File: 136063.6.04.03

Design Brief
Crown Pointe Commercial
Phase 3
920 Watters Road

Development Application File No. **D07-**

Prepared for Crown Pointe Co-Tenancy
C/O Taggart Realty Management
by IBI Group
OCTOBER 2021

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1 INTRODUCTION

1.1 Scope

IBI Group has been retained by Crown Pointe Co-Tenancy to prepare the necessary engineering plans, specifications and documents to support the proposed Site Plan Application for the subject lands in accordance with the policies set out by the Planning and Development Branch of the City of Ottawa. This Brief will present a detailed servicing scheme to support development of the property, and will include sections on water supply, wastewater management, minor and major stormwater management along with erosion and sediment control.

1.2 Subject Site

The subject property is located at the southwest corner of the Watters Road and Trim Road intersection. The proposed Crown Pointe development is approximately 1.6 hectares in size and is bounded by the existing commercial and residential to the south and west, Watters Road to the north, and Trim Road to the east. Please refer to **Figure 1** for more information regarding the site location.

The Crown Pointe project will consist of the construction of 2 commercial building pads along with vehicular access routes, dedicated parking space and landscaping areas. A current plan of the proposed development is shown on **Figure 2**. Two earlier phases of the commercial plaza were previously constructed, please refer to **Figure 3** for the current extent of the existing plaza.

1.3 Previous Studies

Design of this project has been undertaken in accordance with the following reports:

- Crown Point Phase 3 – Stormwater Drainage Report prepared by Cumming Cockburn Limited, May 1996
- Crown Pointe Center – Servicing Report prepared by Stantec, June 2004

1.4 Pre-consultation

A pre-consultation with the City was held on October 6, 2020 regarding the proposed development. Notes from this meeting may be found in **Appendix E**. There was no servicing, grading or stormwater management notes which deviated from the standard City of Ottawa comments.

1.5 Geotechnical Considerations

The following geotechnical investigation report has been prepared by Paterson Group Inc:

- Report No. PG4655-1 dated October 17, 2018 for the subject site;

Generally, the original grade is relatively flat, sloping from south to north. The subsurface profile encountered at the test hole locations consists of fill, followed by very stiff to stiff silty clay. Based on the testing results, the permissible grade raise varies between 2.0m and 2.5m depending on proximity to proposed buildings.

2 WATER SUPPLY

2.1 Existing Conditions

As previously noted, the 1.6-hectare Crown Pointe site is located south of Watters Road and west of Trim Road. The subject site is flanked on both the north and east sides by existing watermains. An existing 406mm diameter watermain is located within the Watters Road right of way and a 203mm watermain goes through the site to service existing commercial buildings. Both watermains fall within the City of Ottawa's pressure district **Zone 2E** which will provide the water supply to the site.

2.2 Design Criteria

2.2.1 Water Demands

Water demands have been calculated for the full development. Per unit population density and consumption rates are taken from Tables 4.1 and 4.2 at the Ottawa Design Guidelines – Water Distribution and are summarized as follows:

- ICI Average Day Demand 2,500 l/ha/day
- ICI Peak Daily Demand 3,750 l/ha/day
- ICI Peak Hour Demand 6,750 l/ha/day

A watermain demand calculation sheet is included in **Appendix A** and the total water demands are summarized as follows:

- Average Day 0.10 l/s
- Maximum Day 0.15 l/s
- Peak Hour 0.27 l/s

2.2.2 System Pressure

The Ottawa Design Guidelines – Water Distribution (WDG001), July 2010, City of Ottawa, Clause 4.2.2 states that the preferred practice for design of a new distribution system is to have normal operating pressures range between 345 kPa (50 psi) and 480 kPa (80 psi) under maximum daily flow conditions. Other pressure criteria identified in Clause 4.2.2 of the guidelines are as follows:

Minimum Pressure	Minimum system pressure under peak hour demand conditions shall not be less than 276 kPa (40 psi)
Fire Flow	During the period of maximum day demand, the system pressure shall not be less than 140 kPa (20 psi) during a fire flow event.
Maximum Pressure	In accordance with the Ontario Building/Plumbing Code, the maximum pressure should not exceed 552 kPa (80 psi). Pressure reduction controls will be required for buildings where it is not possible/feasible to maintain the system pressure below 552 kPa.

2.2.3 Fire Flow Rates

The Crown Pointe site plan contains two commercial building pads. Calculations using the Fire Underwriting Survey (FUS) method were conducted to determine the fire flow requirement for the site. Results of the analysis provides a maximum fire flow rate of 8,000 l/min or 133.3l/s is required which is used in the hydraulic analysis. A copy of the FUS calculations are included in **Appendix A**.

2.2.4 Boundary Conditions

The City of Ottawa has provided a hydraulic boundary condition on Watters Road and at the Watters Road and Montcrest Drive intersection, where the two watermain connections to the site will occur. A copy of the boundary conditions including a location figure can be found in **Appendix A** and summarized as follows:

Table 2. 1 Hydraulic Boundary Conditions at Watters Road (Northern Connection)

	RIVERSIDE DRIVE.
Max HGL (Basic Day)	130.2 m
Min HGL (Peak Hour)	126.0 m
Max Day + Fire Flow (133.3 l/s Fire Flow)	128.0 m

Table 2. 2 Hydraulic Boundary Conditions at Montcrest Drive/Watters Road (Southern Connection)

	RIVERSIDE DRIVE.
Max HGL (Basic Day)	130.2 m
Min HGL (Peak Hour)	126.0 m
Max Day + Fire Flow (133.3 l/s Fire Flow)	127.7 m

2.2.5 Hydraulic Model

A computer model for the subject development has been developed using the H20 MAP Version 6.0 program produced by MWH Soft Inc. The model includes the existing watermain and boundary condition on Riverside Drive.

2.3 Proposed Water Plan

2.3.1 Modeling Results

The hydraulic model was run under basic day, maximum day with fire flows and under peak hour conditions. Water pipes are sized to provide sufficient pressure and to deliver the required fire flows. During the design stage all mains are tested at the minimum 150 mm diameter size, while the pressure criteria is met with the minimum sized mains the fire flow requirement is not achieved at all locations. The main sizes are increased in an iterative process until the fire flow results are sufficient.

Results of the hydraulic model are include in **Appendix A** and summarized as follows:

Scenario	
Basic Day (Max HGL) Pressure Range	414.3 to 423.3 kPa
Peak Hour (Min HGL) Pressure Range	373.3 to 382.2 kPa
Min Design Fire Flow @ 140 kPa and 133.3 L/s	430.1 L/s

A comparison of the results and design criteria is summarized as follows:

Maximum Pressure	All nodes have basic day pressures under 552 kPa, therefore pressure reducing control are not required for this development.
Minimum Pressure	All nodes are above the minimum pressure of 276 kPa
Fire Flow	The FUS fire demand of 133.3 l/s is met at all fire nodes.

2.3.2 Watermain Layout

In order to provide additional reliability to the system in case of a watermain break, two connections to the City's watermain system are proposed. One proposed connection to the existing 406mm watermain within the Watters Road right of way and the other proposed connection to the 203mm watermain within the existing commercial property. All watermains on-site are 200mm diameter as required to meet the fire flow criteria.

3 WASTEWATER DISPOSAL

3.1 Existing Conditions

An existing 750mm diameter concrete sanitary collector sewer exists within an easement through the north-east quadrant of subject property. This sewer will not be impacted by the proposed development and no connections are proposed to this sewer. The development of Phase 1 of the Crown Point Plaza in 2004 consisted of a network on on-site sanitary sewers along with a connection to an existing public sewer at the Watters – Montcrest intersection. As part of the Phase 2 development a 200mm diameter sanitary stub was left at the western limit of the Phase 3 lands to service the remaining parcel of property.

3.2 Design Criteria

The sanitary sewers for the subject site will be based on the City of Ottawa design criteria. It should be noted that the sanitary sewer design for this study incorporates the latest City of Ottawa design parameters identified in Technical Bulletin ISTB-2018-01. Some of the key criteria will include the following:

- Commercial/Institutional flow — 28,000 l/ha/d
- Peaking factor — 1.5 if ICI in contributing area >20%
1.0 if ICI in contributing area <20%
- Infiltration allowance — 0.33 l/s/ha
- Velocities — 0.60 m/s min. to 3.0 m/s max.

3.3 Recommended Wastewater Plan

The on-site sanitary system will consist of a network of 200mm PVC sewers installed at normal depth and slope and will provide a single service connection to each commercial building pad. The sewers have been designed using the criteria noted above in section 3.2 and outlet via a connection to the existing sanitary sewer stub on the western limit of the site as described above in section 3.1. A copy of the sanitary drainage area plan 136063-C-400 and the sanitary sewer design sheet can be found in **Appendix B.** Please refer to the site servicing plan 136063-C-001 for further details.

4 SITE STORMWATER MANAGEMENT

4.1 Existing Conditions

An existing 1350mm diameter concrete storm sewer exists within an easement through the north-east quadrant of subject property. This sewer will not be impacted by the proposed development and no connections are proposed to this sewer.

The development of Phase 2 of the Crown Point Center in 2004 consisted of a network on on-site storm sewers along with a connection to an existing public sewer at the Watters – Montcrest intersection. As part of the Phase 2 development a 375mm diameter storm stub was left at the western limit of the Phase 2 lands to service a portion of the subject property.

In addition, as part of the Crown Pointe Phase 3 residential development located to the south of the property, a 750mm diameter storm was installed to provide an outlet for the entire commercial property.

4.2 Design Criteria

As previously noted, the 2004 Stantec report for Phase 2 of the Crown Point Center left a storm sewer stub to service Phase 3 of the development. As part of their report a stormwater flow allocation for the subject lands of 76.6 L/s was specified. For reference the Phase 3 lands in the Stantec report are identified as “Future Esso Tiger Express” An excerpt from the Stantec report confirming the above can be found in **Appendix C.** These future lands in the Stantec report are identified as being 0.74 Ha in size.

The current Phase 3 site plan consists of 1.6 Ha of proposed development, the increase is due to the realignment of Trim Road. With Trim Road shifting northward the former Trim ROW was purchased and has been added to Taggart Realty’s Crown Pointe Commercial Center. This results in an increase to the Phase 3 lands of 0.86 Ha.

The subject lands will have two storm outlets, both connections will be to existing sewers that were designed and installed to service the subject lands. The western third of the subject lands will drain west to the existing 375mm storm stub installed during Phase 2 construction of the Crown Pointe Center.

The eastern two-thirds of the subject site will drain south to the existing 750mm storm stub located along the southern property line located behind the existing retail plaza.

It should be noted, the 750mm storm stub was designed by Cumming Cockburn Limited (CCL) in 1996 as part of the Crown Point Phase 3 subdivision and sized to accommodate 3.22 Ha of commercial development with a peak flow of 550.5 l/s. This flow allocation has not yet been utilized in support of previous sub-phases of the Crown Pointe Commercial Center development and as such remains available for use during the Phase 3 development.

The stormwater system was designed following the principles of dual drainage, making accommodations for both major and minor flow.

Some of the key criteria include the following:

- Design Storm 1:2 year return (Ottawa)
- Rational Method Sewer Sizing
- Initial Time of Concentration 10 minutes

- Runoff Coefficients
  - Landscaped Areas C = 0.30
  - Asphalt/Concrete C = 0.90
  - Roof C = 0.90
- Pipe Velocities 0.80 m/s to 6.0 m/s
- Minimum Pipe Size 250 mm diameter (200 mm CB Leads)

4.3 Proposed Minor System

Using the criteria identified in Section 4.2, the proposed on-site storm sewers were sized accordingly. A detailed storm sewer design sheet and the associated storm sewer drainage area plan is included in **Appendix C**. The general plan of services, depicting all on-site storm sewers can be found in **Appendix F**.

4.4 Stormwater Management

The subject site will be limited to a release rate established using the criteria described in section 4.2. This will be achieved through a combination of inlet control devices (ICD's) at inlet locations and surface storage.

Flows generated that are in excess of the site`s allowable release rate will be stored on site in strategic surface storage areas or by the use of roof top storage and gradually released into the minor system so as not to exceed the site's allocation.

The maximum surface retention depth located within the developed areas will be limited to 300mm during a 1:100-year event. Overland flow routes will be provided in the grading to permit emergency overland flow, in excess of the 100-year event, from the site.

At certain locations within the site, the opportunity to store runoff is limited due to grading constraints and building geometry. These locations are generally located at the perimeter of the site where it is necessary to tie into public boulevards and adjacent properties or in areas where ponding stormwater is undesirable. These "uncontrolled" areas – 0.22 hectares in total, have a C value of 0.30. Based on 1:100-year storm uncontrolled flows, the uncontrolled areas generate 50.26 l/s runoff (refer to Section 4.5 for calculation). It should also be noted that the loading ramp has been carried with a 100-year flow to eliminate and water accumulating within the depressed ramp.

The site grading and ponding has been designed to control water generated during the 1:100-year event, with no overflow leaving the site. Please refer to the SWM calculations in **Appendix C**.

4.5 On-Site Detention

Any excess storm water up to the 100-year event is to be stored on-site in order to not surcharge the downstream municipal storm sewer system. Detention will be provided in parking areas and building rooftops, where feasible. As previously noted, the volume of storage is dependent on the characteristics of each individual drainage area and the ICD's were chosen accordingly. It should be noted that 0.30m of vertical separation has been provided from all maximum ponding elevations to lowest building openings.

Additionally, ICDs have been sized to ensure there is no ponding in customer parking lot areas during the 2-year storm event.

Based on the flow allowance at the various inlet locations, a combination of various sizes of inlet control devices (ICDs) were chosen in the design. The design of the inlet control devices is unique to each drainage area and is determined based on several factors, including hydraulic head and allowable release rate. The inlet control devices were sized according to the manufacturer's design charts. The restrictions will cause the on-site catchbasins and manholes to surcharge, generating surface ponding in the parking and landscaped areas. Ponding locations and elevations are summarized on the Grading Plan 163063-C-200, and included in **Appendix F**.

4.6 Inlet Controls – Tributary to Crown Pointe Center

The allowable release rate for the western third of the site as identified in the Stantec report is as follows:

$Q_{allowable}$ = 76.6 L/s

No uncontrolled flows have been subtracted from this release rate; uncontrolled flows are accounted for in the southern outlet quantified below.

The maximum allowable release rate from the remainder of the site can then be determined as:

$Q_{max\ allowable} = Q_{restricted} - Q_{uncontrolled}$

= 76.6 L/s – 0 L/s

= **76.6 L/s**

4.6.1 Site Inlet Control

The following Table summarizes the on-site storage requirements during both the 1:5-year and 1:100-year events.

