



FUNCTIONAL SERVICING REPORT

PROPOSED CONDOMINIUM TOWNHOUSE DEVELOPMENT LINDSAY COURT TOWN OF HALTON HILLS

Prepared for:

2301132 ONTARIO INC.

April 2012
12003

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1.0 INTRODUCTION

Sernas Associates has been retained to prepare a Functional Servicing Report (FSR) for the proposed Lindsay Court development located on the south side of Lindsay Court, Highway 7 and immediately north of the CNR. It is legally described as Part of Lot 20, Concession 8, Town of Halton Hills, Regional Municipality of Halton (see Figure 1 – Key Plan).

The total site area is approximately 2.86 hectares (ha) and is proposed to contain 141 condominium townhouses on a series of private roads.

The Site is divided into two parts. The western section has an area of about 1.11 ha with 57 proposed townhouse units while the eastern section contains an area of about 1.75 ha and 84 proposed townhouse units. The two sections are separated by a Masonic Temple site approximately 38 metres wide.

This report is written subsequent to a “Pre-Consultation / Development Committee Meeting” held on January 31, 2011 under the Town’s File # D00ENQ11.001 & 11.002 which pertained to the eastern portion of this proposed development.

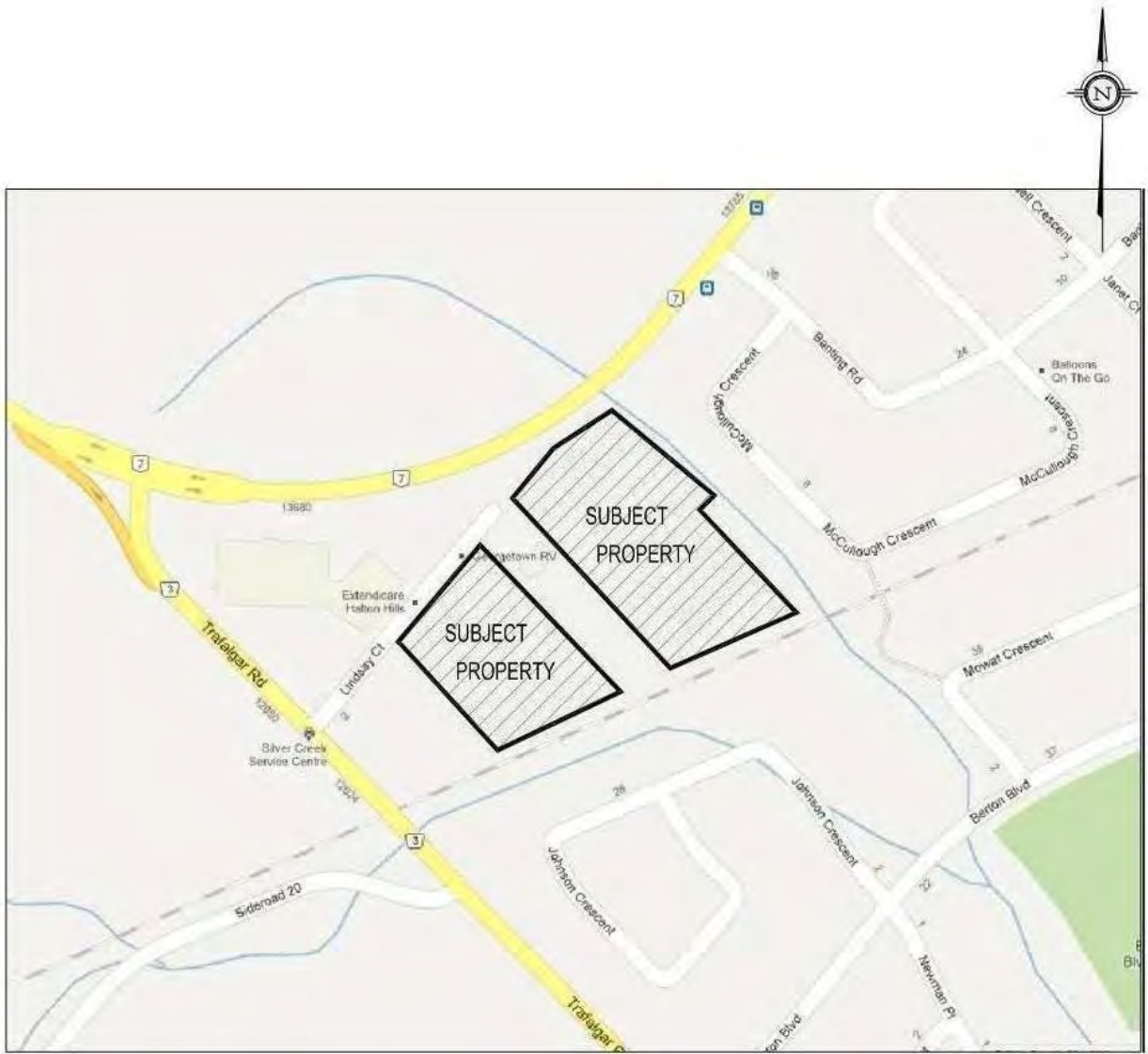


FIGURE 1. KEY PLAN

2.0 TOPOGRAPHY AND EXISTING CONDITIONS

The western portion of the Site is the higher of the two sections and it slopes from north to south at approximately 3% with the northwest corner about 3 m higher than the south end.

The eastern portion slopes from northwest to southeast at roughly 1.5% with the northwest corner also about 3 m higher than the southeast corner (see **Appendix D** Topographic Plan).

The CNR tracks are located immediately to the south of the site and are elevated some 7 to 8 m above the proposed adjacent dwelling units.

The subject lands are partially tree covered and contain 4 single family residences, two small office buildings and a few sheds.

Lindsay Court is a local road currently having a rural cross-section. The Town of Halton Hills has indicated the road will be reconstructed in 2013. Currently no design information is available for the future condition of Lindsay Court.

3.0 SITE GRADING

The western section of the development will need to be regraded to allow the storm sewers and sanitary sewers to drain northerly to Lindsay Court. Since the lands to the south are lower, this area will need to be raised by approximately 1.5 m.

Similarly the eastern section will also be regraded to permit the sanitary sewers to drain northerly to the existing sanitary sewer just east of the northeast corner of the site. This will require raising the southeast corner of this section by approximately 1.5 m.

The resultant grades for both sections will therefore be quite gentle, generally sloping in the 0.7% to 1.3% range.

It is anticipated, that with basement excavation from the 141 townhouse units, that the Site can be relatively balanced in terms of cut and fill.

A Preliminary Grading Plan has been prepared and is included on the following page (refer to **Drawing FIG-2**).

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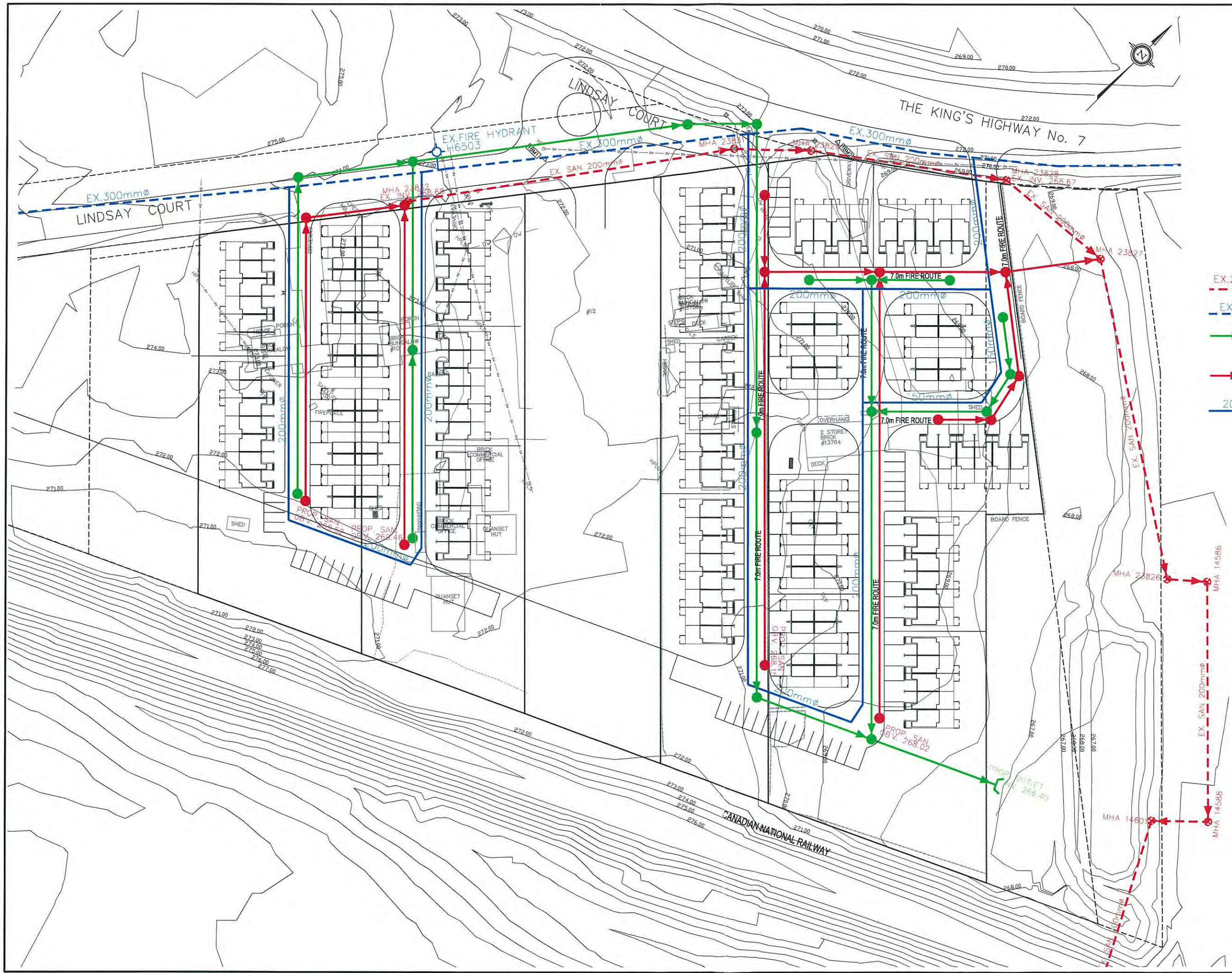


