

**WASTEWATER SERVICING INFRASTRUCTURE - Average Unit Prices (Southwestern Region) for 2018**

Nom. Pipe Size	Depth to Invert	Shoring System Cost	Outer pipe Diameter	Excavation		Granular Bed. Surr.		Backfill		Pipe		MH Allowance	Subtotal	General Requirements	Dewatering Allowance	TOTAL (excluding restoration)	Road Restoration	TOTAL (including restoration)
				Vol.	Cost	Vol.	Cost	Vol.	Cost	Cost	Installation Allowance							
(mm)	(m)	(\$/m)	(m)	(m3)	(\$/m)	(m3)	(\$/m)	(m3)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)
300	5	15.00	0.445	6.4	44.80	1.0	45.00	5.4	27.00	79.70	7.97	105.00	324.47	39.00	20.00	390	327	720
375	5	15.00	0.533	6.9	48.30	1.1	49.50	5.8	29.00	98.30	9.83	105.00	354.93	43.00	20.00	420	327	750
450	5	15.00	0.622	7.3	51.10	1.2	54.00	6.1	30.50	101.30	10.13	105.00	367.03	44.00	20.00	440	327	760
525	5	15.00	0.711	7.8	54.60	1.4	63.00	6.4	32.00	129.00	12.90	105.00	411.50	49.00	20.00	490	327	810
600	5	15.00	0.800	8.2	57.40	1.5	67.50	6.7	33.50	170.90	17.09	105.00	466.39	56.00	20.00	550	327	870
675	5	20.00	0.889	8.7	60.90	1.6	72.00	7.1	35.50	259.60	25.96	150.00	623.96	75.00	20.00	720	327	1,050
750	5	20.00	0.978	9.2	64.40	1.8	81.00	7.4	37.00	343.50	34.35	150.00	730.25	88.00	20.00	840	327	1,170
825	5	20.00	1.067	9.6	67.20	1.9	85.50	7.7	38.50	443.40	44.34	150.00	848.94	102.00	20.00	980	327	1,300
900	5	20.00	1.156	10.4	72.80	2.1	94.50	8.3	41.50	478.40	47.84	150.00	905.04	109.00	20.00	1,040	327	1,370
975	5	25.00	1.245	10.8	75.60	2.2	99.00	8.6	43.00	549.70	54.97	192.00	1,039.27	125.00	20.00	1,190	327	1,520
1050	5	25.00	1.334	11.3	79.10	2.4	108.00	8.9	44.50	632.00	63.20	192.00	1,143.80	137.00	20.00	1,310	327	1,630
1200	5	25.00	1.511	12.2	85.40	2.7	121.50	9.5	47.50	791.50	79.15	192.00	1,342.05	161.00	20.00	1,530	327	1,860
300	7	15.00	0.445	8.9	62.30	1.0	45.00	7.9	39.50	79.70	79.70	105.00	426.20	51.00	20.00	500	327	830
375	7	15.00	0.533	9.5	66.50	1.1	49.50	8.4	42.00	98.30	98.30	105.00	474.60	57.00	20.00	560	327	880
450	7	15.00	0.622	10.2	71.40	1.2	54.00	9.0	45.00	101.30	101.30	105.00	493.00	59.00	20.00	580	327	900
525	7	15.00	0.711	10.8	75.60	1.4	63.00	9.4	47.00	129.00	129.00	105.00	563.60	68.00	20.00	660	327	980
600	7	15.00	0.800	11.4	79.80	1.5	67.50	9.9	49.50	170.90	170.90	105.00	658.60	79.00	20.00	760	327	1,090
675	7	20.00	0.889	12.1	84.70	1.6	72.00	10.5	52.50	259.60	259.60	150.00	898.40	108.00	20.00	1,030	327	1,360
750	7	20.00	0.978	12.7	88.90	1.8	81.00	10.9	54.50	343.50	343.50	150.00	1,081.40	130.00	20.00	1,240	327	1,560
825	7	20.00	1.067	13.3	93.10	1.9	85.50	11.4	57.00	443.40	443.40	150.00	1,292.40	155.00	20.00	1,470	327	1,800
900	7	20.00	1.156	14.3	100.10	2.1	94.50	12.2	61.00	478.40	478.40	150.00	1,382.40	166.00	20.00	1,570	327	1,900
975	7	25.00	1.245	14.9	104.30	2.2	99.00	12.7	63.50	549.70	549.70	192.00	1,583.20	190.00	20.00	1,800	327	2,130
1050	7	25.00	1.334	15.6	109.20	2.4	108.00	13.2	66.00	632.00	632.00	192.00	1,764.20	212.00	20.00	2,000	327	2,330
1200	7	25.00	1.511	16.9	118.30	2.7	121.50	14.2	71.00	791.50	791.50	192.00	2,110.80	253.00	20.00	2,390	327	2,720