DRAINAGE AREA(s)	TRIBUTARY AREA	AVAILABLE STORAGE (M^3)	100-YEAR STORM		5-YEAR STORM	
			RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)	RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)
RAMP	0.5	0.0	22.34	0	22.34	0
CB1&CB2	0.12	74.01	29	18.34	29	4.03
TOTAL	**0.17**	**74.01**	**51.34**	**18.34**	**51.34**	**18.34**

The total required storage is met with surface ponds which retain the stormwater and discharge at the restricted flow rate to the sewer system.

4.6.2 Roof Inlet Controls

The proposed building will have roof inlet controls that help to control the amount of stormwater being released into the system. The restricted flow rate for the proposed building is shown below.

ICD AREA	TRIBUTARY AREA	100-YEAR STORM		5-YEAR STORM	
		RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)	RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)
FOOD	0.30	25.0	92.80	25.0	27.72
TOTAL	**0.30**	**25.0**	**92.80**	**25.0**	**27.72**

4.6.3 Overall Release Rate

As demonstrated above, the site uses new inlet control devices to restrict the 100-year storm event to the criteria approved by the City of Ottawa. Restricted stormwater will be contained onsite by utilizing surface ponding and rooftop storage. In the 100-year event, there will be no overflow off-site from restricted areas.

The sum of restrictions on the site, rooftops and uncontrolled flows is (51.34 l/s + 25.0 l/s + 0.0) 76.34 l/s, which is less than the allowable release of 76.60 l/s noted in section 4.6.

4.7 Inlet Controls – Tributary to Crown Pointe Subdivision Phase 3

The allowable release rate for the eastern two thirds of the site as identified in the CCL report is as follows:

$\mathbf{Q_{allowable}}$ = 550.5 L/s

As noted in Section 4.4, a portion of the site will be left to discharge to the right-of-way at an uncontrolled rate.

Based on a 1:100-year event, the flow from the 0.22 Ha uncontrolled area can be determined as:

$\mathbf{Q_{uncontrolled}}$ = **2.78** x **C** x $\mathbf{i_{100yr}}$ x **A** where:

C = Average runoff coefficient of uncontrolled area = 0.375 (increased by 25%)

$\mathbf{i_{100yr}}$ = Intensity of 100-year storm event (mm/hr)

= $1735.688 \times (T_c + 6.014)^{0.820}$ = 178.56 mm/hr; where T_c = 10 minutes

A = Uncontrolled Area = 0.22 Ha

Therefore, the uncontrolled release rate can be determined as:

$\mathbf{Q_{uncontrolled}}$ = **2.78** x **C** x $\mathbf{i_{100yr}}$ x **A**

= 2.78 x 0.375 x 178.56 x 0.22

= **40.95 L/s**

The maximum allowable release rate from the remainder of the site can then be determined as:

$\mathbf{Q_{max\ allowable}}$ = $\mathbf{Q_{restricted} - Q_{uncontrolled}}$

= 550.5 L/s – 40.95 L/s

= **509.55 L/s**

4.7.1 Site Inlet Control

The following Table summarizes the on-site storage requirements during both the 1:5-year and 1:100-year events.

DRAINAGE AREA(s)	TRIBUTARY AREA	AVAILABLE STORAGE (M^3)	100-YEAR STORM		5-YEAR STORM	
			RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)	RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)
CB9	0.12	8.27	30	17.34	30	2.57
CB6	0.33	41.91	100	38.29	100	6.22
CB5	0.11	48.85	25	17.76	25	4.07
CB3	0.19	16.34	55	23.59	55	3.52
CB4	0.12	17.21	45	10.30	45	1.18
CB8	0.03	0.02	20	0.07	20	0.00
TOTAL	**0.90**	**132.60**	**275**	**107.35**	**275**	**17.56**

The total required storage is met with surface ponds which retain the stormwater and discharge at the restricted flow rate to the sewer system.

4.7.2 Roof Inlet Controls

The proposed building will have roof inlet controls that help to control the amount of stormwater being released into the system. The restricted flow rate for the proposed building is shown below.

ICD AREA	TRIBUTARY AREA	100-YEAR STORM		5-YEAR STORM	
		RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)	RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)
McDs	0.04	10	5.44	10	0.73
TOTAL	**0.04**	**10**	**5.44**	**10**	**0.73**

4.7.3 Overall Release Rate

As demonstrated above, the site uses new inlet control devices to restrict the 100-year storm event to the criteria approved by the City of Ottawa. Restricted stormwater will be contained onsite by utilizing surface ponding and rooftop storage. In the 100-year event, there will be no overflow off-site from restricted areas.

The sum of restrictions on the site, rooftops and uncontrolled flows is (275 l/s + 10.0 l/s + 40.95) 325.95 l/s, which is less than the allowable release of 525.50 l/s noted in section 4.7.

5 SEDIMENT AND EROSION CONTROL PLAN

5.1 General

During construction, existing stream and conveyance systems can be exposed to significant sediment loadings. Although construction is only a temporary situation, it is proposed to possibly introduce several mitigative construction techniques to reduce unnecessary construction sediment loadings. These may include:

- Until the local storm sewer is constructed, groundwater in trenches will be pumped into a filter mechanism prior to release to the environment. bulkhead barriers will be installed at the nearest downstream manhole in each sewer which connects to an existing downstream sewer;
- seepage barriers will be constructed in any temporary drainage ditches (where applicable);
- sediment capture filter socks will remain on open surface structures such as maintenance holes and catchbasins until these structures are commissioned and put into use; and
- silt fence on the site perimeter will be installed.

5.2 Trench Dewatering

Any trench dewatering using pumps will be discharged into a filter trap made up of geotextile filters and straw bales similar in design to the OPSD 219.240 Dewatering Trap. These will be constructed in a bowl shape with the fabric forming the bottom and the straw bales forming the sides. Any pumped groundwater will be filtered prior to release to the existing surface runoff. The contractor will inspect and maintain the filters as needed, including sediment removal and disposal and material replacement as needed. It should be noted that that the contractor will be responsible for the design and management of the trap(s).

5.3 Bulkhead Barriers

To further reduce downstream sediment loading, a ½ diameter bulkhead will be constructed over the lower half of the outletting sewer during construction. These bulkheads will trap any sediment laden flows, thus preventing any construction-related contamination into existing sewers. The bulkheads will be inspected and maintained including periodic sediment removal as needed.

5.4 Seepage Barriers

In order to further reduce sediment loading to the stormwater management facility, seepage barriers will be installed on any surface water courses at appropriate locations that may become evident during construction. These barriers will be Light Duty Straw Bale Barriers per OPSD 219.100 and Heavy-Duty Silt Fence Barriers per OPSD 219.130; locations are shown on the Sediment and Erosion Control Plan included in **Appendix D**. They are typically made of layers of straw bales or geotextile fabric staked in place. All seepage barriers will be inspected and maintained as needed.

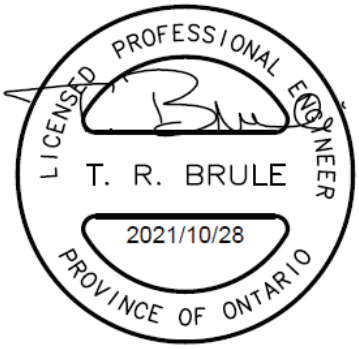
5.5 Surface Structure Filters

All catchbasins, and to a lesser degree, manholes, convey surface water to sewers. Until the parking lot is asphalted and curbed, all catchbasins and manholes will be constructed with sediment capture inserts or equivalent located between the structure frame and cover. These will stay in place and be maintained during construction and build until it is appropriate to remove same.

6 CONCLUSION

This report has illustrated that the proposed Crown Pointe Plaza – Phase 3 development can be serviced via existing municipal services. The water network will be extended to provide necessary service. All sanitary and storm sewer designs for this development will be completed in conformance with City of Ottawa standards while acknowledging downstream constraints. By limiting flow into the minor storm sewer system as per the applicable local stormwater management criteria and allowing for excess surface storage on-site, all stormwater management requirements will be met. Adherence to the Sediment and Erosion Control Plan during construction will minimize harmful impacts on surface water.

Based on the information provided within this report, the plans prepared for the subject development can be serviced to meet City of Ottawa requirements.



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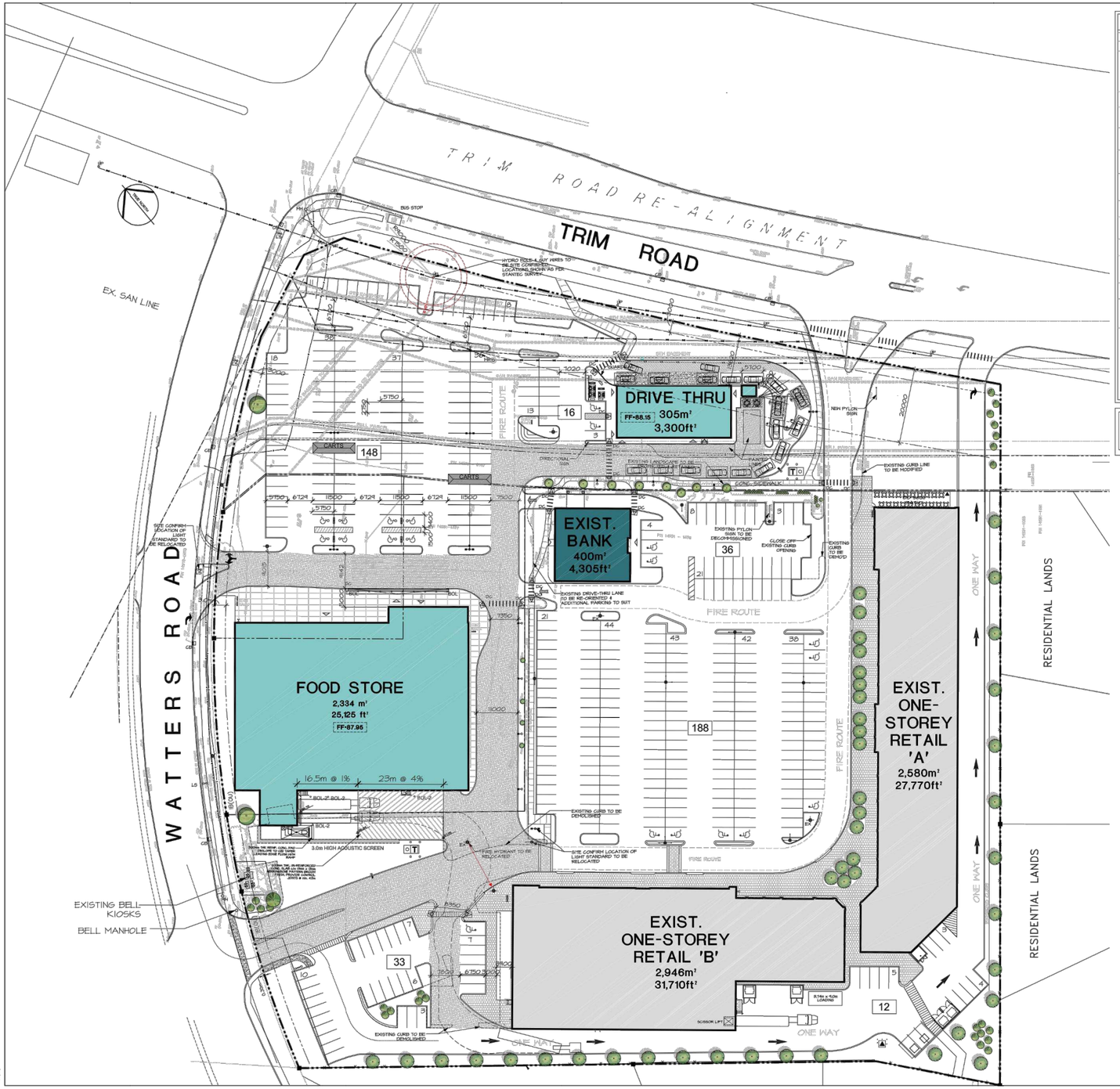
900 WATTERS ROAD
CROWN POINTE COMMERCIAL
PHASE 3

LOCATION PLAN

FIGURE 1



ZONING MECHANISM	REQUIRED GM15 II(8)	REQUIRED GM[392] H(16.5)	PROVIDED	COMPLIANCE
MIN. LOT AREA	NO MIN.	2.4ha	4.15ha	YES
MIN. LOT WIDTH	NO MIN.	NO MIN.	168m	YES
MINIMUM SETBACKS	FRONT YARD: 3m CORNER SIDE: 3m	FRONT YARD: 20m INTERIOR SIDE: 9m REAR YARD: 9m	DRIVE-THRUS: FRONT YARD: 13.62m SIDE/REAR: >9m FOOD STORE: FRONT: >3m CORNER: 3m	NO YES YES YES
MAX. BUILDING HEIGHT	8m	18.5m	5.6m (FOOD STORE) 5.5m (DRIVE-THRU)	YES YES
MAX. FLOOR SPACE INDEX	2	2	0.2	YES
GROSS LEASABLE FLOOR AREA	N/A	MIN. 3,000 sq.m. MAX. 10,000 sq.m.		YES
MINIMUM WIDTH OF LANDSCAPE AREA	3m	3m	>3m	YES
MINIMUM PARKING AREA C ON SCHEDULE A 3a/100sq.m. OF GROSS LEASABLE FLOOR AREA	338 SPACES		447 SPACES	YES
PARKING SPACE DIMENSIONS	WIDTH: 2.6m MIN TO 3.1 MAX LENGTH: 5.2m MIN.		2.75m X 5.75m	YES
AISLE AND DRIVEWAY PROVISIONS	MINIMUM DRIVEWAY WIDTH: 6m MINIMUM AISLE WIDTH: 6.7m		>6.7m	YES
BARRIER-FREE PARKING	400-499 PROVIDED SPACES: 5 SPACES		18 SPACES	YES
MINIMUM BICYCLE PARKING 1/500sq.m. OF GROSS FLOOR AREA	19		24 SPACES	YES
LOADING SPACES	RETAIL FOOD STORE: 1 SPACE RESTAURANT: NONE REQUIRED		2 SPACES	YES
OUTDOOR REFUSE COLLECTION	MIN. 9m FROM LOT LINE ABUTTING A PUBLIC STREET MIN. 3m FROM ANY OTHER LOT LINE SCREENED WITH A 2m HIGH OPAQUE SCREEN		SATISFIES ALL REQUIREMENTS	YES
PROVISIONS FOR DRIVE-THROUGH OPERATIONS	RESTAURANT WITH ORDER BOARD: LEADING TO AN LEAVING USE: 7 QUEING SPACES BEFORE/AT ORDER BOARD AND A MINIMUM TOTAL OF 11 SPACES		LEADING TO: 9 SPACES LEAVING: 7 SPACES	YES
	QUEING SPACES MUST BE 3m WIDE BY 5.7m LONG		3m X 5.7m	YES
	NO PART OF THE DRIVE-THROUGH MAY BE LOCATED WITHIN 3m OF A LONG LINE ABUTTING A RESIDENTIAL ZONE		N/A	YES

NEW GFA SUMMARY:

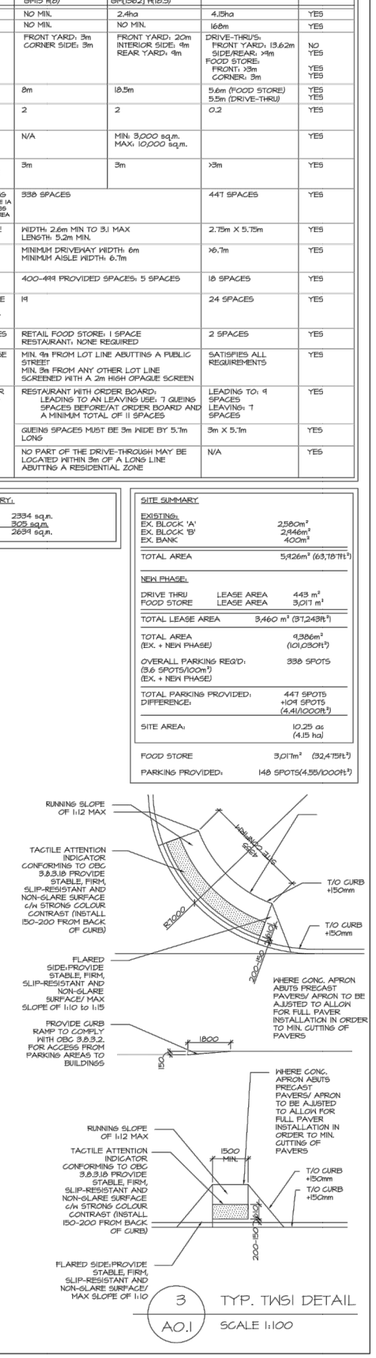
FOOD STORE:	2334 sq.m.
DRIVE THRU:	305 sq.m.
TOTAL:	2639 sq.m.

