Engineers, Planners & Landscape Architects

Engineering

- Land/Site Development
- Municipal Infrastructure
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- Traffic/ Transportation
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Planning

- Land/Site Development
- Planning Application Management
- Municipal Planning
- Urban Design
- Expert Witness (OLT)
- Wireless Industry

Landscape Architecture

- Streetscapes & Public Amenities
- Open Space, Parks & Recreation
- Community & Residential
- Commercial & Institutional
- Environmental Restoration

375 DIDSBURY ROAD
Serviceability Report

Prepared for: FCRI PROPERTIES LP

Engineering excellence. Planning progress. Liveable landscapes.

375 DIDSBURY ROAD
OTTAWA, ONTARIO

SERVICEABILITY REPORT

Prepared By:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario
K2M 1P6

Issued: July 13, 2026
Revised: September 14, 2026

Novatech File: 125105
Report Ref: R-2026-061

Engineers, Planners & Landscape Architects

September 14, 2026

City of Ottawa
Planning, Real Estate and Economic Development Department
Development Review – West Branch
110 Laurier Avenue West
Ottawa, ON
K1P 1J1

Attention: **Jocelyn Cadieux**
Planner

Reference: **Serviceability Report**
Proposed re-zoning
375 Didsbury Road, Ottawa, Ontario
Novatech File No.: 125105

Enclosed is a copy of the 'Serviceability Report' for the proposed re-zoning located at 375 Didsbury Road, in the City of Ottawa. This report addresses the approach to site servicing and conceptual stormwater management to support re-zoning. This report has been revised in response to comments received from the City of Ottawa and Mississippi Valley Conservation Authority dated September 4, 2026, and August 28, 2026, respectively.

Please contact the undersigned, should you have any questions or require additional information.

Yours truly,

NOVATECH

Alex McAuley, P.Eng.
Senior Project Manager | Land Development Engineering

cc: **Fel Petti, FCRI PROPERTIES LP**

Suite 200, 240 Michael Cowpland Drive, Ottawa ON K2M 1P6 Tel: 613.254.9643 Fax: 613.254.5867 www.novatech-eng.com

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LIST OF FIGURES

LIST OF APPENDICIES

1.0 INTRODUCTION

Novatech has been retained to prepare the serviceability report in support of proposed re-zoning for the property located at 375 Didsbury Road, in the City of Ottawa.

1.1 Purpose

This report outlines the conceptual servicing design for the subject property with the respect to water, sanitary, and storm servicing and a conceptual approach to stormwater management.

1.2 Site Description and Location

The subject site, approximately 7.30 hectares (18.03 acres) in size, is part of the Kanata West Business Park and is located on the west side of Didsbury Road, north of Campeau Drive and south of Terry Fox Drive.

The site is relatively flat, and it is covered by natural green features including grass, bushes, and trees. The legal description of the subject site is designated as Part of Lot 3, Concession 1 Geographic Township of March, City of Ottawa. **Figure 1** provides an aerial view of the site.

Figure 1 – Aerial View of the Site

1.2.1 Grading Constraints

Based on the Geotechnical report (PG7751-1) prepared by Paterson group, the subject site has a grade raise restriction of 0.5m to 1.2m above the existing grade. Part of the site is currently located within the Carp River floodplain and would be raised above the existing floodplain, per the Carp River Restoration Project.

1.3 Potential Development

The subject site re-zoning could include a variety of commercial uses, including paved parking area. In addition to the existing Campeau Drive access, it is anticipated that additional access would be provided from the Didsbury Road.

The proposed development would be serviced by connecting to the existing municipal sanitary sewer on Didsbury Road, and watermain on Didsbury Road and Campeau Drive. The storm drainage from the site would be pumped into the existing storm stub on Campeau Drive.

1.4 Background Documents

The following documents were reviewed in preparation of the report:

- Geotechnical Investigation Proposed Commercial Development, 375 Didsbury Road, prepared by Paterson Group (PG7751-1, January 15, 2026)
- Taggart – Loblaws Subdivision, Kanata West Servicing Report, prepared by Stantec (1604-00402, June 11,2013)
- Taggart – Loblaws Subdivision, Stormwater Management Facility Design Report, prepared by Stantec (1604-00402/83, June 11, 2013)
- City of Ottawa Sewer Design Guidelines (December 2025)
- City of Ottawa Water Distribution Design Guidelines (December 8, 2025)
- Stormwater Management Planning and Design Manual, Ministry of the Environment, Ontario (March 2003)
- Signature Ridge Pump Station Hydraulic Grade Line Analysis – 3775-5.2.3 (R-2550), prepared by IBI group (July 2011)

2.0 STORM SEWERS

2.1 Existing Stormwater Servicing

The existing undeveloped site currently sheet drains overland to the existing Didsbury Stormwater Facility (SWMF-1208) adjacent to the site. As part of the Taggart-Loblaws Subdivision stormwater management design, the proposed site is intended to drain to Campeau Drive and the Taggart-Loblaws SWM Facility. An existing 1200mm storm sewer was provided at the existing site entrance on the Campeau Drive to service the site as a part of the subdivision servicing works.

2.2 Proposed Stormwater Servicing

The Taggart-Loblaws SWM report provided the required stormwater criteria for the site. Based on the existing elevations and grade raise restrictions on the subject site, stormwater from the site is intended to be pumped.

The Subdivision Stormwater criteria limit the subject site to a pumped release rate of 150L/s for all storm events up to and including the 100-year event. Refer to **Appendix A** for excerpts from Taggart-Loblaws SWM report that highlights the available release rate for the proposed site.

Quality control of stormwater runoff is provided downstream in the Taggart-Loblaws SWM facility.

2.2.1 Stormwater Pumping

The proposed development would be serviced by onsite storm sewers outletting to the onsite pump station. The onsite pump station would outlet to the existing storm sewers on Campeau Drive via a stormwater Forcemain. Details would be provided at the detailed design stage.

2.2.2 Stormwater Storage

Onsite stormwater storage would be required to attenuate runoff to the allowable pumped release rate. Preliminary calculations result in approximately 4000 cubic meters of storage that would be required for events up to and including the 100-year event.

Due to the requirement for a pump station, some underground storage would be required, with the balance of stormwater storage being provided via surface and rooftop ponding. Storm water storage memorandum is included in **Appendix A.**

3.0 SANITARY SEWERS

3.1 Signature Ridge Sanitary Pump Station

The Signature Ridge Sanitary Pump Station (SRPS) is located on the northeast corner of the site and services approximately 577ha of area, including the subject site. The SRPS has an emergency overflow to the adjacent Didsbury Stormwater Management Facility.

3.2 Sanitary Hydraulic Grade Line

Due to the emergency overflow elevation from the SRPS to the Disbury SWMF, the sanitary sewers in proximity to the SRPS have a surcharged HGL. This results in the HGL of the Didsbury sanitary sewer being approximately 94.14 and 94.42 in Campeau sanitary sewers.

3.3 Sanitary Sewer Design

There is a 675mm diameter sanitary trunk sewer in Campeau Drive and a 750mm diameter sanitary trunk sewer in Didsbury Road. A sanitary stub was provided at the existing Campeau site entrance for the subject site. However, due to the HGL being lower in the Disbury sewer, and the grade raise restriction, the proposed development could be better serviced by a connection to the Didsbury trunk sewer.

The trunk sewer ultimately conveys the flow to the Signature Ridge sanitary pump station. Details about onsite sanitary sewer system would be provided at the detailed design stage.

3.3.1 Peak Sanitary Flows

The theoretical peak sanitary flow for the proposed development was calculated based on the following criteria from the City of Ottawa Sewer Design guidelines:

- Commercial Average Flow = 28,000 L/ha/day
- Commercial peak Factor = 1.5
- Infiltration Rate = 0.33 L/s/ha

The peak sanitary flow calculations are summarized below in **Table 3.1**. Detailed calculations are included in **Appendix B.**

Table 3.1: Peak Sanitary Flow Summary

Proposed Development	Peak Flow (L/s)	Infiltration Flow (L/s)	Total Peak Flow (L/s)
Commercial Store	3.55	2.41	5.96

3.3.2 Existing Sanitary Sewer Capacity

The Taggart-Loblaws Subdivision (TLS) Servicing Report, and the Signature Ridge Pump Station (SRPS) HGL Analysis Report both accounted for theoretical design flow from the subject site. Refer to **Appendix B** for excerpts from the SRPS HGL Analysis Report and TLS Servicing Report that shows the available capacity for the sanitary flow from the subject site.

The peak sanitary flow in the TLS Servicing Report was calculated to be 8.68 L/s. The peak sanitary flow in the SRPS HGL Analysis report was calculated to be 11.21 L/s.

Therefore, there is adequate capacity within the existing sanitary infrastructure to service the proposed development.

4 WATER SERVICING

4.1 Master Servicing

The proposed site is located within the Taggart-Loblaws Subdivision, and a 203mm service was provided at the existing site entrance on the Campeau Drive from the existing 610mm trunk watermain.

