BURNSIDE

Functional Servicing Report
Argo Summer Valley

Argo Summer Valley Limited
4990 Palladium Way, Suite 105
Burlington ON L7M 0W7

City of Brampton File No.:
Town of Caledon File No.:

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Town of Caledon File No.:

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June 2022
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Record of Revisions

Revision	Date	Description
0	June 16, 2022	Draft Plan of Subdivision Application

R.J. Burnside & Associates Limited

Report Prepared By:

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LN:clr

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Disclaimer

1.0 Introduction

1.1 General

R.J. Burnside & Associates Limited (Burnside) has been retained by Argo Summer Valley Limited (Argo) to prepare a Functional Servicing Report (FSR) in support of an Application for Official Plan Amendment, Zoning By-Law Amendment and Draft Plan of Subdivision for lands which lie within both the City of Brampton (City) and the Town of Caledon (Town). This Functional Servicing and Preliminary Stormwater Management Report is intended to demonstrate that the subject lands can be developed and connect to municipal servicing in accordance with applicable regulatory requirements and site-specific criteria established through the completion of previous servicing studies for the area.

1.2 Site Location and Context

The subject site is an approximately 3.62 ha infill area at the north limits of the City of Brampton and the south limits of the Town of Caledon, as identified on Figure 1. The site is legally described as Part of Lot 19, Concession 1, E.H.S. Town of Caledon and Part of Lot 18, Concession 1, E.H.S., City of Brampton, Regional Municipality of Peel. The site is bounded by Hurontario Street to the west, the Highway 410 corridor to the north, Highwood Road and The Creek's Edge Subdivision to the south and Reinhart Estates to the east, both of which are adjacent to the Etobicoke Creek Valley to the east. An overview and context of the area, including an aerial photo is presented in Figure 2.

1.3 Existing Land Use

Currently, the majority of the existing site is disturbed and vacant. Historically the site was occupied by a number of buildings and parking area for the Reinhart Auction lands, which have since been demolished / decommissioned. There are no natural features within the property though there are a number of manmade swales and drains around the perimeter of the site.

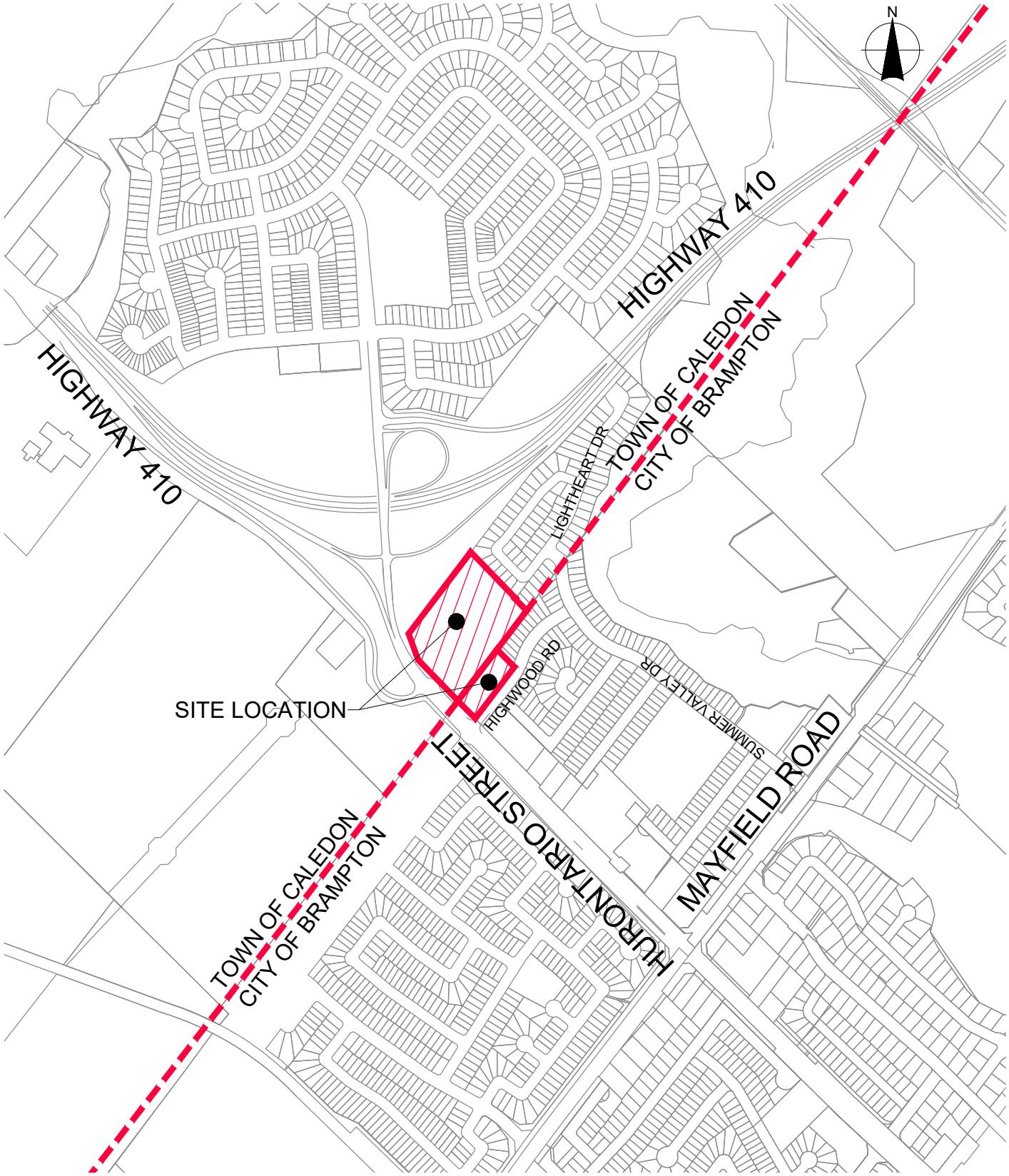

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Figure Title

ARGO SUMMER VALLEY

SITE LOCATION PLAN

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ARGO SUMMER VALLEY LIMITED

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KT	LN	22/04/22	**FIG 1**
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Figure Title

ARGO SUMMER VALLEY

EXISTING SITE CONTEXT

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1.4 Objectives

The purpose of this Functional Servicing and Preliminary Stormwater Management Report is to provide the following context and assessment in support of the proposed Draft Plan of Subdivision(s) (DPOS) and associated applications:

- Calculate proposed sanitary design flows and demonstrate the adequacy of the existing sanitary sewer system to accommodate the proposed development.
- Calculate proposed water demand and demonstrate the adequacy of the existing water distribution system (pressure and flow) to service the proposed development.
- Confirm existing and proposed drainage patterns for the site.
- Develop a stormwater management plan that demonstrates confirmation of capacity and accommodation of the proposed development within the existing drainage system, including any relevant site-specific stormwater management measures.

All the above will be completed in accordance with accepted engineering practices and criteria of the governing approval agencies.

2.0 Background Information and Documentation

2.1 Previous Studies

The site has been considered for development and accommodated in the design of downstream infrastructure as identified in various studies for developments in both the City of Brampton and the Town of Caledon. This FSR has been prepared in accordance with the information and recommendations provided in the following documents:

- Functional Servicing Report, Donal JV Limited (Reinhart Auction Lands) Draft Plan 21T-99002C, Charlton Engineering Limited, Revised September 2001.
- Creek's Edge Subdivision Pond Design Brief, Schaeffers Consulting Engineers, Revised September 1997.
- Town of Caledon, City of Brampton and Region of Peel Development Design Standards.

2.2 Additional Studies

The following studies are being completed in conjunction with, and provide guidance to, this Functional Servicing and Preliminary Stormwater Management Report.

- 12197 Hurontario Street, Brampton and 12211-12233 Hurontario Street, Caledon, Geotechnical Investigation, EXP Services Inc., February 4, 2022 (Revised May 18, 2022).
- 12197 Hurontario Street, Brampton and 12211-12233 Hurontario Street, Caledon, Hydrogeological Investigation and Water Balance Assessment, EXP Services Inc., June 8, 2022.

3.0 Existing Site Conditions

The subject property covers a total area of 3.62 ha, 3.08 ha of which are in the Town of Caledon, with the remaining 0.54 ha located in the City of Brampton. The existing site is vacant and largely disturbed with previous land use and remediation works. The site is relatively flat, sloping very gently from an elevated central area to various low-lying areas in the east and west. There is a total of approximately three metres of fall in each direction from the central high point at an elevation of 259.0. The east portion of the site drains towards multiple constructed swale / drainage draws and existing storm sewer inlets along the south and east limits of the property. The west portion of the site drains towards an existing storm sewer inlet at the southwest limits of the site adjacent the Hurontario Street and Highwood Road intersection. The existing site conditions are identified on Figure 4.

3.1 Soil Conditions

Based on the Ontario Soils Mapping database, the subject property is located within a single soil formation, Chinguacousy Clay Loam. The soil formation is an imperfectly draining soil with and smooth, gently sloping surfaces.

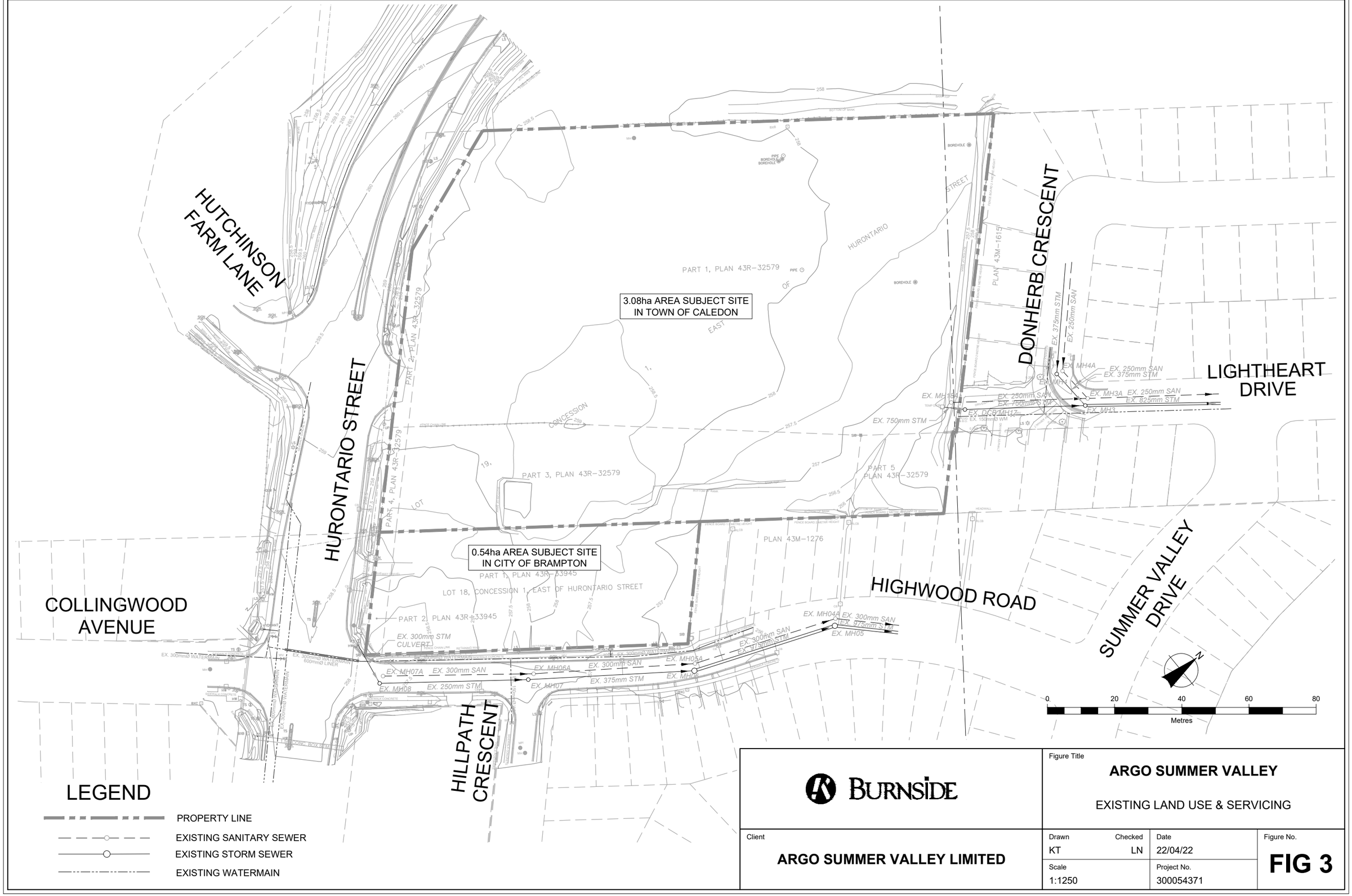
A Geotechnical Investigation was completed for the study area by EXP Services Inc. in February 2022, updated May 2022. Based on the findings of the investigation, the site is covered by a surficial layer of topsoil, asphalt and granular materials with some pockets of fill. The native materials beneath the surficial cover comprise Sandy Silt Till in portions, to depths ranging from 4.2 to 8.1 m below the surface with Clayey silt till below the sand or fill layers. The clayey silt till extends 8.1 m below existing grade where the boreholes were terminated. As a result of the historical land uses and activities, the top layer of soils is defined as reworked / disturbed.

3.2 Groundwater Conditions

As part of the Geotechnical Investigation monitoring wells were installed in four of the borehole locations. During the completion of the drilling program, groundwater was observed at depths ranging from 7.0 to 8.0 m below the ground surface other than in one borehole that remained dry. Additional measurements in the installed monitoring wells were taken following the initial drilling operation and groundwater depths were measured at depths ranging from 1.6 to 6.5 m below grade.

3.3 Environmental Features

As noted, the subject property has been historically used for a variety of purposes including residential and a combination of residential and commercial purposes. The site is currently vacant and disturbed with no environmental features present.



LEGEND

- PROPERTY LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATERMAIN

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Figure Title

ARGO SUMMER VALLEY

EXISTING LAND USE & SERVICING

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KT	LN	22/04/22	**FIG 3**
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4.0 Proposed Development

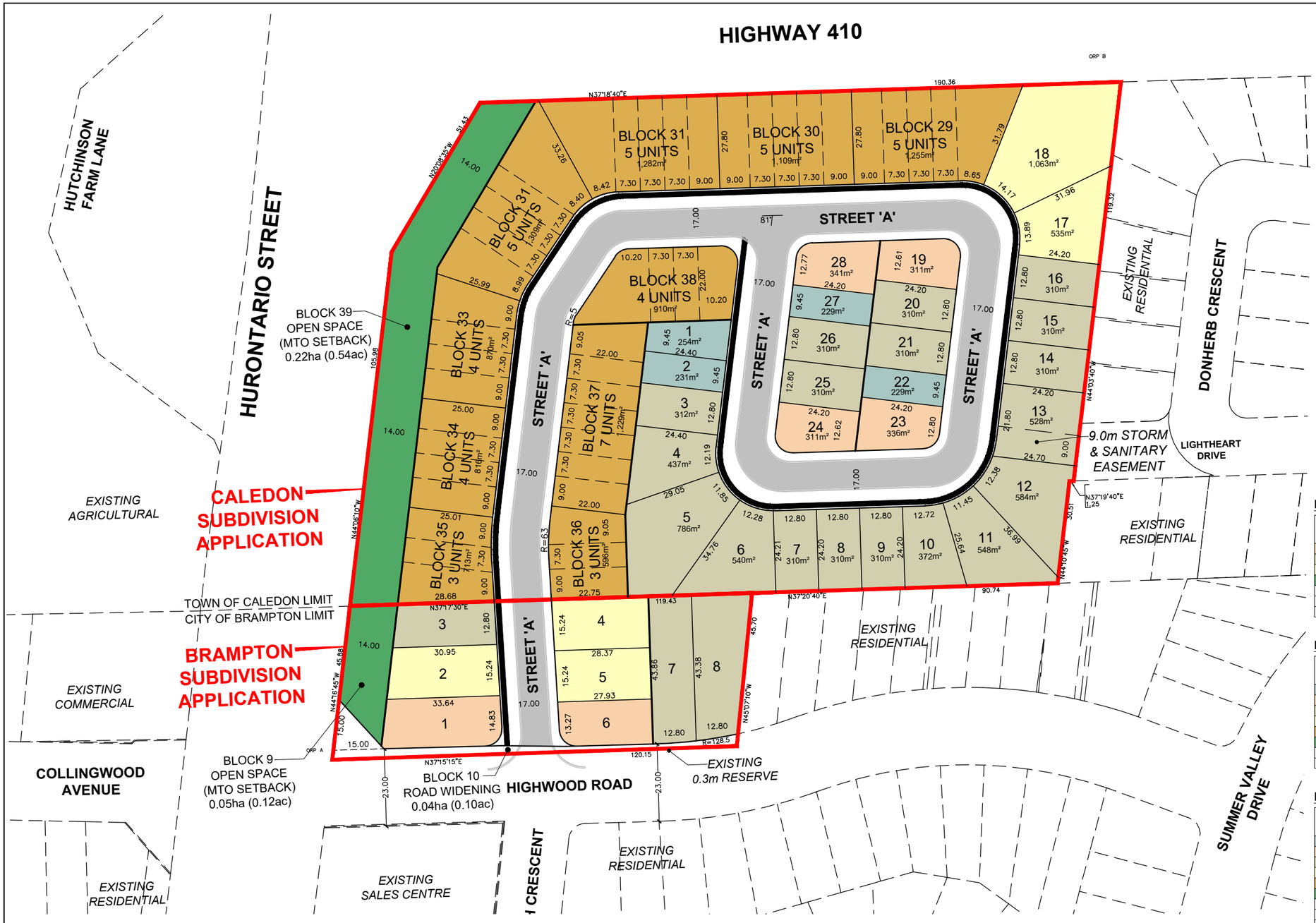
The Summer Valley Draft Plan of Subdivision has been prepared by Glenn Schnarr and Associates Inc. and is included as Figure 4. The DPOS features a mix of residential areas, open space and required road allowances and widenings.