SITE SUMMARY

EXISTING:		
EX. BLOCK 'A'		2,580m²
EX. BLOCK 'B'		2,946m²
EX. BANK		400m²
TOTAL AREA		5,926m² (63,781ft²)
NEW PHASE:		
DRIVE THRU	LEASE AREA	443 m²
FOOD STORE	LEASE AREA	3,017 m²
TOTAL LEASE AREA		3,460 m² (37,248ft²)
TOTAL AREA (EX. + NEW PHASE)		9,386m² (101,030ft²)
OVERALL PARKING REQ'D: (3.6 SPOTS/100m²) (EX. + NEW PHASE)		338 SPOTS
TOTAL PARKING PROVIDED: DIFFERENCE:		447 SPOTS +109 SPOTS (4.41/1000ft²)
SITE AREA:		10.25 ac (4.15 ha)
FOOD STORE		3,017m² (32,475ft²)
PARKING PROVIDED:		148 SPOTS(4.55/1000ft²)

LEGEND:

B.F. PARKING STALL c/w BF. SIGNAGE	3660, 5400, 2400
DEPRESSED CURB c/w TWSI	DC
150mm DIA., 6mm THK. GALV. STEEL BOLLARD (MIN. 1.5m HIGH & 1.5m BELOW GRADE)	BOL
300mm DIA., 6mm THK. GALV. STEEL BOLLARD (MIN. 1.5m HIGH & 1.5m BELOW GRADE)	BOL-2
PRECAST CONCRETE PAVING	
CAST IN PLACE CONCRETE SIDEWALK/ REFER TO GEOTECH. REPORT	
PAINTED LINE STOP BAR	
ROLLED CONCRETE CURB	RC
SITE SIGNAGE	
PAINTED LINES	
BIKE RACK (4/RACK)	
EXTERIOR LIGHTING/ REFER TO ELEC. DWGS. FOR TYPES	
HEAVY DUTY ASPHALT	



no.	date	revision
01	xxxxxxxxx	

It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/or omissions to the architect.

All contractors must comply with all pertinent codes and by-laws.

Do not scale drawings.

This drawing may not be used for construction until signed.

Hobin Architecture Incorporated
63 Pamilla Street
Ottawa, Ontario
Canada K1S 3K7
T: 613-238-7200
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E: mail@hobinarc.com
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HOBIN ARCHITECTURE

PROJECT/LOCATION:
CROWN POINTE
RETAIL

DRAWING TITLE:
NEW WORK SITE PLAN

DRAWN BY:	DATE:	SCALE:
SL	18/10/09	1:500

PROJECT: 1618

DRAWING NO.: A0.1

REVISION NO.:

J:\136063_Crown_Pointe\7.0_Production\7.03_Design\04_Civil_LAND\Figures\FIGURES 2.dwg Layout Name: FIGURE 2

Last Saved By: DDORE Last Saved At: Oct. 27, 21

Scale
1:1000

Project Title
900 WATTERS ROAD
CROWN POINTE
COMMERCIAL PHASE 3

Drawing Title
SITE PLAN

Sheet No.
FIGURE 2

J:\136063_Crown_Pointe\7.0_Production\7.03_Design\04_Civil_LAND\Figures\FIGURES 3.dwg Layout Name: FIGURE 3

Last Saved By: DBORE Last Saved At: Oct. 27, 21

Scale

1:1000

Project Title

900 WATTERS ROAD
CROWN POINTE
COMMERCIAL PHASE 3

Drawing Title

EXISTING CONDITIONS

Sheet No.

FIGURE 3

APPENDIX A

Boundary Conditions
920 Watters Road

Provided Information

Scenario	Demand	
	L/min	L/s
Average Daily Demand	6	0.10
Maximum Daily Demand	9	0.15
Peak Hour	16	0.27
Fire Flow Demand #1	8,000	133.33

Location

Results

Connection 1 – Watters Rd.

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	130.2	61.4
Peak Hour	126.0	55.4
Max Day plus Fire 1	128.0	58.1

Ground Elevation = 87.0 m

Connection 2 – Moncrest Dr.

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	130.2	60.3
Peak Hour	126.0	54.3
Max Day plus Fire 1	127.7	56.8

Ground Elevation = 87.8 m

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.

IBI GROUP
333 PRESTON STREET
OTTAWA, ON
K1S 5N4

WATERMAIN DEMAND CALCULATION SHEET

PROJECT : Crown Pointe Phase 3
LOCATION : 920 Watters Road
DEVELOPER : TRM

FILE: 136036.6.04
DATE PRINTED: 22-Oct-21
DESIGN: SEL
PAGE : 1 OF 1

NODE	RESIDENTIAL UNITS SF	RESIDENTIAL UNITS TH	RESIDENTIAL UNITS MD	POP'N	NON-RESIDENTIAL INDTRL (ha.)	NON-RESIDENTIAL INST. (ha.)	NON-RESIDENTIAL COMM. (m^2)	AVERAGE DAILY DEMAND (l/s) Res.	AVERAGE DAILY DEMAND (l/s) Non-res.	AVERAGE DAILY DEMAND (l/s) Total	MAXIMUM DAILY DEMAND (l/s) Res.	MAXIMUM DAILY DEMAND (l/s) Non-res.	MAXIMUM DAILY DEMAND (l/s) Total	MAXIMUM HOURLY Res.	MAXIMUM HOURLY Non-res.	MAXIMUM HOURLY Total	FIRE DEMAND (l/s)
Food Store				0			3,017	0.00	0.09	0.09	0.00	0.13	0.13	0.00	0.24	0.24	133.3
Restaurant				0			443	0.00	0.01	0.01	0.00	0.02	0.02	0.00	0.03	0.03	

ASSUMPTIONS

RESIDENTIAL DENSITIES

Single Family	3.4 persons/unit
Townhouse	2.7 persons/unit
Medium Density	1.8 persons/unit

AVG. DAILY DEMAND

Residential	280 l / cap / day
ICI	2,500 l / ha / day

MAX. DAILY DEMAND

Residential	700 l / cap / day
ICI	3,750 l / ha / day

MAX. HOURLY DEMAND

Residential	1,540 l / cap / day
ICI	6,750 l / ha / day

FIRE FLOW

Site	8,000 l / min

Fire Flow Requirement from Fire Underwriters Survey

Food Store - 1 Storey

Building Floor Area

Floor 1	3,017	m^2
Total	3,017	m^2

Fire Flow

$F = 220C\sqrt{A}$

C	0.8		C =	1.5	wood frame
A	3,017	m^2		1.0	ordinary
				0.8	non-combustile
F	9,667	l/min		0.6	fire-resistive
Use	10,000	l/min			

Occupancy Adjustment

			-25%	non-combustile
			-15%	limited combustile
Use	0%		0%	combustile
			+15%	free burning
Adjustment	0	l/min	+25%	rapid burning
Fire flow	10,000	l/min		

Sprinkler Adjustment

			-30%	system conforming to NFPA 13
			-50%	complete automatic system
Use	-30%			
Adjustment	-3000	l/min		

Exposure Adjustment

Building Face	Separation (m)	Adjacent Exposed Wall			Exposure Charge *
		Length	Stories	L*H Factor	
north	>45				0%
east	25	Blank Wall			0%
south	28	88	1	88	8%
west	43	33	2	66	5%
Total					13%

Adjustment	1,300	l/min

Required Fire Flow

Total adjustments	(1,700)	l/min
Fire flow	8,300	l/min
Use	**8,000**	**l/min**
	133.3	**l/s**

Fire Flow Requirement from Fire Underwriters Survey

Restaurant - 1 Storey

Building Floor Area

Floor 1	443	m^2
Total	443	m^2

Fire Flow

$F = 220C\sqrt{A}$

C	0.8		C =	1.5 wood frame
A	443	m^2		1.0 ordinary
				0.8 non-combustile
F	3,704	l/min		0.6 fire-resistive
Use	4,000	l/min		

Occupancy Adjustment

		-25%	non-combustile
		-15%	limited combustile
Use	0%	0%	combustile
		+15%	free burning
Adjustment	0 l/min	+25%	rapid burning
Fire flow	4,000 l/min		

Sprinkler Adjustment

		-30%	system conforming to NFPA 13
		-50%	complete automatic system
Use	-30%		
Adjustment	-1200 l/min		

Exposure Adjustment

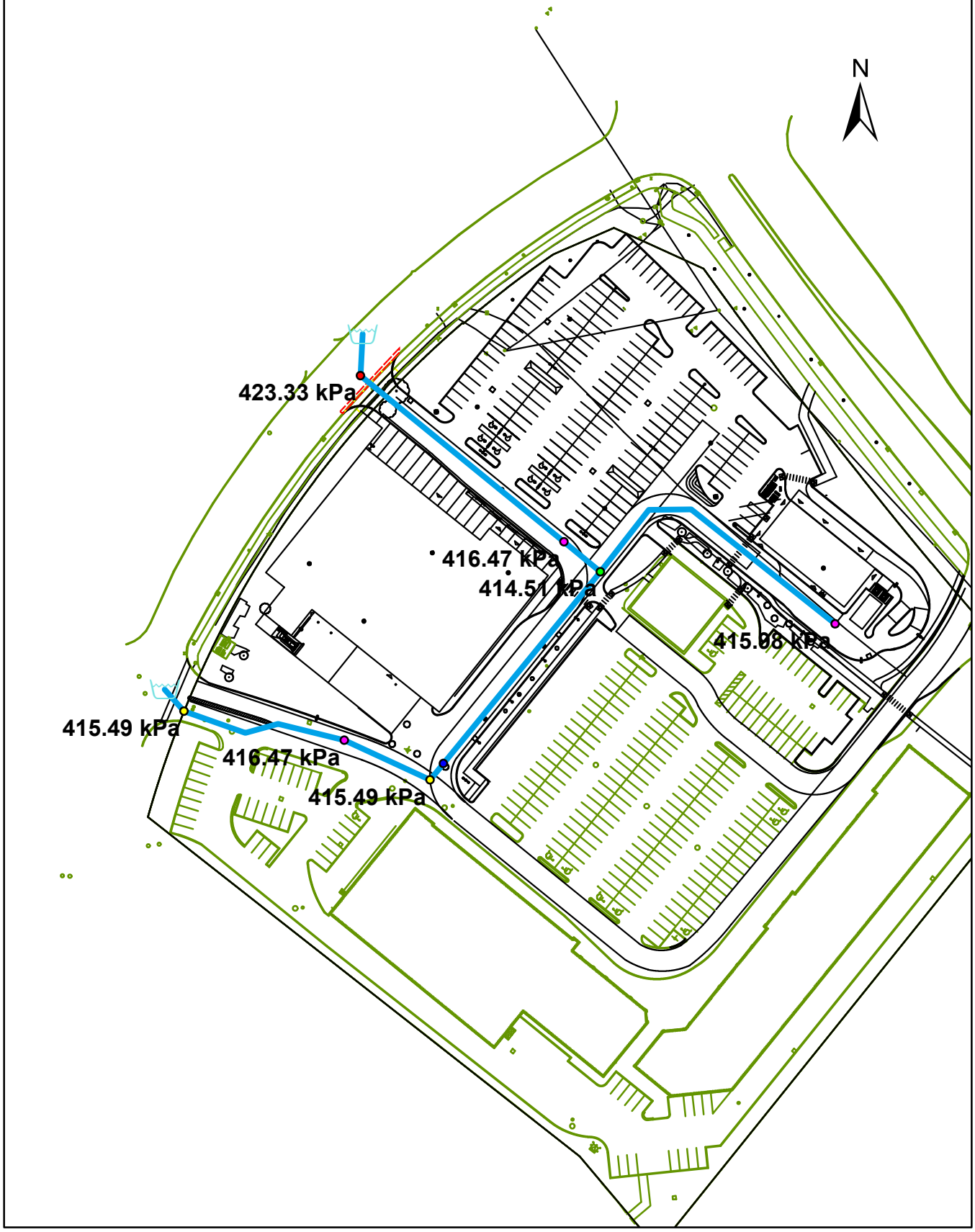
Building Face	Separation (m)	Adjacent Exposed Wall			Exposure Charge *
		Length	Stories	L*H Factor	
north	>45				0%
east	>45				0%
south	43	106	1	106	5%
west	19	20	1	20	10%
Total					15%