4.2 Watermain Design

Based on the anticipated water demands from the subject site, two watermain connections would be required to service an onsite watermain loop. The proposed onsite watermain would be looped through the site from the existing connection on the Campeau Drive to a new connection to the existing 203mm diameter municipal watermain in Didsbury Road. Details about the size of onsite watermain including building services, hydrants and fire flows would be provided at the detailed design stage.

4.2.1 Domestic Water Demand

The water demands for the proposed development were calculated based on the following criteria of the City of Ottawa Water Design Guidelines and the peaking factors as per the City of Ottawa Water Distribution Design Guidelines:

- Commercial Average Day Demand = 28,000 L/ha/day
- Commercial Peak Factors
    - Max Day = 1.5 x avg. day
    - Peak Hour = 2.7 x max. day

The calculated water demands are summarized in

Table 4.1 below. Calculations are included in **Appendix C**.

Table 4.1: Domestic Water Demand Summary

Proposed Development	Average Day Demand	Maximum Day Demand	Peak Hour Demand
Commercial Store	2.4 L/s	3.5 L/s	6.4 L/s

4.2.2 Fire Flow Demand

Water supply for fire protection would be provided from onsite hydrants. Details for the required fire flow and hydrant locations would be provided at the detailed design stage.

4.2.3 Boundary Conditions

Preliminary water demands and preliminary fire flow calculations were prepared by Novatech and provided to the City to obtain boundary conditions. Refer to the **Appendix C** for details.

The summary of the information provided by the City for two watermain connections is shown below in **Tabel 4.2** and **Table 4.3**.

Table 4.2: Connection 1 – Campeau Drive

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	162.8	95.1
Peak Hour	155.5	84.8
Max Day + Fire Flow (7,000 L/min)	155.5	84.8
Max Day + Fire Flow (16,000 L/min)	155.5	84.8

[1]Ground Elevation = 95.9m

Table 4.3: Connection 1 – Didsbury Road

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	162.8	94.9
Peak Hour	155.5	84.6
Max Day + Fire Flow (7,000 L/min)	155.5	84.6
Max Day + Fire Flow (16,000 L/min)	155.5	84.6

[1]Ground Elevation = 96.1m

Depending on the ultimate uses, pressure reducing valves may be required, consistent with the subdivision master report. The information provided above demonstrates that the proposed watermain would provide adequate system pressures and flows for the subject site.

5 EROSION AND SEDIMENT CONTROL

Temporary erosion and sediment control measures would be implemented on-site during construction in accordance with the Best Management Practices for Erosion and Sediment Control. This includes the following temporary measures:

- Filter socks (catch basin inserts) would be placed in existing and proposed catch basins and catch basin manholes, and will remain in place until vegetation has been established and construction is completed,
- Silt fencing would be placed along the surrounding construction limits,
- Mud mat would be installed at the site entrance,
- The contractor would be required to perform regular street sweeping and cleaning as required, to suppress dust and to provide safe and clean roadways adjacent to the construction site.

Erosion and sediment control measures should be inspected daily and after every rain event to determine maintenance, repair, or replacement requirements. These measures would be implemented prior to the commencement of construction and maintained in good order until vegetation has been established.

6 CONCLUSIONS AND RECOMMENDATIONS

This report has been prepared in support of an application for re-zoning for the subject site.

- The subject site has been accounted in the Taggart-Loblaws Servicing report (June 11,2013) and Taggart Loblaws Stormwater Management Facility Report (June 11,2013).
- Stormwater runoff from the site would be captured by an onsite storm sewer system. Stormwater would be pumped to the existing connection on the Campeau Drive at 150L/s release rate.
- The onsite sanitary sewer system would outlet to the existing sanitary sewer on the Didsbury Road.
- The subject site would be serviced by onsite watermains that would be looped from existing connection on the Campeau Drive to the Didsbury Road. The system capacity has been confirmed by the City.
- Temporary and permanent erosion and sediment control measures would be provided.

NOVATECH

Prepared by:

Deepkumar Mendapara
M.Eng. (Civil Engineering), EIT

Reviewed by:

Alex McAuley, P.Eng.
Senior Project Manager | Land Development Engineering

Reviewed by:

J. Lee Sheets, CET
Director, Land Development & Public Sector Engineering

M:\2025\125105\CAD\Civil\125105-CSL.dwg, CSL, Sep 10, 2026 - 4:27pm, dmendapara

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

SOURCE REFERENCE:
Legal Information: *26160-25 FirstCapitalRealtyInc.PtLt3*
C1 March O F- NOV 12 2025
Topographic Information: *1:2000*
City of Ottawa / 2015 / MTM Zone 9, NAD83 CSRS
City of Ottawa / Interactive map, GeoOttawa, UCC
Novatech Survey - SEP & DEC 2025
Other: *GEMTEC TCR (102857.005)*

No.	REVISION	DATE	BY
3.	REVISED PER COMMENTS	XX	ARM
2.	PREPARED FOR COORDINATION	JUL 06/26	ARM
1.	PREPARED FOR COORDINATION	JUN 26/26	ARM

SCALE
1:750
1:750
0 10 20 30

DESIGN	DKM
CHECKED	ARM
DRAWN	DKM
CHECKED	ARM
APPROVED	ARM

FOR REVIEW ONLY

NOVATECH
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Ottawa, Ontario, Canada K2M 1P6
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Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
375 DIDSBURY ROAD

DRAWING NAME
CONCEPTUAL SERVICING LAYOUT - FIGURE 2

PROJECT No. 125105
REV REV #3
DRAWING No. 125105-CSL

APPENDIX A

SWM Calculations

M E M O R A N D U M

DATE: JUNE 19, 2026

TO: ALEX MCAULEY, P.ENG.

FROM: KALLIE AULD, P.ENG.

RE: 375 DIDSBURY ROAD
PRELIMINARY STORMWATER MANAGEMENT
CALCULATIONS & STORAGE REQUIREMENTS
125150

CC: J. LEE SHEETS, C.E.T.

To determine the approximate storage requirements for the proposed site plan at 375 Didsbury Road, preliminary stormwater management modeling and calculations were completed. This memorandum serves as a summary of the site criteria, existing conditions, and proposed post-development parameters.

Background

The 375 Didsbury site is located within the Taggart-Loblaws subdivision which was designed to consist of mainly commercial developments and associated parking areas. Minor system runoff for the site is to be limited to 150 L/s during all storm events and pumped to the existing stormwater facility adjacent to the Carp River at 305 Roger Neilson Way. As such, significant on-site storage will be required.

The subject site is located within the Carp River Subwatershed is therefore subject to infiltration requirements. Per the Carp River Subwatershed Study, infiltration requirements for the site are 70mm/year. For the site area of approximately 7.6 ha, this equates to 4,900 m^3 of additional infiltration per year.

Storage Calculations

Under proposed conditions, it was assumed that the 7.6 ha site would have a runoff coefficient of 0.83, which equates to 90% impervious area. Using these parameters, a simple OTTHYMO model was created to determine the amount of storage required to control peak flows from the site to 150 L/s. Approximately 4,000m^3 of storage is required to store runoff during the 100-year storm event. To control peak flows to the allowable release rate for the 100-year+20% storm (climate change event), a total of 4,900m^3 is required.

Given the infiltration requirements for the site, a portion of the required storage could consist of underground storage chambers and granular base, which would allow for infiltration to occur.

Suite 200, 240 Michael Cowpland Drive, Ottawa ON K2M 1P6 Tel: 613.254.9643 www.novatech-eng.com

Excerpt from
Taggart – Loblaws Subdivision, Stormwater Management Facility Design Report, prepared by Stantec (1604-00402/83, June 11, 2013)

2.2.1.1 Standing Water in Downstream Sewers

Due to a combination of grade raise constraints within developments upstream and minimum cover requirements over the storm sewers at the pond inlet, storm sewers were designed with standing water during periods of Normal Water Level in the pond. The extent of standing water will reach 22 metres upstream of MH103 towards MH104 and 14 metres upstream of MH110 towards MH111.

It is anticipated that the introduction of standing water will increase sedimentation within the affected storm sewers. As requested by the City, the proposed storm sewer system has been modeled with sediment depths up to 25% of the pipe diameter. Maintenance and monitoring frequency of these sewers will need to be increased, in particular during the construction phases, as mentioned in Section 6.0.

2.2.1.2 Stormwater Pumping Station for Rona Properties

Due to grading constraints within the Rona properties, identified as areas A1 and A2 in drawing SWM-1, a stormwater pumping station is proposed. A very large volume of fill would be required to raise the grade of this site to permit gravity flow to SWM Pond 3 and it is not possible to drain the lands to the existing Broughton Pond as there is no available capacity within the pond. As a result a pumping station was proposed. This station will serve to provide storm servicing to the property without excessive grade raise and will also isolate the property from an elevated hydraulic gradeline during rare events. Flow rates from the pumping station will be limited to 150 L/s (~ 20 L/s/ha) determined from Modified Rational Method calculations for the draft site plan available at the time in order to maximize the use of available storage and minimize the pump size requirements. Sag storage will be provided in sufficient quantity to store the 100 year storm event. The current site plan consists of a commercial flat roof building with a roof area of approximately 1.2ha, the remainder of the site is proposed to be parking lots and some small retail buildings. These conditions are reflected in the revised hydrologic and hydraulic modeling below. Detailed design of the pumping station and required storage will be provided in support of site plan application for the respective properties.

