

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 1 10/10 - 09/13	Col. 2 09/13 - 12/13	Col. 3 01/14 - 12/14	Col. 4 Year 1	Col. 5 Year 2	Col. 6 Year 3	Col. 7 Year 4	Col. 8 Year 5	Col. 9 Year 6	Col. 10 Year 7	Col. 11 Year 8	Col. 12 Year 9	Col. 13 Year 9	Col. 14 Year 10
	Discount factors to project outset	1.000	0.991	0.985	0.902	0.852	0.805	0.760	0.718	0.678	0.640	0.605	0.571	0.540	
	INCREMENTAL CAPITAL INVESTMENT														
1.	Investment in Mains				(41,327,361)					(275,000)					
2.	Investment in Services									(41,339,124)					
3.	Investment in Stations														
4.	Investment in Land														
5.	Investment in Land Rights														
6.	Annual Capital Maintenance Costs														
7.	Contribution In Aid Of Construction														
8.	Net Investment Capital														
9.	Working Capital														
10.	Total Investment														
11.	PV Of Total Investment At Project Outset														
12.	ACCUMULATED PV OF TOTAL INVESTMENT														
13.	CCA TAX SHIELD														
14.	CCA Tax Shield														
15.	PV Of CCA Tax Shield At Project Outset														
16.	ACCUMULATED PV OF CCA TAX SHIELD														
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)														
17.	Gas Distribution Revenue														
18.	Transportation Services Charge														
19.	Transportation Savings														
20.	Gas Costs														
21.	O&M Expenses														
22.	Net Operating Cash (Before Taxes)														
23.	PV Of Net Operating Cash (Before Taxes) At Project Outset														
24.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)														
	TAXES														
25.	Income Tax (Before Interest Tax Shield)														
26.	Municipal Tax														
27.	Capital Tax														
28.	Total Taxes														
29.	PV of Total Taxes At Project Outset														
30.	ACCUMULATED PV OF TOTAL TAXES														
31.	ACCUMULATED NPV AND PI														
	Net Present Value														
	Profitability Index														

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting. Discount period equals 3.61/2*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting. Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% efficacy considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Chrgs start Oct 15, 2015, mid-term discounting. Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