Adjustment 600 l/min

Required Fire Flow

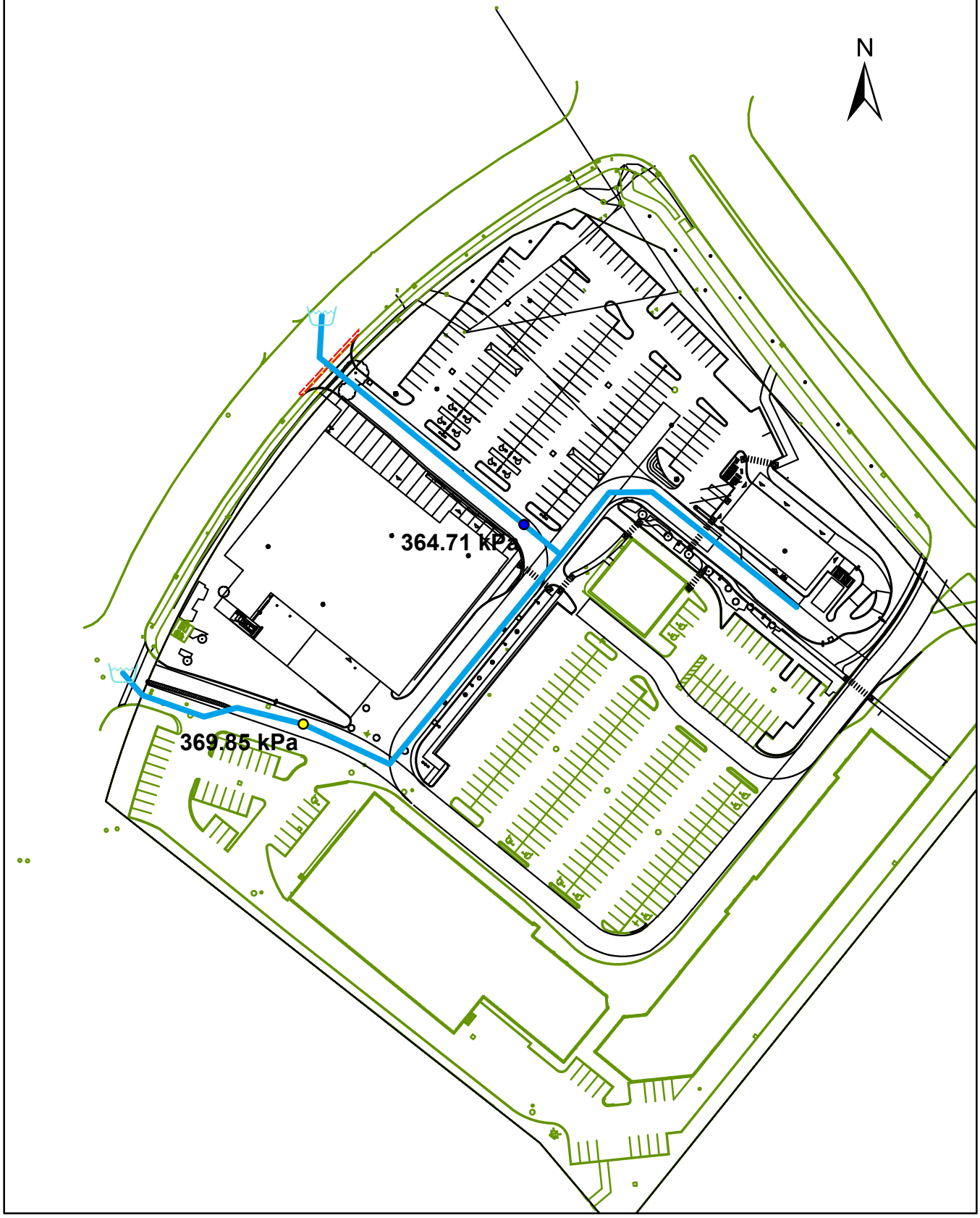
Total adjustments	(600)	l/min
Fire flow	3,400	l/min
Use	**3,000**	**l/min**
	50.0	**l/s**

Crown Pointe - Average Day - Pressure at Junctions



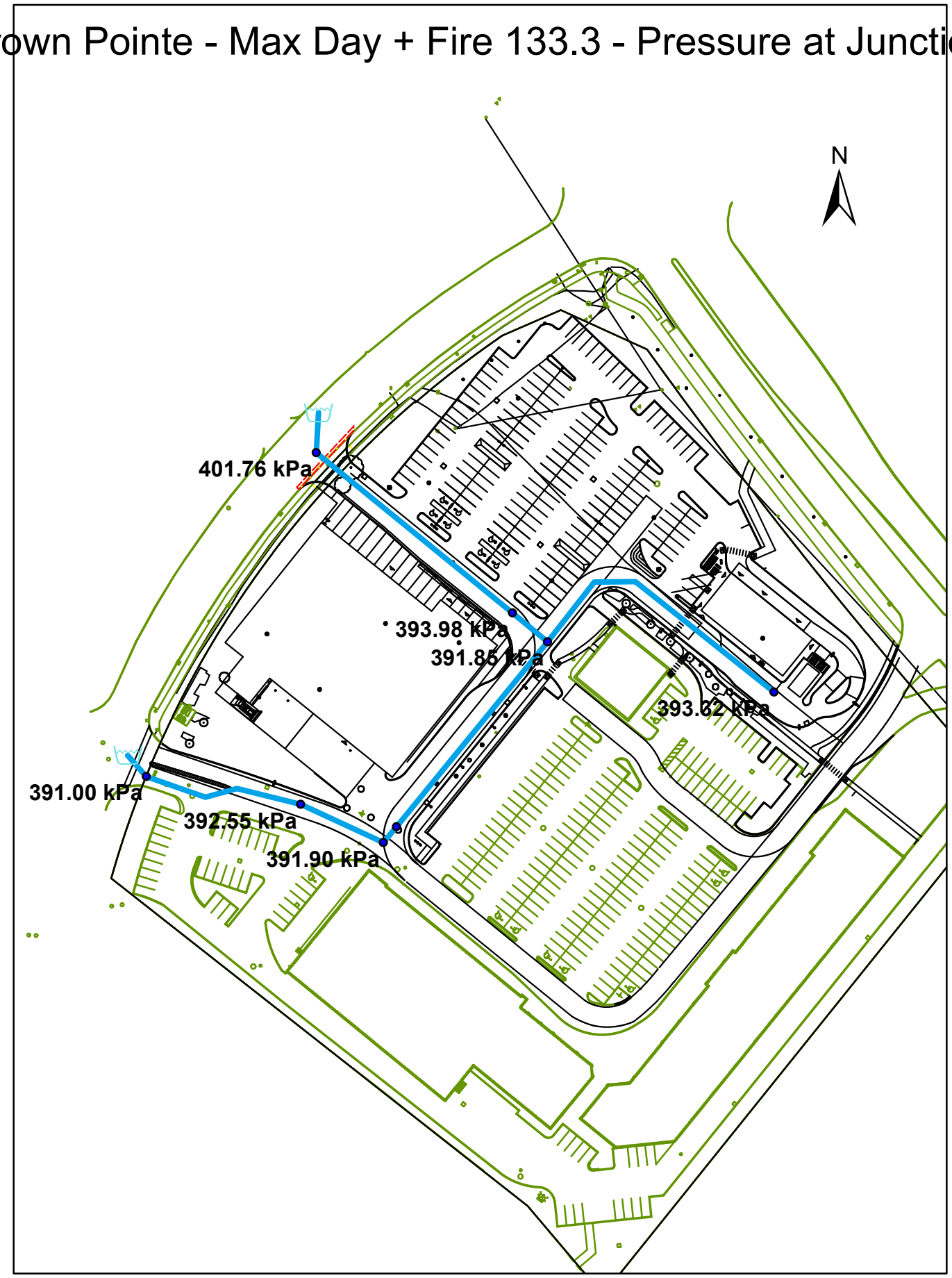
		ID	Demand (L/s)	Elevation (m)	Head (m)	Pressure (kPa)
1	☐	J10	0.00	87.80	130.20	415.49
2	☐	J12	0.00	87.00	130.20	423.33
3	☐	J14	0.00	87.90	130.20	414.51
4	☐	J16	0.01	87.75	130.20	415.98
5	☐	J18	0.09	87.92	130.20	414.31
6	☐	J22	0.00	87.70	130.20	416.47
7	☐	J24	0.00	87.80	130.20	415.49
8	☐	J25	0.00	87.70	130.20	416.47

Crown Pointe - Max Day + Fire 133.3 - Residual Pressure at Hydrants



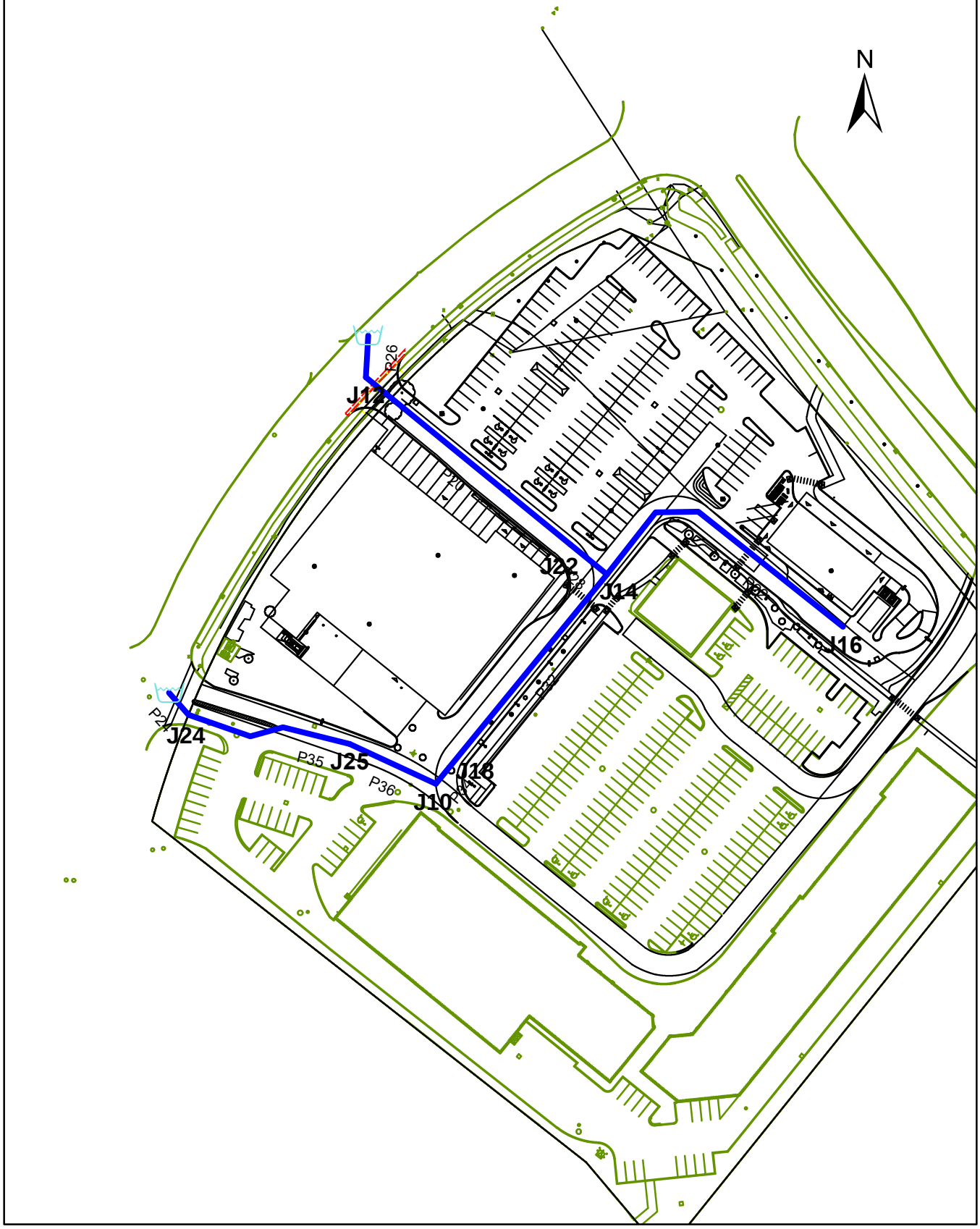
		ID	Total Demand (L/s)	Hydrant Available Flow (L/s)	Critical Node ID for Design Run	Critical Node Pressure at Available Flow (kPa)	Critical Node Pressure at Fire Demand (kPa)	Critical Pressure for Design Run (kPa)	Hydrant Design Flow (L/s)	Hydrant Pressure at Design Flow (kPa)
1	☐	J22	133.30	430.09	J22	139.96	364.71	139.96	430.09	139.96
2	☐	J25	133.30	486.29	J25	139.96	369.85	139.96	486.29	139.96

Crown Pointe - Max Day + Fire 133.3 - Pressure at Junctions

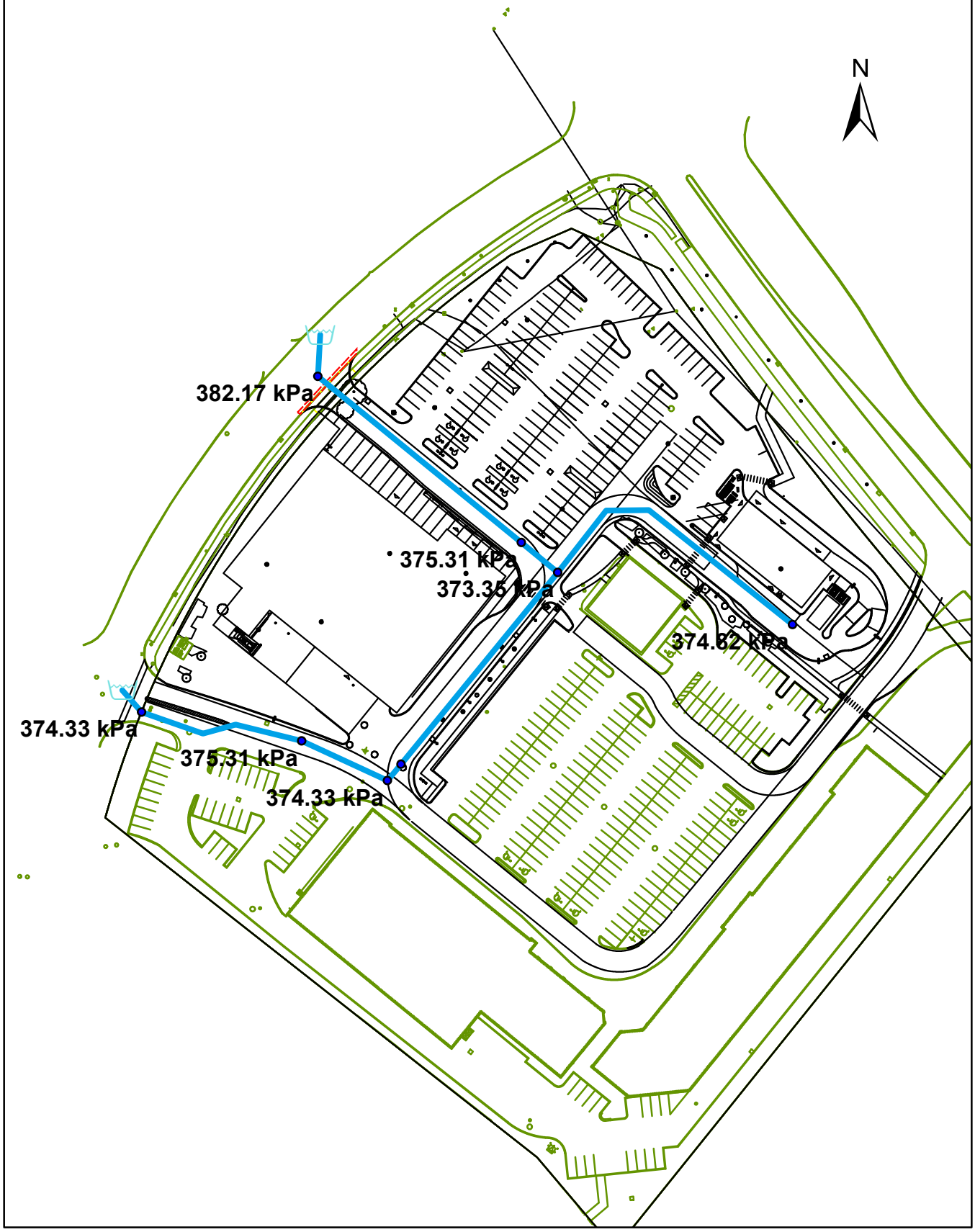


		ID	Demand (L/s)	Elevation (m)	Head (m)	Pressure (kPa)
1	☐	J10	0.00	87.80	127.79	391.90
2	☐	J12	0.00	87.00	128.00	401.76
3	☐	J14	0.00	87.90	127.89	391.85
4	☐	J16	0.02	87.75	127.89	393.32
5	☐	J18	0.13	87.92	127.80	390.79
6	☐	J22	0.00	87.70	127.90	393.98
7	☐	J24	0.00	87.80	127.70	391.00
8	☐	J25	0.00	87.70	127.76	392.55

