

Development  
Consultant  
Major Drainage Area

Mulmur Gas Stations  
Ram Engineering Inc.  
Airport Rd and County Ro:

Township of Mulmur

Date June 08, 2018  
Designed by Ram Engineering Inc  
Checked by Ram Dharamdial

5 year storm

LOCATION OF SITE	From	To	Adjacent Drainage Area	Runoff Coefficient	Area x runoff coefficient	Accumulated Area	Accumulative area	Flow time from extreme inlet	Initial time of concentration	Time of concentration	Intensity of rainfall	Flow into sewer	Sun of Flow into sewer	Type of pipe	Manning's n	Slope	Diameter	Length of pipe	Velocity	Full flow capacity	upstream lvert	Downstream invert	Time of flow through pipe	
	MH #	MH #	A <sub>A</sub>	C <sub>A</sub>	A <sub>A</sub> x C <sub>A</sub>	ΣA <sub>A</sub>	ΣA <sub>A</sub> x C <sub>A</sub>	tc <sub>i</sub>	tc <sub>i</sub>	tc = tc <sub>i</sub> + tc <sub>i</sub>	i	Q=iAC/360	ΣQ		n	s	D	L	V	Q			t = L/(vx60)	
			ha			ha		min	min	min	mm/hr	m <sup>3</sup> /s	m <sup>3</sup> /s			%	mm	m	m/s	m <sup>3</sup> /s	m	m	min	
936593 Airpotrt Rd		Mh 6	0.1900	Flow is controlled to 0.022m <sup>3</sup> /s for 5 year storm								0.022	0.022	PVC	0.012	1.0	250	7.0	1.31	0.064		311.30	0.09	
	MH 6	MH 4	0.0000	0.00	0.0000	0.1900	0.0000	0.00	10	10.00	97.27	0.000	0.022	PVC	0.012	1.0	300	18.2	1.47	0.104	311.24	311.06	0.21	
West Gas Station	STC 300	MH 4	0.4500	Flow is controlled to 0.012m <sup>3</sup> /s for 5 year storm								0.012	0.034	PVC	0.012	0.75	300	32.0	1.28	0.091	311.27	311.03	0.42	
	MH 4	MH 5	0.0000	0.00	0.0000	0.6400	0.0000	0.42	10	10.42	94.54	0.000	0.034	PVC	0.012	0.5	450	16.9	1.34	0.212	310.85	310.77	0.21	
A 1	MH 5	MH 7	0.4300	0.35	0.1505	1.0700	0.1505	0.74	10	11.15	90.14	0.038	0.072	PVC	0.012	0.82	450	77.7	1.76	0.280	310.71	310.07	0.74	
From 525mm Orifice	Fow at Headwall		130.00	Flow is controlled to 0.049 m <sup>3</sup> /s at headwall with 525mm pipe for all storms								0.049	0.121	Conc.	0.013		300							
A2	MH 7	MH 8	0.3300	0.35	0.1155	1.4000	0.2660	0.37	10	11.52	88.12	0.065	0.186	Conc.	0.013	1.8	600	64.0	2.91	0.823	309.92	308.77	0.37	
A3	MH 8	MH 9	0.3500	0.35	0.1225	1.7500	0.3885	0.41	10	11.93	86.00	0.093	0.279	Conc.	0.013	1.9	600	74.0	3.02	0.853	308.72	307.29	0.41	
A4	MH 9	MH 10	0.3900	0.35	0.1365	2.1400	0.5250	0.77	10	12.70	82.32	0.120	0.399	Conc.	0.013	0.41	750	74.0	1.60	0.709	307.26	306.96	0.77	
Outfall	MH 10	HeaDWALL	0.0000	0.00	0.0000	2.1400	0.5250	0.06	10	12.75	82.06	0.120	0.518	Conc.	0.013	0.37	750	5.4	1.53	0.677	306.91	306.89	0.06	