The proposed DPOS connects to the surrounding road network at a single intersection with Highwood Road, opposing Hillpath Crescent. A 9 m wide servicing easement is proposed to connect infrastructure to the adjacent development and Lightheart Drive.

The table below summarizes the proposed land use for the site, including population projections based on City, Town and Region design criteria.

Table 1: Argo Summer Valley Land Use and Population Projection

Land Use	Net Area (ha)	Units	PPU	Population
City of Brampton				
Detached – 12.20 m	0.09	2	3.52	7.04
Detached – 12.80 m	0.16	3	3.52	10.56
Detached – 15.24 m	0.13	3	3.52	10.56
Open Space (MTO Setback)	0.04			
Road Widening	0.07			
17.0 m ROW (length 43 m)	0.07			
Subtotal	**0.54**	**8**		**29**
Town of Caledon				
Detached – 9.45 m	0.09	4	3.29	13.16
Detached – 12.20 m	0.13	4	3.52	14.08
Detached – 12.80 m	0.72	18	3.52	63.36
Detached – 15.24 m	0.17	2	3.52	7.04
Townhouse – 7.3m	1.00	45	3.29	148.05
Open Space (MTO Setback)	0.54			
17.0 m ROW (length 426 m)	0.75			
Subtotal	**3.08**	**73**		**246**
Total	**3.62**	**81**		**274**



LAND USE SCHEDULE - CITY OF BRAMPTON

LAND USE	LOTS / BLOCKS	AREA (ha)	AREA (ac)	UNITS	DENSITY (UPHA)
DETACHED - 12.20m (40')	1-8	0.09	0.22	2	22.22
DETACHED - 12.80m (42')		0.16	0.40	3	18.75
DETACHED - 15.24m (50')		0.13	0.32	3	23.08
OPEN SPACE (MTO SETBACK)	9	0.05	0.12		
ROAD WIDENING	10	0.04	0.10		
17.0m LOCAL R.O.W. (LENGTH: 43m)		0.07	0.17		
TOTAL	**10**	**0.54**	**1.33**	**8**	**21.05**

LAND USE SCHEDULE - TOWN OF CALEDON

LAND USE	LOTS / BLOCKS	AREA (ha)	AREA (ac)	UNITS	DENSITY (UPHA)
DETACHED - 9.45m (31')	1-28	0.09	0.22	4	44.44
DETACHED - 12.20m (40')		0.13	0.32	4	30.77
DETACHED - 12.80m (42')		0.72	1.78	18	25.00
DETACHED - 15.24m (50')		0.16	0.40	2	12.50
TOWNHOUSE - 7.30m (24')	29-38	1.01	2.50	45	44.55
OPEN SPACE (MTO SETBACK)	39	0.22	0.54		
17.0m LOCAL R.O.W. (LENGTH: 426m)		0.75	1.85		
TOTAL	**39**	**3.08**	**7.61**	**73**	**34.60**

LAND USE SCHEDULE - COMBINED

LAND USE	AREA (ha)	AREA (ac)	UNITS	DENSITY (UPHA)
DETACHED - 9.45m (31')	0.09	0.22	4	44.44
DETACHED - 12.20m (40')	0.22	0.54	6	27.27
DETACHED - 12.80m (42')	0.88	2.17	21	23.86
DETACHED - 15.24m (50')	0.29	0.72	5	17.24
TOWNHOUSE - 7.30m (24')	1.01	2.50	45	44.55
OPEN SPACE (MTO SETBACK)	0.27	0.67		
ROAD WIDENING	0.04	0.10		
17.0m LOCAL R.O.W. (LENGTH: 469m)	0.82	2.03		
TOTAL	**3.62**	**8.95**	**81**	**32.53**

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Figure Title

ARGO SUMMER VALLEY

PROPOSED DRAFT PLAN OF SUBDIVISION

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ARGO SUMMER VALLEY LIMITED

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5.0 Roads

The proposed development includes a 17m looped Right-of-Way, with connection to Highwood Boulevard, directly opposing Hillpath Crescent, both of which are City of Brampton Roads. The 17 m ROW proposed for the development will be consistent with the City of Brampton Standard Drawing Std. 200 for a minor local road with 8.0 m pavement on 17.0 m ROW. A copy of the Std. 200 is included in Appendix B.

The site was historically planned as an extension of the Creek's Edge subdivision to the south, which has been designed and construction with City of Brampton standard roads. The adoption of the proposed road design standard on the Town of Caledon and City of Brampton portions of the site will be in line with adjacent road design standards and is considered appropriate for the site.

6.0 Wastewater Servicing

6.1 Existing Municipal System

The proposed DPOS is located within the servicing area of the Etobicoke Creek West Shed trunk sanitary sewer. Based on the As-Constructed drawings for the surrounding subdivision lands, as provided by the Region of Peel, the infrastructure systems of the adjacent subdivisions were designed and constructed with consideration to development of the subject site.

Along the south property limits, there is an existing 300 mm diameter sanitary sewer extended within Highwood Road along the frontage of the subject site, which drains to a 375 mm sanitary sewer, immediately downstream of the site, with ultimate discharge into the 450 mm diameter sanitary trunk on Summer Valley Drive. The As Constructed Plan and Profile drawing for Highwood Road is included in Appendix A. As identified, MH6A is situated at the intersection of Highwood Road and Hillpath Crescent, which provides connection opportunity for the proposed DPOS. The downstream invert elevation of the sanitary sewer at MH6A is 252.068 m.

At the east limits of the site there is an existing 250 mm sanitary sewer extended from Lightheart Drive to the site, which also drains to the 450 mm sanitary trunk sewer on Summer Valley Drive. The sanitary sewer is a 250 mm diameter sewer terminating at MH (18A) which is located within the subject site. The downstream invert elevation of the existing sanitary sewer is situated at 253.92 m. The as-constructed plan and profile drawing for Lightheart Drive and Highwood Road, including the existing sanitary infrastructure, is included Appendix A.

Appendix A includes a copy of the Creek's Edge Subdivision Sanitary Drainage Plan (Part I) which identifies drainage areas, at a density of 50 ppha, on the north side of Highwood Road to the City limits as directly tributary to the existing infrastructure (MH7a through 5A). In addition, an external area of 3.0 ha of 50 ppha, from the Town of Caledon is accommodated on Highwood Road in the sanitary plug with connection to MH5A.

As identified on the External Tributary Area inset on the as constructed drawing, an area of 88.25 ha to the northwest, in addition to the 3.0 ha noted above, has been accommodated within the sanitary sewer system on Highwood Road. The plan also identifies a drainage area of 12.96 ha immediately to the north of Summer Valley Dive, and an additional area of 80.22 ha to the northeast as accommodated within the Summery Valley Drive trunk sewer. The subject lands within the Town of Caledon fall within the identified external drainage areas for the existing system.

6.2 Design Criteria

The proposed sanitary sewers will be designed and constructed to current Region of Peel and Ministry of Environment Conservation and Parks criteria and specifications. The sanitary design criteria are as follows:

- Residential Flow Rate - 290 litres per capita per day
- Infiltration / Inflow - 0.260 L/sec/ha
- Peaking Factor - Harmon Peaking Factor Formula
- Population Density - Varies:
  - Single Family - 50 ppha
  - ROW dwellings - 175 ppha

6.3 Proposed Sanitary Servicing

The proposed development will utilize the existing and available connections and Region infrastructure at the east and south limits of the site. The proposed development will drain to the existing sanitary sewer on Highwood Road via direct service connection for the lots fronting Highwood Road and via a sanitary sewer connection to existing MH6A at the intersection of Highwood and Hillpath Crescent. The remainder of the site will connect to the existing sanitary sewer MH18A, located at the eastern limits of the site, at the extension of Lightheart Drive. Figure 5 identifies the proposed drainage boundaries, the total drainage areas and the calculated drainage densities for the three connection points. Table 2 summarizes the sanitary drainage area and flow calculation parameters for the proposed DPOS.

Table 2: Proposed Sanitary Drainage Area Details

Drainage Connection	Drainage Area (ha)	Population	Flow
Highwood MH6A	0.906	117	1.64
Highwood Direct Service Connection	0.121	7	0.098
Lightheart Drive / Easement MH18A	2.292	212	2.97
Total Area	**3.319**	336	

As identified on the As Constructed drainage plan, 3.0 ha of external flow, and the direct frontage of the subject property on Highwood Road, were accommodated at 50 ppha in the Creek's Edge Subdivision. Per the summary above, the proposed development will contribute a total of 1.027 ha and 124 people to the existing Highwood Road system, which is less than the design population of 150 people.

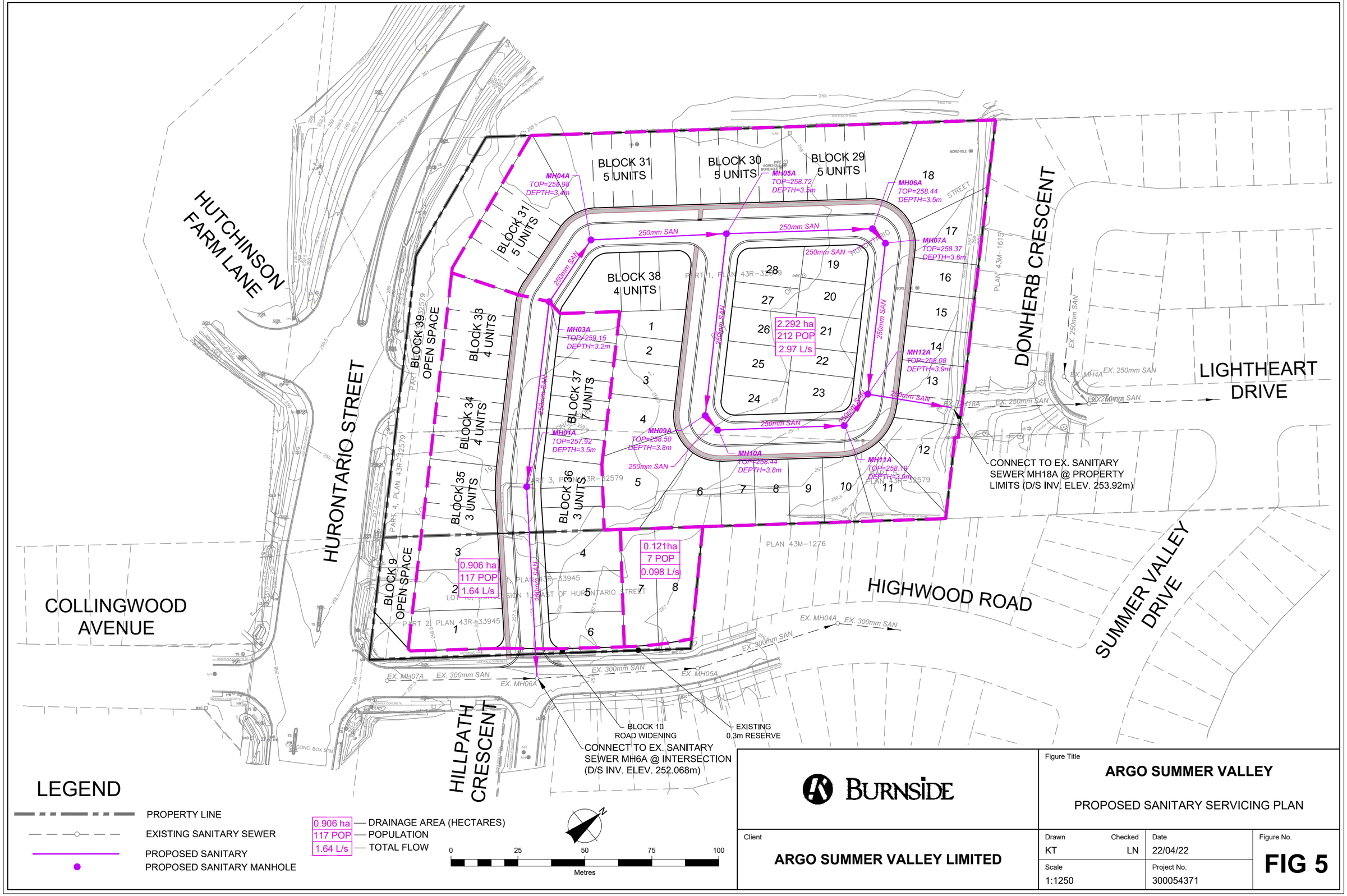
The remainder of the subject site will drain to the existing sanitary sewer on Lightheart Drive and the trunk on Summer Valley Drive. The total drainage area falls within the planned capacity of the Summer Valley Drive trunk system at a density of 50 ppha equivalent to 166 people. The proposed development will contribute an overall a

population of 336 people or 101.2 ppha to the trunk sewer. However, the planned capacity of the trunk sewer includes the MTO lands, and the area occupied by the 410, immediately to the north of the subject site. As this area will not be developed at the planned population density there is residual capacity within the trunk sewer, sufficient to accommodate the proposed development. Accounting for the MTO lands along the north property boundary and the area of the Highway, there is over 8.6 ha of area that will not be contribute flow to the sanitary sewer. This area alone creates additional planned capacity in the trunk, equivalent to 430 people, which is more than sufficient to accommodate the proposed development in the trunk sewer.

As noted in Table 2 the total flow contribution to the Lightheart Drive sanitary sewer is 2.97 L/s. The existing sanitary sewer is a 250 mm pipe at 0.76% in Lightheart Drive which drains approximately 3 ha of existing development. The sewer has a capacity of 51.8 L/s, sufficient to accommodate more than 30 ha of development at 100 ppha, indicating that there is more than sufficient capacity in the local system to accommodate the proposed development.

Based on the above, the proposed DPOS falls within the available capacity of the existing sanitary system.

The local sewers servicing the development site will follow the alignment of the roads for the majority of the sewer lengths. At the east side of the site, the sanitary sewer will be extended within a proposed 9 m easement from Street A, to provide connection to the existing sanitary MH18A.



LEGEND

- PROPERTY LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY
- PROPOSED SANITARY MANHOLE

0.906 ha — DRAINAGE AREA (HECTARES)
117 POP — POPULATION
1.64 L/s — TOTAL FLOW

0 25 50 75 100
Metres

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Figure Title
ARGO SUMMER VALLEY
PROPOSED SANITARY SERVICING PLAN

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7.0 Water Servicing

7.1 Existing Water Services

Water supply is provided by the Region of Peel water distribution system. The subject site is located within Pressure Zone 7, the southern boundary of which runs along Mayfield Road. Along Highwood Road there is an existing 300 mm diameter watermain on the north side of the road across the frontage of the subject site. Additionally, there is an existing 300 mm diameter watermain on Summer Valley Drive which feeds the 150 mm diameter watermain on Lightheart Drive. A 150 mm watermain with plug and blow off is extended from Lightheart Drive to the east limit of the subject property.

