Topsoil	m ²	250	\$13.00	\$3,250
1.06	Flow Diversion	wks	3	\$20,000.00	\$60,000
1.07	Watercourse Improvements	m	45	\$2,000.00	\$90,000
					Subtotal: Watercourse Improvement
					\$157,875
				Construction Contingency:	30%
					\$47,363
				Engineering Design Fee:	20%
					\$31,575
				Contract Administration / Construction Inspection:	10%
					\$15,788
				Utilities / Services Relocation Cost:	15%
					\$23,681
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$276,281
				Construction Index:	5.2%
					\$14,367
				HST:	1.76%
					\$5,115
				Total Construction Cost (2019 Unit Prices):	\$295,763
2	Property Acquisition				\$802,000
2.01	207 The Boulevard				\$65,000
2.02	211 The Boulevard (portion of)				\$172,000
2.03	215 The Boulevard (portion of)				\$84,000
2.04	217 The Boulevard (portion of)				\$84,000
2.05	219 The Boulevard (portion of)				\$141,000
2.06	221 The Boulevard (portion of)				\$89,000
2.07	223 The Boulevard (portion of)				\$85,000
2.08	225 The Boulevard (portion of)				\$82,000
				Adjusted Value:	165%
					\$1,323,300
				Acquisition Contingency:	30%
					396,990
				Property Acquisition:	\$1,720,290
				Total Estimated Project Cost:	\$2,016,053

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**Project No. 174A
Culvert Improvement No. 65 (The Boulevard)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	12	\$85.00	\$1,020
1.02	Remove Asphalt	m ²	130	\$9.00	\$1,170
1.03	Remove Granular Road Base	m ²	130	\$7.00	\$910
1.04	Remove Existing Concrete Curb and Gutter	m	30	\$36.00	\$1,080
1.05	10.67 m Open Bottom Span Structure	m	15	\$39,300.00	\$589,500
1.06	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.07	Granular 'B' (450 mm)	m ²	130	\$20.00	\$2,600
1.08	Granular 'A' (150 mm)	m ²	130	\$11.00	\$1,430
1.09	100 mm HL8 Base Course Asphalt	m ²	130	\$39.50	\$5,135
1.10	40 mm HL3 Surface Course Asphalt	m ²	130	\$17.00	\$2,210
1.11	Concrete Curb and Gutter	m	30	\$75.00	\$2,250
1.12	Clearing and Grubbing (sq.m)	m ²	600	\$2.00	\$1,200
1.13	Excavation and Grading	m ³	300	\$24.00	\$7,200
1.14	Remove and Dispose of Excess Material	m ³	300	\$30.00	\$9,000
1.15	Geotechnical Sampling for Off-site Disposal	m ³	300	\$1.00	\$300
1.16	Strip and Stockpile Topsoil	m ²	600	\$13.00	\$7,800
1.17	Place Topsoil and Hydroseed	m ²	600	\$10.00	\$6,000
1.18	Watercourse Improvements	m	25	\$2,000.00	\$50,000
1.19	Flow Diversion	wks	3	\$20,000.00	\$60,000
	Subtotal: Culvert Improvement				\$798,805
	Construction Contingency:			30%	\$239,642
	Engineering Design Fee:			20%	\$159,761
	Contract Administration / Construction Inspection:			10%	\$79,881
	Utilities / Services Relocation Cost:			15%	\$119,821
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,397,909
	Construction Index:			5.2%	\$72,691
	HST:			1.76%	\$25,883
	Total Construction Cost (2019 Unit Prices):				\$1,496,483
	Total Estimated Project Cost				\$1,496,483

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**Project No. 175
Watercourse Improvement No. 20 (Reach Wh-10)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Excavation and Grading	m ³	1,300	\$24.00	\$31,200
1.02	Remove and Dispose of Excess Material	m ³	1,300	\$30.00	\$39,000
1.03	Geotechnical Sampling for Off-site Disposal	m ³	1,300	\$1.00	\$1,300
1.04	Clearing and Grubbing (sq.m)	m ²	1,250	\$2.00	\$2,500
1.05	Strip and Stockpile Topsoil	m ²	1,250	\$13.00	\$16,250
1.06	Flow Diversion	wks	4	\$20,000.00	\$80,000
1.07	Watercourse Improvements	m	50	\$2,000.00	\$100,000
1.08	Remove Existing Buildings	ea	1	\$25,000.00	\$25,000
	Subtotal: Watercourse Improvement				\$295,250
	Construction Contingency:			30%	\$88,575
	Engineering Design Fee:			20%	\$59,050
	Contract Administration / Construction Inspection:			10%	\$29,525
	Utilities / Services Relocation Cost:			15%	\$44,288
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$516,688
	Construction Index:			5.2%	\$26,868
	HST:			1.76%	\$9,567
	Total Construction Cost (2019 Unit Prices):				\$553,122
2	Property Acquisition				\$539,000
2.01	7 Brennan Ave.				\$381,000
2.02	199 The Boulevard (portion of)				\$158,000
	Adjusted Value:			165%	\$889,350
	Acquisition Contingency:			30%	266,805
	Property Acquisition:				\$1,156,155
	Total Estimated Project Cost:				\$1,709,277

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**Project No. 176
Culvert Improvement No. 66 (Brennan Ave.)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	13	\$85.00	\$1,105
1.02	Remove Asphalt	m ²	225	\$9.00	\$2,025
1.03	Remove Granular Road Base	m ²	225	\$7.00	\$1,575
1.04	Remove Existing Concrete Curb and Gutter	m	60	\$36.00	\$2,160
1.05	9.14 m Open Bottom Span Structure	m	26	\$35,900.00	\$933,400
1.06	Concrete Headwall / Wingwalls	ea	4	\$25,000.00	\$100,000
1.07	Granular 'B' (450 mm)	m ²	225	\$20.00	\$4,500
1.08	Granular 'A' (150 mm)	m ²	225	\$11.00	\$2,475
1.09	100 mm HL8 Base Course Asphalt	m ²	225	\$39.50	\$8,888
1.10	40 mm HL3 Surface Course Asphalt	m ²	225	\$17.00	\$3,825
1.11	Concrete Curb and Gutter	m	60	\$75.00	\$4,500
1.12	Flow Diversion	wks	6	\$20,000.00	\$120,000
Subtotal: Culvert Improvement					\$1,184,453
Construction Contingency:				30%	\$355,336
Engineering Design Fee:				20%	\$236,891
Contract Administration / Construction Inspection:				10%	\$118,445
Utilities / Services Relocation Cost:				15%	\$177,668
Environmental Assessment Costs:					\$225,000
Construction Cost Estimate (2018 Unit Prices):					\$2,297,792
Construction Index:				5.2%	\$119,485.18
HST:				1.76%	\$42,544
Total Construction Cost (2019 Unit Prices):					\$2,459,821
Total Estimated Project Cost					\$2,459,821