Node & Pipe Identification

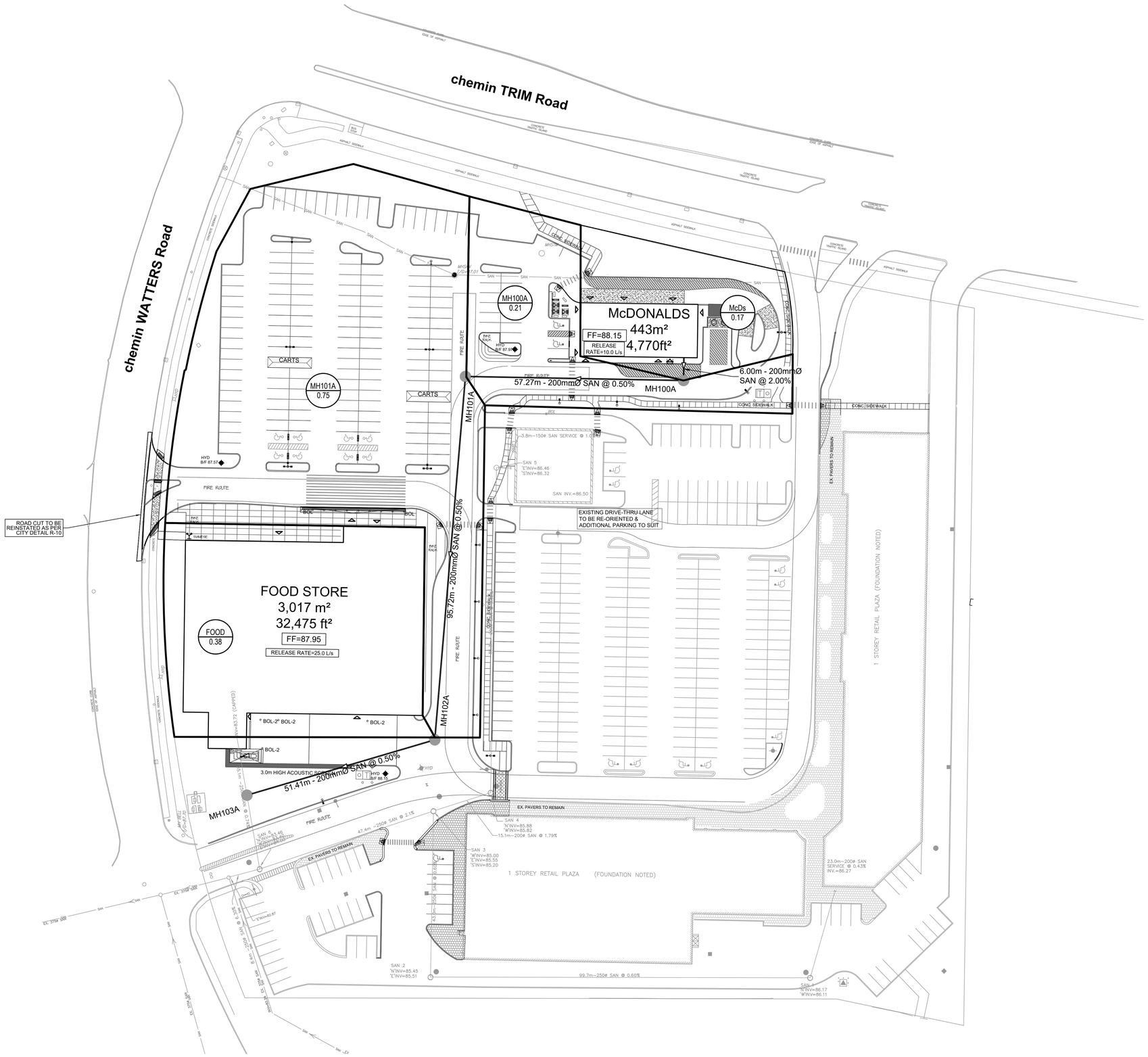


Crown Pointe - Peak Hour - Pressure at Junctions



		ID	Demand (L/s)	Elevation (m)	Head (m)	Pressure (kPa)
1	☐	J10	0.00	87.80	126.00	374.33
2	☐	J12	0.00	87.00	126.00	382.17
3	☐	J14	0.00	87.90	126.00	373.35
4	☐	J16	0.03	87.75	126.00	374.82
5	☐	J18	0.24	87.92	126.00	373.15
6	☐	J22	0.00	87.70	126.00	375.31
7	☐	J24	0.00	87.80	126.00	374.33
8	☐	J25	0.00	87.70	126.00	375.31

APPENDIX B



CLIENT

CROWN POINTE Co-TENANCY

C/O
TAGGART REALTY MANAGEMENT

225 METCALFE STREET, OTTAWA, On
K2P 1P9

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2021-10-28

NOT FOR CONSTRUCTION

SEE C-010 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

KEY PLAN

CONSULTANTS

1:500 0 3 15 25m
0 5 15 25m

SEAL

LICENSED PROFESSIONAL ENGINEER
T. R. BRULE
2021/10/28
PROVINCE OF ONTARIO

IBI GROUP
Suite 400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 / 613 241 3300 fax 613 225 9868
ibigroup.com

PROJECT

CROWN POINTE
900 WATTERS ROAD
CROWN POINTE COMMERCIAL
PHASE 3

PROJECT NO: 163063	
DRAWN BY: **D.D.**	CHECKED BY: **J.B.**
PROJECT MGR: **T.R.B.**	APPROVED BY: **----**

SHEET TITLE

SANITARY DRAINAGE AREA PLAN

SHEET NUMBER	ISSUE
C-400	1

SCALE CHECK

CITY FILE No. D07-XX-XX-XXXX

CITY PLAN No. xxxxx

File Location: J:\136063_Crown_Pointe\7.0_Production\7.03_Design\04_Civil\Sheets\C-400 SANITARY DRAINAGE AREA PLAN.dwg Last Saved: October 28, 2021, by ddore Plotted: Thursday, October 28, 2021 4:39:52 PM by Denis Dore

IBI GROUP
400-333 Preston Street
Ottawa, Ontario K1S 5N4 Canada
tel 613 225 1311 fax 613 225 9868
ibigroup.com

SANITARY SEWER DESIGN SHEET

Crown Point - Phase 3
CITY OF OTTAWA
Taggart Realty Management

LOCATION				RESIDENTIAL										ICI AREAS								INFILTRATION ALLOWANCE			FIXED FLOW (L/s)		TOTAL FLOW	PROPOSED SEWER DESIGN						
				AREA w/ Units (Ha)	UNIT TYPES				AREA w/o Units (Ha)	POPULATION		RES PEAK FACTOR	PEAK FLOW (L/s)	AREA (Ha)						ICI PEAK FACTOR	PEAK FLOW (L/s)	AREA (Ha)		FLOW				CAPACITY	LENGTH	DIA	SLOPE	VELOCITY (full)	AVAILABLE CAPACITY	
STREET	AREA ID	FROM MH	TO MH		SF	SD	TH	APT		IND	CUM			INSTITUTIONAL		COMMERCIAL		INDUSTRIAL				IND	CUM	(L/s)	IND	CUM	(L/s)	(L/s)	(m)	(mm)	(%)	(m/s)	L/s	(%)
														IND	CUM	IND	CUM	IND	CUM														
Site	McDs	BLDG	MH100A							0.0	0.0	3.80	0.00	0.00	0.00	0.17	0.17	0.00	0.00	1.50	0.08	0.17	0.17	0.06	0.00	0.00	0.14	48.39	6.00	200	2.00	1.492	48.25	99.71%
Site	MH100A	MH100A	MH101A							0.0	0.0	3.80	0.00	0.00	0.00	0.21	0.38	0.00	0.00	1.50	0.18	0.21	0.38	0.13	0.00	0.00	0.31	24.19	57.27	200	0.50	0.746	23.88	98.72%
Site	MH101A	MH101A	MH102A							0.0	0.0	3.80	0.00	0.00	0.00	0.75	1.13	0.00	0.00	1.50	0.55	0.75	1.13	0.37	0.00	0.00	0.92	24.19	95.72	200	0.50	0.746	23.27	96.19%
Site	FOOD	MH102A	MH103A							0.0	0.0	3.80	0.00	0.00	0.00	0.38	1.51	0.00	0.00	1.50	0.73	0.38	1.51	0.50	0.00	0.00	1.23	24.19	51.41	200	0.50	0.746	22.96	94.91%

Design Parameters:

Residential			ICI Areas			
SF	3.4	p/p/u	INST	28,000	L/Ha/day	
TH/SD	2.7	p/p/u	COM	28,000	L/Ha/day	
APT	1.8	p/p/u	IND	35,000	L/Ha/day	MOE Chart
Other	60	p/p/Ha		17000	L/Ha/day	

Notes:
1. Mannings coefficient (n) = 0.013
2. Demand (per capita): 280 L/day 200 L/day
3. Infiltration allowance: 0.33 L/s/Ha
4. Residential Peaking Factor:
   Harmon Formula = 1+(14/(4+(P/1000)^0.5))0.8
   where K = 0.8 Correction Factor
5. Commercial and Institutional Peak Factors based on total area, 1.5 if greater than 20%, otherwise 1.0

Designed: JEB
Checked: TRB
Dwg. Reference: 136063

No.	Revision	Date
1.	Issued for Site Plan Application	2021-10-28

File Reference: 136063.6.04_04
Date: 2021-10-27
Sheet No: 1 of 1

APPENDIX C

4.0 STORMWATER MANAGEMENT REQUIREMENTS

The property is currently undeveloped and most of the site generally sheet drains towards the east. Stormwater will be restricted to ensure that the peak rate of runoff from the site does not exceed the allowable release flow after development.

The City of Ottawa requires that the peak rate of site runoff for a 1:5 and 1:100 year rainfall events not exceed the approved 5 year release rate for the site, as outlined in the approved CCL Stormwater Management Report (April 22, 1993, see Appendix B). Stormwater may be detained, if necessary, to ensure that the allowable release rate is not exceeded. Therefore, stormwater management facilities are designed to accommodate such an events. In the unlikely event that the capacity of this system is exceeded, runoff will be directed to Watters and Trim Road.

In general, the runoff is currently to the east and to the existing tributary to the Cardinal Creek. However, when the recommendations in the City's study are implemented, both minor and major storm sewer systems will be diverted so that these flows outlet to the quality/quantity ponds to be constructed on the Cardinal Creek by others to the south of Watters Road extension.

3.0 STORMWATER MANAGEMENT CALCULATIONS

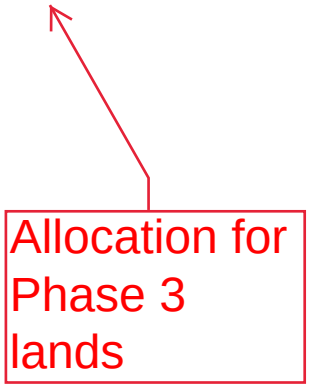
Since the new construction will be in an area of the site that is currently undeveloped, the overall impervious level for the site, and its corresponding peak rate of runoff, could possibly increase after development. As a result, stormwater quantity management is required to reduce the peak flow rate from the site to existing levels.

3.1 Allowable Release Rate

As stated in the CCL approved report Table 1, the Commercial Block's allowable 5-year peak flow release rate is **333.90** L/s for the entire 3.21ha site to the existing 900mm dia. sewer on Watters Road. (see Appendix B for release rate breakdown calculations).