7.2 Water Design Criteria

Water servicing for the subject lands will be designed in accordance with the Region of Peel standards and specifications to ensure that adequate pressures and flows are achieved. Watermain design flows will be based on the following criteria:

- Average Day Demand - 450 litres per capita per day
- Population Density - Per sanitary standards
- Peaking Factor - Per MOEEC criteria (max. 4.0)
- Design Flow - Greater of Max. Day plus Fire or Peak

7.3 Proposed Water Servicing

The proposed water servicing of the subject property includes two connections to the existing municipal water system, one to the 300 mm main on Highwood Road and one at the plug of the 150 mm main extended from Lightheart Drive. The proposed connections create a looped system for the proposed development. The connection at Highwood Road is consistent with the location of the proposed intersection identified in the DPOS. Given the proximity of the trunk mains to the subject site, the connections to Highwood Road watermain with the additional connection to the Lightheart Drive watermain is sufficient to provide services to the DPOS.

Figure 6 depicts the proposed water servicing distribution network for the DPOS. The internal watermain distribution network will be designed in accordance with Municipal standards, within the proposed ROW. A network of feedermains is proposed to follow the alignment of the internal road system. Based on the Draft Plan configuration, the connection to Lightheart Drive will be accommodated through a servicing easement extending from Street A to the plug location at the property boundary. The proposed watermain is designed as 150 mm diameter main. The final sizing of the mains will be confirmed through consultation with the Region during the detailed design process.

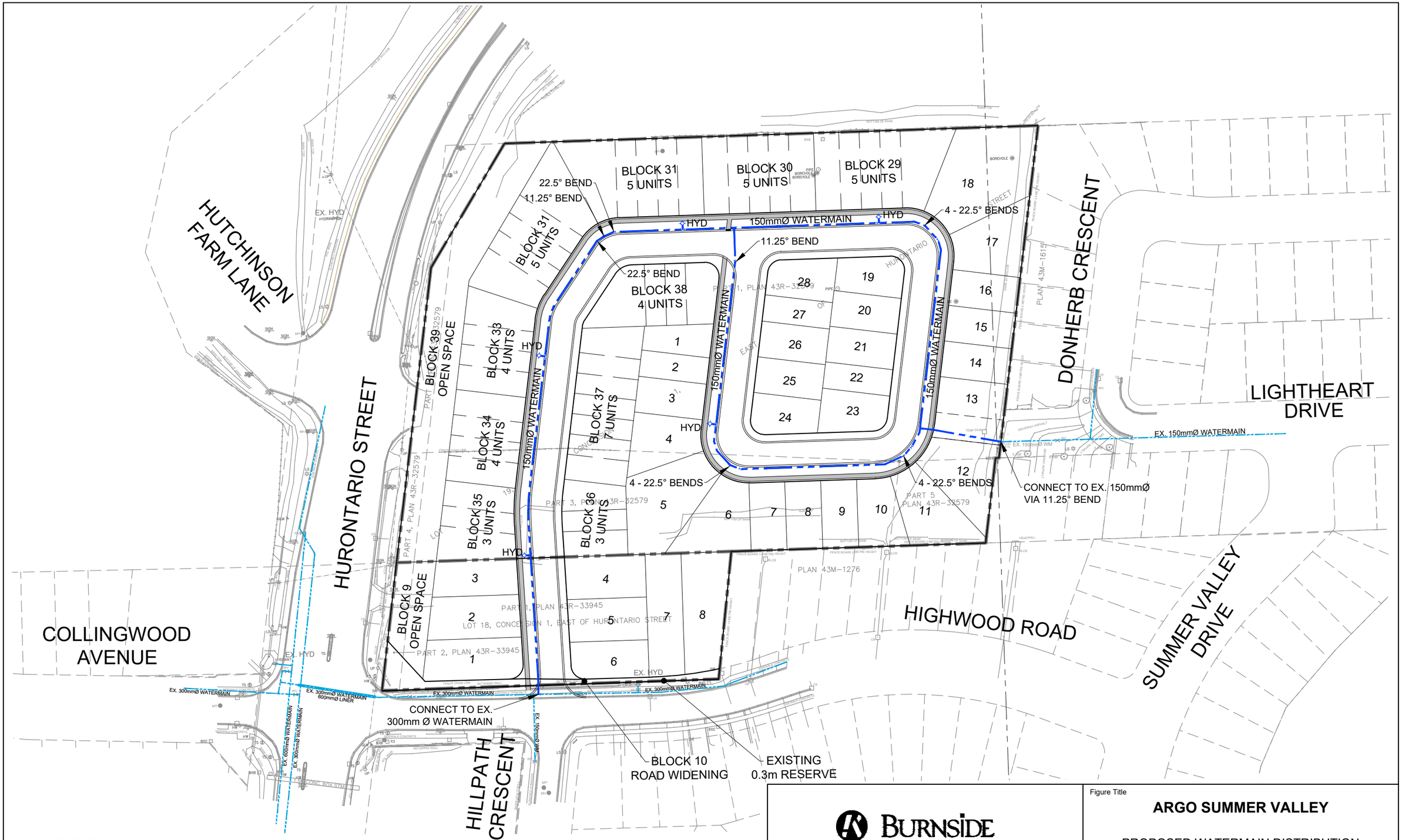

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Figure Title

ARGO SUMMER VALLEY

PROPOSED WATERMAIN DISTRIBUTION

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8.0 Grading and Storm Drainage

8.1 Existing Municipal System

The proposed DPOS is located within the Etobicoke Creek watershed. Based on the As-Constructed drawings and stormwater management reports for the surrounding subdivision lands, the infrastructure systems of the adjacent subdivisions were designed and constructed with consideration to development of the subject site.

Along the south property limits, there is an existing 375 mm diameter storm sewer within Highwood Road along the frontage of the subject site, which drains to a 975 mm storm sewer, immediately downstream of the site. The storm sewer along Highwood Road discharges into the 1350 mm diameter storm trunk on Summer Valley Drive, which conveys drainage to a quality control stormwater management facility located adjacent to Etobicoke Creek, north of Mayfield Road. The As Constructed Plan and Profile drawing for Highwood Road is included in Appendix A. As identified, MH7 is situated at the intersection of Highwood Road and Hillpath Crescent, which provides connection opportunity for the proposed DPOS. The downstream invert elevation of the storm sewer at MH7 is 253.21.

At the east limits of the site there is an existing 750 mm sanitary sewer extended from Lightheart Drive to an existing ditch inlet catchbasin within the subject site. This storm sewer also drains to the 1350 mm storm trunk sewer on Summer Valley Drive. The downstream invert elevation of the existing storm sewer is situated at 253.92 m. The as-constructed plan and profile drawing for Lightheart Drive and Highwood Road, including the existing storm infrastructure, is included Appendix A.

Appendix A includes a copy of the Creek's Edge Subdivision Storm Drainage Plan (Part I) which identifies drainage areas, with a runoff coefficient of 0.50, on the north side of Highwood Road to the City limits as directly tributary to the existing storm infrastructure (MH8 through 6). In addition, an external future development area of 15.58 ha with a runoff coefficient of 0.50, from the Town of Caledon, north of Summer Valley Drive is accommodated with the storm infrastructure on Summer Valley Drive. Under existing conditions 7.25 ha, including the subject site, with a runoff coefficient of 0.25 is accommodated within an RLCB between lots 151 and 152, with discharge to the storm sewer on Highwood Road at MH4.

8.2 Existing Site Drainage

The existing site is relatively flat, sloping very gently from an elevated central area to various low-lying areas in the east and west. There are a total of six sub-catchment areas within the site with various outlets to the existing surrounding drainage system. Figure 7 identifies the existing sub-catchment drainage areas and sizes and discharge points as summarized in Table 3 below.

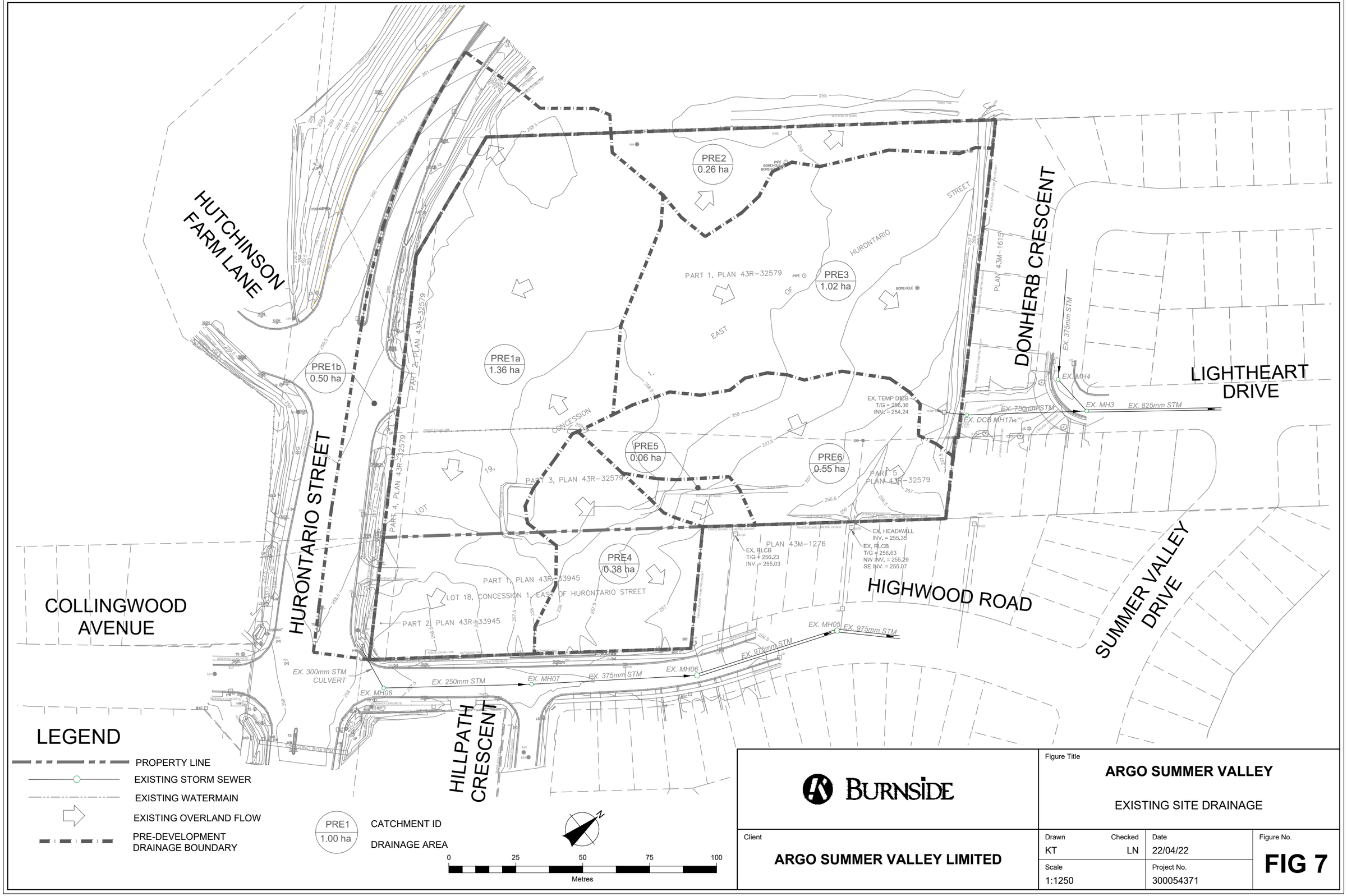

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Figure Title

ARGO SUMMER VALLEY

EXISTING SITE DRAINAGE

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ARGO SUMMER VALLEY LIMITED

Drawn	Checked	Date	Figure No.
KT	LN	22/04/22	**FIG 7**
Scale		Project No.	
1:1250		300054371	

File: \\monty\Shared Work Areas\054371 - Argo Summer Valley\07_Figures\054371 - PRE DEVELOPMENT CONDITIONS.dwg Date Plotted: April 21, 2022 - 11:43 AM

Table 3: Existing Storm Drainage Area Details

Drainage Connection	Catchment ID	Drainage Area (ha)
Hurontario Drainage Ditch / Highwood Road	PRE1a	1.36
MTO Drainage Ditch	PRE2	0.26
750 mm Lightheart Drive Storm via DICB	PRE3	1.02
975 mm Highwood Road Storm via CB	PRE4	0.38
975 mm Highwood Road Storm via RLCB (Lot 144)	PRE5	0.06
975 mm Highwood Road Storm via RLCB (Lot 148)	PRE6	0.55
Total Area		**3.63**

8.3 Grading and Drainage Design Criteria

The proposed grading for the site takes into consideration the following requirements and constraints:

- Conformance to the Town of Caledon and City of Brampton's grading and drainage criteria.
- Provision for adequate cover on proposed services.
- Provision for emergency overland flow conveyance to the external Rights-of-Way while maintaining a maximum ponding depth of 0.30 m.
- Provision for berming along the north and west property boundaries to meet the requirements of the noise study.

The general intent of the grading and drainage approach is to direct storm drainage, up to the 100-year return storm, to the existing outlets at the south and east limits of the property with discharge to the existing municipal storm sewer and Rights of Ways extended on Highwood Road and Lightheart Drive. Emergency overflows in excess of the 100-year return event will spill to along the designated Major System overland flow routes.

8.4 Proposed Storm Servicing

The proposed development will utilize the existing and available connections and municipal infrastructure at the east and south limits of the site. The proposed development will drain to the existing storm sewer on Highwood Road via direct service connection for the lots fronting Highwood Road and via a storm sewer connection to existing MH7 at the intersection of Highwood and Hillpath Crescent. A portion of rear yard and rooftop drainage along the southern property limits, will discharge to the existing RLCBs within the adjacent subdivision lots to the south. A portion of the subject property, to be conveyed as MTO setback limits, will drain directly to the existing drainage system along Hurontario Street. The remainder of the site will connect to the

existing 750 mm diameter storm sewer located at the eastern limits of the site, at the extension of Lightheart Drive. Figure 8 identifies the proposed drainage boundaries, the total drainage areas and the calculated runoff coefficients for the proposed sub-catchments. Table 4 summarizes the storm sewer drainage area and runoff coefficients for the proposed DPOS.

Table 4: Proposed Storm Sewer Drainage Area Details

Drainage Connection	Catch. ID	Drainage Area (ha)	Runoff Coeff.
Highwood Road MH07	POST1	0.524	0.62
Highwood Road Storm Sewer direct connection	POST4	0.087	0.50
Highwood Road Storm via RLCB (Lot 148)	POST3	0.218	0.50
Subtotal Highwood Road Storm Sewer		**0.829**	**0.58**
Hurontario Drainage System	POST5a	0.269	0.25
Lightheart Drive Storm Sewer	POST2	2.491	0.61
Total Area		**3.589**	

As identified on the As Constructed drainage plan, the direct frontage of the subject property on Highwood Road, was accommodated in the Creek's Edge Subdivision as single-family lots, totaling 0.52 ha. Under proposed conditions, POST1 and POST2 will drain to that designated stretch of storm sewer with a slight increase in area and runoff coefficients from the original design. Additionally, POST3 is proposed to drain to the existing storm sewer on Highwood Road via the existing outlet/RLCB within Lot 143.