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**Project No. 177
Watercourse Improvement No. 21 (Reach Wh-10)
Whiskey Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount	
1	Watercourse Improvement					
1.01	Excavation and Grading	m ³	5,400	\$24.00	\$129,600	
1.02	Remove and Dispose of Excess Material	m ³	5,400	\$30.00	\$162,000	
1.03	Geotechnical Sampling for Off-site Disposal	m ³	5,400	\$1.00	\$5,400	
1.04	Clearing and Grubbing (sq.m)	m ²	4,200	\$2.00	\$8,400	
1.05	Strip and Stockpile Topsoil	m ²	4,200	\$13.00	\$54,600	
1.06	Flow Diversion	wks	12	\$20,000.00	\$240,000	
1.07	Watercourse Improvements	m	140	\$2,000.00	\$280,000	
1.08	Relocate Existing Buildings	ea	1	\$25,000.00	\$25,000	
1.09	Dewatering	m ³	36,600	\$5.00	\$183,000	
Subtotal: Watercourse Improvement					\$1,088,000	
				Construction Contingency:	30%	\$326,400
				Engineering Design Fee:	20%	\$217,600
				Contract Administration / Construction Inspection:	10%	\$108,800
				Utilities / Services Relocation Cost:	15%	\$163,200
				Environmental Assessment Costs:		\$0
Construction Cost Estimate (2018 Unit Prices):					\$1,904,000	
				Construction Index:	5.2%	\$99,008
				HST:	1.76%	\$35,253
Total Construction Cost (2019 Unit Prices):					\$2,038,261	
Total Estimated Project Cost					\$2,038,261	

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**Project No. 96
SWMF Retrofit No. 87 (LV17)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SMWF Retrofit				
1.01	Flow Diversion	wks	3	\$20,000.00	\$60,000
1.02	Strip and Stockpile Topsoil	m ²	1,935	\$13.00	\$25,155
1.03	Excavation and Grading	m ³	925	\$24.00	\$22,200
1.04	Geotechnical Sampling for Off-site Disposal	m ³	925	\$1.00	\$925
1.05	Remove and Dispose of Excess Material	m ³	925	\$30.00	\$27,750
1.06	Construction Access Mud Mat	ea.	1	\$6,000.00	\$6,000
1.07	Place Topsoil and Hydroseed	m ²	1,935	\$10.00	\$19,350
1.08	Wetland Landscaping (Permanent Pool)	m ²	1,935	\$60.00	\$116,100
			Subtotal: SWMF Retrofit		\$277,480
				Construction Contingency: 30%	\$83,244
				Engineering Design Fee: 20%	\$55,496
				Contract Administration / Construction Inspection: 10%	\$27,748
				Utilities / Services Relocation Cost: 15%	\$41,622
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$485,590
				Construction Index: 5.2%	\$25,251
				HST: 1.76%	\$8,991
				Total Construction Cost (2019 Unit Prices):	\$519,831
				Total Estimated Project Cost	\$519,831

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**Project No. 97
SWMF Retrofit No. 65 (LV07)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Strip and Stockpile Topsoil	m ²	5,100	\$13.00	\$66,300
1.02	Excavation and Grading	m ³	7,000	\$24.00	\$168,000
1.03	Geotechnical Sampling for Off-site Disposal	m ³	6,120	\$1.00	\$6,120
1.04	Remove and Dispose of Excess Material	m ³	6,120	\$30.00	\$183,600
1.05	3000 mm Dia. Maintenance Hole	ea	2	\$27,900.00	\$55,800
1.06	3000 mm Dia. Ditch Inlet Maintenance Hole	ea	2	\$28,900.00	\$57,800
1.07	Filter Fabric	m ²	4,120	\$6.00	\$24,720
1.08	Perforated 2100 mm CMP	m	567	\$2,055.00	\$1,165,185
1.09	2" Clear Stone	m ³	2,390	\$45.00	\$107,550
1.10	Place Topsoil and Hydroseed	m ²	5,100	\$10.00	\$51,000
1.11	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.12	Wet Pond Landscaping (Permanent Pool)	m ²	2,660	\$15.00	\$39,900
1.13	SWMF Active Storage Landscaping	m ²	1,800	\$34.00	\$61,200
1.14	Flow Diversion	wks	6	\$20,000.00	\$120,000
			Subtotal: SWMF Retrofit		\$2,113,175
				Construction Contingency: 30%	\$633,953
				Engineering Design Fee: 20%	\$422,635
				Contract Administration / Construction Inspection: 10%	\$211,318
				Utilities / Services Relocation Cost: 15%	\$316,976
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$3,698,056
				Construction Index: 5.2%	\$192,299
				HST: 1.76%	\$68,470
				Total Construction Cost (2019 Unit Prices):	\$3,958,825
				Total Estimated Project Cost	\$3,958,825

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**Project No. 98
Culvert Improvement No. 126 (BCRY Railway Crossing)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	38	\$85.00	\$3,230
1.02	Excavation and Grading	m ³	175	\$24.00	\$4,200
1.03	Geotechnical Sampling for Off-site Disposal	m ³	175	\$1.00	\$175
1.03	Remove and Dispose of Excess Material	m ³	175	\$30.00	\$5,250
1.04	Remove Granular Road Base	m ²	50	\$7.00	\$350
1.05	Jack and Bore 2100 mm Dia. Conc. Culvert	m	56	\$7,450.00	\$417,200
1.06	2100 mm Dia. Storm Sewer	m	20	\$2,980.00	\$59,600
1.07	Concrete Headwall / Wingwalls	ea	4	\$25,000.00	\$100,000
1.08	Granular 'B' (450 mm)	m ²	50	\$20.00	\$1,000
1.09	Granular 'A' (150 mm)	m ²	50	\$11.00	\$550
1.10	Watercourse Improvements	m	45	\$2,000.00	\$90,000
1.11	Flow Diversion	wks	8	\$20,000.00	\$160,000
				Subtotal: Culvert Improvement	\$841,555
				Construction Contingency:	30%
					\$252,467
				Engineering Design Fee:	20%
					\$168,311
				Contract Administration / Construction Inspection:	10%
					\$84,156
				Utilities / Services Relocation Cost:	15%
					\$126,233
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$1,472,721
				Construction Index:	5.2%
					\$76,581.51
				HST:	1.76%
					\$27,267.73
				Total Construction Cost (2019 Unit Prices):	\$1,576,570
2	Property Acquisition				\$15,000
2.01	140 Lockhart Rd. (portion of)				\$15,000
				Adjusted Value:	165%
					\$24,750
				Acquisition Contingency:	30%
					\$7,425.00
				Property Acquisition:	\$32,175
				Total Estimated Project Cost:	\$1,608,745

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**Project No. 99
(Transportation Master Plan Project ID 2203)
Culvert Improvement No. 89 (Lockhart Road)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	37	\$85.00	\$3,145
1.02	Concrete Distribution Slab	ea	2	\$20,000.00	\$40,000
1.03	10.67 m Open Bottom Span Structure	m	34	\$39,300.00	\$1,336,200
1.04	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.05	Watercourse Improvements	m	15	\$2,000.00	\$30,000
1.06	Flow Diversion	wks	12	\$20,000.00	\$240,000
	Subtotal: Culvert Improvement				\$1,699,345
	Construction Contingency:			30%	\$509,804
	Engineering Design Fee:			20%	\$339,869
	Contract Administration / Construction Inspection:			10%	\$169,935
	Utilities / Services Relocation Cost:			15%	\$254,902
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$2,973,854
	Construction Index:			5.2%	\$154,640
	HST:			1.76%	\$55,061
	Total Construction Cost (2019 Unit Prices):				\$3,183,556
2	Property Acquisition				\$15,000
2.01	211 Lockhart Rd. (portion of)				\$15,000
	Adjusted Value:			165%	\$24,750
	Acquisition Contingency:			30%	\$7,425
	Property Acquisition:				\$32,175
	Total Estimated Project Cost				\$3,215,731