This development comprises of 2.47ha and is subject of this report. Therefore, the release rate is weighted as follows:

Taggart Development 2.47ha (77%)	=	**257.30 L/s**
Future Esso Tiger Express 0.74ha (23%)	=	**76.60 L/s**



Flow Allocation

STORM SEWER DESIGN SHEET

CUMMING COCKBURN LIMITED
1770 WOODWARD DRIVE
OTTAWA ONTARIO
K2C 0P8

CROWN POINTE
TOWNSHIP OF CUMBERLAND
CROWN POINTE DEVELOPMENT INC

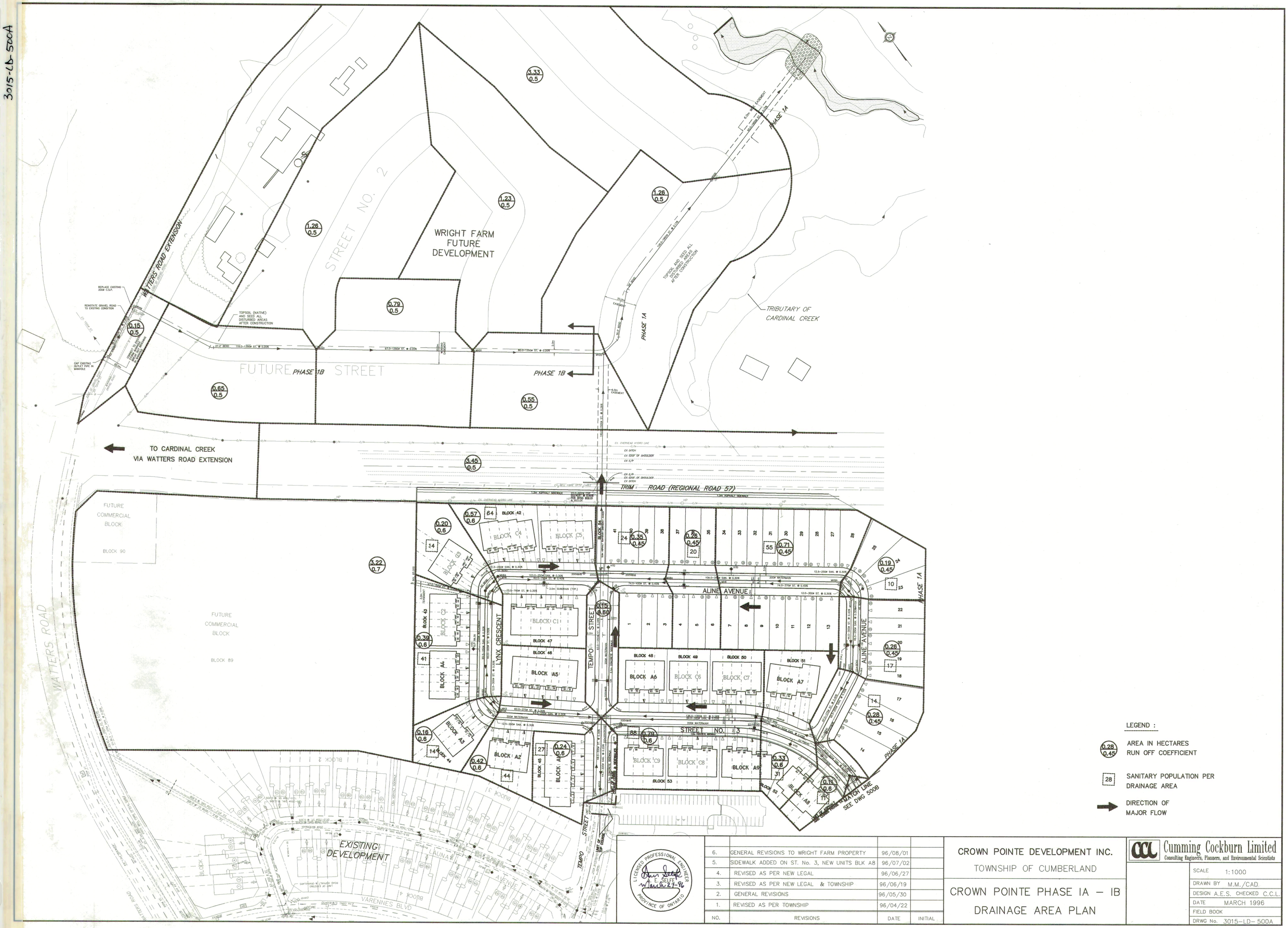
DATE: 30-May-96
DESG : AES
REV NO 1 APRIL 30, 96
REV NO 2 MAY 15, 96

LOCATION STREET	FROM MH	TO MH	AREA (Ha) 0.20	C= 0.45	C= 0.50	C= 0.60	INDIV. 2.78AC	ACCUM. 2.78AC	RAINFALL T.C.	TIME IN PIPE	TOTAL	I (mm/Hr)	PK. FLOW (l/s)	SEWER DATA LENGTH (M)	PIPE (mm)	PIPE TYPE	SLOPE (%)	CAP. (l/s)	VEL. (M/s)	REMARKS
PHASE 1A																				
TEMPO STREET	1	2				0.24	0.40	0.40	10.00	1.08	11.08	101.2	40.5	49.0	300	CONC	0.30	55.2	0.76	15
LYNX CRESCENT	4	3				0.16	0.27	0.27	10.00	0.28	10.28	101.2	27.3	12.5	300	CONC	0.30	55.2	0.76	28
LYNX CRESCENT	3	2				0.42	0.70	0.97	10.28	1.12	11.39	99.7	96.7	59.0	375	CONC	0.30	100.2	0.88	4
LYNX CRESCENT	4	5				0.39	0.65	0.65	10.00	1.00	11.00	101.2	65.8	58.5	300	CONC	0.50	71.4	0.98	6
COMMERCIAL	EXT	5			***3.22		6.27	6.27	13.00	0.62	13.62	87.8	550.5	47.0	750	CONC	0.25	580.5	1.27	30
LYNX CRESCENT	5	6				0.20	0.33	7.25	13.62	0.14	13.75	85.6	620.6	12.5	750	CONC	0.35	687.2	1.51	67
LYNX CRESCENT	6	7				0.57	0.95	8.20	13.75	0.66	14.42	85.1	697.8	64.0	750	CONC	0.40	734.7	1.61	37
PHASE 1B																				
ALINE AVENUE	10	9		0.19			0.24	0.24	10.00	0.26	10.26	101.2	24.3	12.0	300	CONC	0.30	55.2	0.76	31
ALINE AVENUE	9	8		0.71			0.89	1.13	10.26	1.15	11.41	99.8	112.8	74.0	375	CONC	0.45	122.7	1.08	10
ALINE AVENUE	8	7		0.61			0.76	1.89	11.41	1.03	12.44	94.3	178.2	75.0	450	CONC	0.45	199.5	1.22	21
ALINE AVENUE	10	11		0.26			0.33	0.33	10.00	0.92	10.92	101.2	33.4	48.5	300	CONC	0.40	63.8	0.87	30
ALINE AVENUE	11	12		0.28			0.35	0.68	10.92	0.77	11.70	96.6	65.7	47.0	375	CONC	0.40	115.7	1.02	50
STREET 3	12	2				1.12	1.87	46.13	23.02	1.15	24.17	62.8	2897.0	137.5	1350	CONC	0.28	2946.3	1.99	49
LYNX CRESCENT	2	7				0.15	0.25	47.75	24.17	0.69	24.86	61.0	2912.8	83.0	1350	CONC	0.28	2946.3	1.99	34
LYNX CRESCENT	7	25			3.45		4.80	62.64	24.86	1.13	25.99	59.9	3752.1	140.0	1500	CONC	0.26	3761.4	2.06	9
WATTERS RD EX	*66*	*67*	*May 93*	*93 cal*	*stm ds*	*n 3766*	0.00	*33.41*	*23.33*	*0.39*	23.72	*62.3*	*2081.4*	*42.5*	*1200*	CONC	*0.27*	*2113.1*	*1.81*	32
WRIGHT FARM	*67*	25			4.63		6.44	39.85	23.72	3.21	26.94	61.7	2458.7	325.0	1350	CONC	0.20	2489.7	1.69	31
WRIGHT FARM	25	26			1.26		1.75	104.24	26.94	1.07	28.01	57.0	5941.7	128.0	1950	CONC	0.17	6122.5	1.99	181
RIGHT FARM	26	out			3.33		4.63	108.87	28.01	0.80	28.81	55.6	6053.2	95.0	1950	CONC	0.17	6122.5	1.99	69

C=0.7 for commercial blk

Q = 2.78AIC WHERE
Q = Peak Flow in Litres per Second (L/S)
A = Area in Hectares (Ha)
I = Rainfall Intensity in Millimeters per Hour (mm/Hr)
C = Runoff Coefficient
RAINFALL INTENSITY; I=879/(TC^0.77+2.8)

3015-LD-500A



LEGEND :

0.28 / 0.45 — AREA IN HECTARES, RUN OFF COEFFICIENT

28 — SANITARY POPULATION PER DRAINAGE AREA

DIRECTION OF MAJOR FLOW

LICENSED PROFESSIONAL ENGINEER
A. SEIFI
PROVINCE OF ONTARIO

NO.	REVISIONS	DATE	INITIAL
6.	GENERAL REVISIONS TO WRIGHT FARM PROPERTY	96/08/01	
5.	SIDEWALK ADDED ON ST. No. 3, NEW UNITS BLK A8	96/07/02	
4.	REVISED AS PER NEW LEGAL	96/06/27	
3.	REVISED AS PER NEW LEGAL & TOWNSHIP	96/06/19	
2.	GENERAL REVISIONS	96/05/30	
1.	REVISED AS PER TOWNSHIP	96/04/22	

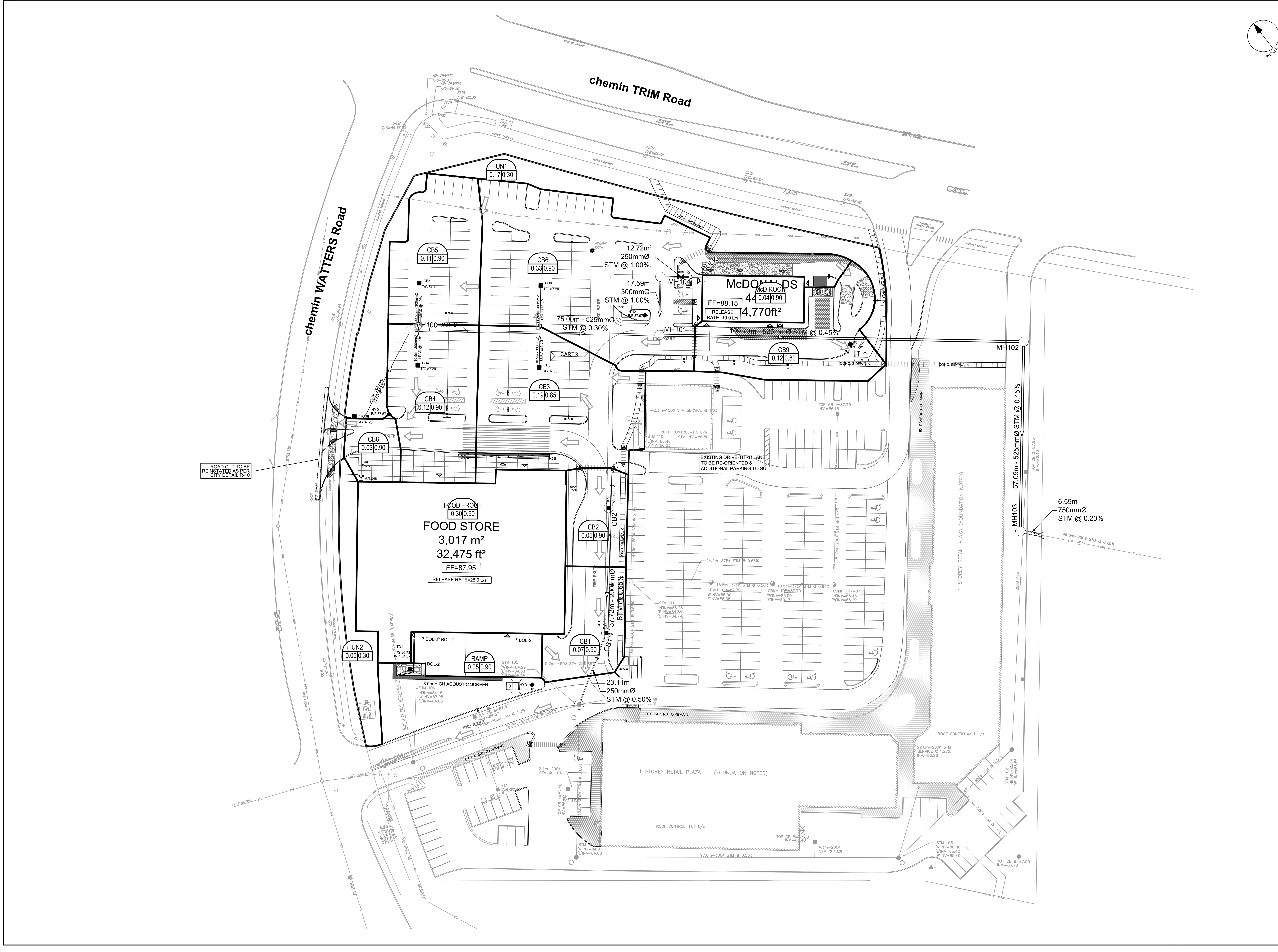
CROWN POINTE DEVELOPMENT INC.

TOWNSHIP OF CUMBERLAND

CROWN POINTE PHASE IA – IB DRAINAGE AREA PLAN

Cumming Cockburn Limited
Consulting Engineers, Planners, and Environmental Scientists

SCALE	1:1000
DRAWN BY	M.M./CAD
DESIGN A.E.S. CHECKED	C.C.L.
DATE	MARCH 1996
FIELD BOOK	
DRWG No.	3015-LD-500A



CLIENT

CROWN POINTE Co-TENANCY

C/O
TAGGART REALTY MANAGEMENT

225 METCALFE STREET, OTTAWA, On
K2P 1P9

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ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2021-10-28

KEY PLAN

SITE

CONSULTANTS

1:500 0 5 15 25m

SEAL

LICENSED PROFESSIONAL ENGINEER
T. R. BRULE
2021/10/28
PROVINCE OF ONTARIO

IBI GROUP
Suite 400 – 333 Preston Street
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ibigroup.com

PROJECT

CROWN POINTE
900 WATTERS ROAD
CROWN POINTE COMMERCIAL
PHASE 3

PROJECT NO:
163063

DRAWN BY:	CHECKED BY:
D.D.	J.B.
PROJECT MGR:	APPROVED BY:
T.R.B.	----

SHEET TITLE

STORM DRAINAGE AREA PLAN

SHEET NUMBER C-500

ISSUE 1

CITY FILE No. D07-xx-xx-xxxx

CITY PLAN No. xxxxx

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400-333 Preston Street
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STORM SEWER DESIGN SHEET