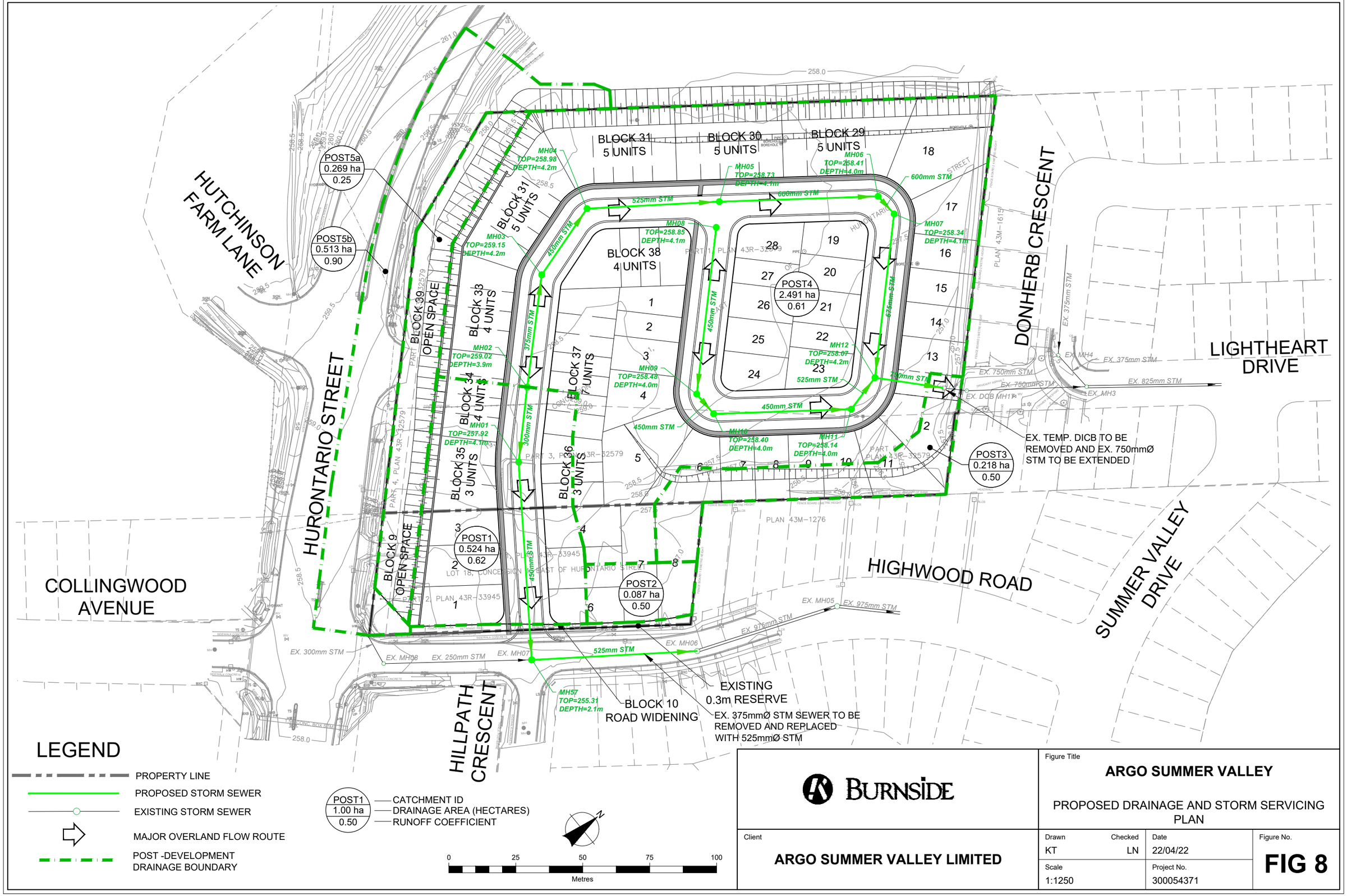
In total, the proposed drainage area designed to discharge to Highwood Road is approximately 0.31 ha larger than the as constructed design, with a slightly increased runoff coefficient. To confirm capacity in the existing system, the relevant pipes were included in the storm sewer design sheet for the proposed development (Appendix B). It was identified that the existing 375 mm storm sewer on Highwood Road would require upsizing to a 525 mm storm sewer to accommodate the developed conditions. The remainder of the Highwood Road storm sewer downstream of the 375 mm pipe has more than sufficient capacity to accommodate the proposed increase in drainage area. The downstream pipe is an oversized 975 mm sewer, sized to accommodate a significant external drainage area under predevelopment conditions.

The post development drainage areas to the Hurontario Drainage system and Lightheart Drive are below the accommodated drainage areas per the as constructed information. The confirmation calculations are included in Appendix B.

Based on the above and with the proposed upgrade of the noted storm sewer, the proposed DPOS falls within the available capacity of the existing storm drainage system.

The local storm sewers servicing the development site will follow the alignment of the roads for the majority of the sewer lengths. The sewers will be designed to

accommodate the 10 year storm flow per the Town and City design criteria. At the east side of the site, the storm sewer will be extended within a proposed 9 m easement from Street A, to provide connection to the existing 750 mm storm on Lightheart Drive. This leg of sewer is designed to convey both the major and minor flows to the existing storm sewer system. The 100 year capture points will be identified as part of the detailed design work. The storm sewer depth ranges from 3.9 m to 4.11 m, providing sufficient depth and cover to ensure that the HGL conditions can accommodate basement connections. The major system flow will be conveyed via the Rights-of-way to the designated outlets.



BURNSIDE

Figure Title

ARGO SUMMER VALLEY

PROPOSED DRAINAGE AND STORM SERVICING PLAN

Client

ARGO SUMMER VALLEY LIMITED

Drawn	Checked	Date	Figure No.
KT	LN	22/04/22	**FIG 8**
Scale		Project No.	
1:1250		300054371	

File: \\MONTY\Shared Work Areas\054371 - Argo Summer Valley\07_Figures\054371 - POST DEVELOPMENT CONDITIONS.dwg Date Plotted: June 6, 2022 - 11:56 AM

9.0 Stormwater Management

9.1 Existing Stormwater Management System

The surrounding subdivision development areas discharge to the existing stormwater management facility located adjacent to Etobicoke Creek at the south limits of the Creek's Edge subdivision. The existing pond was designed as a quality and erosion control facility with the provision of Level 2 quality control and 25 mm retention for the proposed drainage area. The pond design was established through the Creek's Edge subdivision by Schaeffers Consulting Engineers and further confirmed as part of the Charlton Engineering Limited review for the Donal JV lands immediately to the east of the subject site.

The existing stormwater management pond is constructed with a permanent pool volume of 1594 m^3 and an active storage of 3407 m^3 for the 25 mm extended detention.

9.2 Proposed Stormwater Management

The overall post-development drainage plan for the site was identified on Figure 8. The majority of the development site will drain to the proposed storm sewer system on either Highwood Road or Lightheart Drive as outlined above. These sewers are tributary to the existing Creek's Edge stormwater management pond.

The existing facility was reviewed to confirm sufficient accommodation for the proposed development in the sections following.

9.2.1 Stormwater Quality Control

Based on a review of the Donal JV stormwater management report, the existing stormwater management pond sufficiently services 27.226 ha of drainage area at a runoff coefficient of 0.50 or equivalent impervious area of 43%. The permanent pool provided in the existing facility is 1594 m^3 and the required permanent pool for the noted area is 1579 m^3. With the inclusion of the proposed subject site the total drainage area to the existing pond will increase to 30 ha with an overall imperviousness of 44.7% based on the proposed development density. The calculated permanent pool requirement for the provision of Level 2 quality control with the inclusion of the proposed development is 1791 m^3. Stormwater calculations are included in Appendix B.

Although the calculated required volume is more than the existing volume it is noted that the existing volume will provide over 68.2% treatment efficiency for the proposed drainage area vs the required 70%. Additionally, the treatment efficiency of the pond will not get below 65% or require cleanout for the standard 10 years. Based on the following, the proposed condition does not necessitate further quality control measures:

- Existing SWM facility is located immediately adjacent to Etobicoke Creek and any retrofit or expansion would be detrimental to the existing NHS associated with the creek.
- The additional drainage area does not increase the cleanout maintenance frequency of the existing facility.
- The resultant treatment efficiency with the addition of the proposed development area will be 68.2% versus the required 70% for Level 2 quality control.
- The existing site is currently disturbed with little to no vegetative cover and the majority of the uncontrolled drainage being directed to the proposed outlets.

On the basis of the above, it is felt that the marginal decrease in removal efficiency is acceptable given the offset of the required disturbance associated with retrofitting the existing facility to accommodate the proposed development.

9.2.2 25 mm Extended Detention

The existing stormwater management pond has an available active storage of 3,407 m^3 for the provision of the 25 mm extended detention requirements for the drainage area. In the original pond design, the portion of the subject site, within the City of Brampton, was accommodated in the facility as single family residential, with a runoff coefficient of 0.50 or 43% impervious. Through the development of the Donal JV lands, adjacent to the subject property, the pond was confirmed to have sufficient capacity to accommodate the Donal JV lands with a surplus volume of 396 m^3.

The SCS method was applied to calculate the increased volume of runoff generated from the subject site during the 25 mm rainfall event. The calculations are based on the proposed development drainage areas and the associated imperviousness to each of the designated outlets, taking into account that a portion of the site has already been accommodated within the facility. The tables below summarize the drainage parameters for the property and the overall increase in drainage area associated with the proposed development.

Table 5: Proposed Development Drainage Area Details

Drainage Connection	Drainage Area (sq.m)	Percent Imp.
Highwood Road (Single Family Units)	3052	43%
Highwood Road (Townhouse Units)	5242	60%
Previously Accommodated Drainage to Highwood Road	5440	43%
Subtotal (Increase) Site Drainage to Highwood Road	**2854**	**73%**
Lightheart Drive Residential Units	24,904	60%
Total Area	**27,758**	61%

Based on the increased area and impervious outlined above, the SCS method calculates that the site will generate 396 m^3 of runoff in the 25 mm event. This is within the available extended detention/active storage capacity of the facility therefore the pond is sufficiently sized to provide the required erosion control for the proposed development.

9.2.3 Annual Water Balance

A water balance assessment, utilizing the Thornthwaite and Mather method was completed as part of the Hydrogeological study prepared by EXP for the proposed development. As identified in the report and given the historical land use and site coverage, the post development conditions and associated pervious areas, result in an increase in the annual infiltration volume. This is based on the available greenspace and the discharge of roof leaders at grade allowing for greater volumes of water to infiltrate on an annual basis. No further mitigation measures are required or proposed. The details of the calculations are further identified in the EXP report.

10.0 Erosion and Sediment Control

The following general Erosion and Sediment Control (ESC) measures will be implemented as part of the proposed construction works associated with the development of the DPOS. A detailed Erosion Sediment Control Plan will be established during the detailed design approvals process. The ESC measures noted below are intended to mitigate the impacts associated with the construction activities on the surrounding environment. The ESC measures listed below are applicable to all construction activities within the subject property:

a) Erosion and Sediment Control (ESC) measures will be implemented prior to, and maintained during the construction phases, to prevent entry of sediment into the storm drainage system.

b) Sediment control fence consisting of non-woven material shall be installed and maintained to prevent sediment from leaving the proposed construction areas. Location of fencing will be established based on the site staging and proposed construction work.

c) The Contractor shall maintain a supply of silt fence, clear stone, straw bales and filter fabric on site for emergency use.

d) No sediment-laden water or deleterious substances will be released to the existing storm sewer system at any time. Dewatering discharge containing sediment laden water must be discharged to a sediment bag positioned in a vegetated area and allowed to discharge into existing established vegetation at least 30 m from any feature or existing storm catchbasin.

e) Removal of vegetative cover will be staged and restricted to a period immediately preceding the commencement of earth works in each stage.

f) Disturbed areas will be temporarily or permanently stabilized or restored as the work progresses.

g) If site construction activities are interrupted, and/or inactivity exceeds 30 days, all stripped and/or bare soil areas are to be stabilized using either erosion control matting (e.g., jute), sodding / seeding / mulching or other approved methods to the satisfaction of the site inspector.

h) All damaged erosion and sediment control measures should be repaired and / or replaced within 48 hours of the inspection.

i) After hours contact numbers are to be posted on-site for emergencies.

11.0 Conclusions

This Functional Servicing and Stormwater Management Report is intended to satisfy Town of Caledon, City of Brampton, Region of Peel and Toronto Region Conservation Authority requirements for a review of site servicing and stormwater management in support of the planning applications for the Argo Summer Valley DPOS. Based on a review of all the materials available, the following conclusions and/or recommendations are made:

- The existing 450 mm diameter trunk sewer, located on Summer Valley Drive, is sufficiently sized to accommodate the proposed development.
- Sanitary servicing is available through the existing MHs at the south and east limits of the site via the Highwood Road and Lightheart Drive sanitary system.
- Direct connections will be made to the existing sanitary sewer for the lots fronting Highwood Road, as intended in the Creek's Edge subdivision design.
- The DPOS will be serviced through an internal system of gravity draining sanitary sewers with connection to the existing sanitary system at existing available MHs.
- A 300 mm distribution watermain exists along Highwood Road and a 150 mm diameter watermain has been extended to the site from Lighheart Drive to service the proposed development.
- Internal distributions mains extended via the local road system within the DPOS will serve the development with connection to the 300 mm main on Highwood Road and extension of the 150 mm main from Lightheart Drive, providing security of service and sufficient flow and pressure for the proposed DPOS.
- The existing 1350 mm diameter trunk sewer, located on Summer Valley Drive, is sufficiently sized to accommodate the proposed development.
- Storm servicing is available through the existing MHs at the south and east limits of the site via the Highwood Road and Lightheart Drive storm drainage system.
- The proposed development requires upsizing of the existing 375 mm storm sewer on Highwood Road to a 525 mm storm sewer.
- Direct connections will be made to the upsized storm sewer for the lots fronting Highwood Road, as intended in the Creek's Edge subdivision design.
- The proposed storm drainage system will be sized in accordance with City of Brampton and Town of Caledon Requirements, with the provision of 10-year flow capacity within the storm sewer system. The storm sewers will provide gravity drainage to the existing storm sewer infrastructure on Highwood Road and Lightheart Drive.

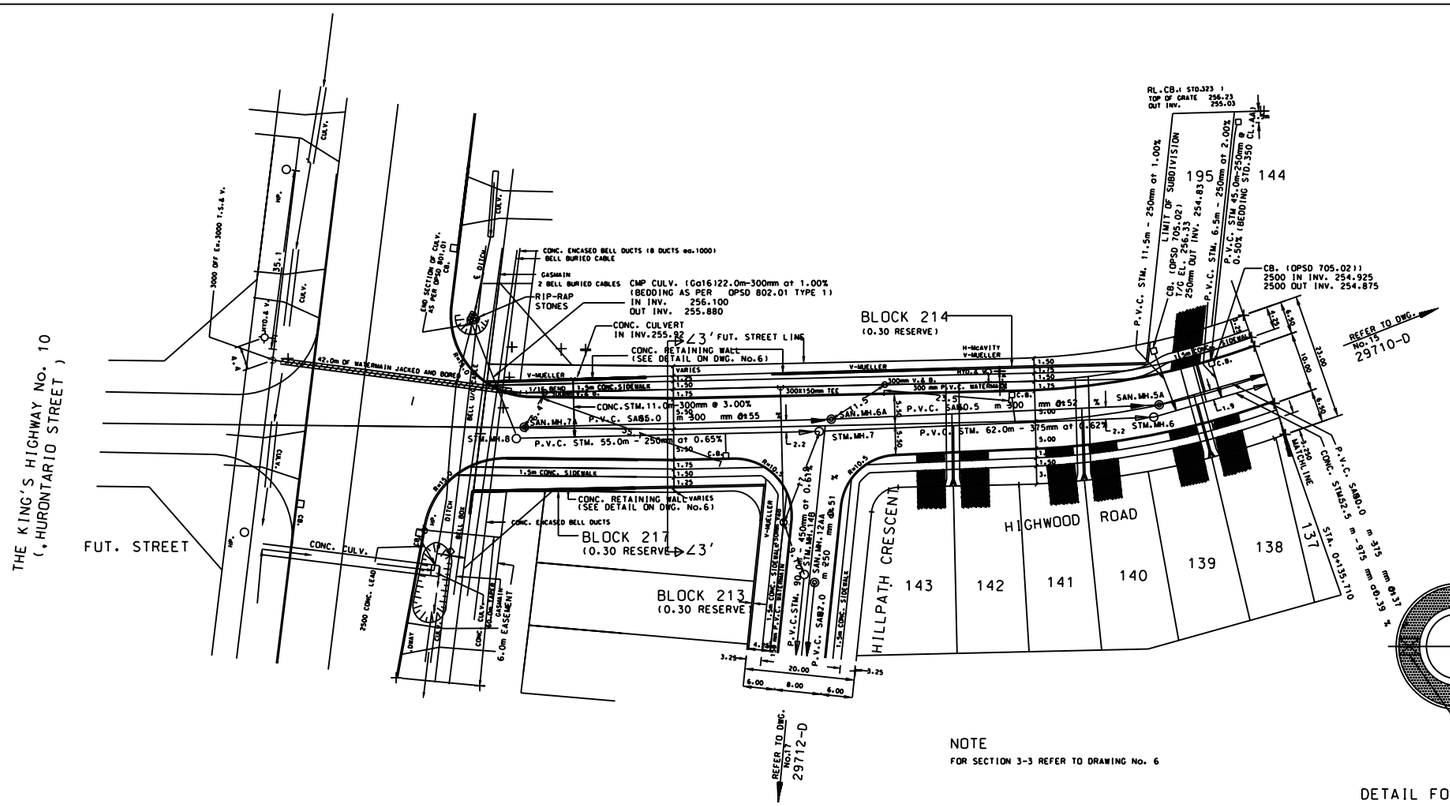
- The proposed development will introduce additional drainage area to the existing stormwater management facility in the adjacent subdivision. The additional flow has minimal impact on the quality treatment efficiency of the existing facility and does not result in increase in maintenance requirements.
- The existing stormwater management pond is sufficiently sized to accommodate the increase in 25 mm runoff generated from the proposed development. The pond will provide sufficient erosion control for the DPOS development.
- ESC measures will be included in the detailed design, prior to the commencement of any earthworks activity.