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 101
(Transportation Master Plan Project ID 2203)
Culvert Improvement No. 91 (Lockhart Road)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	100	\$2.00	\$200
1.02	Strip and Stockpile Topsoil	m ²	100	\$13.00	\$1,300
1.03	Excavation and Grading	m ³	900	\$24.00	\$21,600
1.04	Geotechnical Sampling for Off-site Disposal	m ³	900	\$1.00	\$900
1.05	Remove and Dispose of Excess Material	m ³	900	\$30.00	\$27,000
1.06	Watercourse Improvements	m	45	\$2,000.00	\$90,000
1.07	Remove Existing Culvert	m	13	\$85.00	\$1,105
1.08	Concrete Distribution Slab	LS	3	\$20,000.00	\$60,000
1.09	10.67 m Open Bottom Span Structure	m	36	\$39,300.00	\$1,414,800
1.10	Concrete Headwall / Wingwalls	ea	4	\$25,000.00	\$100,000
1.11	Flow Diversion	wks	12	\$20,000.00	\$240,000
				Subtotal: Culvert Improvement	\$1,956,905
				Construction Contingency: 30%	\$587,072
				Engineering Design Fee: 20%	\$391,381
				Contract Administration / Construction Inspection: 10%	\$195,691
				Utilities / Services Relocation Cost: 15%	\$293,536
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$3,424,584
				Construction Index: 5.2%	\$178,078.36
				HST: 1.76%	\$63,406.85
				Total Construction Cost (2019 Unit Prices):	\$3,666,069
				Total Estimated Project Cost	\$3,666,069

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 102
SWMF Retrofit No. 45 (LV05)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Flow Diversion	wks	4	\$20,000.00	\$80,000
1.02	Excavation and Grading	m ³	1,210	\$24.00	\$29,040
1.03	Geotechnical Sampling for Off-site Disposal	m ³	1,210	\$1.00	\$1,210
1.04	Remove and Dispose of Excess Material	m ³	1,210	\$30.00	\$36,300
1.05	Construction Access Mud Mat	ea.	1	\$6,000.00	\$6,000
1.06	Imported Topsoil	m ³	310	\$56.00	\$17,360
1.07	Place Topsoil and Hydroseed	m ²	2,040	\$10.00	\$20,400
1.08	Wet Pond Landscaping (Permanent Pool)	m ²	2,040	\$15.00	\$30,600
				Subtotal: SWMF Retrofit	\$220,910
2	Watercourse Improvements				
2.01	Flow Diversion	wks	8	\$20,000.00	\$160,000
2.02	Watercourse Improvements	m	275	\$2,000.00	\$550,000
2.03	Clearing and Grubbing (sq.m)	m ²	4,000	\$2.00	\$8,000
2.04	Strip and Stockpile Topsoil	m ²	4,000	\$13.00	\$52,000
2.05	Excavation and Grading	m ³	1,375	\$24.00	\$33,000
2.06	Remove and Dispose of Excess Material	m ³	1,375	\$30.00	\$41,250
2.07	Geotechnical Sampling for Off-site Disposal	m ³	1,375	\$1.00	\$1,375
2.08	Place Topsoil and Hydroseed	m ²	4,000	\$10.00	\$40,000
2.09	Armour Stone Reinforcement	m	160	\$400.00	\$64,000
				Subtotal: Watercourse Improvements	\$949,625
				Total: SWMF Retrofit and Watercourse Improvements	\$1,170,535
				Construction Contingency: 30%	\$351,161
				Engineering Design Fee: 20%	\$234,107
				Contract Administration / Construction Inspection: 10%	\$117,054
				Utilities / Services Relocation Cost: 15%	\$175,580
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$2,048,436
				Construction Index: 5.2%	\$106,519
				HST: 1.76%	\$37,927
				Total Construction Cost (2019 Unit Prices):	\$2,192,882
				Total Estimated Project Cost	\$2,192,882

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**Project No. 105B
Culvert Improvement No. 123B (BCRY Railway Crossing)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	28	\$85.00	\$2,380
1.02	Jack and Bore 3000 mm Dia. Conc. Culvert	m ²	32	\$13,862.50	\$443,600
1.03	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.04	Flow Diversion	wks	6	\$20,000.00	\$120,000
1.05	Watercourse Improvements	m	5	\$2,000.00	\$10,000
Subtotal: Culvert Improvement					\$625,980
				Construction Contingency: 30%	\$187,794
				Engineering Design Fee: 20%	\$125,196
Contract Administration / Construction Inspection:				10%	\$62,598
Utilities / Services Relocation Cost:				15%	\$93,897
				Environmental Assessment Costs:	\$0
Construction Cost Estimate (2018 Unit Prices):					\$1,095,465
				Construction Index: 5.2%	\$56,964
				HST: 1.76%	\$20,283
Total Construction Cost (2019 Unit Prices):					\$1,172,712
Total Estimated Project Cost					\$1,172,712

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**Project No. 107
(Transportation Master Plan Project ID 1374)
Culvert Improvement No. 92 (Huron Road)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	15	\$85.00	\$1,275
1.02	3600 x 1500 mm Conc. Box Culvert	m	34	\$10,145.00	\$344,930
1.03	Concrete Distribution Slab	LS	2	\$20,000.00	\$40,000
1.04	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.05	Flow Diversion	wks	4	\$20,000.00	\$80,000
1.06	Watercourse Improvements	m	5	\$2,000.00	\$10,000
Subtotal: Culvert Improvement					\$526,205
Construction Contingency:				30%	\$157,862
Engineering Design Fee:				20%	\$105,241
Contract Administration / Construction Inspection:				10%	\$52,621
Utilities / Services Relocation Cost:				15%	\$78,931
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$920,859
Construction Index:				5.2%	\$47,884.7
HST:				1.76%	\$17,050
Total Construction Cost (2019 Unit Prices):					\$985,793
Total Estimated Project Cost					\$985,793

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 109
Culvert Improvement No. 99 (Ellis Drive)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	40	\$85.00	\$3,400
1.02	Remove Asphalt	m ²	65	\$9.00	\$585
1.03	Remove Granular Road Base	m ²	65	\$7.00	\$455
1.04	3000 x 1200 mm Conc. Box Culvert (Min. Cover)	m	20	\$9,210.00	\$184,200
1.05	Concrete Distribution Slab	ea	1	\$20,000.00	\$20,000
1.06	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.07	Granular 'B' (450 mm)	m ²	65	\$20.00	\$1,300
1.08	Granular 'A' (150 mm)	m ²	65	\$11.00	\$715
1.09	100 mm HL8 Base Course Asphalt	m ²	65	\$39.50	\$2,568
1.10	40 mm HL3 Surface Course Asphalt	m ²	65	\$17.00	\$1,105
1.11	Reinstate Grassed Boulevard	m ²	95	\$26.00	\$2,470
1.12	Flow Diversion	wks	2	\$20,000.00	\$40,000
1.13	Watercourse Improvements	m	5	\$2,000.00	\$10,000
Subtotal: Culvert Improvement					\$316,798
Construction Contingency:				30%	\$95,039
Engineering Design Fee:				20%	\$63,360
Contract Administration / Construction Inspection:				10%	\$31,680
Utilities / Services Relocation Cost:				15%	\$47,520
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$554,396
Construction Index:				5.2%	\$28,828.6
HST:				1.76%	\$10,265
Total Construction Cost (2019 Unit Prices):					\$593,489
Total Estimated Project Cost					\$593,489