Crown Point - Phase 3
City of Ottawa
Taggart Realty Management

LOCATION				AREA (Ha)										RATIONAL DESIGN FLOW															SEWER DATA								
STREET	AREA ID	FROM	TO	C= 0.20	C= 0.25	C= 0.40	C= 0.50	C= 0.57	C= 0.65	C= 0.69	C= 0.80	C= 0.85	C= 0.90	IND 2.78AC	CUM 2.78AC	INLET (min)	TIME IN PIPE	TOTAL (min)	i (2) (mm/hr)	i (5) (mm/hr)	i (10) (mm/hr)	i (100) (mm/hr)	2yr PEAK FLOW (L/s)	5yr PEAK FLOW (L/s)	10yr PEAK FLOW (L/s)	100yr PEAK FLOW (L/s)	FIXED FLOW IND	FIXED FLOW CUM	DESIGN FLOW (L/s)	ICD FLOW	CAPACITY (L/s)	LENGTH (m)	PIPE SIZE (mm) DIA	PIPE SIZE (mm) W	PIPE SIZE (mm) H	SLOPE (%)	VELOCITY (m/s)	AVAIL CAP (2yr) (L/s)	AVAIL CAP (2yr) (%)
Site	CB2	CB2	CB1										0.05	0.13	0.13	10.00	0.74	10.74	76.81	104.19	122.14	178.56	9.61	13.03	15.28	22.34	0.00	0.00	9.61		27.59	37.72	200			0.65	0.851	17.98	65.17%
Site	CB1	CB1	EXSTM105										0.07	0.18	0.30	10.74	0.44	11.18	74.08	100.44	117.73	172.07	22.24	30.16	35.35	51.66	0.00	0.00	22.24		43.87	23.11	250			0.50	0.866	21.63	49.30%
Site	FOOD-ROOF	BLDG	Stub										0.30	0.75	1.05	10.00	0.01	10.01	76.81	104.19	122.14	178.56	80.71	109.49	128.35	187.64	0.00	0.00	80.71		141.68	1.00	375			0.60	1.243	60.97	43.03%
Site	RAMP	RAMP	Stub										0.05	0.13	0.13	10.00	0.12	10.12	76.81	104.19	122.14	178.56	9.61	13.03	15.28	*22.34*	0.00	0.00	*22.34*		34.22	7.32	200			1.00	1.055	11.88	34.72%
Site		Stub	EXSTM106											0.00	1.05	10.12	0.41	10.52	76.36	103.59	121.43	177.51	80.25	108.85	127.60	186.53	0.00	0.00										
Site		Stub	EXSTM106											0.00	0.13	10.12	0.41	10.52	76.36	103.59	121.43	177.51	9.55	12.96	15.19	*22.21*	0.00	0.00	102.45		141.68	30.24	375			0.60	1.243	39.23	27.69%
Site	CB8, CB4, CB5, CB3, CB6	MH100	MH101									0.19	0.59	1.93	1.93	10.00	1.14	11.14	76.81	104.19	122.14	178.56	147.86	200.59	235.14	343.75	0.00	0.00	147.86	245.00	245.74	75.00	525			0.30	1.100	97.88	39.83%
Site	McD ROOF	BLDG	MH104										0.04	0.10	0.10	10.00	0.17	10.17	76.81	104.19	122.14	178.56	7.69	10.43	12.22	17.87	0.00	0.00	7.69	10.00	62.04	12.72	250			1.00	1.224	54.35	87.61%
Site		MH104	MH101											0.00	0.10	10.17	0.24	10.41	76.15	103.29	121.07	176.99	7.62	10.34	12.12	17.71	0.00	0.00	7.62	10.00	62.04	17.59	250			1.00	1.224	54.42	87.72%
Site	CB9	MH101	MH102								0.12			0.27	2.29	11.14	1.36	12.49	72.70	98.55	115.49	168.80	166.64	225.89	264.73	386.90	0.00	0.00	166.64	285.00	300.97	109.73	525			0.45	1.347	134.33	44.63%
Site		MH102	MH103											0.00	2.29	12.49	0.71	13.20	68.39	92.64	108.53	158.57	156.76	212.33	248.77	363.47	0.00	0.00	156.76	285.00	300.97	57.09	525			0.45	1.347	144.21	47.91%
Site		MH103	Stub											0.00	2.29	13.20	0.14	13.34	66.37	89.86	105.27	153.78	152.12	205.97	241.28	352.47	0.00	0.00	152.12	285.00	367.27	6.59	750			0.10	0.805	215.15	58.58%

Definitions:
Q = 2.78CiA, where:
Q = Peak Flow in Litres per Second (L/s)
A = Area in Hectares (Ha)
i = Rainfall intensity in millimeters per hour (mm/hr)
[i = 732.951 / (TC+6.199)^0.810] 2 YEAR
[i = 998.071 / (TC+6.053)^0.814] 5 YEAR
[i = 1174.184 / (TC+6.014)^0.816] 10 YEAR
[i = 1735.688 / (TC+6.014)^0.820] 100 YEAR

Notes:
1. Mannings coefficient (n) = 0.013

Designed: JEB

Checked: TRB

Dwg. Reference: 136063

No.	Revision	Date
1.	Issued for Site Plan Application	2021-10-27

File Reference: 136063.6.04_04
Date: 2021-10-27
Sheet No: 1 of 1

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PROJECT: Crowns Point
DATE: 2021-10-27
FILE: 136063.6.04_04
REV #: -
DESIGNED BY: JEB
CHECKED BY: TRB

STORMWATER MANAGEMENT

Formulas and Descriptions

i_{2yr} = 1:2 year Intensity = 732.951 / $(T_c+6.199)^{0.810}$
i_{5yr} = 1:5 year Intensity = 998.071 / $(T_c+6.053)^{0.814}$
i_{100yr} = 1:100 year Intensity = 1735.688 / $(T_c+6.014)^{0.820}$
T_c = Time of Concentration (min)
C = Average Runoff Coefficient
A = Area (Ha)
Q = Flow = 2.78CiA (L/s)

Calculations below are for the portion of subject lands which are tributary to the existing Crown Point Commercial Plaza storm sewer system

The restricted flow rate is taken from Stantec report Crown Pointe Center 604-00200 and is identified as "Future Esso Tiger Express" 76.6 L/s peak flow. Supporting documents are attached.

Maximum Allowable Release Rate

Restricted Flowrate

$Q_{restricted}$ =	76.60	L/s

Uncontrolled Release ($Q_{uncontrolled} = 2.78*C*i_{100yr}*A_{uncontrolled}$)

C =	0	
T_c =	10	min
i_{100yr} =	178.56	mm/hr
$A_{uncontrolled}$ =	0.00	Ha
$Q_{uncontrolled}$ =	0.00	L/s

Maximum Allowable Release Rate ($Q_{max\ allowable} = Q_{restricted} - Q_{uncontrolled}$)

$Q_{max\ allowable}$ =	76.60	L/s

MODIFIED RATIONAL METHOD (100-Year, 5-Year & 2-Year Ponding)

Drainage Area	FOOD-ROOF
Area (Ha)	0.300
C =	1.00
Restricted Flow Q_r (L/s)=	25.00

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
17	132.63	110.61	25.00	85.61	87.32
22	112.88	94.14	25.00	69.14	91.27
27	98.66	82.28	25.00	57.28	**92.80**
32	87.89	73.30	25.00	48.30	92.73
37	79.42	66.23	25.00	41.23	91.54

Storage (m^3)

Overflow	Required	Roof	Sub-surface	Balance
0.00	92.80	95.00	0	0.00

overflows to: N/A

Drainage Area	FOOD-ROOF
Area (Ha)	0.300
C =	0.80
Restricted Flow Q_r (L/s)=	25.00

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
10	104.19	69.52	25.00	44.52	26.71
12	94.70	63.18	25.00	38.18	27.49
14	86.93	58.00	25.00	33.00	**27.72**
16	80.46	53.68	25.00	28.68	27.54
18	74.97	50.02	25.00	25.02	27.02

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	27.72	95.00	0	0.00

overflows to: N/A

Drainage Area	FOOD-ROOF
Area (Ha)	0.300
C =	0.80
Restricted Flow Q_r (L/s)=	25.00

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
8	85.46	57.02	25.00	32.02	15.37
9	80.87	53.96	25.00	28.96	15.64
10	76.81	51.24	25.00	26.24	**15.75**
11	73.17	48.82	25.00	23.82	15.72
12	69.89	46.63	25.00	21.63	15.58

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	15.75	168.75	0	0.00

overflows to: N/A

Drainage Area	RAMP
Area (Ha)	0.050
C =	1.00
Restricted Flow Q_r (L/s)=	22.34 *

*100 year flow from storm design sheet

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
-3	702.38	97.63	22.34	75.29	-13.55
2	315.00	43.79	22.34	21.45	2.57
7	211.67	29.42	22.34	7.08	**2.97**
12	162.13	22.54	22.34	0.20	0.14
17	132.63	18.44	22.34	-3.90	-3.98

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	2.97	0.00	0	0.00

overflows to: N/A

Drainage Area	RAMP
Area (Ha)	0.050
C =	0.90
Restricted Flow Q_r (L/s)=	22.34 *

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
-2	319.47	39.97	22.34	17.63	-2.12
0	230.48	28.83	22.34	6.49	0.00
2	182.69	22.85	22.34	0.51	**0.06**
4	152.51	19.08	22.34	-3.26	-0.78
6	131.57	16.46	22.34	-5.88	-2.12

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.06	0.00	0	0.00

overflows to: N/A

Drainage Area	RAMP
Area (Ha)	0.050
C =	0.90
Restricted Flow Q_r (L/s)=	22.34 *

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
-2	229.26	28.68	22.34	6.34	-0.76
-1	192.83	24.12	22.34	1.78	-0.11
0	167.22	20.92	22.34	-1.42	**0.00**
1	148.14	18.53	22.34	-3.81	-0.23
2	133.33	16.68	22.34	-5.66	-0.68

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.00	28.13	0	0.00

overflows to: N/A

Drainage Area	CB1&CB2
Area (Ha)	0.120
C =	1.00
Restricted Flow Q_r (L/s)=	29.00

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
0	398.62	132.98	29.00	103.98	0.00
5	242.70	80.97	29.00	51.97	15.59
10	178.56	59.57	29.00	30.57	**18.34**
15	142.89	47.67	29.00	18.67	16.80
20	119.95	40.02	29.00	11.02	13.22

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	18.34	74.01	0	0.00

overflows to: EX Road

Drainage Area	CB1&CB2
Area (Ha)	0.120
C =	0.90
Restricted Flow Q_r (L/s)=	29.00

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
0	230.48	69.20	29.00	40.20	0.00
2	182.69	54.85	29.00	25.85	3.10
4	152.51	45.79	29.00	16.79	**4.03**
6	131.57	39.50	29.00	10.50	3.78
8	116.11	34.86	29.00	5.86	2.81

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	4.03	74.01	0	0.00

overflows to: EX Road

Drainage Area	CB1&CB2
Area (Ha)	0.120
C =	0.90
Restricted Flow Q_r (L/s)=	29.00

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
1	148.14	44.48	29.00	15.48	0.93
2	133.33	40.03	29.00	11.03	1.32
3	121.46	36.47	29.00	7.47	**1.34**
4	111.72	33.54	29.00	4.54	1.09
5	103.57	31.10	29.00	2.10	0.63

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.34	67.50	0	0.00

overflows to: EX Road

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ibigroup.com

PROJECT: Crowns Point
DATE: 2021-10-27
FILE: 136063.6.04_04
REV #: -
DESIGNED BY: JEB
CHECKED BY: TRB

STORMWATER MANAGEMENT

Formulas and Descriptions

i_{2yr} = 1:2 year Intensity = 732.951 / $(T_c+6.199)^{0.810}$
i_{5yr} = 1:5 year Intensity = 998.071 / $(T_c+6.053)^{0.814}$
i_{100yr} = 1:100 year Intensity = 1735.688 / $(T_c+6.014)^{0.820}$
T_c = Time of Concentration (min)
C = Average Runoff Coefficient
A = Area (Ha)
Q = Flow = 2.78CiA (L/s)

Calculations below are for the portion of subject lands which are tributary to an existing 750mm diameter storm stub along south east proerty line of subjet lands outletting towards. Lynx Crescent.

The restricted flow rate is taken from CCL report Crown Pointe Ph 3 3015-LD and is identified as 3.22Ha COMMERCIAL block with 550.5 L/s peak flow. Design sheet and drainage area plan are attached.

Maximum Allowable Release Rate

Restricted Flowrate

$Q_{restricted}$ =	550.50	L/s

Uncontrolled Release ($Q_{uncontrolled} = 2.78*C*i_{100yr}*A_{uncontrolled}$)

C =	0.375	
T_c =	10	min
i_{100yr} =	178.56	mm/hr
$A_{uncontrolled}$ =	0.22	Ha
$Q_{uncontrolled}$ =	40.95	L/s

Maximum Allowable Release Rate ($Q_{max\ allowable} = Q_{restricted} - Q_{uncontrolled}$)

$Q_{max\ allowable}$ =	509.55	L/s

Uncontrolled Average C

ID	Area (Ha.)	C	Weight	Weighted C
UN1	0.17	0.3	0.77	0.23
UN2	0.05	0.3	0.23	0.07
	• 0.22		1	**0.30**

MODIFIED RATIONAL METHOD (100-Year, 5-Year & 2-Year Ponding)

Drainage Area	CB9		
Area (Ha)	0.120		
C =	1.00	Restricted Flow Q_r (L/s)=	30.00

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
2	315.00	105.09	30.00	75.09	9.01
7	211.67	70.61	30.00	40.61	17.06
12	162.13	54.09	30.00	24.09	**17.34**
17	132.63	44.24	30.00	14.24	14.53
22	112.88	37.66	30.00	7.66	10.11

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	17.34	8.27	0	9.07

overflows to: CB6

Drainage Area	CB9		
Area (Ha)	0.120		
C =	0.80	Restricted Flow Q_r (L/s)=	30.00

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
0	230.48	61.51	30.00	31.51	0.00
2	182.69	48.76	30.00	18.76	2.25
4	152.51	40.70	30.00	10.70	**2.57**
6	131.57	35.11	30.00	5.11	1.84
8	116.11	30.99	30.00	0.99	0.47

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	2.57	8.27	0	0.00

overflows to: CB6

Drainage Area	CB9		
Area (Ha)	0.120		
C =	0.80	Restricted Flow Q_r (L/s)=	30.00

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
0	167.22	44.63	30.00	14.63	0.00
1	148.14	39.54	30.00	9.54	0.57
2	133.33	35.58	30.00	5.58	**0.67**
3	121.46	32.42	30.00	2.42	0.43
4	111.72	29.82	30.00	-0.18	-0.04

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.67	67.50	0	0.00

overflows to: CB6

Drainage Area	CB6		
Area (Ha)	0.330		
C =	1.00	Restricted Flow Q_r (L/s)=	100.00

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
0	398.62	365.69	100.00	265.69	0.00
5	242.70	222.66	100.00	122.66	36.80
10	178.56	163.81	100.00	63.81	**38.29**
15	142.89	131.09	100.00	31.09	27.98
20	119.95	110.04	100.00	10.04	12.05

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
9.07	47.36	41.91	0	5.45

overflows to: CB5

Drainage Area	CB6		
Area (Ha)	0.330		
C =	0.90	Restricted Flow Q_r (L/s)=	100.00

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
0	230.48	190.30	100.00	90.30	0.00
2	182.69	150.84	100.00	50.84	6.10
4	152.51	125.92	100.00	25.92	**6.22**
6	131.57	108.63	100.00	8.63	3.11
8	116.11	95.87	100.00	-4.13	-1.98

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	6.22	41.91	0	0.00

overflows to: CB5

Drainage Area	CB6		
Area (Ha)	0.330		
C =	0.90	Restricted Flow Q_r (L/s)=	100.00

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
-1	192.83	159.21	100.00	59.21	-3.55
0	167.22	138.07	100.00	38.07	0.00
1	148.14	122.32	100.00	22.32	**1.34**
2	133.33	110.09	100.00	10.09	1.21
3	121.46	100.29	100.00	0.29	0.05