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

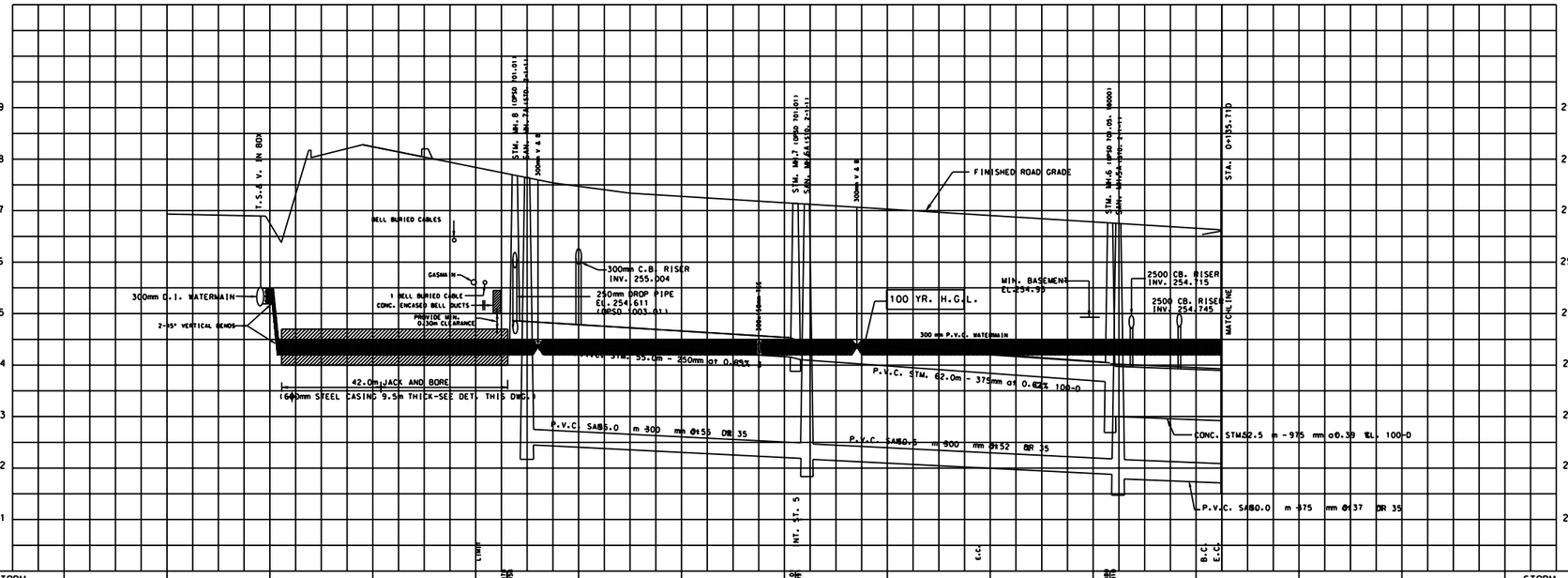
Appendix A

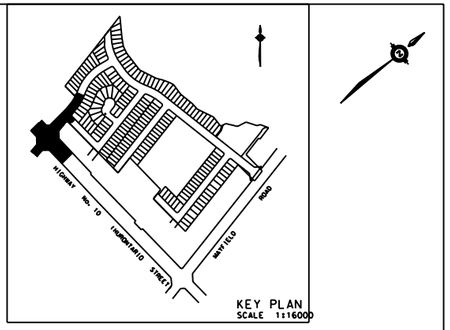
As Constructed Drawings



NOTE
FOR SECTION 3-3 REFER TO DRAWING No. 6

DETAIL FOR STEEL CASING
N.T.S.





NOTES (CITY OF BRAMPTON)

1. CONCRETE PIPES SMALLER THAN 450mm DIAMETER SHALL BE C-14-ES: CONCRETE PIPES 450mm DIAMETER OR LARGER SHALL BE C-76 CLASS III. OR AS NOTED.
2. ALL CONCRETE AND P.V.C. SEWER PIPES SHALL HAVE RUBBER GASKET JOINTS.
3. ALL SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD-802.03 CLASS B
4. MANHOLE STEPS SHALL BE STELCO 1.R.101 OR APPROVED EQUAL.
5. MANHOLE COVERS AND FRAMES SHALL BE CANRON TYPE D.S. 579 OR APPROVED EQUAL.
6. CATCHBASIN GRATINGS AND FRAMES SHALL BE CANRON TYPE C.P. 24-D WITH BICYCLE PROOF TOPS.
7. SINGLE CATCHBASIN LEADS TO BE 200mm UNLESS OTHERWISE NOTED. DOUBLE CATCHBASIN LEADS TO BE 250mm UNLESS OTHERWISE NOTED.
8. ALL BACKFILL FOR SEWERS. WATERMAINS AND UTILITIES ON THE ROAD ALLOWANCE MUST BE MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR.
9. THE PROPOSED ELEVATIONS AT BUILDINGS AND THE BASIC DIRECTION OF SURFACE DRAINAGE WILL BE SUBJECT TO DETAILED DESIGN WHEN HOUSE TYPES AND PLOT PLANS ARE AVAILABLE.
10. ALL STREET CATCH BASINS TO BE FITTED WITH PLUG TYPE INLET CONTROL DEVICE (0.026cms). AS PER CITY OF BRAMPTON STD. 327.
11. ALL CONSTRUCTION WORKS SHALL COMPLY WITH THE STANDARD DRAWINGS & SPECIFICATIONS OF THE CITY OF BRAMPTON AND O.P.S.S.

NOTES (REGION OF PEEL)

1. ALL SANITARY SEWER PIPES 375mm DIAMETER AND SMALLER SHALL BE P.V.C. TO A.S.T.M. SPECIFICATIONS D3034. DR.35 OR LATEST AMENDMENTS. UNLESS OTHERWISE NOTED.
2. ALL VITRIFIED CLAY PIPES SHALL BE EQUAL TO C.S.A. SPECIFICATIONS A-60.1 1962 SS OR LATEST AMENDMENT. UNLESS OTHERWISE NOTED.
3. ALL SANITARY CONNECTIONS 200mm DIAMETER AND SMALLER SHALL BE P.V.C. TO A.S.T.M. SPECIFICATIONS D3034. DR. 28.
4. P.V.C. SANITARY SEWER PIPES. REGION OF PEEL TYPE "B" BEDDING. UNLESS OTHERWISE NOTED ON PROFILES.
5. ALL WATERMAINS AND APPURTENANCES ARE AS PER REGION'S MATERIAL SPECIFICATIONS.
6. 25mm DIAMETER - SINGLE WATER CONNECTION.
7. 100mm-300mm WATERMAIN-P.V.C. A.W.W.A. - 900 CL.150 WITH O.D. OF D.I. PIPE AND PUSH-ON TYPE JOINTS.
8. WATER SERVICES TO SINGLE AND SEMI-DETACHED LOTS TO BE LOCATED AS PER CITY STD.356
9. WATERMAIN AND WATER SERVICES ARE TO HAVE 1.70m COVER.
10. WATER SERVICES TO HAVE 1.22m MINIMUM HORIZONTAL CLEARANCE FROM MANHOLES AND CATCHBASINS. AND 1.00m MINIMUM HORIZONTAL CLEARANCE FROM ALL OTHER UTILITIES.
11. CONNECTIONS TO EXISTING SANITARY SEWER TO BE MADE USING PIPE CUTTER AND APPROVED SADDLES.
12. IF PRECAST MANHOLE BASE IS USED. THE REGION REQUIRES A MINIMUM 50mm THICK 15MPa CONCRETE LEVELLING COURSE TO UNDISTURBED GROUND.

RPBM No. 57

ON THE NORTH FACE AT THE WEST CORNER OF NORTH END OF CONCRETE BRIDGE ACROSS SEVENTEENTH SIDEROAD (REGION ROAD # 14) APPROX. 183m EAST OF VALLEYVIEW ROAD.
ELEVATION: 243.632m

DISCLAIMER

These records are based upon available and unverified information and may prove inaccurate.
The Region of Peel disclaims any responsibility should these records be relied upon to the detriment of any person.

AS CONSTRUCTED-JUNE 2002

No.	By	Date	Revision
6.		JUNE 2002	AS CONSTRUCTED
5.	H.T.	APR. 23/98	REVISED BOULEVARD DIMENSIONS AT SECTION 3-3
4.	H.T.	SEP.17. 97	ADDED RLCB TO LOT 144
3.	H.T.	SEP.17. 97	BLOCK 197 IS CHANGED TO LOT 195 AND HOUSE CONN.'S ARE ADDED
2.	H.T.	SEP.17. 97	250mm SAN. CONN. FROM SAN.MH. 5A TO THE WEST IS CANCELED
1.	H.T.	SEP.17. 97	STM.MH. 6 & SAN.MH. 5A ARE RELOCATED

Checked

CITY OF BRAMPTON
WORKS AND TRANSPORTATION DEPARTMENT
COMMISSIONER OF WORKS AND TRANSPORTATION L.T. KOEHLE P. ENG.

SCHAEFFERS Consulting Engineers
64 Jardin Drive Concord, Ontario L4K 3P3 Telephone (416) 738-6100

SIGNED SEPT 11. 1997

REGISTERED PROFESSIONAL ENGINEER H. O. TOZCU SEPT 20. 1997 PROVINCE OF ONTARIO

Project 97-E-19440 wg. No.

21T - 90017
THE CREEK'S EDGE SUBDIVISION

PLAN AND PROFILE
OF
HIGHWOOD ROAD
(FROM STA. 0+135.710 E.C. TO STA. 0+279.586 LIMIT)

Surveyed By	Date	Contract No.	
Drawn By A.M.R. / H.R.	Checked B&J.	Drawing No.	Sheet No.
Designed By P.S./H.T.	Checked By H.T.	29709-D	14
Scale: v:1:50 h:1:500	Date JULY 1997		

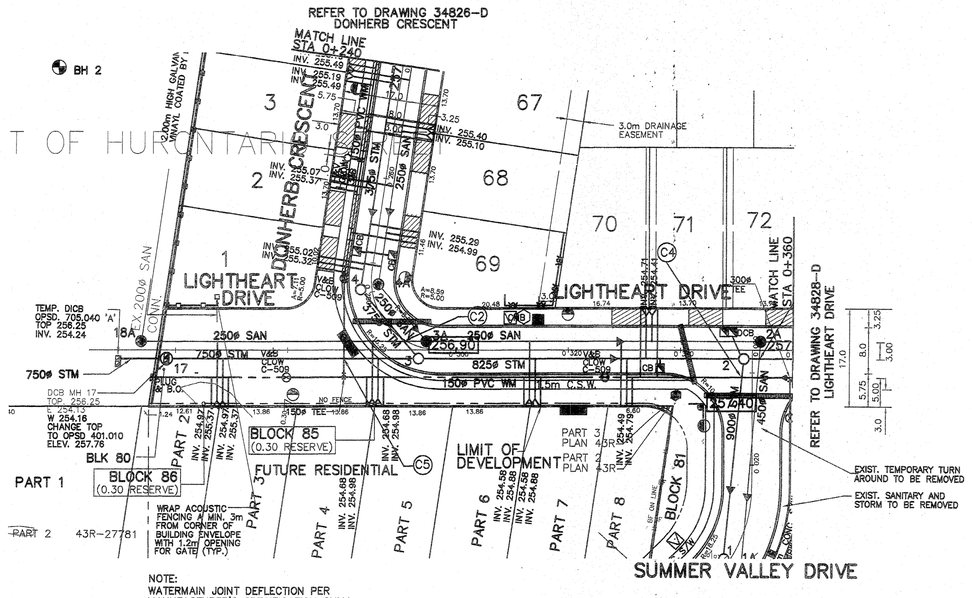
CONSTRUCTION NORTH

NOTES:

1. ALL CONCRETE AND PLASTIC SEWER PIPE SHALL HAVE RUBBER GASKET JOINTS.
2. ALL SEWERS SHALL BE CONSTRUCTED WITH BEDDING IN ACCORDANCE WITH OPSD 802.03 CLASS 'B' UNLESS OTHERWISE NOTED.
3. PLASTIC SEWER PIPES SHALL BE CONSTRUCTED WITH ULTRA RIB OR APPROVED EQUAL UP TO THE MAXIMUM DIAMETER OF 800MM.
4. ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT TOWN OF CALEDON, O.P.S.D AND REGION OF PEEL STANDARD DRAWINGS AND SPECIFICATIONS.
5. SINGLE CATCHBASIN LEADS TO BE 250MM UNLESS OTHERWISE NOTED. DOUBLE CATCHBASIN LEADS TO BE 300MM UNLESS OTHERWISE NOTED.
6. ALL BACKFILL FOR SEWERS, WATERMAINS AND UTILITIES ON THE ROAD ALLOWANCE MUST BE MECHANICALLY COMPACTED TO 95 % STANDARD PROCTOR DENSITY EXCEPT FOR TOP 0.3M WHICH MUST BE COMPACTED TO 98%
7. AN ASPHALT PRESERVATIVE SEALER SUCH AS RE-CLAMITE (OR ANOTHER APPROVED EQUIVALENT) SHALL BE APPLIED AFTER THE ONE YEAR MAINTENANCE PERIOD FOR THE TOP COURSE ASPHALT.
8. ALL BACKFILL FOR WATERMAINS IN FILL AREAS MUST BE 100% STANDARD PROCTOR DENSITY.
9. EXIST. SANITARY SEWER, WATERMAIN & APPURTENANCES WITHIN DONAL JV SUBDIVISION SHALL BE REMOVED & TRENCHES BACKFILLED WITH ENGINEERED BACKFILL.

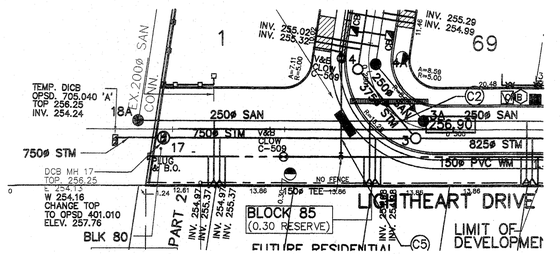
PAVEMENT DESIGN

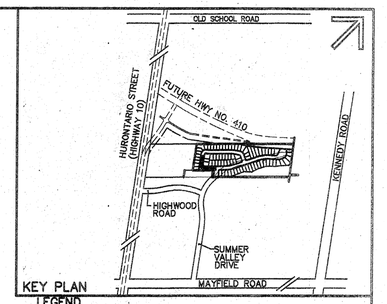
HL3 – 40mm
HL8 – 65mm
GRANULAR 'A' 150mm
GRANULAR 'B' 300mm



NOTE:
WATERMAIN JOINT DEFLECTION PER MANUFACTURER'S SPECIFICATION ONLY. NO BARREL DEFLECTION IS ALLOWED.