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**Project No. 110
(Transportation Master Plan Project ID 1326)
Culvert Improvement No. 98 (Welham Road)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	39	\$85.00	\$3,315.00
1.02	3000 x 1200 mm Conc. Box Culvert	m	56	\$7,475.00	\$418,600.00
1.03	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000.00
1.04	Flow Diversion	wks	5	\$20,000.00	\$100,000.00
1.05	Watercourse Improvements	m	15	\$2,000.00	\$30,000.00
				Subtotal: Culvert Improvement	\$601,915
				Construction Contingency:	30%
					\$180,575
				Engineering Design Fee:	20%
					\$120,383
				Contract Administration / Construction Inspection:	10%
					\$60,192
				Utilities / Services Relocation Cost:	15%
					\$90,287
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$1,053,351
				Construction Index:	5.2%
					\$54,774
				HST:	1.76%
					\$19,503
				Total Construction Cost (2019 Unit Prices):	\$1,127,629
2	Property Acquisition				\$568,000
2.01	455 Welham Rd. (portion of)				\$568,000
				Adjusted Value:	165%
					\$937,200
				Acquisition Contingency:	30%
					\$281,160
				Property Acquisition:	\$1,218,360
				Total Estimated Project Cost:	\$2,345,989

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 111
SWMF Retrofit No. 30 (LV02)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SMWF Retrofit				
1.01	Dewatering	m ³	500	\$5.00	\$2,500
1.02	Strip and Stockpile Topsoil	m ²	8,850	\$13.00	\$115,050
1.03	Excavation and Grading	m ³	11,360	\$24.00	\$272,640
1.04	Geotechnical Sampling for Off-site Disposal	m ³	11,360	\$1.00	\$11,360
1.05	Remove and Dispose of Excess Material	m ³	11,360	\$30.00	\$340,800
1.06	Construction Access Mud Mat	ea.	1	\$6,000.00	\$6,000
1.07	Place Topsoil and Hydroseed	m ²	8,850	\$10.00	\$88,500
1.08	Wet Pond Landscaping (Permanent Pool)	m ²	2,124	\$15.00	\$31,860
1.09	SWMF Active Storage Landscaping	m ²	3,540	\$34.00	\$120,360
1.10	Flow Diversion	wks	6	\$20,000.00	\$120,000
Subtotal: SWMF Retrofit					\$1,109,070
Construction Contingency:				30%	\$332,721
Engineering Design Fee:				20%	\$221,814
Contract Administration / Construction Inspection:				10%	\$110,907
Utilities / Services Relocation Cost:				15%	\$166,361
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$1,940,873
Construction Index:				5.2%	\$100,925
HST:				1.76%	\$35,936
Total Construction Cost (2019 Unit Prices):					\$2,077,734
Total Estimated Project Cost					\$2,077,734

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**Project No. 112
SWMF Retrofit No. 31 (LV03)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SMWF Retrofit				
1.01	Strip and Stockpile Topsoil	m ²	2,620	\$13.00	\$34,060
1.02	Excavation and Grading	m ³	450	\$24.00	\$10,800
1.03	Geotechnical Sampling for Off-site Disposal	m ³	450	\$1.00	\$450
1.04	Remove and Dispose of Excess Material	m ³	450	\$30.00	\$13,500
1.05	Construction Access Mud Mat	ea.	1	\$6,000.00	\$6,000
1.06	Place Topsoil and Hydroseed	m ²	2,620	\$10.00	\$26,200
1.07	Wet Pond Landscaping (Permanent Pool)	m ²	2,620	\$15.00	\$39,300
1.08	Orifice Plate	ea.	1	\$500.00	\$500
1.09	Flow Diversion	wks	3	\$20,000.00	\$60,000
1.10	Connect to Maintenance Hole	ea.	1	\$5,000.00	\$5,000
1.11	Concrete Reinforcement (spillway for SWM pond)	m ²	100	\$185.00	\$18,500
Subtotal: SWMF Retrofit					\$214,310
Construction Contingency:				30%	\$64,293
Engineering Design Fee:				20%	\$42,862
Contract Administration / Construction Inspection:				10%	\$21,431
Utilities / Services Relocation Cost:				15%	\$32,147
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$375,043
Construction Index:				5.2%	\$19,502
HST:				1.76%	\$6,944
Total Construction Cost (2019 Unit Prices):					\$401,489
Total Estimated Project Cost					\$401,489

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**Project No. 113
(Transportation Master Plan Project ID 1374)
Culvert Improvement No. 97 (Huron Road)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	15	\$85.00	\$1,275
1.02	3000 x 1200 mm Conc. Box Culvert	m	34	\$7,475.00	\$254,150
1.03	Concrete Headwall / Wingwalls	ea.	2	\$25,000.00	\$50,000
1.04	Flow Diversion	wks	4	\$20,000.00	\$80,000
Subtotal: Culvert Improvement					\$385,425
				Construction Contingency:	30%
				Engineering Design Fee:	20%
Contract Administration / Construction Inspection:				10%	\$38,543
Utilities / Services Relocation Cost:				15%	\$57,814
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$674,494
Construction Index:				5.2%	\$35,074
HST:				1.76%	\$12,488
Total Construction Cost (2019 Unit Prices):					\$722,056
Total Estimated Project Cost					\$722,056

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 114
Trunk Storm Sewer No. 7 (Esther Dr.)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount	
1	Trunk Storm Sewer					
1.01	Remove Existing Storm Sewer	m	1,020	\$65.00	\$66,300	
1.02	Remove Existing Maintenance Holes	ea	12	\$1,100.00	\$13,200	
1.03	1800 mm Dia. Storm Sewer	m	111	\$2,310.00	\$256,410	
1.04	2100 mm Dia. Storm Sewer	m	274	\$2,980.00	\$816,520	
1.05	2400 x 1500 mm Conc. Box Culvert	m	192	\$5,425.00	\$1,041,600	
1.06	3000 x 1500 mm Conc. Box Culvert	m	396	\$7,920.00	\$3,136,320	
1.07	2400 mm Dia. Maintenance Hole	ea.	2	\$19,200.00	\$38,400	
1.08	3000 mm Dia. Maintenance Hole	ea.	5	\$27,900.00	\$139,500	
1.09	3600 mm Dia. Maintenance Hole	ea.	5	\$37,500.00	\$187,500	
1.10	Relocate Existing Sanitary Sewer	m	980	\$850.00	\$833,000	
1.11	Sanitary Maintenance Holes	ea	15	\$7,500.00	\$112,500	
Subtotal: Trunk Storm Sewer Improvement					\$6,641,250	
				Construction Contingency:	30%	\$1,992,375
				Engineering Design Fee:	20%	\$1,328,250
				Contract Administration / Construction Inspection:	10%	\$664,125
				Utilities / Services Relocation Cost:	15%	\$996,188
				Environmental Assessment Costs:		\$0
					Construction Cost Estimate (2018 Unit Prices):	\$11,622,188
				Construction Index:	5.2%	\$604,354
				HST:	1.76%	\$215,187
					Total Construction Cost (2019 Unit Prices):	\$12,441,728
Total Estimated Project Cost					\$12,441,728	