**Notes**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1) Cost of excavation \$6/m3<br/>                 2) Pipe Cost taken from 2017 Price list from M-Con Products for 100-D pipe<br/>                 Installation Cost 100 % of pipe cost for pipes up to 1200 mm<br/>                 3) Backfill trench \$5/m3 based on replacement of native material and compaction<br/>                 4) Cost of granular bedding \$45/m3<br/>                 5) Manhole Spacing 90 m</p> | <p>6) Service Laterals excluded from this estimate, and to be paid directly by benefitting landowner<br/>                 7) Restoration cost \$3/m2 for topsoil &amp; seed only<br/>                 8) Cost for Dewatering Allowance \$20/m<br/>                 9) 12% Allowance for General Requirements (Bonding, Insurance, Layout, Temporary Facilities, etc.) included in construction cost<br/>                 10) Engineering and Contingency not included</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**WATER SERVICING INFRASTRUCTURE AVERAGE UNIT PRICES (2018 - Southwestern Region)**

**A) Watermain Installation with Minimum Restoration (Top Soil and Seed only) (FOR INSTALLATION IN DITCHES)**

	Nom. Pipe Size (mm)	Outer Diameter (m)	Depth to Invert (m)	Minimum Trench Width (m)	Excavation		Bedding		Pipe		Backfill		Restoration Allowance (\$/m)	Subtotal Unit Cost (\$/m)	Appurtenance Allowance (\$/m)	Subtotal Unit Cost (\$/m)	Dewatering Allowance (\$/m)	Subtotal Unit Cost (\$/m)	Conting @20% (\$/m)	Eng. @15% (\$/m)	TOTAL (excl. HST) (\$/m)
					Vol.	Cost	Vol.	Cost	Cost	Installation	Vol.	Cost									
					(m <sup>3</sup> )	(\$/m)	(m <sup>3</sup> )	(\$/m)	(\$/m)	(\$/m)	(m <sup>3</sup> )	(\$/m)									
PVC	100	0.14	2.4	0.74	2.8	16.80	0.44	19.70	24.80	2.48	2.80	14.00	40.00	117.78	59.00	176.78	10	186.78	37.40	33.60	260.00
	150	0.20	2.4	0.80	3.10	18.60	0.52	23.40	38.25	3.83	2.85	14.30	40.00	138.38	59.00	197.38	10	207.38	41.50	31.11	280.00
	200	0.26	2.4	0.86	3.4	20.40	0.61	27.50	63.00	6.30	2.90	14.50	40.00	171.70	64.00	235.70	10	245.70	49.10	36.86	340.00
	250	0.33	2.4	0.93	3.7	22.20	0.73	32.70	91.00	9.10	2.95	14.80	40.00	209.80	67.00	276.80	10	286.80	57.40	43.02	390.00
	300	0.38	2.4	0.98	4.0	24.00	0.81	36.70	124.50	12.45	3.00	15.00	40.00	252.65	80.00	332.65	15	347.65	69.50	52.15	470.00
	350	0.45	2.4	1.05	4.4	26.40	0.94	42.60	279.00	27.90	3.00	15.00	40.00	430.90	85.00	515.90	15	530.90	106.20	79.64	720.00
	400	0.50	2.4	1.10	4.5	27.00	1.04	47.10	312.00	31.20	3.05	15.30	40.00	472.60	103.00	575.60	15	590.60	118.10	88.59	800.00
	450	0.55	2.4	1.15	4.6	27.60	1.15	51.80	385.00	38.50	3.05	15.30	40.00	558.20	123.00	681.20	15	696.20	139.20	104.43	940.00
	500	0.60	2.4	1.20	4.9	29.40	1.26	56.70	450.00	45.00	3.05	15.30	40.00	636.40	134.00	770.40	20	790.40	158.10	118.56	1,070.00
CPP	600	0.73	2.4	1.33	5.8	34.80	1.57	70.70	719.00	71.90	3.05	15.30	40.00	951.70	174.00	1,125.70	20	1,145.70	229.10	171.86	1,550.00
	750	0.90	2.4	1.50	7.0	42.00	2.02	91.20	850.00	85.00	3.00	15.00	40.00	1,123.20	150.00	1,273.20	20	1,293.20	258.60	193.98	1,750.00
	900	1.10	3.0	1.70	8.7	52.20	2.63	118.60	1,000.00	100.00	3.35	16.80	40.00	1,327.60	180.00	1,507.60	20	1,527.60	305.50	229.14	2,070.00