LEGEND

- 196.00+ PROPOSED ELEVATION
- R.G. 195.95+ PROPOSED ROAD ELEVATION
- Ex. R.G. 197.00+ EXISTING ROAD ELEVATION
- 0.50% PROPOSED ROAD GRADE
- OVERLAND FLOW DIRECTION

<p style="font-size: small; margin: 0;">6705 Millbrook Dr. Unit 1 Mississauga, ON L5N 5M4</p> <p style="font-size: x-small; margin: 0;">T 416 213 7121 F 905 880 8499 sernas.com</p>	
<p>LINDSAY COURT CONDO SITE PRELIMINARY GRADING</p>	
SCALE 1:1000	DATE APR. 2012
PROJECT No. 12003	DRAWING No. FIG-2

S:\PROJECT FILES - SAN2012\12003 LINDSAY COURT CONDO SITE\Drawings\12003 All.dwg, PrePSS 11/01/2012 04:04:2012 5:01:14 PM, S\jnyraev



LEGEND

- EX.200mmØ EXISTING SANITARY SEWER
- EX.300mmØ EXISTING WATERMAIN
- PROPOSED STORM SEWER AND MANHOLE (WITH FLOW DIRECTION)
- PROPOSED SANITARY SEWER AND MANHOLE (WITH FLOW DIRECTION)
- PROPOSED WATERMAIN

SERNAS ASSOCIATES

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**LINDSAY COURT CONDO SITE
PRELIMINARY SERVICING**

SCALE 1:1000	DATE APR. 2012
PROJECT No. 12003	DRAWING No. FIG-3

4.0 STORM DRAINAGE

An existing storm channel and quality control Stormwater Management facility exist immediately east of the eastern section of this development. Lindsay Court currently is a ditched road with no storm sewers on it.

Minor System

A storm sewer system will be designed to convey the 5-year storm event to the aforementioned channel. The system will be comprised of storm sewers, manholes, catchbasins, service connections to each of the townhouse units and an outlet headwall.

The storm sewers from the western section of the development will drain northerly to Lindsay Court. A storm sewer system will need to be constructed on Lindsay Court and connect to the eastern section of the development.

The eastern section will have a storm sewer system draining southerly and easterly outletting to the existing channel on the adjacent block immediately to the east.

The channel is sufficiently deep to service the development having an invert elevation of approximately 265.6 m. It flows southerly into a large CMP culvert crossing the CNR tracks. The storm sewer servicing is illustrated in the "Preliminary Servicing Plan" (**FIG-3**) located on the preceding page.

Since the storm sewer on Lindsay Court would be a municipal sewer, all storm sewers from there to the outlet would also be municipal sewers and would be within an easement in favour of the Town of Halton Hills.

As an alternative, should the owner of the lands between the west and east sections of the development give up a private easement, either along its north limit or along its south limit (preferred), the storm sewers on Lindsay Court would not be required and a municipal easement in favour of the Town over the storm sewers in the eastern section of the development out to the outfall would correspondingly not be required.

In order to promote infiltration, runoff from the roofs will be directed to splash pads and then by drainage swales to either rear lot catchbasins or catchbasins on the private road network.

Major System

The major system flows are comprised of stormwater runoff greater than the capacity of the minor storm sewer system. In this case, it is the 100-year flows minus the 5-year flows. Similar to pre-development conditions, these overland flows will continue to go south toward the CNR tracks and east to the existing storm channel east of the eastern section of the development.

All storm runoff in the pre-development condition drains southerly and easterly to the existing channel. Under post-development conditions, the major flows after subtracting the minor flows will actually be reduced as they cross the property between the west and east sections of the development.

As mentioned above, the Town intends to reconstruct Lindsay Court in 2013. It is recommended that coordination with regards to the storm sewer design for Lindsay Court and this development be made, assuming storm sewers are in fact proposed.

For both the minor and major storm systems for this development no runoff is proposed to drain onto the Highway 7 right-of-way; therefore satisfying MTO's requirements of not increasing runoff into their right-of-way.

In accordance with the Ministry of the Environment Stormwater Management, Planning and Design Manual, the site will not require stormwater quantity controls because it is less than 5.0 ha.

The CVC has indicated that the property is partially regulated by the "Development Interference with Wetlands, and Alterations to Shorelines and Watercourses (O.R. No. 160/06) and as such a permit will be required.

Furthermore, the Site is under 5.0 ha in area and therefore below the CVC's threshold for requiring a stormwater management report for their review.

An analysis of the capacity of the culvert crossing the CNR tracks approximately 18 m east of the southeast corner of the eastern section of the Site will be required at the detail design stage.

5.0 SANITARY SEWER SERVICING

There is an existing 200 mm diameter sanitary sewer adjacent to the Site on Lindsay Court that continues in the easterly direction along Highway 7. This sanitary sewer then collects drainage from the "Trafalgar Country" subdivision located on the east side of the SWM Block then continues in the southerly direction under the CNR through the subdivision to the south.

The proposed peak sanitary demand for the Lindsay Court Site including infiltration is calculated to be 5.58 L/s based on the Region of Halton Guidelines (refer to **Appendix A** for calculations).

At the initial pre-consultation meeting with Municipal staff, Region of Halton staff presented concerns with the available capacity in the downstream system to support any new development. A further meeting with Region staff on June 1, 2011 took place to discuss criteria and methodology for reviewing the sanitary sewer system. Sernas then completed a sanitary analysis and submitted the results to the Region of Halton on June 29, 2011 (see **Appendix A**).

At the time of the analysis, the proposed Site Plan showed 84 units. For a more conservative approach, the analysis also considered future build out of the remaining Lindsay Court lands using the same density of 48 units per hectare. The analysis then took a unit based approach to calculating the existing flows and demands on the downstream system using an ultimate demand from Lindsay Court of 190 units against the existing system. The results from the analysis outlined the following:

- A single bottleneck location was identified along Munro Circle for a 200 mm diameter section constructed at 0.32% slope.
- The design dry weather peak flow of 21.3 L/s at the bottleneck location is well within the 25.2 L/s capacity of the sewer allowing for 3.9 L/s capacity for infiltration.
- The design wet weather peak flow of 31.2 L/s at the bottleneck is higher than the 25.2 L/s capacity of the sewer equating to a design surcharge magnitude of approximately 24%.

The critical section of sewer is located along Munro Circle consists of a 200 mm diameter sewer, with a length of 43 m constructed at 0.32% slope, and is recorded to be approximately 9.5 m below the road elevation, that services approximately 6 units.

Based on the amount of calculated theoretical surcharge from the analysis, it is believed that this section of sewer is deep enough to handle any surcharging during a wet weather event incurring a hydraulic grade line of maximum 0.10 m above the obvert of the pipe. Therefore, the proposed Lindsay Court Site can be accommodated within the Region's existing sanitary sewer system with minimal design surcharging along a single section in the system.