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Line No.	Description	Col. 1 Year 11	Col. 16 Year 12	Col. 17 Year 13	Col. 18 Year 14	Col. 19 Year 15	Col. 20 Year 16	Col. 21 Year 17	Col. 22 Year 18	Col. 23 Year 19	Col. 24 Year 20	Col. 25 Year 21	Col. 26 Year 22
	Discount factors to project outset	0.510	0.481	0.455	0.429	0.406	0.383	0.362	0.342	0.323	0.305	0.288	0.272
	INCREMENTAL CAPITAL INVESTMENT												
1.	Investment in Mains	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-	-	-
8.	Net Investment Capital	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
9.	Working Capital	-	-	-	-	-	-	-	-	-	-	-	-
10.	Total Investment	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
11.	PV Of Total Investment At Project Outset	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)
13.	CCA TAX SHIELD												
13.	CCA Tax Shield	10,589,339	9,947,762	9,345,119	8,787,978	8,264,644	7,764,128	7,293,970	6,852,327	6,437,467	6,047,762	5,690,620	5,355,135
14.	PV of CCA Tax Shield At Project Outset	5,396,893	4,788,430	4,248,596	3,773,482	3,351,740	2,973,936	2,638,735	2,341,330	2,077,458	1,843,337	1,638,183	1,456,016
15.	ACCUMULATED PV OF CCA TAX SHIELD	75,684,462	80,472,893	84,721,488	88,494,970	91,846,710	94,820,646	97,459,380	99,800,710	101,878,169	103,721,506	105,359,689	106,815,705
16.	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)												
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	11,250,386	11,023,094	10,790,577	11,200,963	10,344,604	10,097,932	9,847,178	9,592,590	9,394,403	9,072,639	8,755,931	8,473,866
18.	Gas Costs	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	O&M Expenses	(12,355,757)	(12,355,757)	(12,355,757)	(12,355,757)	(12,355,757)	(12,355,757)	(12,355,757)	(12,355,757)	(12,355,757)	(12,355,757)	(12,355,757)	(12,355,757)
20.	Net Operating Cash (Before Taxes)	75,351,093	75,023,701	74,790,994	75,261,670	74,367,566	74,092,638	73,800,004	73,499,012	73,189,163	72,869,914	72,542,537	72,207,915
21.	PV of Net Operating Cash (Before Taxes) At Project Outset	443,139,690	447,874,200	452,608,710	457,343,220	462,077,730	466,812,240	471,546,750	476,281,260	481,015,770	485,750,280	490,484,790	495,219,300
22.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,399,311,765	1,434,193,065	1,469,074,365	1,497,318,222	1,526,422,721	1,556,316,854	1,579,599,352	1,603,863,418	1,626,697,024	1,648,183,186	1,667,998,420	1,687,029,325
23.	TAXES												
24.	Income Tax (Before Interest Tax Shield)	(61,085,865)	(61,335,488)	(61,585,111)	(61,834,734)	(62,084,357)	(62,333,980)	(62,583,603)	(62,833,226)	(63,082,849)	(63,332,472)	(63,582,095)	(63,831,718)
25.	Municipal Tax	(3,253,171)	(3,253,171)	(3,253,171)	(3,253,171)	(3,253,171)	(3,253,171)	(3,253,171)	(3,253,171)	(3,253,171)	(3,253,171)	(3,253,171)	(3,253,171)
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-
27.	Total Taxes	(64,339,036)	(64,588,659)	(64,838,282)	(65,087,905)	(65,337,528)	(65,587,151)	(65,836,774)	(66,086,397)	(66,336,020)	(66,585,643)	(66,835,266)	(67,084,889)
28.	PV of Total Taxes At Project Outset	(32,790,612)	(32,790,612)	(32,790,612)	(32,790,612)	(32,790,612)	(32,790,612)	(32,790,612)	(32,790,612)	(32,790,612)	(32,790,612)	(32,790,612)	(32,790,612)
29.	ACCUMULATED PV OF TOTAL TAXES	(984,425,393)	(984,817,260)	(985,209,127)	(985,601,000)	(985,992,873)	(986,384,746)	(986,776,619)	(987,168,492)	(987,560,365)	(987,952,238)	(988,344,111)	(988,735,984)
30.	ACCUMULATED NPV AND PI	187,105,618	216,373,500	243,641,382	268,685,053	292,457,876	314,649,669	335,372,608	354,730,170	372,817,878	389,723,977	405,236,580	420,028,829
31.	Net Present Value	1,207	1,239	1,270	1,297	1,324	1,348	1,371	1,393	1,413	1,431	1,449	1,465
	Profitability Index												

Notes:
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 (3) Sep 12, 2013 to Dec 31, 2013, mid-term discounting. Discount period equals 3.6/12*0.5 = 0.15
 (4) Jan 1 to Dec 31, 2014, mid-term discounting. Discount period equals 12/12*0.5+3.6/12 = 0.80
 (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
 (6) 50% efficacy considered for the first year of customer additions revenue.
 (7) First year of customer additions revenues Jan 1 to Dec 31, 2015. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
 (8) Transportation savings and Transportation Services Chrgs start Oct 15, 2015, mid-term discounting. Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