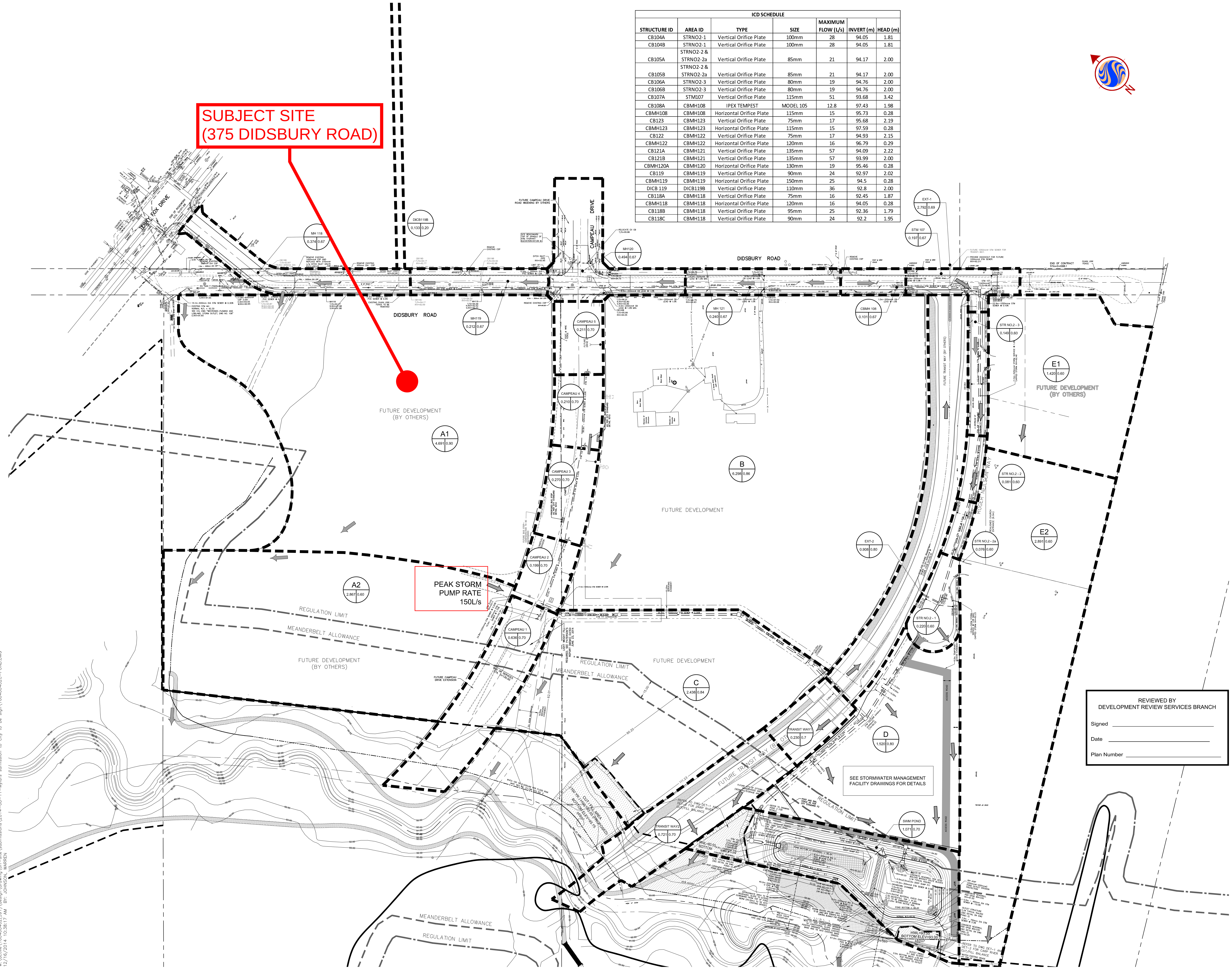
The detailed design of the Rona site may consider onsite quantity and quality control options with direct discharge to the Carp River as an alternative to pumping. However, the facility design has accommodated pumped flows from the site. Should the Rona flows not be pumped to the SWM facility, the allowable release from the Rona site would have to be determined by re-analyzing the SWM facility without the Rona site flows and determining the available difference between the total allowable flow and the revised pond discharge.

2.2.2 Water Quality Control

The Taggart-Loblaws SWMF is required to achieve a 'normal' level of treatment of urban runoff according to MOE criteria – representing a 70% removal of total suspended solids (TSS). This criterion was established by the Carp River Watershed/Subwatershed Study (Robinson Consultants, December 2004, p.152):

ICD SCHEDULE

STRUCTURE ID	AREA ID	TYPE	SIZE	MAXIMUM FLOW (L/s)	INVERT (m)	HEAD (m)
CB104A	STRNO2-1	Vertical Orifice Plate	100mm	28	94.05	1.81
CB104B	STRNO2-1	Vertical Orifice Plate	100mm	28	94.05	1.81
CB105A	STRNO2-2 & STRNO2-2a	Vertical Orifice Plate	85mm	21	94.17	2.00
CB105B	STRNO2-2 & STRNO2-2a	Vertical Orifice Plate	85mm	21	94.17	2.00
CB106A	STRNO2-3	Vertical Orifice Plate	80mm	19	94.76	2.00
CB106B	STRNO2-3	Vertical Orifice Plate	80mm	19	94.76	2.00
CB107A	STM107	Vertical Orifice Plate	115mm	51	93.68	3.42
CB108A	CBMH108	IPEX TEMPEST	MODEL 105	12.8	97.43	1.98
CBMH108	CBMH108	Horizontal Orifice Plate	115mm	15	95.73	0.28
CB123	CBMH123	Vertical Orifice Plate	75mm	17	95.68	2.19
CBMH123	CBMH123	Horizontal Orifice Plate	115mm	15	97.59	0.28
CB122	CBMH122	Vertical Orifice Plate	75mm	17	94.93	2.15
CBMH122	CBMH122	Horizontal Orifice Plate	120mm	16	96.79	0.29
CB121A	CBMH121	Vertical Orifice Plate	135mm	57	94.09	2.22
CB121B	CBMH121	Vertical Orifice Plate	135mm	57	93.99	2.00
CBMH120A	CBMH120	Horizontal Orifice Plate	130mm	19	95.46	0.28
CB119	CBMH119	Vertical Orifice Plate	90mm	24	92.97	2.02
CBMH119	CBMH119	Horizontal Orifice Plate	150mm	25	94.5	0.28
DICB 119	DICB119B	Vertical Orifice Plate	110mm	36	92.8	2.00
CB118A	CBMH118	Vertical Orifice Plate	75mm	16	92.45	1.87
CBMH118	CBMH118	Horizontal Orifice Plate	120mm	16	94.05	0.28
CB118B	CBMH118	Vertical Orifice Plate	95mm	25	92.36	1.79
CB118C	CBMH118	Vertical Orifice Plate	90mm	24	92.2	1.95



REVIEWED BY
DEVELOPMENT REVIEW SERVICES BRANCH

Signed ______________________

Date ______________________

Plan Number ______________________

Stantec

Stantec Consulting Ltd.
1505 Laperriere Avenue
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

Legend

AREA ID
AREA (HA) / RUNOFF COEFF.
DRAINAGE DIVIDE BOUNDARY
CARP RIVER CORRIDOR
MVCA 100YR FLOODPLAIN LIMIT
CARP RIVER REGULATION LIMIT
EMERGENCY OVERLAND FLOW DIRECTION
PROPOSED STORM SEWER
PROPOSED CATCHBASIN MANHOLE
PROPOSED CATCHBASIN
PROPOSED CATCHBASIN TEE
EXISTING STORM SEWER
EXISTING CATCHBASIN

Key Plan

REFER TO DRAWING DS-1 FOR DETAILED NOTES.