6.0 WATER DISTRIBUTION SYSTEM

A 300 mm diameter watermain is located on Lindsay Court adjacent to the subject site. It is proposed to connect to this existing 300 mm diameter watermain with a 150 mm watermain in four locations, two for the western section of the development and two for the eastern section. The private road system would facilitate internal looping for both sections; therefore, the water distribution system is proposed to consist of the 150 mm diameter watermain, hydrants, valves, individual service connections and water meters to each of the townhouse units.

A hydrant flow test or confirmation by the Region of existing pressures under various flow conditions for the existing watermain will be required during the detail design for this development. This will confirm whether the 150 mm watermain is adequate to supply the required flows and pressures under maximum day and fire flow conditions.

Water allocation is to be confirmed by the Owner with the Town of Halton Hills as outlined in the Development Review Committee meeting notes.

7.0 EROSION AND SEDIMENT CONTROL

A Topsoil Stripping/Fill/Grading Permit complete with fees and security requirements must be obtained prior to any earthmoving operations in accordance with the applicable Town of Halton Hills By-law. An Erosion and Sediment Control Plan and security calculations will be done as part of the detailed engineering design for this project.

Some of the erosion and sediment control measures that will be recommended for lands can be described as follows:

- Silt fence and temporary check dams installed prior to commencement of rough grading works
- Catchbasin controls as servicing construction progresses
- Mud mats installed and maintained at the construction entrance
- Directing runoff to temporary sediment control facilities during construction

8.0 NOISE ATTENUATION

A “Noise and Vibration Impact Study” will be required for this project. A 2.5 m high earth berm or 2.5 m deep ditch parallel to the CNR tracks is likely to be recommended for safety requirements. Various acoustical fences will also likely be required to protect the building amenity areas from the CNR noise source as well as ventilation and warning clause requirements.

Due to the discontinuous nature of the two section of this development, a berm is proposed since a swale could not be drained properly.

9.0 CONCLUSIONS

The proposed townhouse development on Lindsay Court can readily be serviced with storm, sanitary and water, with water allocation to be confirmed by the Town of Halton Hills.

The storm sewer outlet is the existing channel immediately east of the development, the sanitary outlets are the existing sanitary sewers on Lindsay Court and downstream of Lindsay Court and water will be supplied by the existing watermain on Lindsay Court.

Should arrangements be made with the owner of the lands between the west and east sections of development, a servicing corridor through those lands could reduce the amount of servicing works on Lindsay Court.

SERNAS ASSOCIATES

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Principal, Senior Design Consultant

Scott Passmore, P.Eng.
Project Manager

APPENDIX A
SANITARY FLOW CALCULATIONS

Project:	Catalina Developments - Lindsay Court		
Project No:	12003		
Date:	03-Apr-12		
LINDSAY COURT SITE - Proposed Sanitary Flow			
Number of Units =		141	units
Population Rate (Region Planning Report PPW37-07 dated Mar 27/07) =		2.625	pers/unit
Population =		370	persons
Peaking Factor =		4.04	
Site Area =		2.86	ha
Infiltration =		0.000286	m ³ /ha/s
		0.00081796	m ³ /s
		0.82	L/s
Average Sewage Flow =		0.000003183	m ³ /per/s
		0.001178108	m ³ /s
		1.18	L/s
Peak Sewage Flow =		4.76	L/s
Peak + Infiltration Flow =		5.58	L/s

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SERNAS ASSOCIATES

June 29, 2011

Region of Halton
Legislative and Planning Services
1075 North Service Road West
Oakville, ON
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Attention: Ms. Margaret Smith
Development Project Manager, Current Planning

Dear Ms Smith:

**Re: Catalina Developments – Lindsay Court Sanitary Analysis
Lindsay Court east of Trafalgar Road
Town of Halton Hills
Our Project No. 11024**

Further to our recent meeting on June 1, 2011, we are pleased to provide the enclosed information as part of the latest sanitary analysis completed for the proposed Catalina Development site located along Lindsay Court, east of Trafalgar Road in the Town of Halton Hills. The proposed Catalina site is comprised of 84 townhouse units on a site area of 1.74 ha.

BACKGROUND

As discussed in the meeting, we recommend revisiting the capacity of the existing sanitary sewer by taking a unit-based approach to calculating the existing flows and demands on the downstream system. This letter summarizes the findings from that sanitary analysis.

Some of the key background information used for this analysis can be summarized as follows:

- Various record plan and profile drawings provided by the Region of Halton
- Region of Halton Sanitary Operating Maps (dated July 20, 2010)
- Sanitary design sheet prepared by R.V. Anderson (RVA) dated May 29, 2003
- Region of Halton Planning Report PPW37-07 dated March 27, 2007
- Sernas site visit to confirm development conditions on June 28, 2011
- Region of Halton design standards

ASSUMPTIONS

Some key assumptions used for the analysis can be summarized as follows:

- The sanitary analysis considers the downstream tributary sewer from Lindsay Court to the Atwood Avenue and Princess Anne Drive intersection.



- The population generation rates of 3.097 persons per unit for multi-family (single or semi-detached dwelling), and 2.625 persons per unit for townhouses, were taken from the Region of Halton Planning Report PPW37-07 dated March 27, 2007.
- The hydraulic Mannings 'n' roughness coefficient of $n = 0.010$ was used for Q and V (consistent with the RVA analysis).
- Infiltration areas are included in the calculations using the entire lot area plus the adjacent road allowance area for a more conservative approach.
- For any record drawings not referenced upstream of Berton Boulevard, a minimum pipe slope of 0.5% was used.
- The possible future build out of the lands located west of the Catalina site are included in the analysis with the same density rate of 48 units per ha.
- The existing long term health care facility located along Lindsay Court ("Extendicare Halton Hills") consists of 130 beds, for an equivalent 50 townhouse units and population of 130 persons, used in the analysis.
- A future institutional area of 2.40 ha was used on the south side of Berton Boulevard west of Atwood Avenue (consistent with RVA analysis) for a population of 96 persons.
- A sanitary sewer diameter of 250 mm was utilized for Atwood Avenue south of Munro Circle to Princess Anne Drive, as shown on the Region of Halton sanitary operating maps and the RVA analysis. Please note that the record drawings obtained from the Region show a 200 mm diameter sewer for this section, therefore, this needs to be confirmed with Region Operational staff.

Please refer to the attached sanitary catchment plan for the corresponding units and infiltration areas used in the analysis.

RESULTS

The results of the analysis showed a single bottleneck location along Munro Circle for a 200mm diameter section constructed at 0.32% slope (MH14619 to MH14669). Therefore, the results can be summarized for the following 2 scenarios considered:

1) Catalina Site Only (84 units)

- The design dry weather peak flow at this location is 18.3 L/s which is well within the 25.2 L/s capacity of the sewer allowing for 6.9 L/s capacity for infiltration.
- The design wet weather peak flow at this location is 27.6 L/s, which is slightly above the 25.2 L/s capacity of the sewer for a design surcharge of approx 10%.

2) Catalina Site plus Future Lindsay Court Build Out (190 units)

- The design dry weather peak flow at this location is 21.3 L/s which is well within the 25.2 L/s capacity of the sewer allowing for 3.9 L/s capacity for infiltration.
- The design wet weather peak flow at this location is 31.2 L/s which is higher the 25.2 L/s capacity of the sewer for a design surcharge of approx 24%.



SUMMARY AND RECOMMENDATIONS

After review of the sanitary analysis, we find that the proposed Catalina site consisting of 84 townhouse units can be accommodated within the Region's existing sanitary sewer system with minimal design surcharging along a single section in the system.

The critical section of sewer is located along Munro Circle, with a length of 43m constructed at 0.32% slope, and approximately 9.5 m below the road elevation, servicing approximately 6 units.

Based on the amount of calculated theoretical surcharge (ranging from 10 to 24%) which includes full build out of the lands south of Lindsay Court, we believe this section of sewer is deep enough to handle any surcharging during a wet weather event incurring a hydraulic grade line of maximum 0.10 m above the obvert of the pipe.

Therefore, we request that the Region provide us with their approval of the methodology used in the enclosed sanitary analysis and outline any concerns, so that we may instruct our client to proceed with the Official Plan and Zoning By-Law Amendment application process.

Should you have any questions please do not hesitate to contact us directly at (416) 213-7121 ext 272.