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 120
Watercourse Improvement No. 22
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	4,000	\$2.00	\$8,000
1.02	Strip and Stockpile Topsoil	m ²	4,000	\$13.00	\$52,000
1.03	Excavation and Grading	m ³	5,000	\$24.00	\$120,000
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	1,250	\$1.00	\$1,250
1.05	Remove and Dispose of Excess Material	m ³	1,250	\$30.00	\$37,500
1.06	Watercourse Improvements	m	100	\$2,000.00	\$200,000
1.07	Place Topsoil and Hydroseed	m ²	4,000	\$10.00	\$40,000
1.08	Landscaping	m ²	2,000	\$34.00	\$68,000
1.09	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.10	Flow Diversion	wks	8	\$20,000.00	\$160,000
	Subtotal: Watercourse Improvement				\$692,750
	Construction Contingency:			30%	\$207,825
	Engineering Design Fee:			20%	\$138,550
	Contract Administration / Construction Inspection:			10%	\$69,275
	Utilities / Services Relocation Cost:			15%	\$103,913
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,212,313
	Construction Index:			5.2%	\$63,040
	HST:			1.76%	\$22,446
	Total Construction Cost (2019 Unit Prices):				\$1,297,799
	Total Estimated Project Cost				\$1,297,799

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**Project No. 121
Watercourse Improvement No. 23
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Watercourse Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	2,100	\$2.00	\$4,200
1.02	Strip and Stockpile Topsoil	m ²	2,100	\$13.00	\$27,300
1.03	Excavation and Grading	m ³	13,325	\$24.00	\$319,800
1.04	Geotechnical Sampling for Off-Site Disposal	m ³	3,330	\$1.00	\$3,330
1.05	Remove and Dispose of Excess Material	m ³	3,330	\$30.00	\$99,900
1.06	Watercourse Improvements	m	70	\$2,000.00	\$140,000
1.07	Place Topsoil and Hydroseed	m ²	2,100	\$10.00	\$21,000
1.08	Landscaping	m ²	2,100	\$34.00	\$71,400
1.09	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.10	Flow Diversion	wks	8	\$20,000.00	\$160,000
	Subtotal: Watercourse Improvement				\$852,930
	Construction Contingency:			30%	\$255,879
	Engineering Design Fee:			20%	\$170,586
	Contract Administration / Construction Inspection:			10%	\$85,293
	Utilities / Services Relocation Cost:			15%	\$127,940
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,492,628
	Construction Index:			5.2%	\$77,617
	HST:			1.76%	\$27,636
	Total Construction Cost (2019 Unit Prices):				\$1,597,880
	Total Estimated Project Cost				\$1,597,880

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**Project No. 122
Culvert Improvement No. 105 (Tollendal Mill Road)
Lovers Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount	
1	Culvert Improvement					
1.01	Remove Existing Culvert	m	22	\$85.00	\$1,870	
1.02	Remove Asphalt	m ²	140	\$9.00	\$1,260	
1.03	Remove Granular Road Base	m ²	140	\$7.00	\$980	
1.04	10356 x 3892 mm Low Profile Bridge Plate Arch	m	22	\$9,000.00	\$198,000	
1.05	Excavation and Grading	m ³	1,000	\$24.00	\$24,000	
1.06	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000	
1.07	Granular 'B' (450 mm)	m ²	140	\$20.00	\$2,800	
1.08	Granular 'A' (150 mm)	m ²	140	\$11.00	\$1,540	
1.09	100 mm HL8 Base Course Asphalt	m ²	140	\$39.50	\$5,530	
1.10	40 mm HL3 Surface Course Asphalt	m ²	140	\$17.00	\$2,380	
1.11	Reinstate Grassed Boulevard	m ²	284	\$26.00	\$7,384	
1.12	Flow Diversion	wks	12	\$20,000.00	\$240,000	
1.13	Watercourse Improvements	m	10	\$2,000.00	\$20,000	
Subtotal: Culvert Improvement					\$555,744	
				Construction Contingency:	30%	\$166,723
				Engineering Design Fee:	20%	\$111,149
				Contract Administration / Construction Inspection:	10%	\$55,574
				Utilities / Services Relocation Cost:	15%	\$83,362
				Environmental Assessment Costs:		\$0
					Construction Cost Estimate (2018 Unit Prices):	\$972,552
				Construction Index:	5.2%	\$50,572.7
				HST:	1.76%	\$18,007
					Total Construction Cost (2019 Unit Prices):	\$1,041,132
Total Estimated Project Cost					\$1,041,132	

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**Project No. 125
(Transportation Master Plan Project ID 2202)
Culvert Improvement No. 83 (Mapleview Drive East)
Hewitts Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	22	\$85.00	\$1,870
1.02	Concrete Distribution Slab	LS	2	\$20,000.00	\$40,000
1.03	6100 x 2400 mm Conc. Box Culvert	m	41	\$17,900.00	\$733,900
1.04	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.05	Watercourse Improvements	m	25	\$2,000.00	\$50,000
1.06	Flow Diversion	wks	10	\$20,000.00	\$200,000
	Subtotal: Culvert Improvement				\$1,075,770
	Construction Contingency:			30%	\$322,731
	Engineering Design Fee:			20%	\$215,154
	Contract Administration / Construction Inspection:			10%	\$107,577
	Utilities / Services Relocation Cost:			15%	\$161,366
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$1,882,598
	Construction Index:			5.2%	\$97,895
	HST:			1.76%	\$34,857
	Total Construction Cost (2019 Unit Prices):				\$2,015,349
2	Property Acquisition				\$15,000
2.01	793 Mapleview Dr. E. (portion of)				\$15,000
	Adjusted Value:			165%	\$24,750
	Acquisition Contingency:			30%	\$7,425
	Property Acquisition:				\$32,175
	Total Estimated Project Cost				\$2,047,524

Note: Construction cost estimate reflects cost of culvert installation as part of road renewal/reconstruction projects.

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**Project No. 130
Trunk Storm Sewer No. 6 (Princess Margaret Gate)
Hewitts Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount	
1	Trunk Storm Sewer					
1.01	Remove Existing Storm Sewer	m	468	\$65.00	\$30,420	
1.02	Remove Existing Maintenance Holes	ea	10	\$1,100.00	\$11,000	
1.03	1200 mm Dia. Storm Sewer	m	106	\$1,170.00	\$124,020	
1.04	1350 mm Dia. Storm Sewer	m	74	\$1,335.00	\$98,790	
1.05	1500 mm Dia. Storm Sewer	m	179	\$1,755.00	\$314,145	
1.06	1650 mm Dia. Storm Sewer	m	87	\$1,960.00	\$170,520	
1.07	2400 x 1200 mm Conc. Box Culvert	m	22	\$5,060.00	\$111,320	
1.08	1800 mm Dia. Maintenance Hole	ea	1	\$12,600.00	\$12,600	
1.09	2400 mm Dia. Maintenance Hole	ea	7	\$19,200.00	\$134,400	
1.10	3000 mm Dia. Maintenance Hole	ea	1	\$27,900.00	\$27,900	
1.11	3600 mm Dia. Maintenance Hole	ea	1	\$37,500.00	\$37,500	
1.12	Concrete Headwall / Wingwalls	ea	1	\$25,000.00	\$25,000	
Subtotal: Trunk Storm Sewer Improvement					\$1,097,615	
				Construction Contingency:	30%	\$329,285
				Engineering Design Fee:	20%	\$219,523
				Contract Administration / Construction Inspection:	10%	\$109,762
				Utilities / Services Relocation Cost:	15%	\$164,642
				Environmental Assessment Costs:		\$0
Construction Cost Estimate (2018 Unit Prices):					\$1,920,826	
				Construction Index:	5.2%	\$99,883
				HST:	1.76%	\$35,564
Total Construction Cost (2019 Unit Prices):					\$2,056,274	
Total Estimated Project Cost					\$2,056,274	