12	REVISED STORM SEWER ON DIDSBURY ROAD	SGG	TJW	13.11.14
11	ISSUED FOR TENDER	SGG	TJW	13.09.03
10	REVISED TRANSITWAY SEWER AND ALIGNMENT	MJS	TJW	13.06.03
9	REVISED FOR MOE SUBMISSION	AML	NPC	13.05.15
8	REVISED AS PER THIRD PARTY COMMENTS	AML	NPC	13.01.17
7	REVISED AS PER CITY COMMENTS	GBU	NPC	12.11.07
6	REVISED AS PER CITY COMMENTS	DCT	TJW	12.07.25
5	REVISED AS PER CITY COMMENTS	GBU	TJW	12.04.27
4	RESUBMISSION TO CITY (2011)	DCT	TW	11.11.11
3	REVISED POST-PART II ORDER DISMISSAL	NPC	TW	11.07.15
2	REVISED AS PER CITY COMMENTS	DEB	MAF	07.11.02
1	ISSUED FOR CITY REVIEW	ADF	MAF	06.12.15
Revision		By	Appd.	YY.MM.DD

File Name: 160400402C-OFF-SITE	ADF	RMW	ADF	06.12.18
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Seal

Issued for Construction - 2015 01 19

Digitally signed by Geoff Ross
DN: cn=Geoff Ross, o=Urban Land, ou=1604, email=Geoff.Ross@stantec.com, c=CA
Date: 2015.01.19 09:46:45 -05'00'

Client/Project

TAGGART - LOBLAWS SUBDIVISION

KANATA WEST

Ottawa ON Canada

Excerpt from
Taggart – Loblaws Subdivision,
Stormwater Management Facility
Design Report,
prepared by Stantec
(1604-00402/83, June 11, 2013)

Title

OVERALL STORM DRAINAGE PLAN

Project No. 160400402

Scale 1:1250

Drawing No. SWM-1

Sheet 18 of 24

Revision 12

ORIGINAL SHEET: ARCH FULL BLEED D (36.00 X 24.00 INCHES)

APPENDIX B

Sanitary Flow Calculations

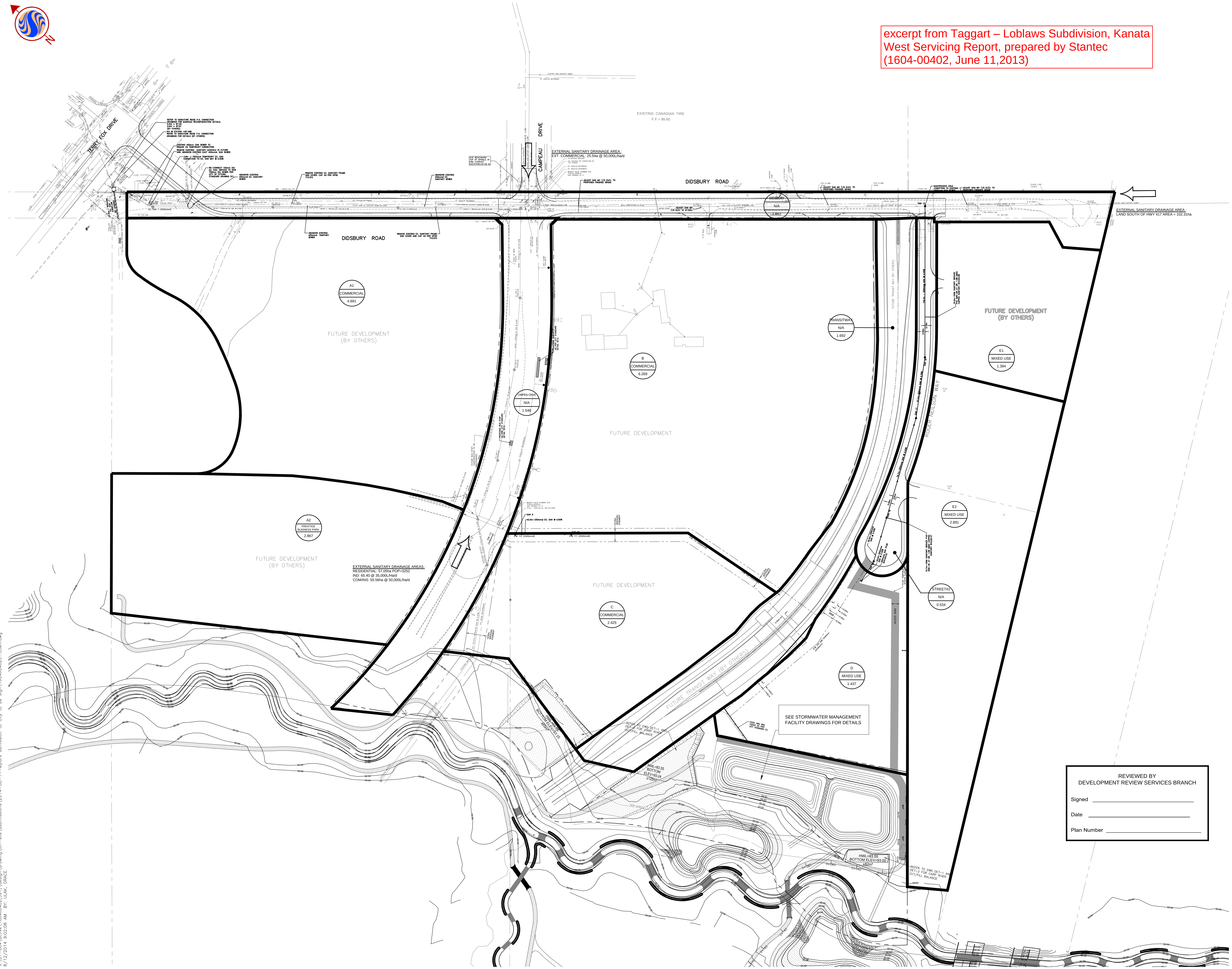
SANITARY FLOWS FROM PROPOSED DEVELOPMENT

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 125105
Project Name: 375 Didsbury Road
Date: June 2026
Input By: DKM
Reviewed By: ARM
Drawing Reference: N/A

Location	Demand								
Area ID	Industrial / Commercial / Institutional (ICI) Flow						Extraneous Flow Area Method		Total Design Flow
	Commercial / Institutional Area (ha.)	Cumulative Commercial / Institutional Area (ha.)	Average Design Commercial / Institutional Flow (L/s)	Commercial / Institutional Peaking Factor	Cumulative ICI Area (ha.)	Peak Design ICI Flow Q (ici) (L/s)	Cumulative Extraneous Drainage Area (ha.)	Design Extraneous Flow Q(e) (L/s)	Total Peak Design Flow Q(D) (L/s)
Commercial Development	7.3	7.3	2.4	1.5	7.3	3.5	7.3	2.4	6.0

excerpt from Taggart – Loblaws Subdivision, Kanata West Servicing Report, prepared by Stantec (1604-00402, June 11,2013)



REVIEWED BY
DEVELOPMENT REVIEW SERVICES BRANCH

Signed ______________________

Date ______________________

Plan Number ______________________

Stantec

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Fax. 613.722.2799
www.stantec.com

Legend

E1 / MIXED USE / 1.394 — AREA ID / LAND USE TYPE / AREA (HA)

DRAINAGE DIVIDE BOUNDARY

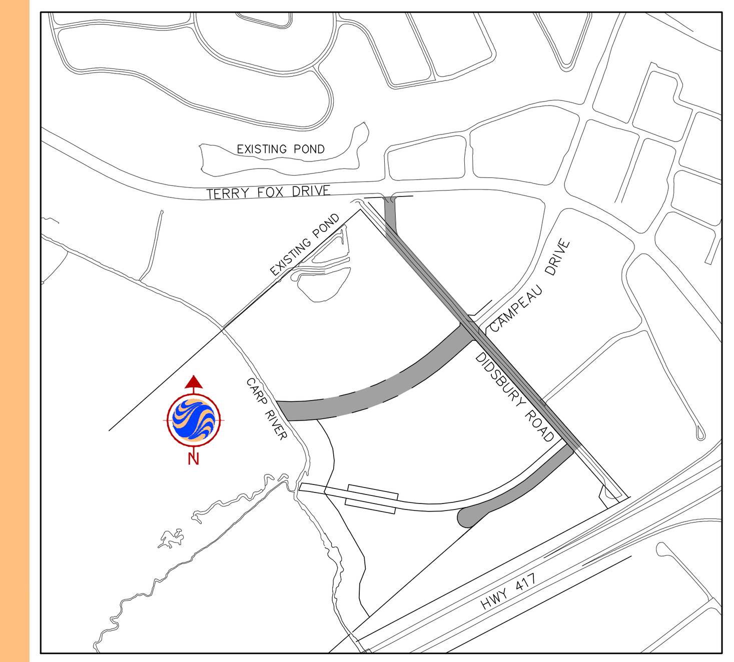
PROPOSED SANITARY SEWER

EXISTING SANITARY SEWER

Community Group Elements

SANITARY
(TO SIGNATURE RIDGE PUMP STATION)

Key Plan



		By	Appd.	YY.MM.DD
17	REVISED STORM SEWER ON DIDSBURY ROAD	SGG	TJW	13.11.14
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14	REVISED FOR MOE SUBMISSION	AML/SGG	TJW	13.05.15
13	REVISED AS PER THIRD PARTY COMMENTS	AML/DCT	TJW	13.01.17
12	REVISED AS PER CITY COMMENTS	DCT/GBU	TJW	12.12.17
11	REVISED BRANCH VALVE CHAMBER DETAILS	DCT	TJW	12.12.06
10	REVISED BRANCH VALVE CHAMBER DETAILS	DCT	TJW	12.11.15
9	REVISED PER IBI DESIGN	DCT	TJW	12.11.05
8	REVISED PER TEMPORARY ACCESS ROAD	DCT	TJW	12.10.30
7	REVISED PER TEMPORARY SAN CONNECTION	DCT	TJW	12.10.03
6	REVISED AS PER CITY COMMENTS	DCT	TJW	12.06.22
5	REVISED AS PER CITY COMMENTS	GBU	TJW	12.04.27
4	RESUBMISSION TO CITY (2011)	NPC	TW	11.11.11
3	ADDRESS CITY AND PEER REVIEW COMMENTS	ADF	RMW	07.12.12
2	REVISION TO PHASING	ADF	RMW	07.06.27
1	ISSUED FOR CITY REVIEW	ADF	RMW	06.12.20