Respectfully submitted,

SERNAS ASSOCIATES

Scott W. Passmore, P.Eng.
Project Manager

c.c. Glen Scharr & Associates Inc. – Colin Chung, Jason Alfonso
Hunt Design – Steve Hunt
Catalina Developments – Brian Tilley
Sernas Associates, Attn: Gord Patterson

Computed By: S.P.
Date: 29-Jun-11

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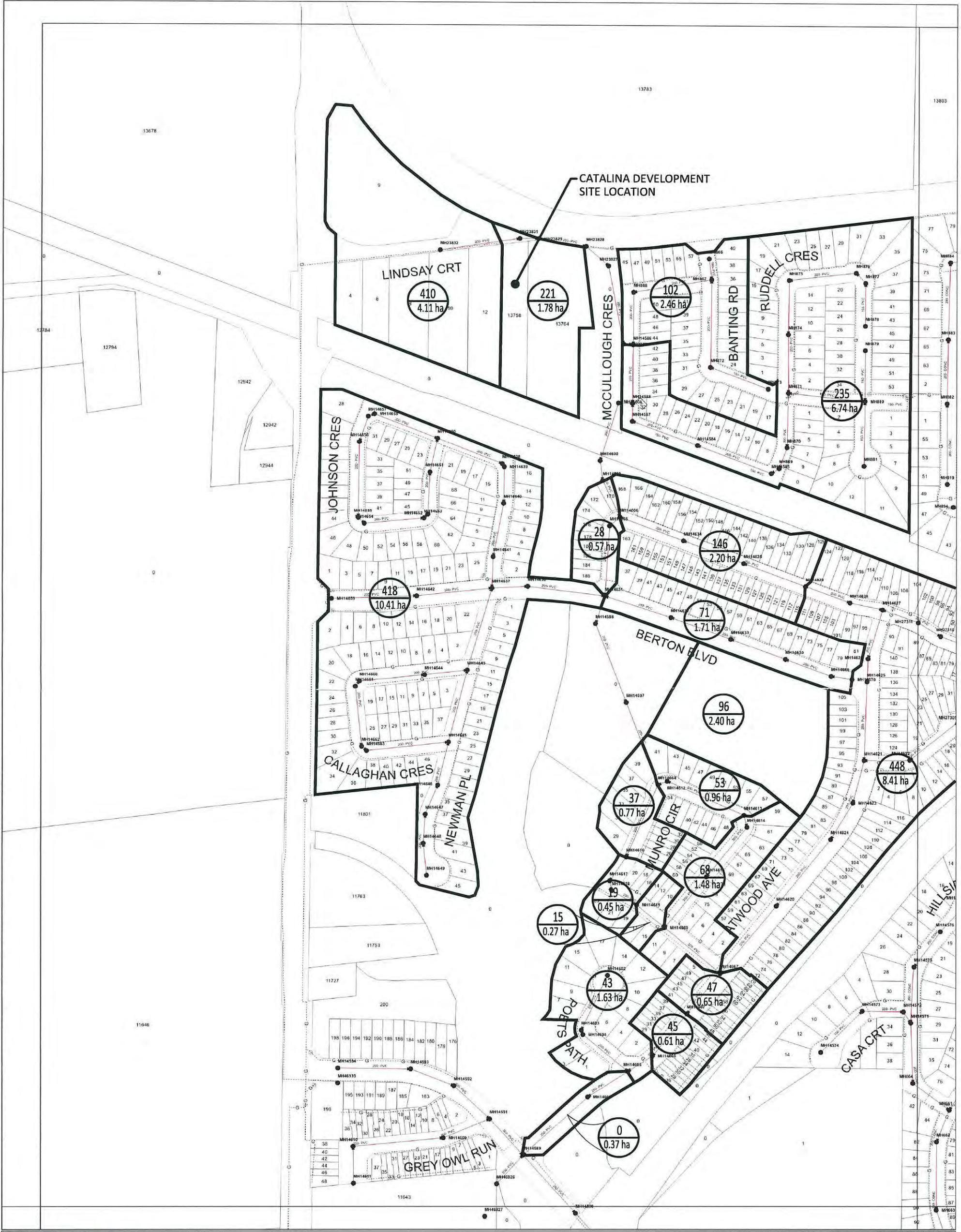
SANITARY SEWER DESIGN

CATALINA - LINDSAY COURT
11024

Peaking Factor M = $1 + (14/(4 + \sqrt{P/1000}))$
Multi Family Population per Unit = 3.097 Halton Report PPW37-07 March 27, 2007
Townhouse Population per Unit = 2.625 Halton Report PPW37-07 March 27, 2007
Institution Population = 40 pers/ha
Average Flow (m³/capita/day) = 0.275
Infiltration (m³/ha) = 0.0002860
Mannings 'n' = 0.010

STREET NAME	From MH	TO MH	Tributary Residential Units			Population Tributary					AVG. cm/s Increment	AVG. cm/s TOTAL	Peaking Factor (M)	MAX DRY FLOW m ³ /s	Tributary Infiltration Area ha	Cumulative Infiltration Area ha	Infiltration m ³ /s	MAX WET FLOW m ³ /s	PIPE					
			Increment		Total Incr.	Increment			Total	Total Cumul.									Dia mm	Slope %	Q m ³ /s	V m/s		
			Multi Family	Townhouse		Multi Family	Townhouse	Institution														Full	Act	
LINDSAY COURT	MH23832	MH23831		156	156	156	0	410		410	410	0.001303	0.001303	4.02	0.005236	4.11	4.11	0.001175	0.006412	200	0.50	0.031453	0.97	0.76
LINDSAY COURT	MH23831	MH23829		84	84	240	0	221		221	630	0.000702	0.002005	3.92	0.007861	1.78	5.89	0.001685	0.009546	200	0.50	0.031453	0.97	0.86
HIGHWAY 7	MH23829	MH23828		0	0	240	0	0		0	630		0.002005	3.92	0.007861		5.89	0.001685	0.009546	200	0.50	0.031453	0.97	0.86
CHANNEL BLOCK	MH23828	MH23827		0	0	240	0	0		0	630		0.002005	3.92	0.007861		5.89	0.001685	0.009546	200	0.50	0.031453	0.97	0.86
CHANNEL BLOCK	MH23827	MH23826		0	0	240	0	0		0	630		0.002005	3.92	0.007861		5.89	0.001685	0.009546	200	0.50	0.031453	0.97	0.86
MCCULLOUGH CRES	MH23826	MH14586		0	0	240	0	0		0	630		0.002005	3.92	0.007861		5.89	0.001685	0.009546	200	0.50	0.031453	0.97	0.86
MCCULLOUGH CRES	MH14586	MH14588	33	33	273	102	0	102	732	732	0.000325	0.002331	3.88	0.009050	2.46	8.35	0.002388	0.011438	200	0.50	0.031453	0.97	0.90	
MCCULLOUGH CRES	MH14588	MH14601		0	0	273	0	0	732	732	0.000325	0.002331	3.88	0.009050	2.46	8.35	0.002388	0.011438	200	0.50	0.031453	0.97	0.90	
CNR CROSSING	MH14601	MH14600	76	76	349	235	0	235	968	968	0.000749	0.003080	3.81	0.011731	6.74	15.09	0.004316	0.016047	200	0.50	0.031453	0.97	0.97	
EASEMENT	MH14600	MH14599		0	0	349	0	0	968	968	0.000749	0.003080	3.81	0.011731	6.74	15.09	0.004316	0.016047	200	0.50	0.031453	0.97	0.97	
EASEMENT	MH14599	MH14666	47	47	396	146	0	146	1113	1113	0.000463	0.003543	3.77	0.013355	2.20	17.29	0.004945	0.019300	200	0.50	0.031453	0.97	1.02	
MOWAT CRES	MH14666	MH14665		0	0	396	0	0	1113	1113	0.000463	0.003543	3.77	0.013355	2.20	17.29	0.004945	0.019300	200	0.50	0.031453	0.97	1.02	
MOWAT CRES	MH14665	MH14631	167	167	563	517	0	517	613	1726	0.001952	0.005495	3.63	0.019971	15.09	32.38	0.009261	0.029232	200	0.50	0.031453	0.97	1.12	
EASEMENT	MH14631	MH14664	17	17	580	53	0	53	1779	1779	0.000168	0.005662	3.62	0.020524	0.96	33.34	0.009535	0.030060	200	0.46	0.030169	0.93	1.07	
MUNRO CIRCLE	MH14664	MH14616	12	12	592	37	0	37	1816	1816	0.000118	0.005781	3.62	0.020914	0.77	34.11	0.009755	0.030669	200	0.49	0.031137	0.96	1.10	
MUNRO CIRCLE	MH14616	MH14617		0	0	592	0	0	1816	1816	0.000118	0.005781	3.62	0.020914	0.77	34.11	0.009755	0.030669	200	0.50	0.031453	0.97	1.12	
MUNRO CIRCLE	MH14617	MH14618		0	0	592	0	0	1816	1816	0.000118	0.005781	3.62	0.020914	0.77	34.11	0.009755	0.030669	200	0.54	0.032687	1.01	1.16	
MUNRO CIRCLE	MH14618	MH14619	6	6	598	19	0	19	1835	1835	0.000059	0.005840	3.61	0.021108	0.45	34.56	0.009884	0.030992	200	0.56	0.033287	1.03	1.18	
MUNRO CIRCLE	MH14619	MH14669	5	5	603	15	0	15	1850	1850	0.000049	0.005889	3.61	0.021270	0.27	34.83	0.009961	0.031234	200	0.52	0.032563	0.78	0.89	
MUNRO CIRCLE	MH14669	MH14667	22	22	625	68	0	68	1918	1918	0.000217	0.006106	3.60	0.021980	1.48	36.31	0.010385	0.032364	200	0.53	0.032383	1.00	1.15	
ATWOOD AVENUE	MH14620	MH14667	105	47	152	777	325	123	449	449	0.001428	0.001428	4.00	0.005708	8.41	8.41	0.002405	0.008113	200	1.00	0.044482	1.37	1.04	
Confluence Location																								
ATWOOD AVENUE	MH14667	MH14607		18	18	1420	0	47	47	2414	0.000150	0.007684	3.52	0.027054	0.65	45.37	0.012976	0.040030	250	0.58	0.061422	1.21	1.31	
ATWOOD AVENUE	MH14607	MH14606		17	17	1437	0	45	45	2459	0.000142	0.007826	3.51	0.027503	0.61	45.98	0.013150	0.040653	250	0.50	0.057028	1.13	1.25	
ATWOOD AVENUE	MH14606	MH14605	14	14	1451	43	0	43	2502	2502	0.000138	0.007964	3.51	0.027939	1.63	47.61	0.013616	0.041555	250	0.52	0.058158	1.15	1.28	
ATWOOD AVENUE	MH14605	MH14608		0	0	1451	0	0	0	2502	0.000138	0.007964	3.51	0.027939	0.00	47.61	0.013616	0.041555	250	0.52	0.058158	1.15	1.28	
ATWOOD AVENUE	MH14608	MH14589		0	0	1451	0	0	0	2502	0.000138	0.007964	3.51	0.027939	0.37	47.98	0.013722	0.041661	250	0.52	0.058158	1.15	1.27	