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 135
Trunk Storm Sewer Improvement No. 3 (From SWMF GR04 to SWMF GR01)
Georgian Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Trunk Storm Sewer				
1.01	Remove Existing Storm Sewer	m	766	\$65.00	\$49,790
1.02	Remove Existing Maintenance Holes	ea	13	\$1,100.00	\$14,300
1.03	3000 x 1200 mm Conc. Box Culvert	m	766	\$7,475.00	\$5,725,850
1.04	Connect to Storm Sewer	ea	3	\$5,000.00	\$15,000
1.05	Connect to Culvert	ea	1	\$5,000.00	\$5,000
1.06	Concrete Headwall / Wingwalls	ea	1	\$25,000.00	\$25,000
1.07	Maintenance Access Port	m	15	\$5,000.00	\$75,000
1.08	Flow Diversion	wks	16	\$20,000.00	\$320,000
	Subtotal: Trunk Storm Sewer Improvement				\$6,229,940
	Construction Contingency:			30%	\$1,868,982
	Engineering Design Fee:			20%	\$1,245,988
	Contract Administration / Construction Inspection:			10%	\$622,994
	Utilities / Services Relocation Cost:			15%	\$934,491
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$10,902,395
	Construction Index:			5.2%	\$566,925
	HST:			1.76%	\$201,860
	Total Construction Cost (2019 Unit Prices):				\$11,671,180
	Total Estimated Project Cost				\$11,671,180

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 137
Trunk Storm Sewer No. 4 (Harrogate Crt., Johnson St., Cheltenham Rd., Larkin Dr. and Quinlan Rd.)
Georgian Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Trunk Storm Sewer				
1.01	Connect to Storm Sewer	ea	10	\$5,000.00	\$50,000
1.02	Remove Existing Storm Sewer	m	919	\$65.00	\$59,735
1.03	Remove Existing Maintenance Holes	ea	12	\$1,100.00	\$13,200
1.04	Relocate Existing Sanitary Sewer	m	745	\$850.00	\$633,250
1.05	Sanitary Maintenance Holes	ea	10	\$7,500.00	\$75,000
1.06	1245 mm x 813 mm HE Concrete Storm Sewer	m	191	\$1,650.00	\$315,150
1.07	3000 x 1500 mm Conc. Box Culvert	m	728	\$7,920.00	\$5,765,760
1.08	2400 mm Dia. Maintenance Hole	ea.	2	\$19,200.00	\$38,400
1.09	Maintenance Access Port	ea.	11	\$5,000.00	\$55,000
1.10	Flow Diversion	wks	16	\$20,000.00	\$320,000
	Subtotal: Trunk Storm Sewer Improvement				\$7,325,495
	Construction Contingency:			30%	\$2,197,649
	Engineering Design Fee:			20%	\$1,465,099
	Contract Administration / Construction Inspection:			10%	\$732,550
	Utilities / Services Relocation Cost:			15%	\$1,098,824
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$12,819,616
	Construction Index:			5.2%	\$666,620
	HST:			1.76%	\$237,358
	Total Construction Cost (2019 Unit Prices):				\$13,723,594
	Total Estimated Project Cost				\$13,723,594

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 139
Culvert Improvement No. 82 (Penetanguishene Road)
Georgian Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	33	\$85.00	\$2,805
1.02	Remove Asphalt	m ²	71	\$9.00	\$639
1.03	Remove Granular Road Base	m ²	71	\$7.00	\$497
1.04	Excavation and Grading	m ³	36	\$24.00	\$864
1.05	Remove and Dispose of Excess Material	m ³	36	\$30.00	\$1,080
1.06	Geotechnical Sampling for Off-site Disposal	m ³	36	\$1.00	\$36
1.07	2400 x 1200 mm Conc. Box Culvert (Min. Cover)	m	33	\$6,365.00	\$210,045
1.08	Concrete Distribution Slab	ea	1	\$20,000.00	\$20,000
1.09	Concrete Headwall / Wingwalls	ea	2	\$25,000.00	\$50,000
1.10	Granular 'B' (450 mm)	m ²	71	\$20.00	\$1,420
1.11	Granular 'A' (150 mm)	m ²	71	\$11.00	\$781
1.12	100 mm HL8 Base Course Asphalt	m ²	71	\$39.50	\$2,805
1.13	40 mm HL3 Surface Course Asphalt	m ²	71	\$17.00	\$1,207
1.14	Reinstate Gravel Shoulder	m ²	21	\$30.00	\$630
1.15	Flow Diversion	wks	2	\$20,000.00	\$40,000
	Subtotal: Culvert Improvement				\$332,809
	Construction Contingency:			30%	\$99,843
	Engineering Design Fee:			20%	\$66,562
	Contract Administration / Construction Inspection:			10%	\$33,281
	Utilities / Services Relocation Cost:			15%	\$49,921
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$582,415
	Construction Index:			5%	\$30,286
	HST:			1.76%	\$10,784
	Total Construction Cost (2019 Unit Prices):				\$623,484
	Total Estimated Project Cost				\$623,484

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**Project No. 141
Trunk Storm Sewer No. 5 (From SWMF LT02 to SWMF LT01)
Little Lake Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Trunk Storm Sewer				
1.01	Remove Existing Storm Sewer	m	264	\$65.00	\$17,160
1.02	Remove Existing Maintenance Holes	ea	4	\$1,100.00	\$4,400
1.03	Relocate Existing Sanitary Sewer	m	280	\$850.00	\$238,000
1.04	Sanitary Maintenance Holes	ea	4	\$7,500.00	\$30,000
1.05	Connect to Storm Sewer	ea	4	\$5,000.00	\$20,000
1.06	2400 x 1200 mm Conc. Box Culvert	m	528	\$5,060.00	\$2,671,680
1.07	Concrete Headwall / Wingwalls	ea	1	\$25,000.00	\$25,000
1.08	Maintenance Access Port	ea.	4	\$5,000.00	\$20,000
1.09	Flow Diversion	wks	12	\$20,000.00	\$240,000
	Subtotal: Trunk Storm Sewer Improvement				\$3,266,240
	Construction Contingency:			30%	\$979,872
	Engineering Design Fee:			20%	\$653,248
	Contract Administration / Construction Inspection:			10%	\$326,624
	Utilities / Services Relocation Cost:			15%	\$489,936
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$5,715,920
	Construction Index:			5.2%	\$297,228
	HST:			1.76%	\$105,831
	Total Construction Cost (2019 Unit Prices):				\$6,118,979
	Total Estimated Project Cost				\$6,118,979