Revision

File Name: 160400402C–OFF–SITE	ADF	RMW	ADF	06.12.18
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Seal

Issued for Construction - 2015 01 19

Digitally signed by Geoff Ross
DN: cn=Geoff Ross, o=Urban Land, ou=1604, email=Geoff.Ross@stantec.com, c=CA
Date: 2015.01.19 09:46:45 -05'00'

Client/Project

TAGGART - LOBLAWS SUBDIVISION

KANATA WEST

Ottawa ON Canada

Title

OVERALL SANITARY DRAINAGE PLAN

Project No. 160400402

Scale 1:1250 (0 12.5 37.5 62.5m)

Drawing No. SAN-1

Sheet 17 of 24

Revision 17

V:\01-604\active\160400402\5911\design\drawing\off-site\submissions\2014-08-11-Mylars sumission to City to be sign\160400402C-SSWR.dwg
8/12/2014 9:02:08 AM BY: ULAK, GRACE

ORIGINAL SHEET: ARCH FULL BLEED D (36.00 X 24.00 INCHES)

Stantec

SUBDIVISION:

Taggart / LPL

KW - North of 417

DATE: 11-Nov-11
REV: 6-Jun-13
DESIGNED BY: aml
CHECKED BY: tw

SANITARY SEWER DESIGN SHEET

(City of Ottawa)

FILE NUMBER: 1604-00402/20

DESIGN PARAMETERS

AVG. DAILY FLOW / PERSON =	350.00	l/p/day	COMMERCIAL	50,000	L/d/Ha
MINIMUM VELOCITY =	0.60	m/s	MIXED USE	50,000	L/d/Ha
MANNINGS n =	0.013		INSTITUTIONAL	35,000	L/d/Ha
MAX PEAK FACTOR =	4.0		INFILTRATION	0.28	l/s/Ha
MIN PEAK FACTOR =	2.4		RESIDENTIAL HARMON PEAKING FACTOR PERSONS/UNIT =	4.0	
Peaking Factor Industrial:	1.5				
Peaking Factor Comm. / Inst.:	1.5				

LOCATION				RESIDENTIAL AREA AND POPULATION							COMM		MIXED		INDUST.		C+M+I	INFILTRATION				PIPE					
STREET / LOCATION		FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	**TOTAL FLOW (l/s)**	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Exist. Didsbury Sewer [1]		Exist	SAN15	102.31													**54.44**			**58.650**	**113.09**	103.0	450	0.25	149.24	0.91	0.88
Roger Neilson	Transitway/S T-2/D	SAN19	SAN18	2.23			2.23	0					1.44	1.44			1.25	3.67	3.67	1.028	**2.28**	35.0	250	0.40	39.78	0.78	0.35
Roger Neilson	E2	SAN18	SAN17				2.23	0					2.89	4.33			3.76	2.89	6.56	1.837	**5.60**	79.7	250	0.40	39.78	0.78	0.45
Roger Neilson		SAN17	SAN16				2.23	0						4.33			3.76	0.00	6.56	1.837	**5.60**	47.1	300	0.40	63.51	0.87	0.44
Roger Neilson	E1	SAN16	SAN15				2.23	0					1.39	5.72			4.97	1.39	7.95	2.226	**7.20**	116.1	300	0.40	63.51	0.87	0.48
Didsbury		SAN15	EX.SAN7	1.66			3.89	0						5.72			59.41	1.66	9.61	61.341	**120.75**	100.0	450	0.25	149.24	0.91	0.90
		EX.SAN7	EX.SAN6				3.89							5.72			59.41		9.61	61.341	**120.75**	100.0	450	0.25	149.24	0.91	0.90
		EX.SAN6	EX.SAN5				3.89							5.72			59.41		9.61	61.341	**120.75**	95.0	450	0.25	149.24	0.91	0.90
		EX.SAN5	EX.SAN4				3.89							5.72			**59.41**		9.61	**61.341**	**120.75**	38.0	450	0.25	149.24	0.91	0.90
Exist. Campeau Sewer [2]		Exist	EX.SAN4										25.54	25.54			22.17	25.54	25.54	7.151	**29.32**		250	0.38	38.76	0.76	0.74
		EX.SAN4	SAN4				3.89							31.26			**81.58**		35.15	**68.492**	**150.07**	6.5	450	0.25	149.24	0.91	0.96
Campeau West of Carp [3]		FUT	SAN8	57.05		3252	57.05	3252	3.412	45.54	55.56	55.56			65.40	65.40	87.99	178.01	178.01	49.843	**183.37**	35.8	675	0.20	391.14	1.06	0.89
On-site	C	SAN10	SAN9				0.00	0			2.43	2.43					2.11	2.43	2.43	0.680	**2.79**	42.9	250	0.65	50.49	0.99	0.44
On-site		SAN9	SAN8				0.00	0				2.43					2.11	0.00	2.43	0.680	**2.79**	31.0	250	0.40	39.78	0.78	0.38
Campeau	A2/Campeau Drive	SAN8	SAN7	1.55			58.60	3252	3.412	45.54		57.99	2.87	2.87		65.40	92.60	4.42	184.86	51.761	**189.90**	47.8	675	0.20	391.14	1.06	0.90
Campeau		SAN7	SAN6				58.60	3252	3.412	45.54		57.99		2.87		65.40	92.60	0.00	184.86	51.761	**189.90**	70.8	675	0.20	391.14	1.06	0.90
Campeau		SAN6	SAN5				58.60	3252	3.412	45.54		57.99		2.87		65.40	92.60	0.00	184.86	51.761	**189.90**	55.3	675	0.20	391.14	1.06	0.90
Campeau	B	SAN5	SAN4				58.60	3252	3.412	45.54	6.27	64.26		2.87		65.40	98.04	6.27	191.13	53.516	**197.10**	68.8	675	0.20	391.14	1.06	0.91
Didsbury		SAN4	SAN3				62.49	3252	3.412	45.54		64.26		34.13		65.40	179.62	0.00	226.28	122.008	**347.17**	94.2	750	0.16	465.12	1.02	0.99
Didsbury	A1	SAN3	SAN2				62.49	3252	3.412	45.54	4.69	68.95		34.13		65.40	183.69	4.69	230.97	123.322	**352.55**	96.0	750	0.16	465.12	1.02	0.99
Didsbury		SAN2	SAN1				62.49	3252	3.412	45.54		68.95		34.13		65.40	183.69	0.00	230.97	123.322	**352.55**	92.1	750	0.16	465.12	1.02	0.99
Didsbury		SAN1	SANMH				62.49	3252	3.412	45.54		68.95		34.13		65.40	183.69	0.00	230.97	123.322	**352.55**	35.2	750	0.55	861.84	1.89	1.52

1 Existing Didsbury sanitary sewer currently conveys wastewater flow from existing developed areas south of Hwy 417. See the Kanata West Master Servicing Study's Fig. 4.2-2 and drawing S-1.
2 Existing Didsbury sanitary sewer north of Campeau Drive currently conveys wastewater flow from existing developed areas east of Ddisbury Rd. See the Kanata West Master Servicing Study's Fig. 4.2-2 and drawing S-1.
3 Future wastewater flows from development west of Carp River per Kanata West Master Servicing Study's Fig. 4.2-1 and drawing S-1.
4 Missing drainage area information for SANMH north and west inlet pipes (375mm dia. SAN @ 0.30% and 375mm dia. SAN @ 0.15% respectively). Pipes assumed to be flowing at full capacity. Flows (100.32L/s and 70.68L/s) added to total flow column.

excerpt from Taggart – Loblaws Subdivision, Kanata West Servicing Report, prepared by Stantec (1604-00402, June 11,2013)

san_160400402_2013-06-06_modified.xls
W:\active\160400402(591)\design\analysis\SAN\

IBI GROUP

IBI Group
400 - 333 Preston Street
Ottawa, ON
K1S 5N4

SANITARY SEWER DESIGN SHEET
PROJECT: SIGNATURE RIDGE PUMP STATION ANALYSIS (INTERIM CONDITIONS: SCENARIO C)
LOCATION: CITY OF OTTAWA
DEVELOPER:

FILE: 3775.5.7.4
PRINTED: 07/07/2011
DESIGN: PMD
CHECKED:

LOCATION			INDIVIDUAL RESIDENTIAL FLOW					CUM. RESIDENTIAL FLOW				ICI FLOW							INFILTRATION					TOTAL	PROPOSED SEWER						
			RESIDENTIAL UNITS																			MH COVER INFLOW									
STREET	FROM MH	TO MH	Sngls	Towns Semis	Condo	RES. AREA (Ha)	POP.	AREA (Ha)	POP.	PEAK FACT.	PEAK FLOW (L/s)	COMM AREA (Ha)	CUMM AREA (Ha)	INST AREA (Ha)	CUMM AREA (Ha)	IND AREA (Ha)	CUMM AREA (Ha)	PEAK FLOW (L/s)	INCR. AREA (Ha)	CUM. AREA (Ha)	FLOW (L/s)	INCR. (L/s)	CUM. (L/s)	DESIGN FLOW (L/s)	CAP. L/s	PIPE (mm)	LGTH. (m)	SLOPE (%)	VEL. (full) (m/s)	AVAIL. CAP. (L/s)	AVAIL. CAP. (%)
Grengold Way	20037	20038	5	0		0.32	17	0.32	17	4.00	0.28							0.00	0.32	0.32	0.16	0.00	0.00	0.44							
Grengold Way	20038	20039	6	0		0.52	20	0.84	37	4.00	0.61							0.00	0.52	0.84	0.42	1.38	1.38	2.41							
Grengold Way	20039	20040	9	0		0.56	31	1.40	68	4.00	1.10							0.00	0.56	1.40	0.70	0.00	1.38	3.18							
Grengold Way	20040	20041	10	0		0.60	34	2.00	102	4.00	1.65							0.00	0.60	2.00	1.00	0.00	1.38	4.03							
Grengold Way	20041	20042	20	0		1.10	68	3.10	170	4.00	2.75							0.00	1.10	3.10	1.55	0.00	1.38	5.68							
Grengold Way	20042	20043	0	0		0.00	0	3.10	170	4.00	2.75							0.00	0.00	3.10	1.55	0.00	1.38	5.68							
Hemlo Crescent	20043	20044	0	29		0.44	78	13.44	808	3.86	12.62							0.00	0.44	13.44	6.72	0.00	2.47	21.81							
Hemlo Crescent	20044	20045	0	0		0.00	0	13.44	808	3.86	12.62							0.00	0.00	13.44	6.72	0.00	2.47	21.81							
Hemlo Crescent	20045	20161	0	3		0.50	8	48.27	2061	3.58	29.86							0.00	0.50	48.27	24.14	0.00	13.53	67.52							
EASEMENT	20161	12470	0	0		0.25	0	81.52	3437	3.39	47.22	4.88	4.88					4.24	13.81	95.08	47.54	0.00	41.01	140.01							
COREL CENTRE (EX SEWER)																															
AREA 35 - HP EMPLMNT		15														6.05	6.05	3.68	6.05	6.05	3.03	0.08	0.08	6.78							
AREA 36 - (Corel Centre)																0.00	6.05	3.68	0.00	6.05	3.03	0.00	0.08	36.78							
AREA 38 - EXTEN EMPLMNT														20.15	20.15	0.00	6.05	21.17	20.15	26.20	13.10	0.26	0.34	64.61							
FIRST LINE ROAD SEWER																															
AREA 40 - EMPLMNT		15														14.59	14.59	8.87	14.59	14.59	7.30	0.19	0.19	16.35							
AREA 41 - EMPLMNT																11.97	26.56	16.14	11.97	26.56	13.28	0.16	0.35	29.76							
AREA 42 - EMPLMNT																20.66	47.22	28.69	20.66	47.22	23.61	0.27	0.61	52.92							
AREA 43 - EMPLMNT																28.89	76.11	46.25	28.89	76.11	38.06	0.38	0.99	85.29							
TOTALS SOUTH OF QWY TO SRPS	15	43820													20.15		82.16	67.41	0.00	102.31	51.16	0.00	1.33	149.90							
ARCADIA STG 2	S2	S5				7.84	572	7.84	572	3.94	9.14							0.00	7.84	7.84	3.92	0.10	0.10	13.06							
ARCADIA STG 1	S1	S5				1.90	163	1.90	163	4.00	2.64							0.00	1.90	1.90	0.95	0.02	0.02	3.62							
	S5	S6				6.45	93	16.19	828	3.85	12.92		0.00				0.00	0.00	6.45	16.19	8.10	0.08	0.21	21.22							
	S6	2B				2.21	487	18.40	1315	3.72	19.82		0.00					0.00	2.21	18.40	9.20	0.03	0.24	29.26							
CAMPEAU DRIVE	2B	3				4.14	240	22.54	1555	3.67	23.11	0.92	0.92					0.80	0.92	18.40	9.20	0.01	0.25	33.36							
CAMPEAU DRIVE	3	4				0.00	0	22.54	1555	3.67	23.11	0.00	0.92				0.00	0.80	0.00	18.40	9.20	0.00	0.25	33.36							
14 MIXED USE	4	5				1.76	263	24.30	1818	3.62	26.64	0.00	0.92			2.37	2.37	2.24	4.13	22.53	11.27	0.05	0.30	40.45							
AREA 13 COMMUNITY RETAIL	QUEENSWAY	5				0.00	0	0.00	0	4.00	0.00	0.00	0.00			6.35	6.35	3.86	6.35	6.35	3.18	0.08	0.08	7.12							
AREA 11/12 MIXED USE						5.02	752	5.02	752	3.88	11.81	0.00	0.00			6.79	13.14	7.98	11.81	18.16	9.08	0.15	0.24	29.11							
	43820	43821				0.21	0	0.21		4.00	0.00				20.15		82.16	67.41	0.21	102.52	51.26	0.00	1.33	150.01							
	43821	43822				0.20	0	0.41		4.00	0.00				20.15		82.16	67.41	0.20	102.72	51.36	0.00	1.34	150.11							
	43822	43823				0.22	0	0.63		4.00	0.00				20.15		82.16	67.41	0.22	102.94	51.47	0.00	1.34	150.22							
	43823	20011				0.22	0	0.85		4.00	0.00				20.15		82.16	67.41	0.22	103.16	51.58	0.00	1.34	150.34							
	20011	5				0.08	0	0.93		4.00	0.00				20.15		82.16	67.41	0.08	103.24	51.62	0.00	1.34	150.38							
	12465	5				0.95	0	0.95		4.00	0.00								0.95	0.95	0.48	0.01	0.01	0.49							

Where Q = average daily per capita flow (350 l/cap.d.) or (0.0041l/sec./cap)
I = Unit of peak extraneous flow (0.50 l/sec/ha)
I = Unit of peak flow through manhole covers new development (0.13 l/sec/ha)
M = Residential Peaking factor = Harmon Peaking Factor , M = 1+(14/(4+P^0.5)) , where P = population in thousands
Q(p) = Peak population flow (l/s)
Q(i) = peak extraneous flow (l/s)
Population Density = 3.4 per single family, 2.7 per semi-detached and row townhouse units and 2.3 per stacked townhouse unit
Commercial, Office Space and School - Average flow 43,200 l/ha/day (0.50 l/s/ha) with Peaking Factor = 1.5
Undeveloped or Other Lands = 60 persons/gross hectare

Q	350
I	0.5
I	0.13
K	1.0
PF COMM	1.5
PF INST	1.5
PF IND	1.5
QCOMM	50000
QINST	50000

REV. # :

Area 14:
1.76ha/24.3ha x 26.64 L/s
= 0.07 x 26.64L/s
= 1.92L/s (Peak Flow Residential)

2.24L/s (ICI)

Area for Infiltration = 1.76ha + 2.37ha = 4.13ha

Area for Infiltration x Infiltration Rate
= 4.13 x 0.5 = 2.06L/s
Area 14 Total Peak Flow per SRPS = 1.92+2.24+2.06 = **6.22L/s**

excerpt from Signature Ridge Pump Station Hydraulic Grade Line Analysis – 3775-5.2.3 (R-2550), prepared by IBI group (July 2011)

IBI GROUP

IBI Group
400 - 333 Preston Street
Ottawa, ON
K1S 5N4

SANITARY SEWER DESIGN SHEET
PROJECT: SIGNATURE RIDGE PUMP STATION ANALYSIS (INTERIM CONDITIONS: SCENARIO C)
LOCATION: CITY OF OTTAWA
DEVELOPER:

FILE: 3775.5.7.4
PRINTED: 07/07/2011
DESIGN: PMD
CHECKED:

LOCATION			INDIVIDUAL RESIDENTIAL FLOW					CUM. RESIDENTIAL FLOW			
STREET	FROM MH	TO MH	RESIDENTIAL UNITS Sngls	Towns Semis	Condo	RES. AREA (Ha)	POP.	AREA (Ha)	POP.	PEAK FACT.	PEAK FLOW (L/s)
AREA 15 COMMUNITY RETAIL	5	5A				0.00	0	31.20	2570	3.50	36.42
AREA 44							0	31.20	2570	3.50	36.42
	12470	5A					0	81.52	3437	3.39	47.22
FROM STANTEC'S INTERSTITIAL LANDS REPORT, FLOWS RECALCULATED USING THIS SPREADSHEET											
		BAYLIS				2.26	199	2.26	199	4.00	3.22
LOWER BAYLIS	BAYLIS	RCHRDSN N				9.01	692	11.27	891	3.83	13.83
KIZELL POND	RCHRDSN N	L RCHRDSN				8.24	711	19.51	1602	3.66	23.74
LOWER RICHARDSON	L RCHRDSN	LRCHRDSN ESMT				10.35	629	29.86	2230	3.55	32.06
LOWER RICHARDSON ESMT	LRCHRDSN ESMT	N62				4.80	190	34.66	2421	3.52	34.51
N62	N62	BROUGHTON				16.30	1106	50.96	3527	3.38	48.31
BROUGHTON	BROUGHTON	TBD				2.00	0	52.96	3527	3.38	48.31
TBD	TBD	5A						52.96	3527	3.38	48.31
	5A	SPRS					0	165.68	9534	2.98	114.91
	SPRS	BR POND					0	165.68	9534.0	2.98	114.91