**B) Watermain Installation with Granular Road Restoration**

	Nom. Pipe Size (mm)	Outer Diameter (m)	Depth to Invert (m)	Minimum Trench Width (m)	Excavation		Bedding		Pipe		Backfill		Restoration Allowance (\$/m)	Subtotal Unit Cost (\$/m)	Appurtenance Allowance (\$/m)	Subtotal Unit Cost (\$/m)	Dewatering Allowance (\$/m)	Subtotal Unit Cost (\$/m)	Conting @20% (\$/m)	Eng. @15% (\$/m)	TOTAL (excl. HST) (\$/m)
					Vol.	Cost	Vol.	Cost	Cost	Installation	Vol.	Cost									
					(m <sup>3</sup> )	(\$/m)	(m <sup>3</sup> )	(\$/m)	(\$/m)	(\$/m)	(m <sup>3</sup> )	(\$/m)									
PVC	100	0.14	2.4	0.74	2.8	16.80	0.44	19.70	24.80	2.48	2.80	14.00	72.00	149.78	59.00	208.78	10	218.78	43.80	39.40	310.00
	150	0.20	2.4	0.80	3.10	18.60	0.52	23.40	38.25	3.83	2.85	14.30	72.00	170.38	59.00	229.38	10	239.38	47.90	35.91	330.00
	200	0.26	2.4	0.86	3.4	20.40	0.61	27.50	63.00	6.30	2.90	14.50	72.00	203.70	64.00	267.70	10	277.70	55.50	41.66	380.00
	250	0.33	2.4	0.93	3.7	22.20	0.73	32.70	91.00	9.10	2.95	14.80	72.00	241.80	67.00	308.80	10	318.80	63.80	47.82	440.00
	300	0.38	2.4	0.98	4.0	24.00	0.81	36.70	124.50	12.45	3.00	15.00	72.00	284.65	80.00	364.65	15	379.65	75.90	56.95	520.00
	350	0.45	2.4	1.05	4.4	26.40	0.94	42.60	279.00	27.90	3.00	15.00	72.00	462.90	105.00	567.90	15	582.90	116.60	87.44	790.00
	400	0.50	2.4	1.10	4.5	27.00	1.04	47.10	312.00	31.20	3.05	15.30	72.00	504.60	123.00	627.60	15	642.60	128.50	96.39	870.00
	450	0.55	2.4	1.15	4.6	27.60	1.15	51.80	385.00	38.50	3.05	15.30	72.00	590.20	153.00	743.20	15	758.20	151.60	113.73	1,030.00
	500	0.60	2.4	1.20	4.9	29.40	1.26	56.70	450.00	45.00	3.05	15.30	72.00	668.40	164.00	832.40	20	852.40	170.50	127.86	1,160.00
CPP	600	0.73	2.4	1.33	5.8	34.80	1.57	70.70	719.00	71.90	3.05	15.30	72.00	983.70	194.00	1,177.70	20	1,197.70	239.50	179.66	1,620.00
	750	0.90	2.4	1.50	7.0	42.00	2.02	91.20	850.00	85.00	3.00	15.00	72.00	1,155.20	150.00	1,305.20	20	1,325.20	265.00	198.78	1,790.00
	900	1.10	3.0	1.70	8.7	52.20	2.63	118.60	1,000.00	100.00	3.35	16.80	72.00	1,359.60	180.00	1,539.60	20	1,559.60	311.90	233.94	2,110.00

**C) Watermain Installation with Road Restoration (Assumes 1 Lane restored, along with Curb & Gutter, and Sidewalk one side)**

	Nom. Pipe Size (mm)	Outer Diameter (m)	Depth to Invert (m)	Minimum Trench Width (m)	Excavation		Bedding		Pipe		Backfill		Restoration Allowance (\$/m)	Subtotal Unit Cost (\$/m)	Appurtenance Allowance (\$/m)	Subtotal Unit Cost (\$/m)	Dewatering Allowance (\$/m)	Subtotal Unit Cost (\$/m)	Conting @20% (\$/m)	Eng. @15% (\$/m)	TOTAL (excl. HST) (\$/m)
					Vol.	Cost	Vol.	Cost	Cost	Installation	Vol.	Cost									
					(m <sup>3</sup> )	(\$/m)	(m <sup>3</sup> )	(\$/m)	(\$/m)	(\$/m)	(m <sup>3</sup> )	(\$/m)									
PVC	100	0.14	2.4	0.74	2.8	16.80	0.44	19.70	24.80	2.48	2.80	14.00	214.12	291.90	59.00	350.90	10	360.90	72.20	65.00	500.00
	150	0.20	2.4	0.80	3.1	18.60	0.52	23.40	38.25	3.83	2.85	14.30	214.12	312.50	59.00	371.50	10	381.50	76.30	57.22	520.00
	200	0.26	2.4	0.86	3.4	20.40	0.61	27.50	63.00	6.30	2.90	14.50	214.12	345.82	64.00	409.82	10	419.82	84.00	62.97	570.00
	250	0.33	2.4	0.93	3.7	22.20	0.73	32.70	91.00	9.10	2.95	14.80	214.12	383.92	67.00	450.92	10	460.92	92.20	69.14	630.00
	300	0.38	2.4	0.98	4.0	24.00	0.81	36.70	124.50	12.45	3.00	15.00	214.12	426.77	80.00	506.77	15	521.77	104.40	78.27	710.00
	350	0.45	2.4	1.05	4.4	26.40	0.94	42.60	279.00	27.90	3.00	15.00	214.12	605.02	105.00	710.02	15	725.02	145.00	108.75	980.00
	400	0.50	2.4	1.10	4.5	27.00	1.04	47.10	312.00	31.20	3.05	15.30	214.12	646.72	123.00	769.72	15	784.72	156.90	117.71	1,060.00
	450	0.55	2.4	1.15	4.6	27.60	1.15	51.80	385.00	38.50	3.05	15.30	214.12	732.32	153.00	885.32	15	900.32	180.10	135.05	1,220.00
	500	0.60	2.4	1.20	4.9	29.40	1.26	56.70	450.00	45.00	3.05	15.30	214.12	810.52	164.00	974.52	20	994.52	198.90	149.18	1,350.00
CPP	600	0.73	2.4	1.33	5.8	34.80	1.57	70.70	719.00	71.90	3.05	15.30	214.12	1,125.82	194.00	1,319.82	20	1,339.82	268.00	200.97	1,810.00
	750	0.90	2.4	1.50	7	42.00	2.02	91.20	850.00	85.00	3.00	15.00	214.12	1,297.32	150.00	1,447.32	20	1,467.32	293.50	220.10	1,990.00
	900	1.10	3.0	1.70	8.7	52.20	2.63	118.60	1,000.00	100.00	3.35	16.80	214.12	1,501.72	180.00	1,681.72	20	1,701.72	340.30	255.26	2,300.00