CROSSING No.		
C1	SAN OBV 251.~~00~~89	STM INV. 253.~~00~~39
C2	SAN OBV 253.~~00~~91	STM INV. 254.~~00~~31
C3	SAN OBV 252.~~00~~15	STM INV. 254.~~00~~41
C4	STM OBV 253.~~00~~96	WM INV. 255.01
C5	STM OBV 254.~~67~~53	WM INV. 255.65
C6	STM OBV 254.~~00~~87	WM INV. 256.11





LEGEND

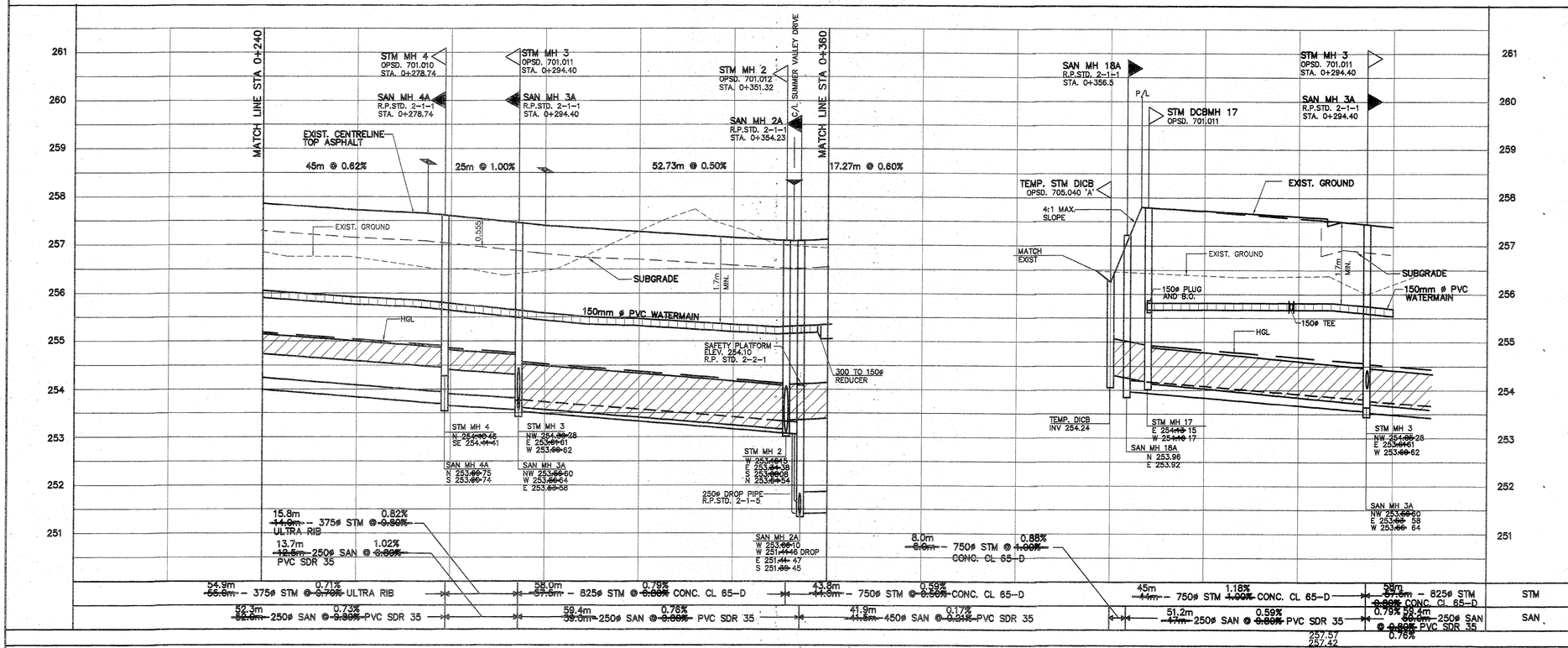
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM CATCHBASIN
- PROPOSED FIRE HYDRANT MODEL 33B, MANUFACTURER CLOW
- PROPOSED VALVE AND BOX/VALVE AND CHAMBER MODEL C-509, MANUFACTURER CLOW
- PROPOSED WATER SERVICE / PROPOSED SANITARY SERVICE / PROPOSED STORM SERVICE
- GALVANIZED STEEL VINYL COATED ACCOUSTICAL FENCE BY HOMELAND. FOR DETAIL REFER TO DWG. DET-4
- SCREEN FENCE FOR DETAIL REFER LANDSCAPE ARCHITECT DRAWINGS
- BLACK VINYL CHAIN LINK FENCE
- RETAINING WALL SEE DETAIL ON DWG. DET-4
- CMB — COMMUNITY MAILBOX PAD LOCATION (2.0m x 1.8m c/w 2.0m CURB DEPRESSION) (WITHOUT SIDEWALK) FOR DETAIL SEE DWG.GA1
- CMB — COMMUNITY MAILBOX PAD LOCATION (2.0m x 1.8m c/w 1.0m CONC. ACCESS) (WITH SIDEWALK) FOR DETAIL SEE DWG. GA1
- STOP SIGN
- LIGHT STANDARD
- TRANSFORMER
- NO EXIT SIGN
- NO DUMPING AND TRESPASSING SIGN
- 100mm UTILITY DUCTS (2.5m BEYOND BC OR EC 0.5 BEHIND CURB)
- HGL
- BH 1 — BORE HOLE
- M — MAILBOX
- STREET NAME SIGN

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO

DATE: _____ APPROVED BY: _____
H. MUNTZ, P.ENG
TOWN ENGINEER



SUBMISSIONS: 1st ___ 2nd ___ 3rd ___
DATE: JULY 28/03 Interim ___ Final ___

REVISIONS

DATE	DETAILS	INIT.
JAN./03	REVISED AS PER CITY OF BRAMPTON, REGION OF PEEL	GJ
	TOWN OF CALEDON COMMENTS	
MAY./03	2ND SUBMISSION REVISION	GJ
JULY./03	REVISED AS PER TOWN OF CALEDON COMMENTS	GJ
AUG.15/03	REVISED AS PER TOWN OF CALEDON FINAL COMMENTS	GJ
OCT./05	AS CONSTRUCTED	GJ
OCT./06	REVISED AS CONSTRUCTED	GJ
JAN./07	REVISED AS CONSTRUCTED	GJ

BENCHMARK No. 01-728393 ELEV. 258.978m

TWO AND ONE HALF STORY RED BRICK HOUSE ON EAST SIDE OF HIGHWAY 10, 0.5KM SOUTH MAYFIELD ROAD AND 28.3M EAST OF CENTERLINE OF HIGHWAY 10. TABLET IS IN SOUTH FACE OF CONCRETE FOUNDATION, 0.49M WEST OF SOUTHWEST CORNER AND 0.24M BELOW BRICKWORK.

Urbtech Engineering Inc.
FOR AS-CONSTRUCTED ONLY

LICENSED PROFESSIONAL ENGINEER TOMASZ ZENTUK PROVINCE OF ONTARIO
APR 2 3 2008

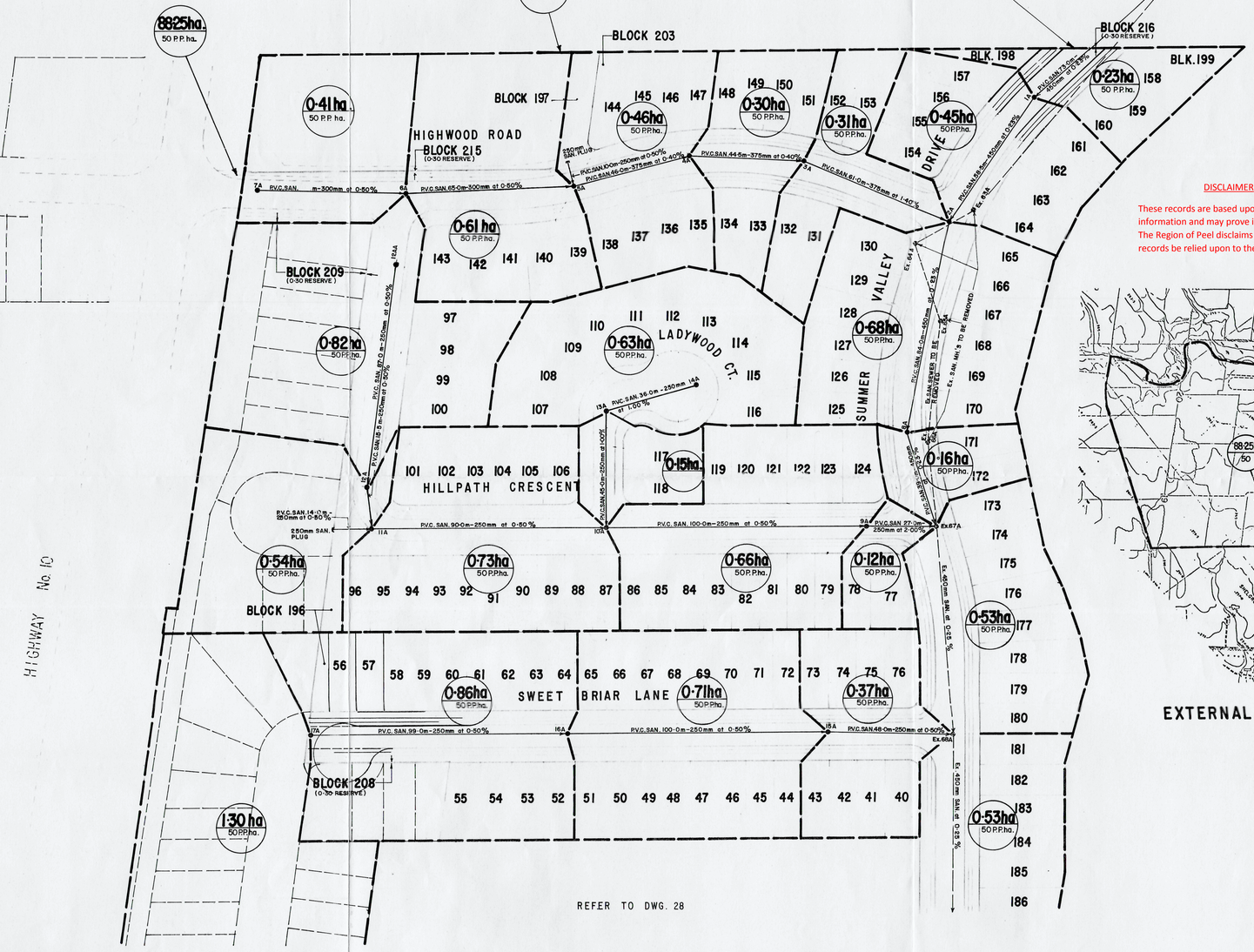
Charlton Engineering Limited
1140 Burnhamthorpe Road West, Suite 105, Mississauga, Ontario, L5C 4E9
Telephone: 905 896 7364 Fax: 905 896 9433

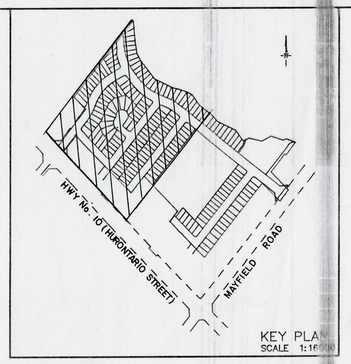
1360287 ONTARIO LIMITED
DONAL JV LIMITED
RESIDENTIAL SUBDIVISION
21T-99002/C 43M-1615

REGION OF PEEL
Town of Caledon

DONHERB CRESCENT
STA 0+240 TO STA 0+280
LIGHTHEART DRIVE
STA 0+280 TO STA 0+360

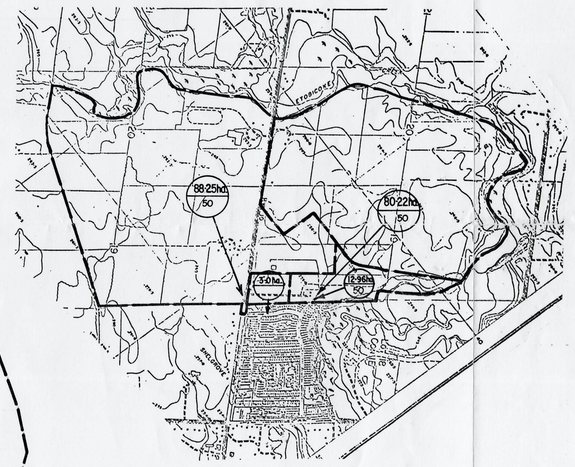
SCALE H 1:500 V 1:50	AREA CALEDON		PROJECT No. 00-113
DRAWN BY G.J.	CHECKED BY A.J.		PLAN No. P2
DATE NOV./02	SHEET 2 OF 5		34827-D





DISCLAIMER

These records are based upon available and unverified information and may prove inaccurate.
The Region of Peel disclaims any responsibility should these records be relied upon to the detriment of any person.



EXTERNAL TRIBUTARY AREAS
SCALE 1: 15,000

LEGEND:

0·45ha 50 P.P.ha. — DENOTES AREA IN HECTARES / DENOTES POPULATION PER HECTARE

C-07

RPBM No. 57

ON THE NORTH FACE AT THE WEST CORNER OF NORTH END OF CONCRETE BRIDGE ACROSS SEVENTEENTH SIDEROAD (REGION ROAD # 14) APPROX. 183m EAST OF VALLEYVIEW ROAD.
ELEVATION: 243.632m

B-31
T-90017

PRINTED JUL 16

No.	By	Date	Revision	Checked

CITY OF BRAMPTON
ENGINEERING DEPARTMENT
COMMISSIONER OF PUBLIC WORKS — L.T. KOEHLE P. ENG.

SCHAEFFER AND ASSOCIATES LTD.
Consulting Engineers
64 Jardin Drive
Concord, Ontario L4K 3P3
Telephone: (416) 738-8100

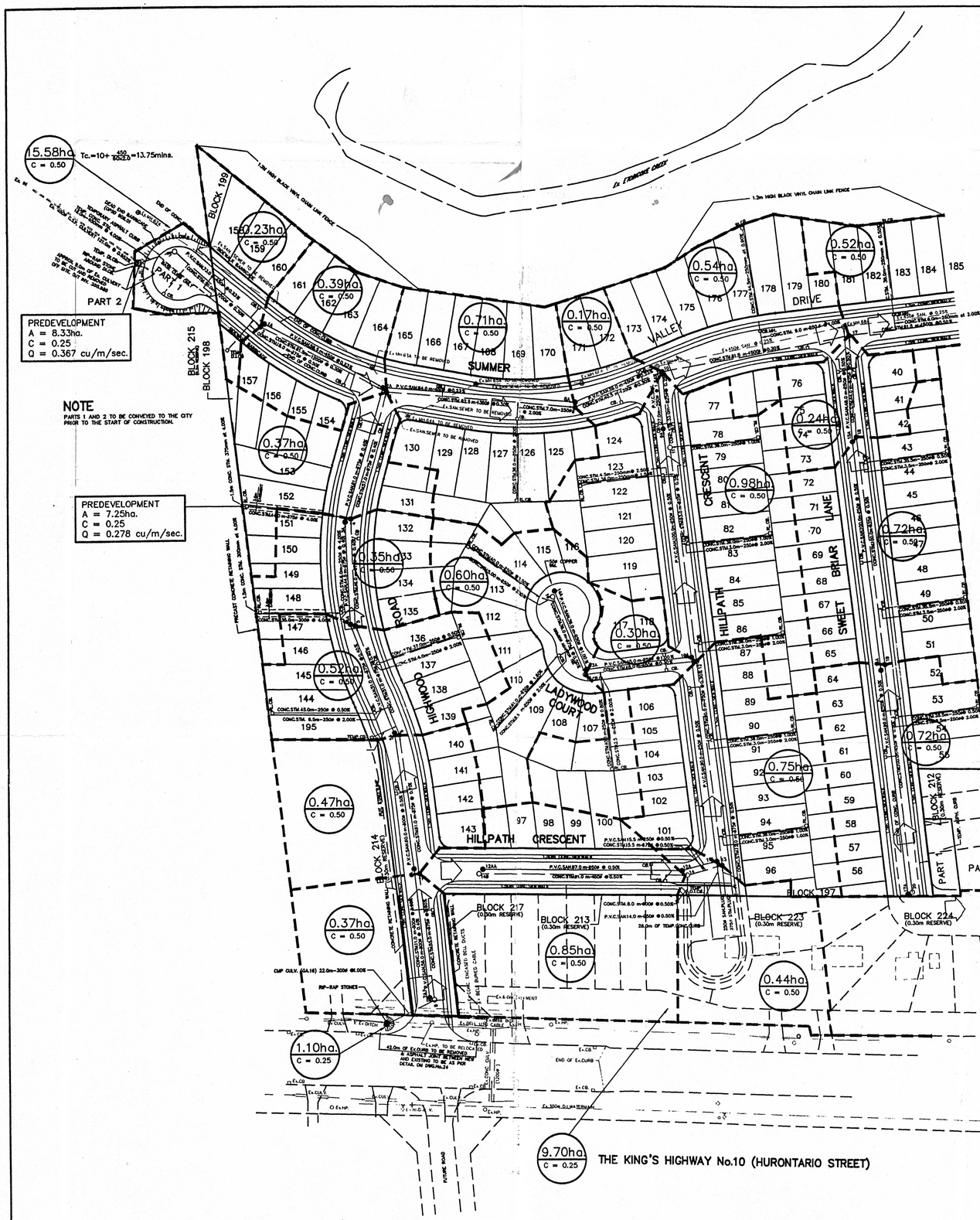
REGISTERED PROFESSIONAL ENGINEER — A. R. STEEDMAN — PROVINCE OF ONTARIO
REGISTERED PROFESSIONAL ENGINEER — H. O. TOZCU — PROVINCE OF ONTARIO

Project 97-E-1944 Dwg.No.