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 142B
SWMF Retrofit No. 77 (LT01)
Little Lake Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Strip and Stockpile Topsoil	m ²	7,470	\$13.00	\$97,110
1.02	Excavation and Grading	m ³	10,580	\$24.00	\$253,920
1.03	Geotechnical Sampling for Off-site Disposal	m ³	10,580	\$1.00	\$10,580
1.04	Remove and Dispose of Excess Material	m ³	10,580	\$30.00	\$317,400
1.05	Connect to Storm Sewer	ea	1	\$5,000.00	\$5,000
1.06	Concrete Headwall / Wingwalls	ea	1	\$25,000.00	\$25,000
1.07	Orifice Plate	ea	1	\$500.00	\$500
1.08	1500 mm Dia. Ditch Inlet Maintenance Hole	ea	2	\$9,900.00	\$19,800
1.09	450 mm Dia. Storm Sewer	m	20	\$425.00	\$8,500
1.10	1050 mm Dia. Storm Sewer	m	15	\$985.00	\$14,775
1.11	Concrete Reinforcement (spillway for SWM pond)	m ²	98	\$185.00	\$18,038
1.12	Heavy Duty Silt Fence	m	450	\$23.00	\$10,350
1.13	Construction Access Mud Mat	ea	2	\$6,000.00	\$12,000
1.14	Wetland Landscaping (Permanent Pool)	m ²	1,075	\$60.00	\$64,500
1.15	Place Topsoil and Hydroseed	m ²	6,395	\$10.00	\$63,950
1.16	SWMF Active Storage Landscaping	m ²	4,790	\$34.00	\$162,860
1.17	Flow Diversion	wks	12	\$20,000.00	\$240,000
1.18	Remove Existing Buildings	ea	3	\$25,000.00	\$75,000
				Subtotal: SWMF Retrofit	\$1,399,283
				Construction Contingency: 30%	\$419,785
				Engineering Design Fee: 20%	\$279,857
				Contract Administration / Construction Inspection: 10%	\$139,928
				Utilities / Services Relocation Cost: 15%	\$209,892
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$2,448,744
				Construction Index: 5.2%	\$127,335
				HST: 1.76%	\$45,339
				Total Construction Cost (2019 Unit Prices):	\$2,621,418
2	Property Acquisition				\$647,000
2.01	496 St. Vincent St.				\$278,000
2.02	500 St. Vincent St.				\$369,000
				Adjusted Value: 165%	\$1,067,550
				Acquisition Contingency: 30%	320,265
				Property Acquisition:	\$1,387,815
				Total Estimated Project Cost:	\$4,009,233

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**Project No. 143
Channel Improvement No. 24 (Reach Li-1)
Little Lake Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Channel Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	500	\$2.00	\$1,000
1.02	Excavation and Grading	m ³	75	\$24.00	\$1,800
1.03	Remove and Dispose of Excess Material	m ³	75	\$30.00	\$2,250
1.04	Geotechnical Sampling for Off-site Disposal	m ³	75	\$1.00	\$75
1.05	Watercourse Improvements	m	25	\$2,000.00	\$50,000
1.06	Flow Diversion	wks	1	\$20,000.00	\$20,000
1.07	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
					Subtotal: Watercourse Improvement
					\$81,125
				Construction Contingency:	30%
					\$24,338
				Engineering Design Fee:	20%
					\$16,225
				Contract Administration / Construction Inspection:	10%
					\$8,113
				Utilities / Services Relocation Cost:	15%
					\$12,169
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$141,969
				Construction Index:	5.2%
					\$7,382
				HST:	1.76%
					\$2,629
				Total Construction Cost (2019 Unit Prices):	\$151,980
				Total Estimated Project Cost	\$151,980

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**Project No. 145
SWMF Retrofit No. 84 (LTGM)
Little Lake Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Connect to Storm Sewer	LS	1	\$5,000.00	\$5,000
1.02	2100 mm Dia. Storm Sewer	m	10	\$2,980.00	\$29,800
1.03	Dewatering	m ³	3,220	\$5.00	\$16,100
1.04	Strip and Stockpile Topsoil	m ²	11,500	\$13.00	\$149,500
1.05	Excavation and Grading	m ³	20,900	\$24.00	\$501,600
1.06	Geotechnical Sampling for Off-site Disposal	m ³	20,900	\$1.00	\$20,900
1.07	Remove and Dispose of Excess Material	m ³	20,900	\$30.00	\$627,000
1.08	Orifice Plate	ea	1	\$500.00	\$500
1.09	1200 mm Dia. Maintenance Hole	ea	1	\$6,250.00	\$6,250
1.10	450 mm Dia. Storm Sewer	m	15	\$425.00	\$6,375
1.11	Concrete Reinforcement (spillway for SWM pond)	m ²	225	\$185.00	\$41,625
1.12	Heavy Duty Silt Fence	m	360	\$23.00	\$8,280
1.13	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.14	Wetland Landscaping (Permanent Pool)	m ²	3,075	\$60.00	\$184,500
1.15	Place Topsoil and Hydroseed	m ²	4,155	\$10.00	\$41,550
1.16	SWMF Active Storage Landscaping	m ²	3,185	\$34.00	\$108,290
1.17	Flow Diversion	wks	6	\$20,000.00	\$120,000
				Subtotal: SWMF Retrofit	\$1,873,270
				Construction Contingency: 30%	\$561,981
				Engineering Design Fee: 20%	\$374,654
				Contract Administration / Construction Inspection: 10%	\$187,327
				Utilities / Services Relocation Cost: 15%	\$280,991
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$3,278,223
				Construction Index: 5.2%	\$170,468
				HST: 1.76%	\$60,697
				Total Construction Cost (2019 Unit Prices):	\$3,509,387
2	Property Acquisition				\$1,519,000
2.01	509 Bayfield St. (portion of)				\$1,519,000
				Adjusted Value: 165%	\$2,506,350
				Acquisition Contingency: 30%	751,905
				Property Acquisition:	\$3,258,255
				Total Estimated Project Cost:	\$6,767,642

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**Project No. 150
SWMF Retrofit No. 61 (BR08B)
Bear Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	SWMF Retrofit				
1.01	Clearing and Grubbing (sq.m)	m ²	375	\$2.00	\$750
1.02	Strip and Stockpile Topsoil	m ²	3,600	\$13.00	\$46,800
1.03	Excavation and Grading	m ³	3,850	\$24.00	\$92,400
1.04	Geotechnical Sampling for Off-site Disposal	m ³	3,850	\$1.00	\$3,850
1.05	Remove and Dispose of Excess Material	m ³	3,850	\$30.00	\$115,500
1.06	Heavy Duty Silt Fence	m	200	\$23.00	\$4,600
1.07	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
1.08	Wetland Landscaping (Permanent Pool)	m ²	650	\$60.00	\$39,000
1.09	Place Topsoil and Hydroseed	m ²	2,950	\$10.00	\$29,500
1.10	SWMF Active Storage Landscaping	m ²	500	\$34.00	\$17,000
1.11	Flow Diversion	wks	4	\$20,000.00	\$80,000
Subtotal: SWMF Retrofit					\$435,400
Construction Contingency:				30%	\$130,620
Engineering Design Fee:				20%	\$87,080
Contract Administration / Construction Inspection:				10%	\$43,540
Utilities / Services Relocation Cost:				15%	\$65,310
Environmental Assessment Costs:					\$0
Construction Cost Estimate (2018 Unit Prices):					\$761,950
Construction Index:				5.2%	\$39,621
HST:				1.76%	\$14,108
Total Construction Cost (2019 Unit Prices):					\$815,679
Total Estimated Project Cost					\$815,679