**Notes**

- Cost of excavation: \$6/m<sup>3</sup>
- Cost of bedding/pipe surrounding: \$45/m<sup>3</sup> includes supply and place
- PVC Pipe (up to 600 mm) Cost provided by IPEX on 30 Oct 17
- Pipe Installation Allowance based on 10% of pipe cost
- Backfill trench \$5/m<sup>3</sup> based on replacement of native material and compaction
- Includes costs for mainline valves and hydrant sets. No hydrants connected to 750mm and larger mains. Service connections and special appurtenances excluded
- Restoration for route along existing road allowance (Cost varies with type of restoration). Minimum 4.0m width of restoration (2.0m trench plus 1.0 m each side)
- Includes allowance for dewatering
- PVC DR18 (100mm to 600mm)

Prepared By: D. Prashad Date: 30-Nov-17  
 Checked By: S. Winchester Date:

**TOWN OF TECUMSEH  
WATER AND WASTEWATER MASTER PLAN UPDATE - 2018**

**APPENDIX A9-3 - CAPITAL COST ESTIMATES - WATER**

**Project ID: W-1**  
**Project Name: West Tecumseh Trunk Watermain CR 22 to CP Railway**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	300mm Trunk Watermain (Intersection Road)	275	m	\$710	\$195,250
	400mm Trunk Watermain (including line Valves)	1,530	m	\$800	\$1,224,000
	600mm Trunk Watermain (including line Valves)	400	m	\$1,550	\$620,000

**TOTAL** **\$2,039,250**

Note: Road restoration included on Intersection Road. No road restoration included for extension of watermain through new development lands

**Project ID: W-2A**  
**Project Name: East Tecumseh Hamlet Watermain Connection**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	300mm Trunk Watermain	825	m	\$520.00	\$429,000
	Allowance for Easement		Allow		\$26,000

**TOTAL** **\$455,000**

Note: Assumes gravel road restoration over pipeline. Allowance for Easement assumes 6.0 m wide easement at a cost of \$50,000 per ha.

**Project ID: W-2B**  
**Project Name: Trunk Watermain on Manning Road CR 22 to CP Railway**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	400mm Trunk Watermain on Manning Road	2,100	m	\$870.00	\$1,827,000
	CP Rail Crossing by Jack and Bore		LS		\$50,000

**TOTAL** **\$1,877,000**

Note: Assumes gravel should restoration only. Installation to be coordinated with Manning Road Improvements

**Project ID: W-4**  
**Project Name: West Tecumseh Trunk Watermain CP Railway to CR 42**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	300mm Trunk Watermain	475	m	\$520.00	\$247,000
	600mm Trunk Watermain	1,240	m	\$1,550.00	\$1,922,000
	Extra-Over to cross CP Rail Corridor	31	m	\$3,000.00	\$93,000

**TOTAL** **\$2,262,000**

**TOWN OF TECUMSEH  
WATER AND WASTEWATER MASTER PLAN UPDATE - 2018**

**APPENDIX A9-3 - CAPITAL COST ESTIMATES - WATER**

**Project ID: W-5A**

**Project Name: Trunk Watermain on Manning Road CP Railway to CR 42**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	400mm Trunk Watermain on County Road 42	575	m	\$1,060.00	\$609,500

**TOTAL \$609,500**

Note: Assumes full asphalt pavement restoration on County Road 42

**Project ID: W-5B**

**Project Name: Trunk Watermain on CR 4211th Concession Road to Manning Road**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	400mm Trunk Watermain on Manning Road	960	m	\$870.00	\$835,200
	Extra-Over to Jack & Bore under CP Rail	31	m	\$2,800.00	\$86,800

**TOTAL \$922,000**

Note: Assumes gravel shoulder restoration on Manning Road

**Project ID: W-6**

**Project Name: South Tecumseh Trunk Watermain CR 42 to Hwy 401**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	300mm Trunk Watermain, 12th Concession, Baseline Roads	2,420	m	\$710.00	\$1,718,200
	300mm Trunk Watermain, Manning Road	1,800	m	\$520.00	\$936,000

**TOTAL \$1,718,200**

Note: Assumes gravel restoration only on Manning Road.