S:\PROJECT FILES - SA\2011\11024 CATALINA DEVELOPMENTS-SERVICING REVIEW\Drawings\Region Sanitary Operating Maps\11024-SAN DR AREAS-49B.dwg, Dr Areas, 6/29/2011 10:51:40 AM



REGIONAL MUNICIPALITY OF HALTON
Department of Public Works

SANITARY OPERATING MAPS
TOWN OF GEORGETOWN

- Sewer Types**
- Treated Discharge Sewer
 - - - Untreated Discharge Sewer
 - Force Main
 - - - Proposed Force Main
 - Gravity Sewer
 - - - Proposed Gravity Sewer

- Maintenance Hole Types**
- Maintenance Hole
 - Chamber
- Other**
- Union Gas Pipe
 - Union Gas Service Valve

- Major System Facilities**
- Wastewater Storage Tank
 - Wastewater Treatment Plant
 - Pumping Station
 - Municipal Boundary
 - Population
 - Infiltration Area



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APPENDIX B

BACKGROUND CORRESPONDENCE



PRE-CONSULTATION / DEVELOPMENT REVIEW COMMITTEE MEETING NOTES

January 13, 2011

File# D00ENQ11.001 & D00ENQ11.002

Project Manager/Planner: Curtis Marshall

For this meeting a planner has been assigned to assist you in identifying any issues or concerns regarding information requirements and processing. In the event you file a formal application(s) a **project manager/planner** from the Planning, Development and Sustainability Department will be assigned as the main contact for managing your application.

How to read these notes

The studies, reports and documentation listed in these pre-consultation notes form the basis for a complete submission necessary for processing any associated development applications. While every attempt will be made during the pre-consultation process to identify all requisite reports and documentation as review of an application proceeds the need for additional information or studies may arise.

Where additional technical information is needed about any of the requirements listed please speak with the key contact in each Department or the **project planner**. In the event that aspects of the proposal change, have not been communicated by the applicant or Town or agency comment has not been provided, additional requirements may apply.

Where to find applications for the required planning approvals

Applicants for development approvals can obtain copies of all required development applications by visiting the Development Review section of the Town's website at:
<http://www.haltonhills.ca/planning/developmentReview.php>

Disclaimer

These notes:

- should be interpreted with regard to the specific details of the given proposal and the prevailing legislation, infrastructure planning and policy in place at the time when it was filed; and
- are provided in response to an inquiry/proposal presented for preliminary comment only.

Pre-consultation notes need to be updated or the update requirement waived by the Director of Planning, Development and Sustainability if they are older than 6 months, in the event of property ownership change, in the event of a revised or different proposal or in any other case where so warranted.

PROPOSAL/APPLICATION	OWNER/APPLICANT
<input checked="" type="checkbox"/> Condominium	Owner/Applicant: William McClements Bushra Rashid Steve MacDonald Proposed Site: 13758 Highway 7 13764 Highway 7 Proposal: Townhomes
<input type="checkbox"/> Minor Variance	
<input checked="" type="checkbox"/> Official Plan Amendment	
<input type="checkbox"/> Severance (Consent)	
<input checked="" type="checkbox"/> Site Plan	
<input type="checkbox"/> Subdivision	
<input checked="" type="checkbox"/> Zoning By-law Amendment	
<input type="checkbox"/> Other	

PLANNING & DEVELOPMENT - Curtis Marshall ext. 2253	
<input type="checkbox"/> Financial Impact Analysis	<p>The properties are currently designated Low Density Residential under the official plan, and a change to Medium Density Residential will be required to accommodate the proposal. Additional consideration needs to be given to the design and layout, incorporating good urban design, avoiding rear lot frontage on Hwy 7, reducing the road network, additional visitor parking, pedestrian connections, etc. Units with traditional back yards and/or courtyard style units could also be incorporated. Courtyard units could replace proposed back to back units. A planning justification report is required. A high level of urban design will be required and Urban Design Guidelines apply. If the development is intended to be a common element condominium, unencumbered access to the backyards will be required.</p> <p>The applicant will need to contact Building and Fire to confirm the location and number of required fire hydrants and fire routes.</p> <p>Please contact Adam Farr at ext. 2422 to discuss water allocation.</p> <p>As part of the application process, the applicant will be required to complete the Town's Green Checklist and implement green/sustainable features into the design and construction of the project.</p> <p>Please refer to Sections: D1.4.3 New Medium and High Density Residential Areas of the Town's Official Plan to review the criteria for new Medium Density areas.</p> <p>Please contact MTO and CN for their comments and requirements, which will be applicable to the applications/project.</p>
<input type="checkbox"/> Market Impact Analysis	
<input checked="" type="checkbox"/> Planning Justification Report	
<input checked="" type="checkbox"/> Site Plan Drawing	
<input checked="" type="checkbox"/> Urban Design Study	
<input checked="" type="checkbox"/> Other: Green Checklist	
Contact the Planning, Development & Sustainability Department for fee information.	
PLANNING & DEVELOPMENT (LEGAL) - Romaine Scott ext. 2344	
<input checked="" type="checkbox"/> Agreement	<p>The subject property currently comprises 2 separate parcels that are not in common ownership. The Town requires that the parcels be brought into common ownership prior to any development agreement. The lands must also be brought into Land Titles Absolute prior to the registration of subdivision or condominium plans. The applicant should seek legal advice with respect to the required application under the Land Titles Act. The owner will be required to enter into the applicable development agreement(s) depending on the method chosen to divide the lands. For a standard condominium development, the applicant will be required to submit a draft plan of condominium and a draft condominium declaration for review by Town staff. Security and insurance will also be required for the duration of construction.</p> <p>If a road widening is required, the applicant will require the services of a surveyor to prepare a reference plan to define the extent of the widening. The draft survey must be reviewed by Town staff prior to being deposited at the Land Registry Office. The applicant will require the services of a solicitor to handle the transfer of the road widening to the Town.</p>
<input checked="" type="checkbox"/> Transfers	
<input type="checkbox"/> Other	
Contact the Legal Coordinator for agreement preparation and related fee information.	