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Line No.	Description	Col. 1 Year 23	Col. 27 Year 24	Col. 28 Year 25	Col. 29 Year 26	Col. 30 Year 27	Col. 31 Year 28	Col. 32 Year 29	Col. 33 Year 30	Col. 34 Year 31	Col. 35 Year 32	Col. 36 Year 33	Col. 37 Year 34	Col. 38 Year 34
	Discount factors to project outset		0.257	0.229	0.216	0.204	0.193	0.182	0.172	0.163	0.154	0.145	0.137	
	INCREMENTAL CAPITAL INVESTMENT													
1.	Investment in Mains	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
7.	Contribution In Aid Of Construction	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
8.	Net Investment Capital	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
9.	Working Capital	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
10.	Total Investment	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
11.	PV Of Total Investment At Project Outset	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)
12.	ACCUMULATED PV OF TOTAL INVESTMENT													
13.	CCA TAX SHIELD													
13.	CCA Tax Shield	5,031,056	4,726,619	4,440,631	4,171,974	3,919,595	3,691,442	3,477,115	3,266,840	3,069,301	2,883,724	2,709,384	2,545,601	
14.	PV Of CCA Tax Shield At Project Outset	1,291,956	1,146,389	1,017,229	902,627	800,942	712,440	633,818	562,427	499,080	442,871	392,995	348,738	
15.	ACCUMULATED PV OF CCA TAX SHIELD	108,107,061	109,254,049	110,271,279	111,173,906	111,974,848	112,687,288	113,321,106	113,883,532	114,382,612	114,825,483	115,218,479	115,567,217	
16.	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)													
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	
17.	Transportation Services Charge	5,303,043	8,029,569	7,753,607	7,475,309	7,194,817	6,910,094	6,624,545	6,338,688	6,052,916	5,767,644	5,482,372	5,197,100	
18.	Transportation Savings	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	
19.	Gas Costs	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	
20.	O&M Expenses	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	
21.	Net Operating Cash (Before Taxes)	68,400,655	68,400,655	68,400,655	68,400,655	68,400,655	68,400,655	68,400,655	68,400,655	68,400,655	68,400,655	68,400,655	68,400,655	
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset	17,034,764	17,034,764	17,034,764	17,034,764	17,034,764	17,034,764	17,034,764	17,034,764	17,034,764	17,034,764	17,034,764	17,034,764	
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,704,934,089	1,721,778,454	1,739,624,405	1,757,530,373	1,775,470,173	1,793,448,913	1,811,468,602	1,829,528,251	1,847,627,860	1,865,767,429	1,883,946,958	1,902,166,447	1,920,426,896
24.	TAXES													
24.	Income Tax (Before Interest Tax Shield)	(17,612,860)	(17,540,387)	(17,467,255)	(17,393,504)	(17,319,171)	(17,244,760)	(17,170,750)	(17,097,140)	(17,023,030)	(16,948,420)	(16,873,410)	(16,798,000)	
25.	Municipal Tax	(3,260,025)	(3,260,025)	(3,260,025)	(3,260,025)	(3,260,025)	(3,260,025)	(3,260,025)	(3,260,025)	(3,260,025)	(3,260,025)	(3,260,025)	(3,260,025)	
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-	
27.	Total Taxes	(20,872,885)	(20,800,412)	(20,727,280)	(20,653,529)	(20,579,222)	(20,504,420)	(20,429,475)	(20,354,390)	(20,279,165)	(20,203,800)	(20,127,300)	(20,050,775)	
28.	PV of Total Taxes At Project Outset	(5,360,076)	(5,044,910)	(4,748,066)	(4,468,489)	(4,205,221)	(3,956,390)	(3,720,076)	(3,496,848)	(3,283,619)	(3,081,414)	(2,891,222)	(2,712,044)	
29.	ACCUMULATED PV OF TOTAL TAXES	(475,711,061)	(480,755,971)	(485,504,037)	(489,972,537)	(494,177,758)	(498,064,148)	(501,790,224)	(505,337,072)	(508,828,186)	(512,277,958)	(515,691,486)	(519,074,770)	
30.	ACCUMULATED NPV AND PI													
30.	Net Present Value	433,865,472	446,811,316	458,926,429	470,266,531	480,883,330	490,628,096	499,496,577	508,510,805	516,711,541	524,111,541	530,822,548	536,822,548	
31.	Profitability Index	1.480	1.495	1.508	1.521	1.532	1.543	1.553	1.563	1.571	1.579	1.587	1.594	