**Project ID: W-7A**

**Project Name: South Tecumseh Trunk Watermain, 12th Concession Road to N**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	400mm Trunk Watermain on North Talbot Road	850	m	\$870	\$739,500

**TOTAL \$739,500**

Note: Assumes gravel shoulder restoration for watermain installation. Trenchless crossing of Highway 401

**TOWN OF TECUMSEH  
WATER AND WASTEWATER MASTER PLAN UPDATE - 2018**

**APPENDIX A9-3 - CAPITAL COST ESTIMATES - WATER**

**Project ID: W-7B**

**Project Name: South Tecumseh Trunk Watermain, Hwy 401 to CR46**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	300mm Trunk Watermain on 12th Concession Road	2,025	m	\$520	\$1,053,000
	Extra-Over to complete Highway 401 Crossing	100	m	\$3,000	\$300,000
	Zone Isolation Valve c/w SCADA Monitoring	1	ea	\$75,000	\$75,000

**TOTAL**

**\$1,428,000**

Note: Assumes gravel shoulder restoration for watermain installation. Trenchless crossing of Highway 401

**Project ID: W-8**

**Project Name: Maidstone Hamlet Trunk Watermain**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	400mm Trunk Watermain on North Talbot Road	1,155	m	\$870.00	\$1,004,850

**TOTAL**

**\$1,004,850**

Note: Assumes one lane roadway restoration on both Provincial Road and on 8th Concession Road

**Project ID: W-9**

**Project Name: Zone 2 Booster Pumping Station**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	100 L/s Booster Pumping Station		LS	\$1,757,490	\$1,757,490
	Zone Isolation Valve c/w SCADA Monitoring	4	ea	\$200,000	\$800,000
2.0	Allowance for Land Acquisition		Allow		\$100,000

**TOTAL**

**\$2,657,490**

Note:

**Project ID: W-10**

**Project Name: Zone 2 Water Storage Facility**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	5.7 ML water storage facility		LS	\$5,063,710	\$5,063,710
2.0	Allowance for Land Acquisition		Allow		\$100,000

**TOTAL**

**\$5,163,710**

Note:

**Project ID: W-11**

**Project Name: County Rd 46 Trunk Watermain Sexton Sideroad to 12th Concession Road**

Item	Description	Quantity	Unit	Unit Price	Total Price
------	-------------	----------	------	------------	-------------

**TOWN OF TECUMSEH  
WATER AND WASTEWATER MASTER PLAN UPDATE - 2018**

**APPENDIX A9-3 - CAPITAL COST ESTIMATES - WATER**

<b>1.0</b>	Construction (incl. restoration and contingency)				
	400mm Trunk Watermain on North Talbot Road	3,400	m	\$870	\$2,958,000

**TOTAL**

**\$2,958,000**

Note: Assumes full roadway restoration

**Project ID: W-12a**

**Project Name: Southwest Tecumseh Trunk Watermain**

<b>Item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Total Price</b>
<b>1.0</b>	Construction (incl. restoration and contingency)				
	600mm Trunk Watermain, Provincial Road (CR46) and 8th Concession Road	1,420	m	\$1,810.00	\$2,570,200

**TOTAL**

**\$2,570,200**

Note: Assumes full roadway restoration

**TOWN OF TECUMSEH  
WATER AND WASTEWATER MASTER PLAN UPDATE - 2018**

**APPENDIX A9-3 - CAPITAL COST ESTIMATES - WATER**

**Project ID: W-12b**

**Project Name: North Talbot Road Trunk Watermain**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	400mm Trunk Watermain on North Talbot Road	1,500	m	\$870.00	\$1,305,000
<b><u>TOTAL</u></b>					<b>\$1,305,000</b>

Note: Assumes full roadway restoration

**Project ID: W-13**

**Project Name: Oldcastle Hamlet Local Watermain Upgrades**

Item	Description	Quantity	Unit	Unit Price	Total Price
1.0	Construction (incl. restoration and contingency)				
	300mm Trunk Watermain				
	Dumouchelle Street	190	m	\$470	\$89,300
	Halford Drive	545	m	\$470	\$256,150
	Pulleyblank Street	270	m	\$470	\$126,900
	Olympia Drive	550	m	\$470	\$258,500
	Astor Crescent	140	m	\$470	\$65,800
	Blackacre Drive	1010	m	\$470	\$474,700
	Fasan Drive	850	m	\$470	\$399,500
	Roscon Industrial Drive	400	m	\$470	\$188,000
	Henin Street	380	m	\$470	\$178,600
	O'Neil Drive	640	m	\$470	\$300,800
	Moynahan Street	375	m	\$470	\$176,250
	Ure Street	550	m	\$470	\$258,500
	Delduca Drive	150	m	\$470	\$70,500
<b><u>TOTAL</u></b>					<b>\$2,843,500</b>

Note: Assumes work coordinated with roadway reconstruction, no restoration included