21T-90017B

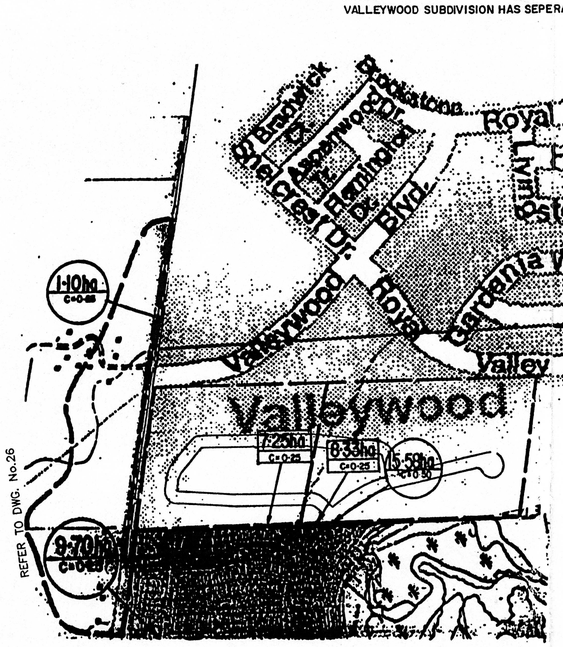
CREEK'S EDGE SUBDIVISION
SANITARY DRAINAGE PLAN
(PART I)

Surveyed By	Date	Contract No.	
Drawn By S.S.	Checked By M.J.	Drawing	Sheet No. 27
Designed By P.S./H.T.	Checked By		
Scale: 1:1000	Date JULY 1997		

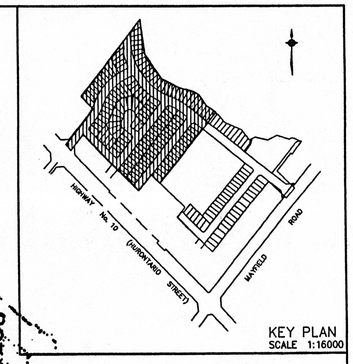


NOTE
PARTS 1 AND 2 TO BE CONVEYED TO THE CITY PRIOR TO THE START OF CONSTRUCTION.

NOTE
VALLEYWOOD SUBDIVISION HAS SEPERATE OUTFALL



EXTERNAL TRIBUTARY AREAS
SCALE 1:5000



KEY PLAN
SCALE 1:16000

LEGEND

0.52ha / C = 0.50 — DENOTES AREA IN HECTARE, DENOTES RUN-OFF COEFFICIENT

— — — DASHED LINE DENOTES POSTDEVELOPMENT AREAS

8.33ha. / C = 0.25 — DENOTES INFORMATION FOR PREDEVELOPMENT FLOW

RPBM No.57
ON THE NORTH AT THE WEST CORNER OF NORTH END OF CONCRETE BRIDGE ACROSS SEVENTEENTH SIDE ROAD (REGION ROAD No.14) APPROXIMATELY 183m EAST OF VALLEYVIEW RD.
ELEVATION 243.632

No.	By	Date	Revision	Checked
2.	H.T.	SEP.17, 97	ADDED LOT 195 AND REARLOT CATCHBASIN TO LOT 144	
1.	H.T.	SEP.17, 97	REVISED EXTERNAL DRAINAGE AREAS	

CITY OF BRAMPTON
WORKS AND TRANSPORTATION DEPARTMENT
COMMISSIONER OF WORKS AND TRANSPORTATION L.T. KOEHLE P. ENG.

SCHAEFFERS Consulting Engineers
84 Jardin Drive
Concord,Ontario L4K 3P3
Telephone: (416) 738-6100
SCHAEFFER & ASSOCIATES LTD.

REGISTERED PROFESSIONAL ENGINEER
H. TOZCU
OCT 11, 1997
PROVINCE OF ONTARIO

SIGNED SEPT. 11/1997

Project 97-E-1944 DWG. No.

21T-90017

THE CREEK'S EDGE SUBDIVISION

STORM DRAINAGE PLAN AND OVERLAND FLOW (PART I)

Surveyed By :	Date :	Contract No.	
Drawn By : M.F.K.	Checked By : M.J.	Drawing No.	Sheet No. 25
Designed By : H.T	Checked By : A.R.S.		
Scale : 1:1000	Date : JULY 1997		

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix B

Brampton STD200

BRAMPTON
Flower City
brampton.ca

MINOR LOCAL

8.0m PAVEMENT ON 17.0m R.O.W.

APPROVED: 2013/10/17
ORIGINAL: 89/09/01

REV. 20

200

N.T.S

NOTES:

1. LOCAL SOIL CONDITIONS MAY REQUIRE CHANGES IN THE DEPTHS OF MATERIALS TO BE PLACED.
2. FOR JOINT USE TRENCH DETAILS, SEE STD. No. 345.
3. BOULEVARD TO HAVE 150mm OF TOPSOIL AND 50mm OF SOD.
4. PAVEMENT STRUCTURE TO BE AS FOLLOWS:
   - 40mm HL3 ASPHALT
   - 65mm HL8 ASPHALT (80mm FOR ALL NEW SUBDIVISION ROADS)
   - 150mm GRANULAR "A" OR 130mm OF 20mm CRUSHER RUN LIMESTONE
   - 300mm GRANULAR "B" OR 225 mm OF 50mm CRUSHER RUN LIMESTONE
5. THE LOCATION OF THE LIGHTPOLE WILL DEPEND ON THE DESIGN SPEED AS OUTLINED IN THE ROADSIDE SAFETY MANUAL.

DETAIL AT TRANSFORMER LOCATION

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix C

Design Calculations

STORM SEWER DESIGN SHEET: (2/10/100 Year Storm)

0

Argo Summer Valley, City of Brampton

BURNSIDE
[THE DIFFERENCE IS OUR PEOPLE]

Project #: 300054371.0
Date: 25-Apr-22
Designed: EDT
Checked: LN

Min. Diameter = 300 mm
Mannings 'n'= 0.013
Starting Tc = 10 min
Factor of Safety = 20 %

Rainfall Intensity = $\frac{A}{(Tc+B)^c}$ *where Tc is in hours*

	(2 Yr)	(10 Yr)	(100 Yr)
A =	22.1	35.1	51.3
B =	0	0.0	0.0
C =	0.714	0.695	0.686

NOMINAL PIPE SIZE USED

DESCRIPTION	FROM MH	TO MH	AREA (ha)	RUNOFF COEFFICIENT "R"	YEAR STORM CAPTURE	2 YR 'AR'	10 YR 'AR'	100 YR AR'	ACCUM. AR' (2 YR)	ACCUM. AR' (10 YR)	ACCUM. 'AR' (100 YR)	2 YR RAINFALL INTENSITY (mm/hr)	10 YR RAINFALL INTENSITY (mm/hr)	100 YR RAINFALL INTENSITY (mm/hr)	FLOW (m3/s)	CONSTANT FLOW (m3/s)	ACCUM. CONSTANT FLOW (m3/s)	TOTAL FLOW (m3/s)	LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)	INITIAL Tc (min)	TIME OF CONCENTRATION (min)	ACC. TIME OF CONCENTRATION (min)	PERCENT FULL (%)
STREET A	MH02	MH03	0.24	0.75	10.00		0.18			0.18		79.4	121.9	175.4	0.062			0.062	42.3	0.30	375	0.096	0.87	10.00	0.81	10.81	64%
STREET A	MH03	MH04	0.17	0.75	10.00		0.13			0.31		75.1	115.5	166.2	0.100			0.100	29.9	0.30	450	0.156	0.98	10.81	0.51	11.32	64%
STREET A	MH04	MH05	0.30	0.75	10.00		0.22			0.53		72.7	111.9	161.1	0.165			0.165	49.5	0.30	525	0.236	1.09	11.32	0.76	12.08	70%
STREET A	MH05	MH06	0.27	0.75	10.00		0.21			0.74		69.4	106.9	154.1	0.219			0.219	59.4	0.30	600	0.336	1.19	12.08	0.83	12.91	65%
STREET A	MH06	MH07	0.20	0.50	10.00		0.10			0.84		66.2	102.1	147.2	0.237			0.237	8.9	0.40	600	0.388	1.37	12.91	0.11	13.02	61%
STREET A	MH07	MH12	0.47	0.50	10.00		0.23			1.07		65.8	101.5	146.3	0.302			0.302	61.5	0.30	675	0.460	1.29	13.02	0.80	13.81	66%
STREET A	MH08	MH09	0.43	0.56	10.00		0.24			0.24		79.4	121.9	175.4	0.081			0.081	62.7	0.30	450	0.156	0.98	10.00	1.06	11.06	52%
STREET A	MH09	MH10	0.22	0.53	10.00		0.11			0.35		73.9	113.7	163.6	0.111			0.111	9.7	0.50	450	0.202	1.27	11.06	0.13	11.19	55%
STREET A	MH10	MH11	0.14	0.50	10.00		0.07			0.42		73.3	112.8	162.3	0.133			0.133	51.4	0.30	525	0.236	1.09	11.19	0.79	11.98	56%
STREET A	MH11	MH12	0.07	0.50	10.00		0.03			0.46		69.8	107.6	154.9	0.136			0.136	14.7	0.50	525	0.304	1.40	11.98	0.17	12.15	45%
100 YEAR CAPTURE	100 YEAR CAP.	MH12	2.50	0.20	100.00			0.49			0.49	64.2	99.1	142.9	0.196			0.196									
EASEMENT (LIGHTHEART DRIVE)	MH12	PLUG			10.00					1.53	0.49	63.1	97.4	140.5	0.606			0.606	26.2	0.88	750	1.044	2.36	13.81	0.18	14.00	58%
EASEMENT (LIGHTHEART DRIVE)	PLUG	DCBMH17			10.00					1.53	0.49	62.5	96.5	139.2	0.601			0.601	7.7	0.88	750	1.044	2.36	14.00	0.05	14.05	58%
STREET A	MH02	MH01	0.16	0.75	10.00		0.12			0.12		79.4	121.9	175.4	0.040			0.040	70.5	4.00	300	0.193	2.74	10.00	0.43	10.43	21%
STREET A	MH01	EXMH07	0.39	0.56	10.00		0.22			0.33		77.1	118.4	170.4	0.110			0.110	73.4	0.60	450	0.221	1.39	10.43	0.88	11.31	50%
FROM SCHAEFFERS DESIGN SHEET	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.000	0.000	0.000	0.000	0.0	0.00	0	0.000	0.00	0.00	0.00	0.00	0%
External Area From Hwy 10	EXT	EXMH08	0.78	0.53	10.00		0.41			0.41		55.2	85.5	123.5	0.098			0.098								16.67	
Highwood Road	EXMH08	EXMH07	0.13	0.50	10.00		0.07			0.48		55.2	85.5	123.5	0.114			0.114	55.0	0.65	375	0.141	1.28	16.67	0.72	17.38	81%
Highwood Road	EXMH07	EXMH06	0.33	0.50	10.00		0.17			0.98		53.5	83.0	120.0	0.226			0.226	62.0	0.60	525	0.333	1.54	17.38	0.67	18.06	68%
Highwood Road	EXMH06	EXMH05	0.52	0.50	10.00		0.26			1.24		52.1	80.9	116.9	0.278			0.278	52.5	0.39	975	1.400	1.87	18.06	0.47	18.52	20%
Highwood Road	EXMH05	EXMH04	0.35	0.50	10.00		0.18			1.41		51.2	79.4	114.9	0.312			0.312	46.0	0.38	975	1.381	1.85	18.52	0.41	18.94	23%
External Area From North (RLCB)	EXT	EXMH04	0.18	0.50	10.00		0.09			0.09		79.4	121.9	175.4	0.031			0.031	46.0	4.46	375	0.370	3.35	10.00	0.23	10.23	8%
Highwood Road	EXMH04	EXMH03	0.37	0.50	10.00					1.50		113.2	78.2	50.3	0.327			0.327	56.5	0.65	975	1.807	2.42	18.94	0.39	19.33	18%

0 Indicates revised values due to updated design due to proposed development.

Project: Argo Summer Valley
File: 300054371.0000
Designed by: L.Niemi
Checked by: L.Niemi
Date: 25-Apr-22

BURNSIDE

SCS Curve Number and Initial Rainfall Abstraction Data

Credit Valley Conservation Authority Values

Hydrologic Soil Group	SCS Curve Number (AMCII)					
	Forest/ Woodlot	Meadow/ Field	Crop	Lawn/ Grass	Pavement	Water
A	36	46	66	56	100	100
AB	48	51	70	64	100	100
B	60	66	74	71	100	100
BC	67	72	78	76	100	100
C	73	77	82	81	100	100
CD	76	80	84	83	100	100
D	79	82	86	85	100	100

CN (I)= 4.2CN(II)/(10-0.058CN(II))
CN (III)= 23CN(II)/(10+0.13CN(II))

NOTE: Standhyd commands - CN value is based solely on the pervious surfaces only.
Nashyd commands - CN value is based on a composite of both the pervious and

Initial Rainfall Abstraction Data

Initial Rainfall Abstraction, Ia (mm)						
Land Use	Forest/ Woodlot	Meadow/ Field	Crop	Lawn/ Grass	Pavement	Water
IA	10	8	7	5	2	0

Catchement Parameters:
Developed Area:

	HSG	Area (ha)	CN(II) (ha)	CN(III) (ha)
Chc-Chinguacousy-Clay Loam	C	30	81	90.75
Jc-Jeddo Clay Loam	C	0	81	90.75
Fsl -Fox Sandy Loam	AB	0.00	64	80.35
Total Area		**30.00**	**81**	**91**

STORM SEWER CAPACITY
(based on minor drainage area)

Project: Argo Summer Valley
File: 300054371.0000
Designed by: S.Breen
Checked by: L.Niemi
Date: 25-Apr-22

BURNSIDE

Storm Sewer Outlet As Constructed Areas

	Area	Runoff coeff
Highwood Road Storm Sewer	0.52	0.5
Hurontario Drainage System	0.269	0.5
Lightheart Drive Storm Sewer	3.62	0.5

Storm Sewer Proposed Drainage

		Area	Runoff coeff
Highwood Road Storm Sewer	POST1	0.524	0.62
	POST2	0.087	0.5
	POST3	0.218	0.5
		0.829	0.58
Hurontario Drainage System	POST5a	0.269	0.25
Lightheart Drive Storm Sewer	POST4	2.498	0.61

Project: Argo Summer Valley
File: 300054371.0000
Designed by: S.Breen
Checked by: L.Niemi
Date: 25-Apr-22

BURNSIDE

Total Drainage Area= **300000** **m2** **or** **30.00** **ha**

Medium Density Residential (m2)

5240	to highwood @ 60%
24910	to lightheart

Total Area 3.02 ha

		Area
TIMP	60%	1.81 ha
XIMP	40%	1.21 ha

SWM Block & ROW (m2)

Total Area 0.00 ha

		Area
TIMP	50%	0.00 ha
XIMP	50%	0.00 ha

Low Density Residential (m2)

214560	Creeks Edge
52260	Donal JV
3050	to Highwood at 43%

Total Area 26.99 ha

		Area
TIMP	43%	11.60 ha
XIMP	30%	8.10 ha

Parkland Areas(m2)

Total Area 0.00 ha

		Area
TIMP	10%	0.00 ha
XIMP	5%	0.00 ha

Total Area (less Residential)= 0.00 ha
Total Residential Area(if not able to directly measure)= 30.00 ha

Total Area (uncontrolled to pond) **30.00 ha**

TOTAL OVERALL DRAINGE AREA

Total TIMP= 13.41 ha **Overall TIMP= 44.7 %**
Total XIMP= 9.30 ha **Overall XIMP= 31.0 %**

Project: Argo Summer Valley
File: 300054371.0000
Designed by: S.Breen
Checked by: L.Niemi
Date: 25-Apr-22

BURNSIDE

Wet Pond Permament Pool Requirement

MOE Table 3.2 Water Quality Storage Requirements Based on Receiving Waters.