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 (4) Jan 1 to Dec 31, 2014, mid-term discounting. Discount period equals 12/12*0.5+3.6/12 = 0.80
 (5) Year 1 - capital spending, Jan 1 to Dec 31, 2015, mid-term discounting. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
 (6) 50% efficacy considered for the first year of customer additions revenue.
 (7) First year of customer additions revenues Jan 1 to Dec 31, 2015. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
 (8) Transportation savings and Transportation Services Charges start Oct 15, 2015, mid-term discounting. Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

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Line No.	Description	Col. 1 Year 35	Col. 40 Year 36	Col. 41 Year 37	Col. 42 Year 38	Col. 43 Year 39	Col. 44 Year 40
	Discount factors to project outset	0.129	0.122	0.115	0.109	0.103	0.097
	INCREMENTAL CAPITAL INVESTMENT						
1.	Investment in Mairs	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-
8.	Net Investment Capital	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
9.	Working Capital	-	-	-	-	-	-
10.	Total Investment	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
11.	PV Of Total Investment At Project Outset	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)
12.	ACCUMULATED PV OF TOTAL INVESTMENT						
	CCA TAX SHIELD						
13.	CCA Tax Shield	2,400,689	2,264,515	2,127,672	1,989,111	1,876,330	15,678,486
14.	PV Of CCA Tax Shield At Project Outset	310,623	276,739	246,580	217,930	193,395	1,524,651
15.	ACCUMULATED PV OF CCA TAX SHIELD	115,877,840	116,154,579	116,400,159	116,618,089	116,811,484	118,336,134
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)						
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	1,930,235	1,310,337	1,304,675	1,304,026	1,302,325	1,299,616
18.	Gas Costs	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	O&M Expenses	(14,979,357)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
20.	Net Operating Cash (Before Taxes)	57,307,442	7,688,341	7,325,381	6,426,621	6,245,621	6,276,122
21.	PV Of Net Operating Cash (Before Taxes) At Project Outset	7,932,658	7,688,341	7,325,381	6,837,884	6,458,022	6,089,210
22.	Net Operating Cash (Before Taxes)	1,845,766,686	1,856,432,697	1,863,672,758	1,870,510,592	1,876,868,614	1,883,067,824
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)						
	TAXES						
24.	Income Tax (Before Interest Tax Shield)	(15,380,686)	(15,758,133)	(15,756,472)	(15,756,298)	(15,755,844)	(15,755,124)
25.	Municipal Tax	(3,266,879)	(3,266,888)	(3,266,887)	(3,266,907)	(3,266,916)	(3,266,925)
26.	Capital Tax	-	-	-	-	-	-
27.	Total Taxes	(18,647,565)	(19,025,022)	(19,023,369)	(19,023,204)	(19,022,760)	(19,022,049)
28.	PV of Total Taxes At Project Outset	(2,412,817)	(2,324,984)	(2,195,710)	(2,073,787)	(1,958,604)	(1,849,794)
29.	ACCUMULATED PV OF TOTAL TAXES	(519,023,537)	(521,348,821)	(523,544,232)	(525,618,018)	(527,576,623)	(529,426,416)
30.	ACCUMULATED NPV AND PI	542,155,772	547,773,738	553,063,468	558,045,446	562,738,258	568,512,325
31.	Net Present Value	1,600	1,606	1,612	1,618	1,623	1,6293
	Profitability Index						

- Notes:
- (1) September 12 2013 is project outset as time 0.
 - (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
 - (3) Sep 12 2013 to Dec 31 2013, mid-term discounting. Discount period equals 3.6/12*0.5 = 0.15
 - (4) Jan 1 to Dec 31 2014, mid-term discounting. Discount period equals 12/12*0.5+3.6/12 = 0.80
 - (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
 - (6) 50% efficacy considered for the first year of customer additions revenue.
 - (7) First year of customer additions revenues Jan 1 to Dec 31 2015. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
 - (8) Transportation savings and Transportation Services Chrgs start Oct 15, 2015, mid-term discounting. Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196