**TOWN OF TECUMSEH  
WATER AND WASTEWATER MASTER PLAN UPDATE - 2018**

**APPENDIX A9-4 - CAPITAL COST ESTIMATES - WASTEWATER**

Item	Quantity	Unit	Unit Price	Total Price
<b>WW-1 West Tecumseh Trunk Sewer, CR 22 to CP Railway</b>				
1.0 Construction				
1200mm SAN trunk Sewer	1,820	m	\$2,110.00	\$3,840,200.00
Metering Flume c/w SCADA connection		LS		\$100,000.00
Sub-Total - Construction				\$3,940,200.00
2.0 Contingency (@ 15%)				\$591,030.00
3.0 Engineering (@15%)				\$679,700.00
<b><u>TOTAL</u></b>				\$5,210,930.00
<b>WW-2 Tecumseh Hamlet Diversion Sewer</b>				
1.0 Construction				
600 mm Diversion Sewer on intersection Road	560	m	\$1,130.00	\$632,800.00
Sub-Total - Construction				\$632,800.00
2.0 Contingency (@ 15%)				\$94,920.00
3.0 Engineering (@15%)				\$109,200.00
<b><u>TOTAL</u></b>				\$836,920.00
<b>WW-4 Sylvestre Pumping Station Upgrade</b>				
1.0 Construction				
Pumps		LS		\$50,000.00
Stand-By Power		LS		\$200,000.00
Re-align Forcemain - 200mm	450	m	\$520.00	\$234,000.00
Sub-Total - Construction				\$484,000.00
2.0 Contingency (@ 15%)				\$72,600.00
3.0 Engineering (@15%)				\$83,500.00
<b><u>TOTAL</u></b>				\$640,100.00
<b>WW-5A North Talbot Road Trunk Sewer, Oldcastle Road (North Talbot to Chrysler Greenway)</b>				
1.0 Construction				
750 mm SAN trunk Sewer on 8th Concession Road	650	m	\$1,940.00	\$1,261,000.00
600 mm SAN trunk Sewer on 8th Concession Road	750	m	\$1,130.00	\$847,500.00
450mm SAN trunk Sewer on North Talbot Road	0	m	\$950.00	\$0.00
Sub-Total - Construction				\$2,108,500.00
2.0 Contingency (@ 15%)				\$316,280.00
3.0 Engineering (@15%)				\$363,700.00
<b><u>TOTAL</u></b>				\$2,788,480.00
<b>WW-5B North Talbot Road Trunk Sewer, Oldcastle Road to 475 m east of Oldcastle Road</b>				
1.0 Construction				
750 mm SAN trunk Sewer on 8th Concession Road	0	m	\$1,940.00	\$0.00
600 mm SAN trunk Sewer on 8th Concession Road	0	m	\$1,130.00	\$0.00
450mm SAN trunk Sewer on North Talbot Road	475	m	\$950.00	\$451,250.00
Sub-Total - Construction				\$451,250.00
2.0 Contingency (@ 15%)				\$67,690.00
3.0 Engineering (@15%)				\$77,800.00
<b><u>TOTAL</u></b>				\$596,740.00

<b>WW-6</b>	<b>West Tecumseh Trunk Sewer, CP Railway to CR42</b>						
1.0	Construction						
	1200mm SAN trunk Sewer	1,335	m	\$2,110.00		\$2,816,850.00	
	Extra-Over for Undercrossing of CP Railway, HEPC Corridor				LS	\$300,000.00	
	Sub-Total - Construction					\$3,116,850.00	
2.0	Contingency (@ 15%)					\$467,530.00	
3.0	Engineering (@15%)					\$537,700.00	
4.0	Allowance for Easement Acquisition					\$36,000.00	
	<b><u>TOTAL</u></b>					\$4,158,080.00	
<b>WW-7</b>	<b>CR 42 Diversion Sewer</b>						
1.0	Construction						
	600mm SAN trunk Sewer	600	m	\$1,130.00		\$678,000.00	
	Decommission St Alphonse Pumping Station				LS	\$75,000.00	
	Sub-Total - Construction					\$753,000.00	
2.0	Contingency (@ 15%)					\$112,950.00	
3.0	Engineering (@15%)					\$129,900.00	
	<b><u>TOTAL</u></b>					\$995,850.00	
<b>WW-8A</b>	<b>South Tecumseh Trunk Sewer, CR 42, Odessa Drive to 11th Concession Road</b>						
1.0	Construction						
	1200mm SAN trunk Sewer	600	m	\$2,390.00		\$1,434,000.00	
	Sub-Total - Construction					\$1,434,000.00	
2.0	Contingency (@ 15%)					\$215,100.00	
3.0	Engineering (@15%)					\$247,400.00	
	<b><u>TOTAL</u></b>					\$1,896,500.00	
<b>WW-8B</b>	<b>South Tecumseh Trunk Forcemain, CR 42 to Highway 401</b>						
1.0	Construction						
	300mm SAN Forcemain	4,900	m	\$520.00		\$2,548,000.00	
	Valve and Drain Chambers	6	ea	\$30,000.00		\$180,000.00	
	Sub-Total - Construction					\$2,728,000.00	
2.0	Contingency (@ 15%)					\$409,200.00	
3.0	Engineering (@15%)					\$470,600.00	
	<b><u>TOTAL</u></b>					\$3,607,800.00	
<b>WW-9A</b>	<b>South Tecumseh Trunk Forcemain, Hwy 401 to North Talbot Road</b>						
1.0	Construction						
	300mm SAN Forcemain	2,050	m	\$520.00		\$1,066,000.00	
	Valve and Drain Chambers	6	ea	\$30,000.00		\$180,000.00	
	Sub-Total - Construction					\$1,246,000.00	
2.0	Contingency (@ 15%)					\$186,900.00	
3.0	Engineering (@15%)					\$214,900.00	
	<b><u>TOTAL</u></b>					\$1,647,800.00	
<b>WW-9B</b>	<b>South Tecumseh Trunk Sewer, 12th Concession Road to Malden Road</b>						
1.0	Construction						
	600mm Trunk Sewer	850	m	\$1,130.00		\$960,500.00	
	Sub-Total - Construction					\$960,500.00	
2.0	Contingency (@ 15%)					\$144,080.00	
3.0	Engineering (@15%)					\$165,700.00	
	<b><u>TOTAL</u></b>					\$1,270,280.00	