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**Project No. 154
Culvert Improvement No. 78 (Ardagh Road)
Bear Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Culvert Improvement				
1.01	Remove Existing Culvert	m	37	\$85.00	\$3,145
1.02	Remove Asphalt	m ²	120	\$9.00	\$1,080
1.03	Remove Granular Road Base	m ²	120	\$7.00	\$840
1.04	Remove Existing Concrete Curb and Gutter	m	12	\$36.00	\$432
1.05	Remove Existing Sidewalk	m ²	18	\$18.00	\$324
1.06	Excavation and Grading	m ³	240	\$24.00	\$5,760
1.07	Remove and Dispose of Excess Material	m ³	240	\$30.00	\$7,200
1.08	Geotechnical Sampling for Off-site Disposal	m ³	240	\$1.00	\$240
1.09	900 mm Dia. Storm Sewer	m	35	\$890.00	\$31,150
1.10	Concrete Headwall - 900 mm Dia.	ea	2	\$24,500.00	\$49,000
1.11	Granular 'B' (450 mm)	m ²	120	\$20.00	\$2,400
1.12	Granular 'A' (150 mm)	m ²	120	\$11.00	\$1,320
1.13	100 mm HL8 Base Course Asphalt	m ²	120	\$39.50	\$4,740
1.14	40 mm HL3 Surface Course Asphalt	m ²	120	\$17.00	\$2,040
1.15	Concrete Curb and Gutter	m	12	\$75.00	\$900
1.16	Concrete Sidewalk	m ²	18	\$100.00	\$1,800
1.17	Reinstate Grassed Boulevard	m ²	48	\$26.00	\$1,248
1.18	Flow Diversion	wks	4	\$20,000.00	\$80,000
	Subtotal: Culvert Improvement				\$193,619
	Construction Contingency:			30%	\$58,086
	Engineering Design Fee:			20%	\$38,724
	Contract Administration / Construction Inspection:			10%	\$19,362
	Utilities / Services Relocation Cost:			15%	\$29,043
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$338,833
	Construction Index:			5%	\$17,619
	HST:			1.76%	\$6,274
	Total Construction Cost (2019 Unit Prices):				\$362,726
	Total Estimated Project Cost				\$362,726

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**Project No. 155
Channel Improvement No. 33 (Reach Be-14)
Bear Creek Watershed**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Channel Improvement				
1.01	Clearing and Grubbing (sq.m)	m ²	1,000	\$2.00	\$2,000
1.02	Excavation and Grading	m ³	150	\$24.00	\$3,600
1.03	Remove and Dispose of Excess Material	m ³	150	\$30.00	\$4,500
1.04	Geotechnical Sampling for Off-site Disposal	m ³	150	\$1.00	\$150
1.05	Watercourse Improvements	m	50	\$2,000.00	\$100,000
1.06	Flow Diversion	wks	2	\$20,000.00	\$40,000
1.07	Construction Access Mud Mat	ea	1	\$6,000.00	\$6,000
				Subtotal: Watercourse Improvement	\$156,250
				Construction Contingency:	30% \$46,875
				Engineering Design Fee:	20% \$31,250
				Contract Administration / Construction Inspection:	10% \$15,625
				Utilities / Services Relocation Cost:	15% \$23,438
				Environmental Assessment Costs:	\$0
				Construction Cost Estimate (2018 Unit Prices):	\$273,438
				Construction Index:	5.2% \$14,219
				HST:	1.76% \$5,063
				Total Construction Cost (2019 Unit Prices):	\$292,719
				Total Estimated Project Cost	\$292,719

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**Project No. 159
Trunk Storm Sewer No. 8 (From Steel Street to Kempenfelt Bay)
Johnson Drainage Area**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Trunk Storm Sewer				
1.01	Remove Existing Storm Sewer	m	927	\$65.00	\$60,255
1.02	Remove Existing Maintenance holes	ea	18	\$1,100.00	\$19,800
1.03	Relocate Existing Sanitary Sewer	m	35	\$850.00	\$29,750
1.04	Sanitary Maintenance Holes	ea	2	\$7,500.00	\$15,000
1.05	900 mm Dia. Storm Sewer	m	248	\$890.00	\$220,800
1.06	1050 mm Dia. Storm Sewer	m	79	\$985.00	\$77,943
1.07	1350 mm Dia. Storm Sewer	m	195	\$1,335.00	\$260,218
1.08	1500 mm Dia. Storm Sewer	m	43	\$1,755.00	\$75,974
1.09	1650 mm Dia. Storm Sewer	m	302	\$1,960.00	\$591,861
1.10	3000 x 1800 mm Conc. Box Culvert	m	60	\$8,375.00	\$500,741
1.11	1500 mm Dia. Maintenance Hole	ea	1	\$8,600.00	\$8,600
1.12	1800 mm Dia. Maintenance Hole	ea	3	\$12,600.00	\$37,800
1.13	2400 mm Dia. Maintenance Hole	ea	8	\$19,200.00	\$153,600
1.14	3000 mm Dia. Maintenance Hole	ea	5	\$27,900.00	\$139,500
1.15	3600 mm Dia. Maintenance Hole	ea	1	\$37,500.00	\$37,500
1.16	Concrete Headwall / Wingwalls	ea	1	\$25,000.00	\$25,000
1.17	Flow Diversion	wks	8	\$20,000.00	\$160,000
Subtotal: Trunk Storm Sewer Improvement					\$2,414,343
				Construction Contingency:	30% \$724,303
				Engineering Design Fee:	20% \$482,869
				Contract Administration / Construction Inspection:	10% \$241,434
				Utilities / Services Relocation Cost:	15% \$362,151
				Environmental Assessment Costs:	\$0
Construction Cost Estimate (2018 Unit Prices):					\$4,225,100
				Construction Index:	5.2% \$219,705
				HST:	1.76% \$78,229
Total Construction Cost (2019 Unit Prices):					\$4,523,034
Total Estimated Project Cost					\$4,523,034

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.

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**Project No. 180
Trunk Storm Sewer No. 12 (Blake St.)
Nelson Drainage Area**

Item No.	Description	Unit	Estimated Quantity	Estimated Unit Price	Estimated Amount
1	Trunk Storm Sewer				
1.01	Connect to Maintenance Hole	LS	1	\$5,000.00	\$5,000
1.02	600 mm Dia. Storm Sewer	m	113	\$465.00	\$52,545
1.03	675 mm Dia. Storm Sewer	m	122	\$495.00	\$60,390
1.04	750 mm Dia. Storm Sewer	m	24	\$640.00	\$15,360
1.05	1200 mm Dia. Maintenance Hole	ea	5	\$6,250.00	\$31,250
	Subtotal: Trunk Storm Sewer Improvement				\$164,545
	Construction Contingency:			30%	\$49,364
	Engineering Design Fee:			20%	\$32,909
	Contract Administration / Construction Inspection:			10%	\$16,455
	Utilities / Services Relocation Cost:			15%	\$24,682
	Environmental Assessment Costs:				\$0
	Construction Cost Estimate (2018 Unit Prices):				\$287,954
	Construction Index:			5.2%	\$14,974
	HST:			1.76%	\$5,332
	Total Construction Cost (2019 Unit Prices):				\$308,259
	Total Estimated Project Cost				\$308,259

Note: Construction cost estimate reflects cost of trunk storm sewer installation as part of road renewal projects.