IMPERVIOUSNESS	44.71 %
Protection Level (1, 2, or 3)	2

NOTE - 40 cu.m/ha has been removed from MOE table values for Ex. Detention Portion

Enhanced (Level 1) Protection

x	y	Known (x)	Calc (y)	
Imperviousness (%)	Permanent Pool StorageVolume (cu.m./ha)	Imperviousness (%)	Permanent Pool StorageVolume (cu.m./ha)	Total Permanent Pool Required (cu.m)
35	100	44.71	124.28	3728.35
55	150			
70	185			
85	210			
95.0	**236**	**Extrapolated**		

Normal (Level 2) Protection

x	y	Known (x)	Calc (y)	
Imperviousness (%)	Permanent Pool StorageVolume (cu.m./ha)	Imperviousness (%)	Permanent Pool StorageVolume (cu.m./ha)	Total Permanent Pool Required (cu.m)
35	50	44.71	59.71	1791.34
55	70			
70	90			
85	110			
95.0	**121**	**Extrapolated**		

Basic (Level 3) Protection

x	y	Known (x)	Calc (y)	
Imperviousness (%)	Permanent Pool StorageVolume (cu.m./ha)	Imperviousness (%)	Permanent Pool StorageVolume (cu.m./ha)	Total Permanent Pool Required (cu.m)
35	20	44.71	27.28	818.51
55	35			
70	45			
85	55			
95.0	**62**	**Extrapolated**		

Sediment Cleanout Frequency
Wet Pond

BURNSIDE

Project:	Argo Summer Valley
File:	300054371.0000
Designed by:	S.Breen
Checked by:	L.Niemi
Date:	25-Apr-22

Imperviousness	44.71	%
Level 2 Quality Volume Required:	2991	cum/ha
which includes:	1791	cum for Perm. Pool
	40	cum/ha for Ext. Det.
Site Contributing Drainage Area	30.00	ha
Permanent Pool Details:		
Permanent Pool Required (per MOE)	1791	cum
Permanent Pool Provided	1594	cum
Annual loading:	1.23	cum/ha/year
(Drainage Area)(loading rate) =	36.9	cum/year

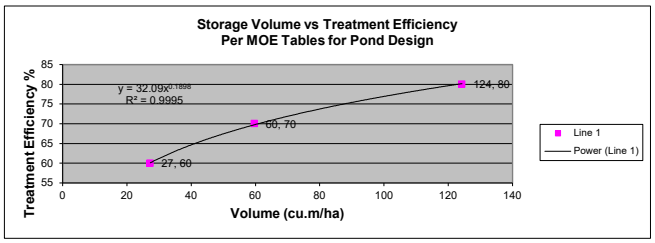
For "ENHANCED PROTECTION" the Design Efficiency of the facility is 80%. The Target Efficiency is 75%. The pond requires cleanout when the efficiency for removal of sediment drops below Target Efficiency (75%).

Wet PondDesign Parameters	Volume (cum/ha)	Treatment Efficiency (%)
Enhanced Permanent Pool Volume	124	80
Normal Permanent Pool Volume	60	70
Basic Permanent Pool Volume	27	60

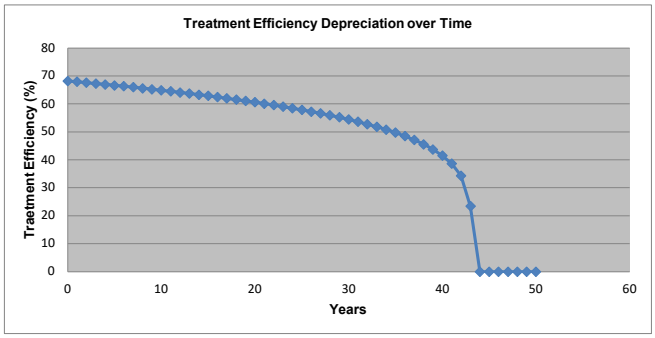
Efficiency at Cleanout	75	%
Cleanout Frequency	49	years

SEDIMENT RESULT CHART

Years	Sediment Accumulation (cu.m)	Available P.P. (cu.m)	PP (cu.m/ha)	Treatment Efficiency (%)
0	0.0	1594.0	53.1	68.21
1	36.9	1557.1	51.9	67.91
2	73.9	1520.1	50.7	67.60
3	110.8	1483.2	49.4	67.29
4	147.7	1446.3	48.2	66.97
5	184.7	1409.3	47.0	66.64
6	221.6	1372.4	45.7	66.30
7	258.6	1335.4	44.5	65.96
8	295.5	1298.5	43.3	65.61
9	332.4	1261.6	42.1	65.25
10	369.4	1224.6	40.8	64.88
11	406.3	1187.7	39.6	64.51
12	443.2	1150.8	38.4	64.12
13	480.2	1113.8	37.1	63.73
14	517.1	1076.9	35.9	63.32
15	554.1	1039.9	34.7	62.90
16	591.0	1003.0	33.4	62.47
17	627.9	966.1	32.2	62.03
18	664.9	929.1	31.0	61.57
19	701.8	892.2	29.7	61.10
20	738.7	855.3	28.5	60.61
21	775.7	818.3	27.3	60.10
22	812.6	781.4	26.0	59.58
23	849.6	744.4	24.8	59.03
24	886.5	707.5	23.6	58.47
25	923.4	670.6	22.4	57.88
26	960.4	633.6	21.1	57.26
27	997.3	596.7	19.9	56.61
28	1034.2	559.8	18.7	55.92
29	1071.2	522.8	17.4	55.20
30	1108.1	485.9	16.2	54.44
31	1145.1	448.9	15.0	53.63
32	1182.0	412.0	13.7	52.76
33	1218.9	375.1	12.5	51.83
34	1255.9	338.1	11.3	50.82
35	1292.8	301.2	10.0	49.72
36	1329.7	264.3	8.8	48.50
37	1366.7	227.3	7.6	47.13
38	1403.6	190.4	6.3	45.57
39	1440.5	153.5	5.1	43.74
40	1477.5	116.5	3.9	41.52
41	1514.4	79.6	2.7	38.62
42	1551.4	42.6	1.4	34.30
43	1588.3	5.7	0.2	23.42
44	1625.2	-31.2	-1.0	#NUM!
45	1662.2	-68.2	-2.3	#NUM!
46	1699.1	-105.1	-3.5	#NUM!
47	1736.0	-142.0	-4.7	#NUM!
48	1773.0	-179.0	-6.0	#NUM!
49	1809.9	-215.9	-7.2	#NUM!
50	1846.9	-252.9	-8.4	#NUM!



The following power trendline best describes the relationship between available permanent pool and overall treatment efficiency **y= c * x ^ b**	c=	32.09
	b=	0.19



EXTENDED DETENTION VOLUME CALCULATIONS
(based on minor drainage area)

Project: Argo Summer Valley
File: 300054371.0000
Designed by: S.Breen
Checked by: L.Niemi
Date: 25-Apr-22

Extended Detention Volume (as Constructed)	3407	cu.m
Ex. Extended Detention Volume req. (per Donal JV)	3011	cu.m
Extended Detention Volume Available	396	

Proposed Drainage to Pond:

Highwood @ 43%	3052	43%
Highwood @ 60%	5242	60%
Subtotal Drainage to Highwood	8294	53%
Less Previously Accomodated Drainage (in Creeks Edge)	5440	43%
Subtotal Proposed Net Increased Drainage to Highwood	2854	73%
Lightheart @ 60%	24904	60%
Total Increased Drainage to Pond	27758	61%

25 mm Runoff from Proposed Pond Contributing Area

Area	2.7758	ha
CN	81	
Impervious	61%	

Q = **(P-IA)^2/P-(IA-S)**
S = **-254+25400/CN**
T IMP = **60.9** % Site area

Pervious Area			**Impervious Area**		
P =	25	mm	P =	25	mm
IA =	5	mm	IA =	2.5	mm
CN =	81		CN =	99	
S =	59.6		S =	2.6	
Q =	5.0	mm	Q =	20.2	mm

	per	**imp**	**total**	
SCS Runoff Volume	5.0	20.2		mm
Drainage Area	1.1	1.7	2.78	ha
Runoff Volume	55	342	396	cu.m

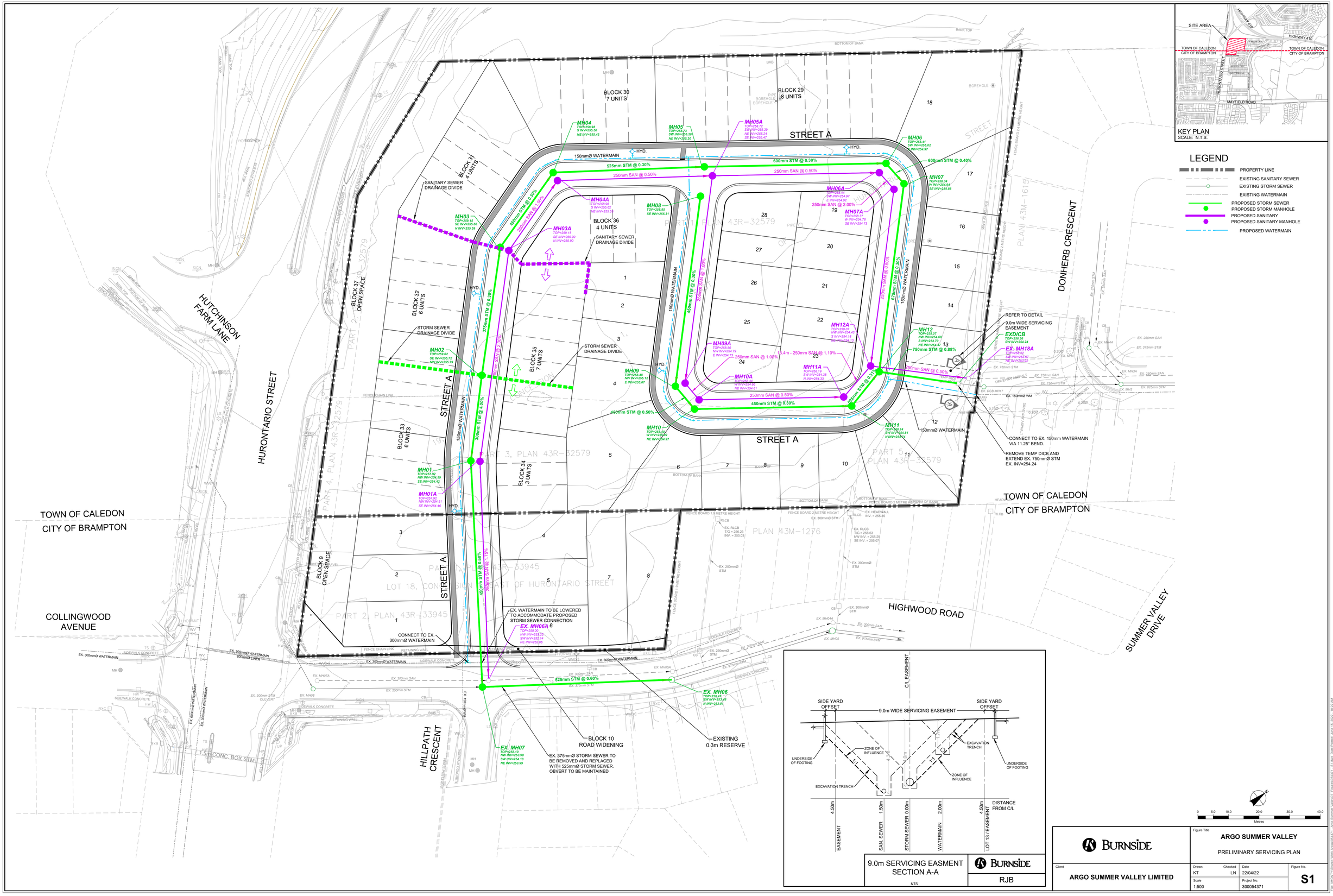
Extended Detention Required **396** cu.m

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Drawings


KEY PLAN
SCALE: N.T.S.
SITE AREA
HIGHWAY 410
TOWN OF CALEDON
CITY OF BRAMPTON
HURONTARIO STREET
MAYFIELD ROAD
LEGEND
PROPERTY LINE
PROPOSED GRADE
PROPOSED SLOPE
EXISTING GRADE
OVERLAND FLOW ROUTE
LO LOOK OUT UNITS
SD SPLIT DRAINAGE UNITS
WO WALK OUT UNITS
3:1 SLOPE TO MATCH INTO EXISTING GRADE
3:1 SLOPE TO TOP OF BERM ELEVATION
BLOCK 29 5 UNITS
BLOCK 30 5 UNITS
BLOCK 31 5 UNITS
BLOCK 31 5 UNITS
BLOCK 33 4 UNITS
BLOCK 34 4 UNITS
BLOCK 35 3 UNITS
BLOCK 36 3 UNITS
BLOCK 37 7 UNITS
BLOCK 38 4 UNITS
BLOCK 39 OPEN SPACE
BLOCK 9 OPEN SPACE
BLOCK 10 ROAD WIDENING
EXISTING 0.3m RESERVE
VERTICAL CURVE LENGTH = 43.0m K = 8.0
VERTICAL CURVE LENGTH = 51.4m K = 12.75
HUTCHINSON FARM LANE
HURONTARIO STREET
TOWN OF CALEDON
CITY OF BRAMPTON
COLLINGWOOD AVENUE
HILLPATH CRESCENT
HIGHWOOD ROAD
SUMMER VALLEY DRIVE
DONHERB CRESCENT
TOWN OF CALEDON
CITY OF BRAMPTON
Metres
BURNSIDE
Figure Title
ARGO SUMMER VALLEY
PRELIMINARY GRADING PLAN
Client
ARGO SUMMER VALLEY LIMITED
Drawn KT
Checked LN
Date 22/04/22
Figure No. G1
Scale 1:500
Project No. 300054371


KEY PLAN
SCALE: N.T.S.
SITE AREA
HIGHWAY 410
TOWN OF CALEDON
CITY OF BRAMPTON
HURONTARIO STREET
MAYFIELD ROAD
LEGEND
PROPERTY LINE
EXISTING SANITARY SEWER
EXISTING STORM SEWER
EXISTING WATERMAIN
PROPOSED STORM SEWER
PROPOSED STORM MANHOLE
PROPOSED SANITARY
PROPOSED SANITARY MANHOLE
PROPOSED WATERMAIN
STREET A
BLOCK 30
7 UNITS
BLOCK 29
8 UNITS
BLOCK 31
7 UNITS
BLOCK 36
4 UNITS
BLOCK 32
6 UNITS
BLOCK 37
OPEN SPACE
BLOCK 35
7 UNITS
BLOCK 33
6 UNITS
BLOCK 34
3 UNITS
BLOCK 9
OPEN SPACE
SANITARY SEWER DRAINAGE DIVIDE
STORM SEWER DRAINAGE DIVIDE
MH01
MH02
MH03
MH03A
MH04
MH04A
MH05
MH05A
MH06
MH06A
MH07
MH07A
MH08
MH09
MH09A
MH10
MH10A
MH11
MH11A
MH12
EXDICB
EX. MH18A
EX. MH06
EX. MH07
EX. MH06A
525mm STM @ 0.30%
600mm STM @ 0.30%
600mm STM @ 0.40%
675mm STM @ 0.30%
450mm STM @ 0.50%
375mm STM @ 1.00%
300mm STM @ 4.00%
250mm SAN @ 0.50%
250mm SAN @ 1.00%
250mm SAN @ 2.00%
10.4m - 250mm SAN @ 1.10%
750mm STM @ 0.88%
525mm STM @ 0.60%
450mm STM @ 0.60%
250mm SAN @ 1.75%
150mmØ WATERMAIN
REFER TO DETAIL
9.0m WIDE SERVICING EASEMENT
CONNECT TO EX. 150mm WATERMAIN VIA 11.25° BEND.
REMOVE TEMP DICB AND EXTEND EX. 750mmØ STM EX. INV=254.24
CONNECT TO EX. 300mmØ WATERMAIN
EX. WATERMAIN TO BE LOWERED TO ACCOMMODATE PROPOSED STORM SEWER CONECTION
EX. 375mmØ STORM SEWER TO BE REMOVED AND REPLACED WITH 525mmØ STORM SEWER. OBVERT TO BE MAINTAINED
BLOCK 10
ROAD WIDENING
EXISTING
0.3m RESERVE
HUTCHINSON FARM LANE
COLLINGWOOD AVENUE
HILLPATH CRESCENT
HIGHWOOD ROAD
SUMMER VALLEY DRIVE
DONHERB CRESCENT
TOWN OF CALEDON
CITY OF BRAMPTON
PART 2, PLAN 43R-32579
PART 3, PLAN 43R-32579
PART 4, PLAN 43R-32579
PART 5, PLAN 43R-32579
PART 2, PLAN 43R-33945
LOT 18, CONCESSION 1 EAST OF HURONTARIO STREET
PLAN 43M-1276
PLAN 43M-1615
1.5m CONC. BOX STM
9.0m SERVICING EASEMENT SECTION A-A
C/L EASEMENT
SIDE YARD OFFSET
9.0m WIDE SERVICING EASEMENT
UNDERSIDE OF FOOTING
ZONE OF INFLUENCE
EXCAVATION TRENCH
4.50m EASEMENT
1.50m SAN. SEWER
0.00m STORM SEWER
2.00m WATERMAIN
4.50m LOT 13 / EASEMENT
DISTANCE FROM C/L
NTS
RJB
0 5.0 10.0 20.0 30.0 40.0
Metres
BURNSIDE
ARGO SUMMER VALLEY
PRELIMINARY SERVICING PLAN
Client
ARGO SUMMER VALLEY LIMITED
Drawn KT
Checked LN
Date 22/04/22
Scale 1:500
Project No. 300054371
Figure No. S1

R.J. Burnside & Associates Limited