<b>WW-10 Maidstone Hamlet Trunk Sewer</b>						
1.0	Construction					
	600mm Trunk Sewer	1,350	m	\$1,130.00		\$1,525,500.00
	Sub-Total - Construction					\$1,525,500.00
2.0	Contingency (@ 15%)					\$228,830.00
3.0	Engineering (@15%)					\$263,100.00
	<b><u>TOTAL</u></b>					\$2,017,430.00
<b>WW-11A Southwest Tecumseh Trunk Sewer, Phase 1</b>						
1.0	Construction					
	600mm Trunk Sewer on Greenway / McCord	640	m	\$1,130.00		\$723,200.00
	375mm Local Sewer on Walker Road	235	m	\$574.00		\$134,890.00
	Sub-Total - Construction					\$858,090.00
2.0	Contingency (@ 15%)					\$128,710.00
3.0	Engineering (@15%)					\$148,000.00
4.0	Easement Allowance (6m wide by 200m long)					\$60,000.00
	<b><u>TOTAL</u></b>					\$1,194,800.00
<b>WW-11B Southwest Tecumseh Trunk Sewer, Phase 2</b>						
1.0	Construction					
	450mm Trunk Sewer, 8th Concession Road and Easement to Walker Road	705	m	\$950.00		\$669,750.00
	Extra-over for Highway 3 undercrossing by Jack & Bore	80	m	\$3,000.00		\$240,000.00
	Sub-Total - Construction					\$909,750.00
2.0	Contingency (@ 15%)					\$136,460.00
3.0	Engineering (@15%)					\$156,900.00
4.0	Easement Allowance (6m wide by 270m long)					\$81,000.00
	<b><u>TOTAL</u></b>					\$1,203,110.00
<b>WW-12 Manning Road Secondary Plan Area Trunk Sewer <sup>1</sup></b>						
1.0	Construction					
	450mm SAN trunk Sewer	1,440	m	\$580.00		\$835,200.00
	Sub-Total - Construction					\$835,200.00
2.0	Contingency (@ 15%)					\$125,280.00
3.0	Engineering (@15%)					\$144,100.00
	<b><u>TOTAL</u></b>					\$1,104,580.00
<b>WW-13 Manning Road Secondary Plan Area Sanitary Lift Station <sup>1</sup></b>						
1.0	Construction					
	Lift Station		LS			\$700,000.00
	Sub-Total - Construction					\$700,000.00
2.0	Contingency (@ 15%)					\$105,000.00
3.0	Engineering (@15%)					\$120,800.00
	<b><u>TOTAL</u></b>					\$925,800.00
<b>WW-14 Highway Commercial Lands Sanitary Pumping Station</b>						
1.0	Construction					
	Pumping Station		LS			\$750,000.00
	Sub-Total - Construction					\$750,000.00
2.0	Contingency (@ 15%)					\$112,500.00
3.0	Engineering (@15%)					\$129,400.00
	<b><u>TOTAL</u></b>					\$991,900.00