ENGINEERING - Jeff Jelsma ext. 2305	
<input checked="" type="checkbox"/> Cost Estimates	<p>Engineering suggests completing the traffic impact study early in the process to confirm the viability of the two proposed entrances. Further discussions regarding the proposed entrances may be required prior to the approval of the OPA and ZBA. The functional servicing report needs to discuss the basic stormwater management and grading proposed for the site, and confirm the capacity of the existing culvert under the CN rail line. Confirmation from CN regarding what can be placed within their development set back is also required prior to the approval of the OPA and ZBA.</p> <p><u>For OPA and ZBA:</u></p> <ul style="list-style-type: none"> -traffic impact study -functional Servicing Report -MTO comments -CN comments <p><u>For Site Plan Approval:</u></p> <ul style="list-style-type: none"> -site servicing plan -grading plan -photometric design -soils report -detailed SWM -noise and vibration study -cost estimate
<input type="checkbox"/> Entrance Permit	
<input type="checkbox"/> Excavation Permit	
<input type="checkbox"/> Geotechnical	
<input checked="" type="checkbox"/> Grading Plan	
<input checked="" type="checkbox"/> Illumination Plan	
<input checked="" type="checkbox"/> Noise / Vibration Study	
<input type="checkbox"/> Sediment and Erosion Control	
<input type="checkbox"/> Site Alteration Permit	
<input checked="" type="checkbox"/> Site Servicing Plan	
<input checked="" type="checkbox"/> Stormwater Management Implementation Report	
<input checked="" type="checkbox"/> Traffic Impact Study	
<input checked="" type="checkbox"/> Other: Functional Servicing Report MTO Comments CN Comments Soils Report	
BUILDING SERVICES - Slavica Josipovic ext. 2322	
<input checked="" type="checkbox"/> Building Permit	<p>The design of the fire routes must comply with the OBC, Div. B, a.3.2.5.6., and since they must be minimum 6m wide, there will be no parking on the street. The Fire department should comment on the location and number of the fire hydrants. Requirements for combustible projections (such as eaves) must be complied with. The setbacks between the townhouse blocks are to be checked. A geotechnical report is required to assess soil conditions. A separate building permit will be required for each block, as well as each individual unit. If the road is to be designated as private, a separate building permit for site services (water and sewers) will be required. All design requirements respecting noise, vibrations etc., that will be requested by the consultants' reports (applicable law requirements), must be included in the design of the buildings (ex. special glazing for the windows, footings and foundations reinforcement, brick veneer, air-conditioners, etc.)</p>
<input type="checkbox"/> Change of Use Permit	
<input type="checkbox"/> Demolition Permit	
<input checked="" type="checkbox"/> Geotechnical Report	
<input type="checkbox"/> Ontario Building Code Data Matrix	
<input type="checkbox"/> Other	
Contact the Building Section regarding building permit fee information.	
ZONING - Mike Cuthbertson ext. 2320	
<input type="checkbox"/> Designated Disabled Person Parking	<p>Under the current zoning by-law 74-51, the properties are zoned RU - Rural. Under the recently passed by-law 2010-0050 (currently under appeal) the zoning is LDR1-1. A rezoning will be required. The proposal would be considered a 'Multiple Dwelling Unit'. When there are 8 or more dwelling units in a block, 3 parking spaces are required for 2 of the dwelling units. The minimum width for a garage is 2.9m. The placement of air conditioning units is prohibited in front yards. There is an 11m height restriction for the dwelling units.</p>
<input type="checkbox"/> Sign By-law	
<input type="checkbox"/> Zoning By-law Matrix	
<input type="checkbox"/> Other	
FIRE SERVICES - Rob Quinton ext. 2119	
<input type="checkbox"/> Fire Lane, Hydrant & Siamese	No comments.
<input type="checkbox"/> Other	

RECREATION & PARKS - Mark Taylor ext. 2267	
<input type="checkbox"/> Archaeological Assessment	<p>At re-zoning stage: The site is currently pedestrian locked and an agreement to create a pedestrian connection (trail, boardwalk, bridge) to McCullough Crescent is required.</p> <p>At site plan stage: A tree preservation plan, landscape plan with emphasis on HWY 7 frontage and entry features (architectural interest) are required. Cash-in-lieu of parkland for medium density residential is applied at an appraised rate of 1 hectare / 300 dwelling units. The applicant must ensure that the amenity space meets the required size, and note that snow storage and Canada post mailboxes count against the amenity space size.</p>
<input checked="" type="checkbox"/> Cash-in-lieu of Parkland http://www.haltonhills.ca/bylaws/pdf/2002-0152.pdf	
<input type="checkbox"/> Landscape Buffer	
<input checked="" type="checkbox"/> Landscape Plan	
<input type="checkbox"/> Tree Inventory and Preservation Report	
<input checked="" type="checkbox"/> Tree Preservation Report	
<input type="checkbox"/> Other	

CORPORATE SERVICES/FINANCE (Development Charges) - Elizabeth van Ravens ext. 2221

Collection of Development Charges
The Town collects development charges on behalf of Halton Region, the local school boards, and the Town of Halton Hills. Development Charges must be paid prior to the issuance of a building permit.

Calculation of Applicable Development Charges
Development Charges fall into two broad development categories: (1) Residential and (2) Non-residential. Residential Development Charges are based on the type of residential dwelling unit (e.g. single family dwelling, townhouse, apartment units). Non-Residential development is based on the size (m2) of the converted / new building.

Indexing of Development Charges
Municipalities are allowed to index their Development Charges if this provision is included in their by-law. Both the Town of Halton Hills and Halton Region periodically index their Development Charges. Over the past couple of years the school boards have changed their Development Charges near the end of the regular school year (i.e. end of June). Contact the Town of Halton Hills Corporate Services for more information and scheduled dates. Note – the indexing dates can trigger higher development charges and any prospective development should factor these costs and scheduled rate increases into their development plans.

Credits
If a building on a property has been demolished or destroyed by fire or all or portions of the building converted, credits may be available to help off-set any development charges if a building permit for new structure is issued within 10 years of the demolition or fire. Please contact Town staff as soon as possible to determine if any credits might be available. Conversion credits may also be available. The Region of Halton provides credits for up to 5 years.

Exemptions
Certain types of developments are exempt from Development Charges including municipally-owned lands, agricultural structures, hospitals, lands owned by religious organizations, and boards of education. Expansions less than 50% of the size of existing industrial buildings are also exempted from development charges.

Deferral of Regional and Town of Halton Hills Development Charges (Non-Residential only)
Both the Region of Halton and the Town of Halton Hills will defer the payment of Development Charges (D/Cs) for a period of 10 years. Payments are made on yearly basis; the rate of interest is determined at the time of the application and is based on the borrowing rate of the Municipality and fixed for the 10 year term. Applicants must apply in writing and the agreement will be registered on title with all costs borne by the applicant.

Current Development Charges
The attached chart provides in detail the amount of Development Charges that may be applicable. This chart should be used a guide only as rates are subject to change. You are encouraged to contact Corporate Services/ Finance at the extension shown above.

Despite the information provided above applicants are strongly urged to contact the Town to review the specifics of their development proposals to avoid misunderstandings later on in the development review process.

CORPORATE SERVICES/FINANCE (Public Sector Accounting Board) - Janice Charles ext. 2434

As of January 1, 2009 Federal government legislation requires that municipalities report the value of:

- any lands dedicated to the Town; or
- works undertaken on existing Town owned land or lands dedicated in the development review process.

Where applicable:

- the value of all improvements to existing Town owned or dedicated lands must be communicated to the Corporate Services/Finance Department before any securities are released or lands assumed.

HALTON HILLS HYDRO - Christopher Hale 519- 853-3700, ext. 222

If your proposed development results in changes:

- that require alterations to existing servicing of the subject property, or
- your development proposal changes: from that submitted as part of the pre-consultation application, or
- after you have applied for a development approval either as a result of a change you have initiated or in response to comments provided by commenting agencies and/or Town Departments your existing or proposed hydro servicing connections may require changes that carry additional costs. Please confirm with Halton Hills Hydro.
- Halton Hills Hydro must be contacted for an Electrical Service Layout if a new service or upgrade to an existing service is required; including metering changes (Ext. 213).
- Any costs due to changes required of Halton Hills Hydro's distribution system (i.e. moving poles to accommodate lane ways, driveways and parking lots, etc.) will be borne by the applicant.
- If the application is for a subdivision, the applicant is required to complete the necessary requirements to obtain a Registered Subdivision Agreement with Halton Hills Hydro (Ext. 213).

Hydro is to be contacted for any electrical changes and service layout.

The applicant will have to enter into a subdivision agreement for site servicing of the subdivision / condominium. Hydro would like to see the poles on the final survey to determine whether there will be any conflicts. Please contact Meg Gonzales at ext. 232 for subdivision related inquiries.