STREET	ICI FLOW COMM AREA (Ha)	CUMM AREA (Ha)	INST AREA (Ha)	CUMM AREA (Ha)	IND AREA (Ha)	CUMM AREA (Ha)	PEAK FLOW (L/s)	INFILTRATION INCR. AREA (Ha)	CUM. AREA (Ha)	FLOW (L/s)	MH COVER INFLOW INCR. (L/s)	MH COVER INFLOW CUM. (L/s)	TOTAL DESIGN FLOW (L/s)	PROPOSED SEWER CAP. L/s	PIPE (mm)	LGTH. (m)	SLOPE (%)	VEL. (full) (m/s)	AVAIL. CAP. (L/s)	AVAIL. CAP. (%)
AREA 15 COMMUNITY RETAIL		0.92		20.15	3.88	101.55	80.00	3.88	148.76	74.38	0.05	1.95	192.75							
AREA 44		0.92		20.15	25.54	127.09	[illegible].51	25.54	174.30	87.15	0.33	2.28	221.37							
(12470 – 5A)		4.88					4.24	0.00	95.08	47.54	0.00	41.01	140.01							
(– BAYLIS)							0.00	2.26	2.26	1.13	0.03	0.03	4.38							
LOWER BAYLIS							0.00	9.01	11.27	5.64	0.12	0.15	19.61							
KIZELL POND							0.00	8.24	19.51	9.76	0.11	0.25	33.75							
LOWER RICHARDSON							0.00	10.35	29.86	14.93	0.13	0.39	47.38							
LOWER RICHARDSON ESMT							0.00	4.80	34.66	17.33	0.06	0.45	52.29							
N62	1.20	1.20					1.04	17.50	52.16	26.08	0.23	0.68	76.11							
BROUGHTON							0.00	2.00	54.16	27.08	0.03	0.70	76.10							
TBD		1.20					1.04	0.00	54.16	27.08	0.00	0.70	77.14							
(5A – SPRS)		7.00		20.15		127.09	100.79	0.00	323.54	161.77	0.00	43.99	451.46							
(SPRS – BR POND)		7.00		20.15		127.09	100.79	0.00	323.54	161.77	0.00	43.99	451.46							

Where Q = average daily per capita flow (350 l/cap.d.) or (0.0041l/sec./cap)
I = Unit of peak extraneous flow (0.50 l/sec/ha)
I = Unit of peak flow through manhole covers new development (0.13 l/sec/ha)
M = Residential Peaking factor = Harmon Peaking Factor , M = 1+(14/(4+P^0.5)) , where P = population in thousands
Q(p) = Peak population flow (l/s)
Q(i) = peak extraneous flow (l/s)
Population Density = 3.4 per single family, 2.7 per semi-detached and row townhouse units and 2.3 per stacked townhouse unit
Commercial, Office Space and School - Average flow 43,200 l/ha/day (0.50 l/s/ha) with Peaking Factor = 1.5
Undeveloped or Other Lands = 60 persons/gross hectare

Q	350
I	0.5
I	0.13
K	1.0
PF COMM	1.5
PF INST	1.5
PF IND	1.5
QCOMM	50000
QINST	50000
QIND	35000

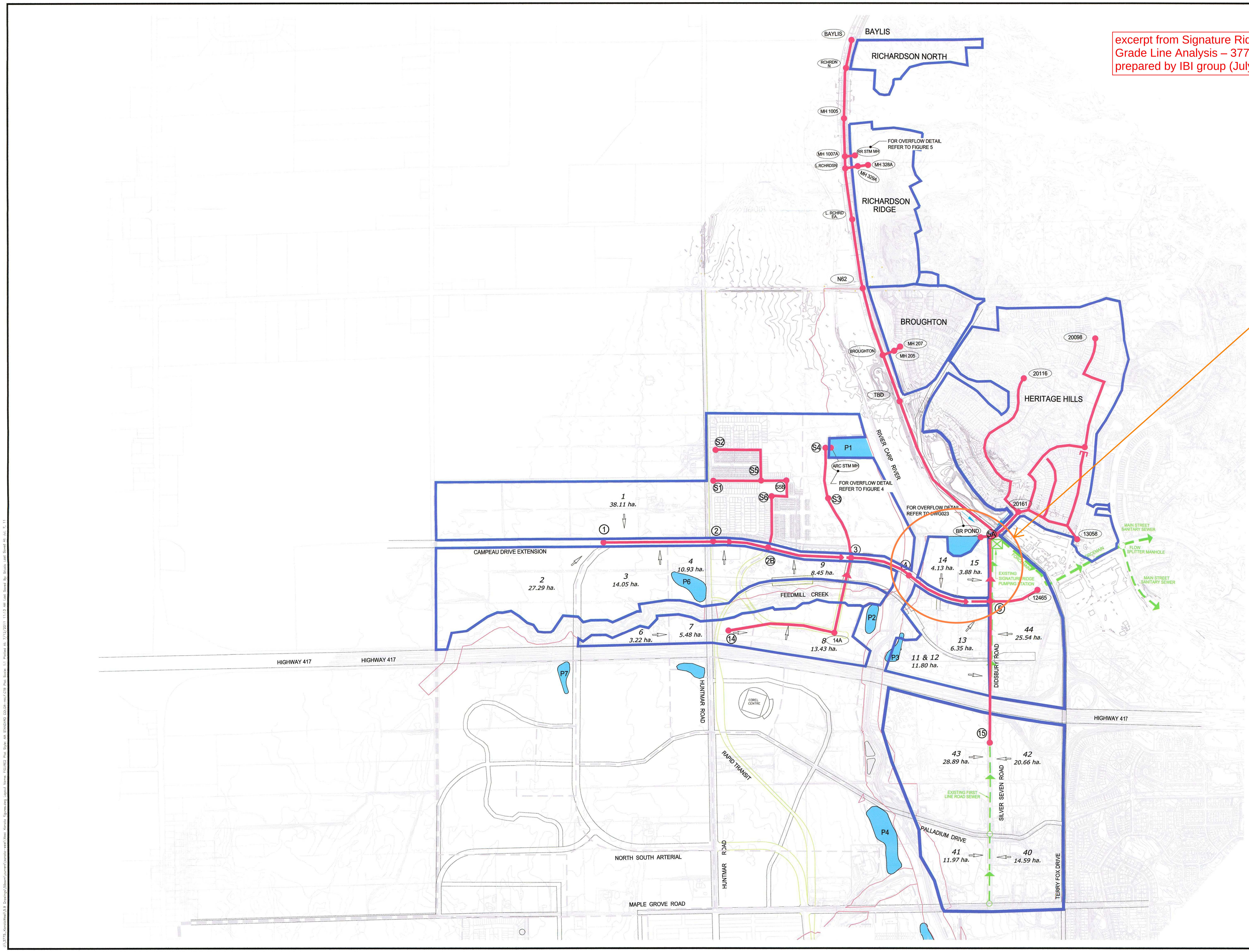
REV. # :

Area 15
= 3.88ha/101.55ha x 80.0L/s
= 0.03 x 80.0L/s
= 3.05L/s (ICI)

Area of Infiltration = 3.88ha
Area of Infiltration x Infiltration Rate
= 3.88*0.5 = 1.94L/s
Area 15 Total Peak Flow per SRPS = 3.05+1.94 = 4.99L/s

excerpt from Signature Ridge Pump Station Hydraulic Grade Line Analysis – 3775-5.2.3 (R-2550), prepared by IBI group (July 2011)

excerpt from Signature Ridge Pump Station Hydraulic Grade Line Analysis – 3775-5.2.3 (R-2550), prepared by IBI group (July 2011)



No.	REVISIONS	By	Date
14			
13			
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	ISSUED FOR CITY APPROVAL	P.S.	10/11/22

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Project Title

SIGNATURE RIDGE PUMP STATION HYDRAULIC GRADE LINE ANALYSIS

Drawing Title

ULTIMATE DEVELOPMENT CONDITION TRIBUTARY DRAINAGE AREA PLAN

Scale 1:8000

Design P.D.	Date OCT. 2010
Drawn M.B.	Checked P.S.
Project No. 3775	Drawing No. FIGURE 2

excerpt from Taggart – Loblaws Subdivision, Kanata West Servicing Report, prepared by Stantec (1604-00402, June 11,2013)

4 SANITARY SEWERS / PUMPING STATION

4.1 Introduction

The subject site is tributary to the Signature Ridge Pumping Station (SRPS), along with the lands to the south of Hwy 417 currently draining to this pumping station via a 450mm dia sanitary sewer along Didsbury Road. The proposed outlet for the subject development area is identified in the KWMSS as the existing 450mm dia. sanitary sewer in Didsbury Road.