<b>WW-15 Maidstone Hamlet Sanitary Pumping Station</b>						
1.0	Construction					
	Pumping Station			LS		\$750,000.00
	Sub-Total - Construction					\$750,000.00
2.0	Contingency (@ 15%)					\$112,500.00
3.0	Engineering (@15%)					\$129,400.00
<b><u>TOTAL</u></b>						\$991,900.00
<b>WW-16A County Road 46 Trunk Sanitary Sewer, Phase 1</b>						
1.0	Construction					
	600mm SAN trunk Sewer on CR 46	875	m	\$1,130.00		\$988,750.00
	Sub-Total - Construction					\$988,750.00
2.0	Contingency (@ 15%)					\$148,310.00
3.0	Engineering (@15%)					\$170,600.00
<b><u>TOTAL</u></b>						\$1,307,660.00
<b>WW-16B County Road 46 Trunk Sanitary Sewer, Phase 2</b>						
1.0	Construction					
	600mm SAN trunk Sewer on CR 46	375	m	\$1,130.00		\$423,750.00
	450mm SAN trunk Sewer on CR 46	450	m	\$950.00		\$427,500.00
	450mm SAN trunk Sewer in new Development	375	m	\$725.00		\$271,875.00
	Lift Station #3	1	ea	\$420,000.00		\$420,000.00
	Sub-Total - Construction					\$1,543,125.00
2.0	Contingency (@ 15%)					\$231,470.00
3.0	Engineering (@15%)					\$266,200.00
4.0	Property/Easement Acquisition Allowance					\$510,000.00
<b><u>TOTAL</u></b>						\$2,550,795.00
<b>WW-17 Blackacre Drive Sanitary Servicing</b>						
1.0	Construction					
	375 mm local SAN on Blackacre Drive	600	m	\$930		\$558,000.00
	Pump Station No. 1				LS	\$470,000.00
	200 mm Forcemain	720	m	\$570		\$410,400.00
	Sub-Total - Construction					\$1,438,400.00
2.0	Contingency (@ 15%)					\$215,760.00
3.0	Engineering (@15%)					\$248,100.00
4.0	Easement Allowance					\$130,000.00
5.0	Property Acquisition Allowance					\$100,000.00
<b><u>TOTAL</u></b>						\$2,132,260.00
<b>WW-18A Howard Avenue Sanitary Servicing, Blackacre Drive and Outer Drive to Hwy 3</b>						
1.0	Construction					
	375mm SAN Trunk Sewer on Blackacre Drive	600	m	\$720.00		\$432,000.00
	375mm SAN Trunk Sewer on Outer Drive	795	m	\$720.00		\$572,400.00
	Sub-Total - Construction					\$1,004,400.00
2.0	Contingency (@ 15%)					\$150,660.00
3.0	Engineering (@15%)					\$173,300.00
4.0	Easement Allowance					\$0.00
<b><u>TOTAL</u></b>						\$1,328,360.00

**WW-18B Howard Avenue Sanitary Servicing, Hwy 3 to MTO Carpool Lot**

1.0	Construction				
	Pump Station No. 2 c/w meter chamber		LS		\$425,000.00
	150mm Forcemain	675	m	\$520.00	\$351,000.00
	Extra-over for Highway 3 undercrossing	150	m	\$2,800.00	\$420,000.00
	Sub-Total - Construction				\$1,196,000.00
2.0	Contingency (@ 15%)				\$179,400.00
3.0	Engineering (@15%)				\$206,300.00
4.0	Easement Allowance				\$150,000.00
	<b><u>TOTAL</u></b>				<b>\$1,731,700.00</b>

## RESTORATION UNIT COST FOR SEWERS

WASTEWATER SERVICING INFRASTRUCTURE - Average Unit Prices (Southwestern Region) for 2018

Nom. Pipe Size	Outer Pipe Dia.	Depth To Invert	Surface Area of Trench	Topsoil+ Seed Cost @ \$7.5/m <sup>2</sup>	Topsoil+ Sod Cost @ \$10.00/m <sup>2</sup>	Granular Restoration Base & Sub-base		Asphalt including Granular Base	
						Local Street @ \$18.0/m <sup>2</sup>	Collector Street @ \$28.8/m <sup>2</sup>	Local Street @ \$51.8/m <sup>2</sup>	Collector Street @ \$63.8/m <sup>2</sup>
mm	m	m	m <sup>2</sup> /m	\$/m	\$/m	\$/m	\$/m	\$/m	\$/m
300	0.445	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
375	0.533	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
450	0.622	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
525	0.711	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
600	0.800	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
675	0.889	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
750	0.978	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
825	1.067	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
900	1.156	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
975	1.245	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
105	1.334	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9
1200	1.511	5	4.0	30.2	40.0	115.2	115.2	257.3	326.9

## UNIT COST FOR DIFFERENT LAYERS

Item	Local Street		Collector Street		Remarks
		\$/m <sup>2</sup>		\$/m <sup>2</sup>	
Subbase	0 mm "B"	0.0	00 mm "B"	0.0	"B" @ \$15/tonne (2.4 t/m <sup>3</sup> )
Base	600 mm "A"	28.8	600 mm "A"	28.8	"A" @ \$20/tonne (2.4 t/m <sup>3</sup> )
<b>Subtotal</b>		<b>28.8</b>		<b>28.8</b>	
Binder	60 HL4	13.2	100 HL4	27.0	"HL4" @ \$110/tonne (2.45 t/m <sup>3</sup> )
Surface	40 HL3	9.8	50 HL3	13.5	"HL3" @ \$110/tonne (2.45 t/m <sup>3</sup> )
<b>Total</b>		<b>51.8</b>		<b>69.2</b>	
Curb (one side)		50.0		50.0	