CONSERVATION AUTHORITIES

Property is Regulated by the *Development Interference with Wetlands, and Alterations to Shorelines and Watercourses (Ontario Regulation No. 160/06)*

CREDIT VALLEY CONSERVATION
Colleen Ditner, 905-670-1615, ext. 268

The property is partially regulated. A site visit will have to occur in the spring to establish the features. Depending on the site visit, CVC may require a Top of Bank Staking, geotechnical

Top of Bank of Staking

<input checked="" type="checkbox"/> Geotechnical/Slope Stability Study <input type="checkbox"/> Geodetic Elevations <input checked="" type="checkbox"/> Floodplain Analysis Study <input checked="" type="checkbox"/> Meander Belt Study <input type="checkbox"/> Erosion Assessment <input type="checkbox"/> Hydrogeological Study <input type="checkbox"/> Environmental Impact Study <input type="checkbox"/> Staking of Drip Line <input type="checkbox"/> Functional Servicing Report <input type="checkbox"/> Stormwater Management Report <input checked="" type="checkbox"/> CVC Development Permit is required under (Ontario Regulation No. 160/06) <input type="checkbox"/> Other	<p>study, floodplain analysis, meander belt analysis. This list is not exclusive. All limits identified plus the required setbacks would be applied and new development would be located outside of the identified limits. A permit would be required for any proposed development.</p> <p>CONSERVATION HALTON Katie Jane Stewart, 905-336-1158 ext. 231</p> <p>No comments.</p>
MINISTRY OF TRANSPORTATION - Greg Roszler 416-235-5124	
<input checked="" type="checkbox"/> Other MTO Building/Land-use Permits Stormwater Management Report Traffic Impact Study	<p>This property is within Ministry of Transportation (MTO) permit control and will require MTO building/land-use permits for all buildings within 46 metres of the Highway 7 property limit and within 180 metres of the intersection of Highway 7 and Banting Road prior to any grading and construction on this site. Separate building/land-use permits will be required for any and each storm water management pond serving this development. Sign permits will be required as well.</p> <p>The owners must be advised that all proposed permanent buildings and structures both above and below ground, utilities, frontage roads/fire routes, essential parking spaces, storm water management facilities, including ponds and associated berms, and noise walls must be set back 14.0 metres (45 feet) from the Highway 7 Right-of-way limit.</p> <p>MTO will require a detailed storm water management report, for review and approval, with grading and drainage plans indicating the intended treatment of the calculated runoff for the 5, 10 25, 50 100 year and Regional storms and its impacts on the Highway 7 Right-of-way. The report must be signed and stamped by a Professional Engineer registered in the Province of Ontario.</p> <p>All proposed post-development site generated runoff affecting the Highway 7 Right-of-way must be maintained to pre-development levels and is to be directed away from the Highway 7 Right-of-way. Details of MTO's drainage requirements, including hydrologic and hydraulic methods can be found in the MTO website below.</p> <p>Furthermore, we will require the owner to submit a detailed Traffic Impact Study addressing the anticipated traffic volumes at full build-out, on Highway7. The study must identify any necessary improvements to Highway 7 resulting from this development and all costs associated with the highway improvements are the responsibility of the owner. MTO's Traffic Impact Study Guidelines is available on the MTO website below.</p> <p>The owners are solely responsible for all noise mitigation measures and all external illumination must be directed away from the Highway 7 Right-of-way.</p>

	<p>MTO permit applications may be obtained from our office located on the 7th Floor, Atrium Tower, 1201 Wilson Avenue, Downsview, and they are also available on our website at: http://www.mto.gov.on.ca/english/engineering/management/corridor/index.html</p> <p>Please note that all reports must be undertaken by a firm approved under the Ministry of Transportation's consultant Registry, Appraisal and Qualification System (RAQ's) under the Traffic Impact Analysis specialty category. The report must also be signed and stamped by a Professional Engineer registered in the Province of Ontario taking responsibility for the report contents.</p>
HALTON REGION - James Horan 905-825-6000, ext. 7554	
<input type="checkbox"/> Aggregate Resource Assessment <input type="checkbox"/> Agricultural Impact Study <input type="checkbox"/> Archaeological Assessment <input type="checkbox"/> Environmental Impact Assessment <input type="checkbox"/> Environmental Site and/or Risk Assessment <input checked="" type="checkbox"/> Environmental Site Screening Questionnaire <input checked="" type="checkbox"/> Functional Servicing Plan / Report <input type="checkbox"/> Geotechnical Study <input type="checkbox"/> Grading & Design Plan <input type="checkbox"/> Hydrogeological Study <input checked="" type="checkbox"/> Noise Study <input type="checkbox"/> Servicing Agreement <input type="checkbox"/> Subwatershed Impact Study <input checked="" type="checkbox"/> Traffic Impact Study <input checked="" type="checkbox"/> Tree Inventory/Saving Plan <input type="checkbox"/> Water Usage and Sanitary Discharge Report <input type="checkbox"/> Well Survey and Monitoring Report <input type="checkbox"/> Other	<p>The applicant proposes to redevelop to underdeveloped properties with 34 back-to-back townhouses and 50 standard three storey townhouses. The lands are approximately 1.7 hectares in area with a proposed density 48 units per hectare. The lands will be accessed via an entrance of off Hwy 7 and Lindsay Court.</p> <p><i>Regional Official Plan, 2006</i></p> <p>The property is designated as Urban Area in the ROP. Pursuant to Policy 76, Range of permitted uses and the creation of new lots in the <i>Urban Area</i> will be in accordance with the Local Official Plan and Zoning By-law. All development, however, is subject to all applicable policies of the ROP.</p> <ul style="list-style-type: none"> o <i>(Walking & Cycling)</i> Policy 143(4) Promotes walking, cycling and public transit over other modes of transportation. Consideration how this development will integrate into neighbouring developments to promote alternative forms of transportation. o <i>(Railroad noise and vibration)</i> Policy 143(9) requires developments adjacent to railway lines within 300 metres to undertake a noise study and within 75 metres to undertake a vibration study. All mitigation recommendations will be required to be implemented through the Zoning/Condo/Site Plan processes. Furthermore, Policy 173(32) require proposed development to incorporate appropriate safety measures are in place such as setbacks, berms and safety fencing as warranted. o <i>(Highway Noise)</i> Policy 143(11) requires the proponent of development in areas adjacent to highways to undertake noise and vibration analysis and to implement any recommendations as a condition of approval. o <i>(Source Water Protection)</i> Figure A3 of the Regional Official Plan (ROP) identifies this area within Zone 1 – 100 day travel time. This is an area immediately adjacent to a municipal well and allows limited time for natural remediation of any contaminants in the

	<p>groundwater.</p> <ul style="list-style-type: none"> ○ New residential developments over 20 units will be required to undertake a monitoring program of groundwater quality for a period <i>of at least five years</i> after completion of the development (Source: Table 4, ROP). ○ <i>(Tree Saving Inventory Plan)</i> Policy 147(5,f) requires that the applicant submit a tree inventory plan at the initial application stage and saving plans through the site plan approval stages. ○ <i>(Contamination)</i> Pursuant to Policy 147(17) the Region requires prior to the consideration of any development application, that the proponent identify whether there is any potential for contaminated or potentially contaminated soils. If there is potential for contaminated soils, the applicant must undertake an investigation including the study of soil and groundwater samples. An Environmental Site Screening Questionnaire was disseminated to the applicant; this will be required as part of complete submission with the Official Plan and Zoning By-law Amendment. ○ <i>(Archaeological Potential)</i> Pursuant to Policy 167(6) the ROP requires development occurring in or near areas of archaeological potential to undertake an assessment if required mitigation in accordance with Provincial requirements. Prior to site alteration MOC clearance will be required. ○ <i>(Waste Collection)</i> If the applicant needs to consider the type of waste collection. If Regional Waste Services are considered the site shall be designed to the specifications in the Waste Design Guidelines (<i>handed out at the meeting</i>). <p><i>Regional Servicing Comments:</i></p> <p>Regional servicing staff contact is Margaret Smith, 905-825-6000 ext. 7630</p> <p>The applicant is proposing 84 townhouse units which would require the allocation of 71 SDE. The servicing capacity must be allocated by the Town prior to approval of the plan.</p> <p>There is a 300mm dia. watermain and a 200mm dia. sanitary sewer on Lindsay Court. The sanitary system is capable of servicing the existing dwellings on Lindsay Court (Highway 7) however the system was not designed to accommodate development of this density. The applicant will be required to submit a Functional Servicing Report that will analyze the downstream sewers to confirm that capacity exists for this many units.</p> <p>ROPA 38 – <i>(Information Only)</i> - On December 16, 2009, Regional Council adopted ROPA 38 which is pending Ministerial/potential OMB approval. ROPA 38 designates this</p>
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	<p>site as Urban Area. The site is located inside the Built Boundary. Furthermore, the property is located adjacent to the Regional Natural Heritage System.</p> <p>Transportation Comments:</p> <p>Transportation Services requires a Transportation Impact Study to review the impacts of the proposed development on the intersection of Trafalgar Road (Regional Road 3) and Lindsay Court.</p> <p>Regional Transportation contact is Alicia Jakaitis, 905.825.6000 ext. 7556</p>
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APPENDIX C