The KWMSS identifies the following major features for sanitary servicing upgrades necessary for the Kanata West Concept Plan (KWCP) area:

(i.) An upgraded Signature Ridge Pumping Station (SRPS) to service all the Kanata West lands north of the Queensway; the existing urban area north of the Queensway currently proposed to drain to the SRPS; and the Broughton Richardson lands.

(ii.) A single new pumping station and forcemain located south of Maple Grove Road and west of the Carp River. The new pumping station will ultimately intercept flow from south of Hwy 417 that is currently tributary to the SRPS, providing additional capacity within the SRPS for all the lands within the KWCP area to the north of Hwy 417.

4.2 Pumping Station

R.V. Anderson has prepared a report “Preliminary Design for the Signature Ridge Pumping Station” dated January 25, 2011. The report identifies the flow capacity threshold and scope of upgrades necessary to increase the pumping capacity of the SRPS to accommodate growth within the Kanata West Concept Plan Area. Upgrades of the SRPS were initially planned to be completed in 2016 however, conversation with the City of Ottawa has revealed that the upgrades have been scheduled for 2012. The City has indicated to Stantec that the SRPS design will be completed by the end of April 2012, Tendered by the end of summer 2012 and constructed by the end of 2012. The upgraded pump station will have full capacity for the “future service area lands” shown in Figure 2.2 which includes the full proposed development area (see the **Figures** section at the end of this report).

Additionally, a cost sharing agreement prepared by Novatech Engineering Consultants, indicates that 2.06L/s of the remaining SRPS capacity previously owned by the Kanata West Owners Group (KWOG) was allocated to Taggart. Table 1 from the agreement is included in **Appendix C**.

4.3 Sanitary Sewer Design

The Ottawa Sewer Design Guidelines provide guidance for the calculation of wastewater design flows on the basis of:

APPENDIX C

Water Demands

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #:	125105	**Legend:**	Input by User	No Input Required
Project Name:	375 Didsbury road		Calculated Cells →	
Date:	June 2026	**Reference:**	Ottawa Design Guidelines - Water Distribution (2010 and TBs)	
Input By:	DKM		MOE Design Guidelines for Drinking-Water Systems (2008)	
Reviewed By:	ARM		Fire Underwriter's Survey Guideline (2020)	
Drawing Reference:			Ontario Building Code, Part 3 (2012)	

Small System = NO

	# of Dwellings	Area (ha.)	Pop. Equiv.	Average Day Demand (L/s)	Maximum Day Demand (L/s)	Peak Hour Demand (L/s)
Industrial / Commercial / Institutional (ICI) Input						
Commercial Area		7.30		2.37	3.55	6.39
Totals	**0**	**7.30**	**0.00**	**2.37**	**3.55**	**6.39**

Summary

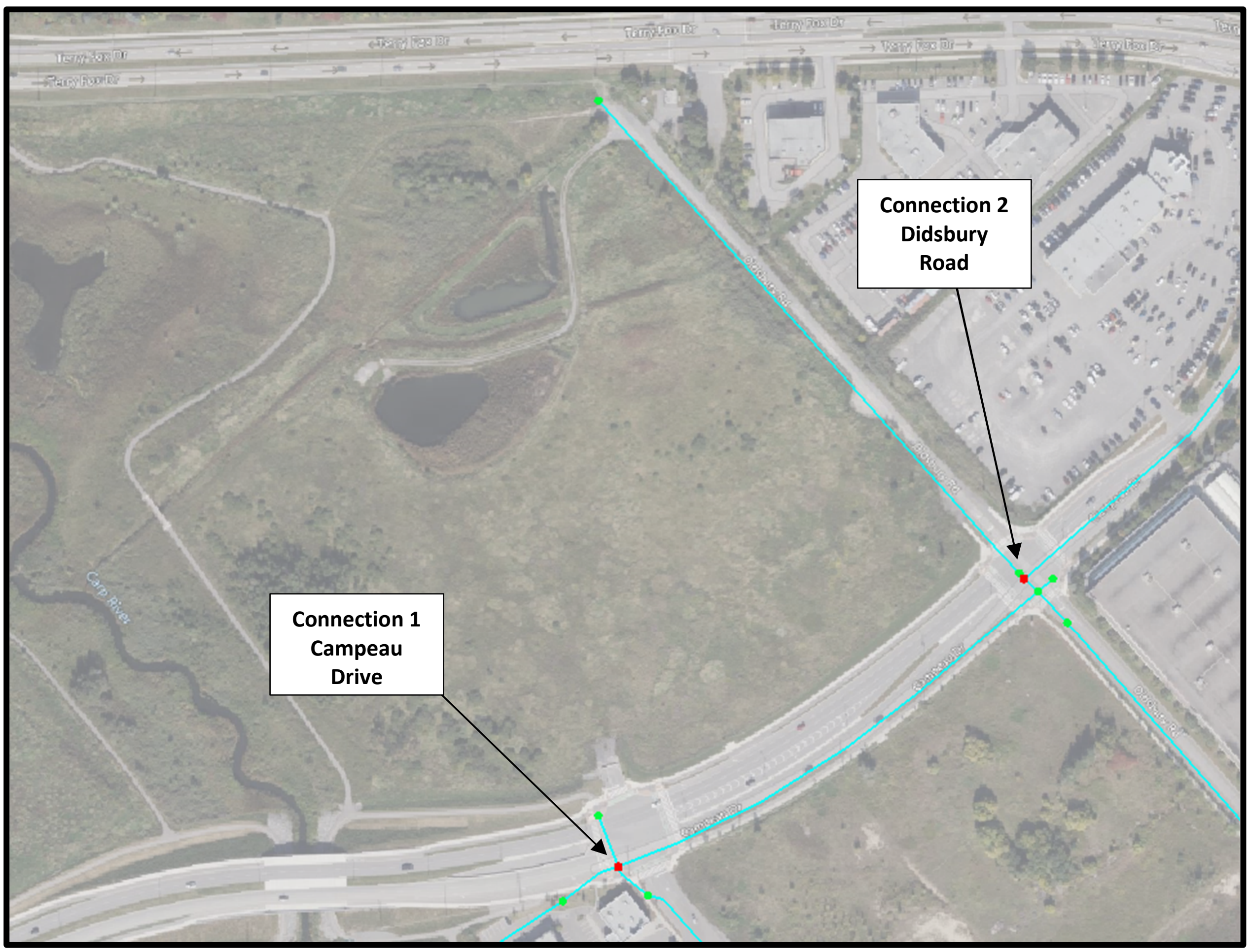
i. Type of Development and Units:	Commercial Development		
ii. Proposed Water Service Connection Location(s):	Refer to Figure 2 for Conceptual Servicing Layout.		
iii. Average Day Flow Demand:		2.4	L/s
iv. Peak Hour Flow Demand:		6.4	L/s
v. Maximum Day Flow Demand:		3.5	L/s
vi. Required Fire Flow #1 (Sprinklered):		7000	L/min
vii. Required Fire Flow #2 (Unsprinklered):		16000	L/min

Boundary Conditions
375 Didsbury Road

Provided Information

Scenario	Demand	
	L/min	L/s
Average Daily Demand	149	2.48
Maximum Daily Demand	223	3.72
Peak Hour	401	6.69
Fire Flow Demand #1	7,000	116.67
Fire Flow Demand #2	16,000	266.67

Location



Results

Connection 1 – Campeau Drive

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	162.8	95.1
Peak Hour	155.5	84.8
Max Day plus Fire Flow #1	155.5	84.8
Max Day plus Fire Flow #2	155.5	84.8

[1] Ground Elevation = 95.9 m

Connection 2 – Didsbury Road

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	162.8	94.9
Peak Hour	155.5	84.6
Max Day plus Fire Flow #1	155.5	84.6
Max Day plus Fire Flow #2	155.5	84.6

[1] Ground Elevation = 96.1 m

Notes

1. Demands for proposed Connection 1 off existing watermain stub were assigned to upstream junction at Campeau Drive off the public looped watermains. The engineer must calculate headloss off the dead-end main.
2. Demands for proposed Connection 2 off existing watermain along Didsbury Road were assigned to upstream junction at Campeau Drive & Didsbury Road off the public looped watermains. The engineer must calculate headloss off the dead-end main.
3. Any connection to a watermain 400 mm or larger should be approved by DWS as per the Water Design Guidelines Section 2.4 Review by Drinking Water Services.
4. As per the Ontario Building Code in areas that may be occupied, the static pressure at any fixture shall not exceed 552 kPa (80 psi.) Pressure control measures to be considered are as follows, in order of preference:
   - If possible, systems to be designed to residual pressures of 345 to 552 kPa (50 to 80 psi) in all occupied areas outside of the public right-of-way without special pressure control equipment.
   - Pressure reducing valves to be installed immediately downstream of the isolation valve in the home/ building, located downstream of the meter so it is owner maintained.

Disclaimer

The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account.