HALTON REGION

SANITARY AND WATER OPERATING MAPS



REGIONAL MUNICIPALITY OF HALTON
Department of Public Works

SANITARY OPERATING MAPS
TOWN OF GEORGETOWN

Sewer Types

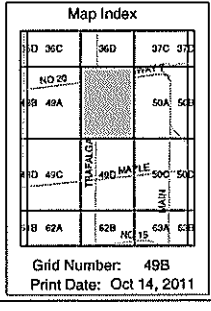
- Treated Discharge Sewer
- Untreated Discharge Sewer
- ForceMain
- Proposed ForceMain
- Gravity Sewer
- Proposed Gravity Sewer

Maintenance Hole Types

- Maintenance Hole
- Chamber

Major System Facilities

- Wastewater Storage Tank
- Wastewater Treatment Plant
- Pumping Station
- Municipal Boundary



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REGIONAL MUNICIPALITY OF HALTON
Department of Public Works

WATER OPERATING MAPS

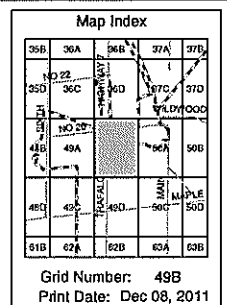
TOWN OF GEORGETOWN

- Protection Valve Type**
- Air Release
 - Check
 - Pressure Reducing
 - △ Surge
 - Vacuum
- Control Valve**
- I Valve In Chamber
 - X System
 - Zone Isolation, No ByPass
 - Zone Isolation, With ByPass

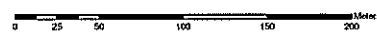
- Fittings**
- ⌋ Cap
 - ⊗ Cross
 - Reducer
 - ⊞ Tapping Sleeve
 - ≡ Sleeve
 - ⊥ Tee

- System Structure**
- ⊞ Booster Station
 - ⌋ Intake
 - ⊞ Municipal Well
 - ⊞ Reservoir
 - ⊞ Tank
 - ⊞ Water Purification Plant

- Other**
- In Service Watermain
 - - - Proposed Watermain
 - ⊞ System Meter
 - ⊞ Hydrant
 - Chamber
 - Pressure Zone
 - ⊞ Municipal Boundary

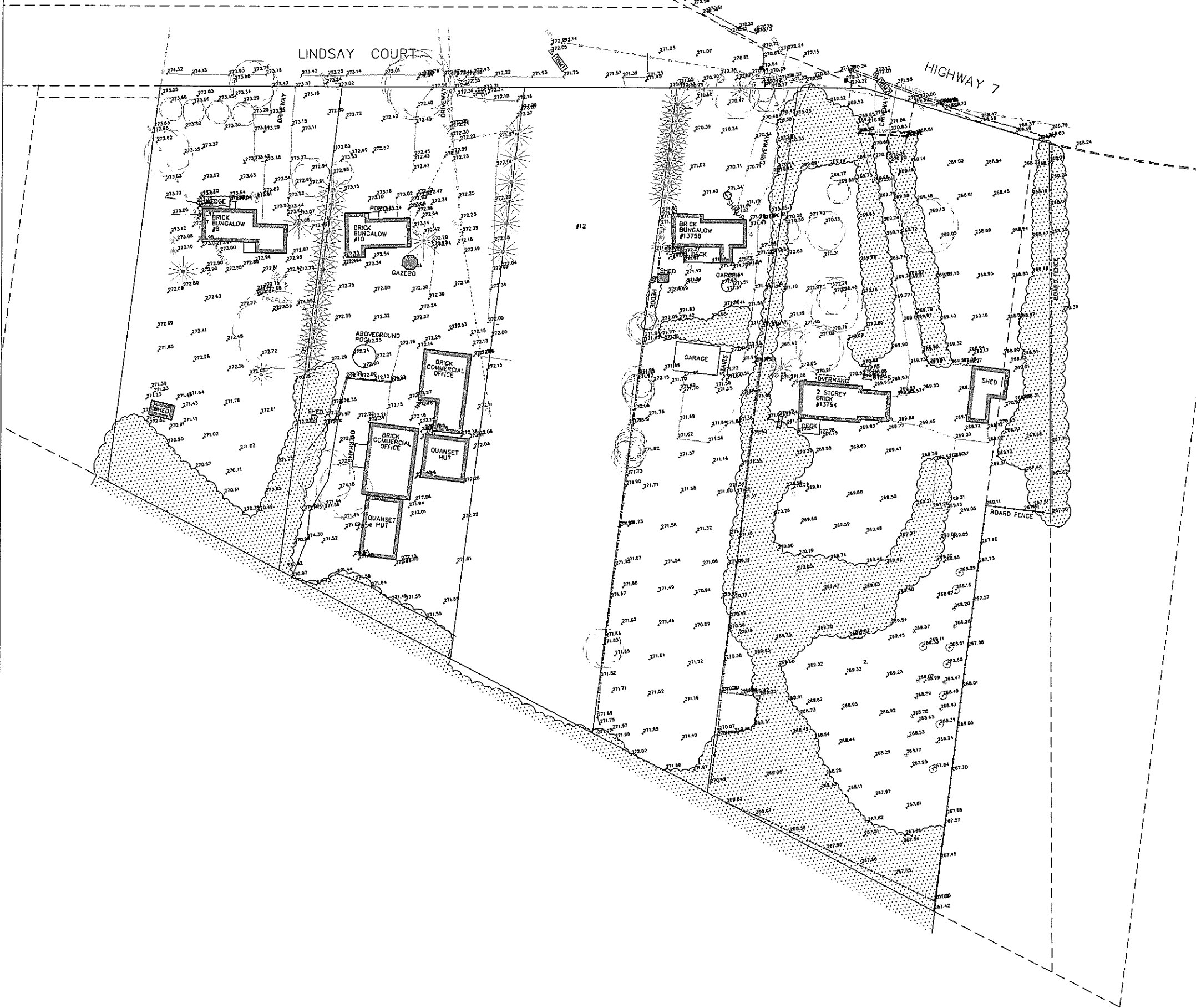
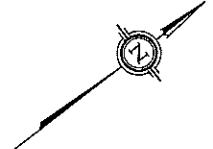


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APPENDIX D
TOPOGRAPHIC PLAN

METRIC
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048



GENERAL NOTES

SURVEY INFORMATION
BOUNDARY INFORMATION COMPILED FROM EXISTING PLANS AND FIELD SURVEY BY CLIPSHAM LIMITED COMPLETED FEBRUARY 8, 2012.
TOPOGRAPHIC INFORMATION COMPILED FROM FIELD SURVEY BY CLIPSHAM LIMITED COMPLETED FEBRUARY 8, 2012.

The location and extent of all existing utilities are not necessarily shown on this plan, and where shown, are to be considered approximate only. All Contractors shall inform themselves of the exact location and extent of all existing services prior to the start of construction, and shall assume all liabilities for damage to them or delays resulting from their actual extent and location.

TEMPORARY BENCHMARK 1
ELEVATION: 272.05 m (GPS)
TOP OF CONCRETE NAIL IN ASPHALT ON NORTH SIDE OF LINDSAY CT. IN FRONT OF #12. CONCRETE NAIL LOCATED 1.8m SOUTHEASTERLY OF HYDROPOLE, 30.9m SOUTHWESTERLY OF COMMUNICATION PEDISTAL, 27.9m EASTERLY OF FLAG POLE AT #12 LINDSAY CT. AND 20.3m NORTHERLY OF FLAG POLE AT #10 LINDSAY CT.

KEY PLAN



LEGEND

- ▲ NORTH ARROW
- TEMPORARY BENCHMARK
- ELEVATION
- CONIFEROUS TREE
- DECIDUOUS TREE
- SIGN
- MANHOLE
- CATCH BASIN
- LIGHT STANDARD
- HAND WELL
- HYDRO BOX
- UNDERGROUND HYDRO
- FENCE

NO	DATE	BY	REVISIONS
DESIGN BY	-	CHECKED BY	-
DRAWN BY	JRC	CHECKED BY	ZF

Scale 1:500

APPROVALS

STAMP
STAMP

ENGINEERING NOTES

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Consulting Engineers • Surveyors
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CLIENT
2301132 ONTARIO INC.
174 MILL STREET
MILTON, ON L9T 1S2

TOPOGRAPHICAL PLAN

PART OF LOT 20
CONCESSION 8 (ESQUEUING)
TOWN OF HALTON HILLS
REGIONAL MUNICIPALITY OF HALTON

PROJECT No. 12-5104
DRAWING No.

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