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.34	185.63	0	0.00

overflows to: CB5

Drainage Area	CB5		
Area (Ha)	0.110		
C =	1.00	Restricted Flow Q_r (L/s)=	25.00

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
0	398.62	121.90	25.00	96.90	0.00
5	242.70	74.22	25.00	49.22	14.77
10	178.56	54.60	25.00	29.60	**17.76**
15	142.89	43.70	25.00	18.70	16.83
20	119.95	36.68	25.00	11.68	14.02

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
5.45	23.21	48.85	0	0.00

overflows to: offsite

Drainage Area	CB5		
Area (Ha)	0.110		
C =	0.90	Restricted Flow Q_r (L/s)=	25.00

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
0	230.48	63.43	25.00	38.43	0.00
2	182.69	50.28	25.00	25.28	3.03
4	152.51	41.97	25.00	16.97	**4.07**
6	131.57	36.21	25.00	11.21	4.04
8	116.11	31.96	25.00	6.96	3.34

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	4.07	48.85	0	0.00

overflows to: offsite

Drainage Area	CB5		
Area (Ha)	0.110		
C =	0.90	Restricted Flow Q_r (L/s)=	25.00

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
1	148.14	40.77	25.00	15.77	0.95
2	133.33	36.70	25.00	11.70	1.40
3	121.46	33.43	25.00	8.43	**1.52**
4	111.72	30.75	25.00	5.75	1.38
5	103.57	28.50	25.00	3.50	1.05

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.52	61.88	0	0.00

overflows to: offsite

Drainage Area	CB3
Area (Ha)	0.190
C =	1.00
Restricted Flow Q_r (L/s)=	55.00

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
0	398.62	210.55	55.00	155.55	0.00
5	242.70	128.20	55.00	73.20	21.96
10	178.56	94.31	55.00	39.31	**23.59**
15	142.89	75.48	55.00	20.48	18.43
20	119.95	63.36	55.00	8.36	10.03

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	23.59	16.34	0	7.25

overflows to: CB4

Drainage Area	CB3
Area (Ha)	0.190
C =	0.85
Restricted Flow Q_r (L/s)=	55.00

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
-1	266.98	119.86	55.00	64.86	-3.89
1	203.51	91.37	55.00	36.37	2.18
3	166.09	74.57	55.00	19.57	**3.52**
5	141.18	63.38	55.00	8.38	2.52
7	123.30	55.36	55.00	0.36	0.15

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	3.52	16.34	0	0.00

overflows to: CB4

Drainage Area	CB3
Area (Ha)	0.190
C =	0.85
Restricted Flow Q_r (L/s)=	55.00

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
-1	192.83	86.58	55.00	31.58	-1.89
0	167.22	75.08	55.00	20.08	0.00
1	148.14	66.51	55.00	11.51	**0.69**
2	133.33	59.86	55.00	4.86	0.58
3	121.46	54.53	55.00	-0.47	-0.08

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.69	106.88	0	0.00

overflows to: CB4

Drainage Area	CB4
Area (Ha)	0.120
C =	1.00
Restricted Flow Q_r (L/s)=	45.00

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
-2	555.31	185.25	45.00	140.25	-16.83
3	286.05	95.43	45.00	50.43	9.08
8	199.20	66.45	45.00	21.45	**10.30**
13	155.11	51.74	45.00	6.74	5.26
18	128.08	42.73	45.00	-2.27	-2.45

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
7.25	17.55	17.21	0	0.34

overflows to: CB8

Drainage Area	CB4
Area (Ha)	0.120
C =	0.90
Restricted Flow Q_r (L/s)=	45.00

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
-2	319.47	95.92	45.00	50.92	-6.11
0	230.48	69.20	45.00	24.20	0.00
2	182.69	54.85	45.00	9.85	**1.18**
4	152.51	45.79	45.00	0.79	0.19
6	131.57	39.50	45.00	-5.50	-1.98

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.18	17.21	0	0.00

overflows to: CB8

Drainage Area	CB4
Area (Ha)	0.120
C =	0.90
Restricted Flow Q_r (L/s)=	45.00

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
-2	229.26	68.83	45.00	23.83	-2.86
-1	192.83	57.90	45.00	12.90	-0.77
0	167.22	50.21	45.00	5.21	**0.00**
1	148.14	44.48	45.00	-0.52	-0.03
2	133.33	40.03	45.00	-4.97	-0.60

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.00	67.50	0	0.00

overflows to: CB8

Drainage Area	CB8
Area (Ha)	0.030
C =	1.00
Restricted Flow Q_r (L/s)=	20.00

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
-5	1716.01	143.12	20.00	123.12	-36.93
0	398.62	33.24	20.00	13.24	0.00
5	242.70	20.24	20.00	0.24	**0.07**
10	178.56	14.89	20.00	-5.11	-3.06
15	142.89	11.92	20.00	-8.08	-7.27

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.07	0.02	0	0.05

overflows to: offsite

Drainage Area	CB8
Area (Ha)	0.030
C =	0.90
Restricted Flow Q_r (L/s)=	20.00

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
-5	956.98	71.83	20.00	51.83	-15.55
-3	402.34	30.20	20.00	10.20	-1.84
-1	266.98	20.04	20.00	0.04	**0.00**
1	203.51	15.28	20.00	-4.72	-0.28
3	166.09	12.47	20.00	-7.53	-1.36

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.00	0.02	0	0.00

overflows to: offsite

Drainage Area	CB8
Area (Ha)	0.030
C =	0.90
Restricted Flow Q_r (L/s)=	20.00

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
-4	387.14	29.06	20.00	9.06	-2.17
-3	285.77	21.45	20.00	1.45	-0.26
-2	229.26	17.21	20.00	-2.79	**0.34**
-1	192.83	14.47	20.00	-5.53	0.33
0	167.22	12.55	20.00	-7.45	0.00

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.34	16.88	0	0.00

overflows to: offsite

Drainage Area	McDs ROOF		
Area (Ha)	0.040		
C =	0.96	Restricted Flow Q_r (L/s)=	10.00

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
0	398.62	42.55	10.00	32.55	0.00
5	242.70	25.91	10.00	15.91	4.77
10	178.56	19.06	10.00	9.06	**5.44**
15	142.89	15.25	10.00	5.25	4.73
20	119.95	12.80	10.00	2.80	3.37

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	5.44	10.00	0.00	0.00

overflows to: N/A

Drainage Area	McDs ROOF		
Area (Ha)	0.040		
C =	0.77	Restricted Flow Q_r (L/s)=	10.00

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
0	230.48	19.73	10.00	9.73	0.00
2	182.69	15.64	10.00	5.64	0.68
4	152.51	13.06	10.00	3.06	**0.73**
6	131.57	11.27	10.00	1.27	0.46
8	116.11	9.94	10.00	-0.06	-0.03

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.73	10.00	0	0.00

overflows to: N/A

Drainage Area	McDs ROOF		
Area (Ha)	0.040		
C =	0.77	Restricted Flow Q_r (L/s)=	10.00

2-Year Ponding

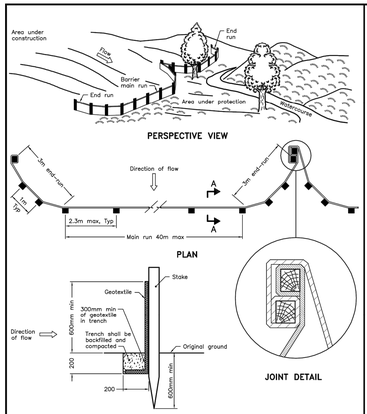
T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
0	167.22	14.32	10.00	4.32	0.00
1	148.14	12.68	10.00	2.68	0.16
2	133.33	11.42	10.00	1.42	**0.17**
3	121.46	10.40	10.00	0.40	0.07
4	111.72	9.57	10.00	-0.43	-0.10

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.17	22.50	0	0.00

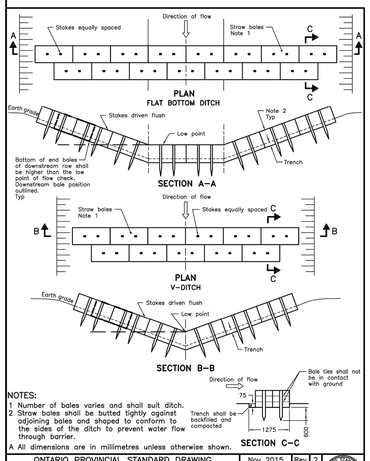
overflows to: N/A

APPENDIX D



NOTE:
A All dimensions are in millimetres unless otherwise shown.

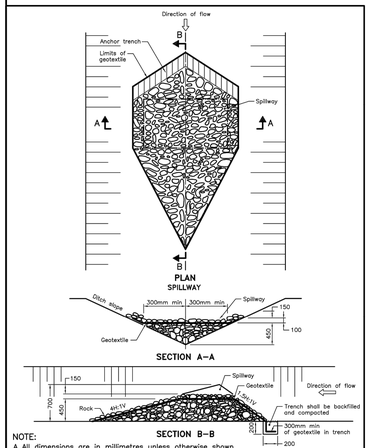
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2
LIGHT–DUTY SILT FENCE BARRIER		OPSD 219.110



NOTES:
1 Number of bales varies and shall suit ditch.
2 Straw bales shall be butted tightly against adjoining bales and shaped to conform to the sides of the ditch to prevent water flow through barrier.

A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2
STRAW BALE FLOW CHECK DAM		OPSD 219.180



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2
TEMPORARY ROCK FLOW CHECK DAM V–DITCH		OPSD 219.210

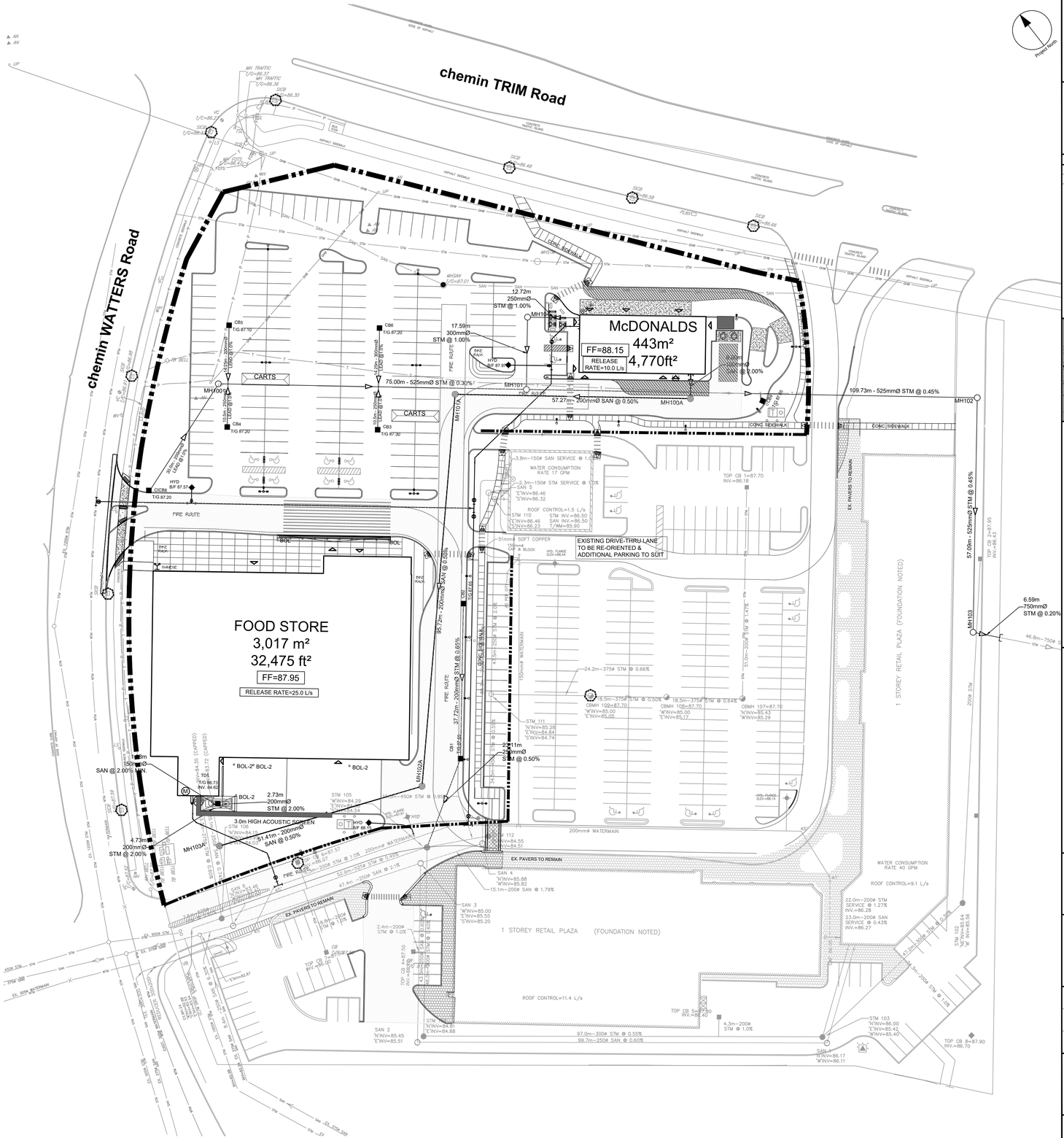
NOTES:

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY,

1. SILT FENCE TO BE ERECTED PRIOR TO EARTH WORKS BEING COMMENCED. SILT FENCE TO BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED OR UNTIL START OF SUBSEQUENT PHASE.
2. SILT SACK TO BE PLACED AND MAINTAINED UNDER COVER OF ALL CATCHBASINS. GEOTEXTILE SILT SACK IN STREET CBs TO REMAIN UNTIL ALL CURBS ARE CONSTRUCTED. GEOTEXTILE FABRIC IN RYCBs TO REMAIN UNTIL VEGETATION IS ESTABLISHED. ALL CATCHBASINS TO BE REGULARLY INSPECTED AND CLEANED, AS NECESSARY, UNTIL SOD AND CURBS ARE CONSTRUCTED.
3. WORKS NOTED ABOVE ARE TO BE INSTALLED, INSPECTED, MAINTAINED AND ULTIMATELY REMOVED BY SERVICING CONTRACTOR.
4. THIS IS A "LIVING DOCUMENT" AND MAY BE MODIFIED IN THE EVENT THE PROPOSED CONTROL MEASURES ARE INSUFFICIENT
5. SEE DRAWING C-010 FOR ADDITIONAL DETAILS AND NOTES.

LEGEND :

- LIGHT DUTY SILT FENCE AS PER OPSD-219.110
- SNOW FENCE
- STRAW BALE CHECK DAM AS PER OPSD-219.180
- ROCK CHECK DAM AS PER OPSD-219.210
- CB — SILT SACK PLACED UNDER EXISTING CB COVER
- TEMPORARY MUD MAT 0.15m THICK 50mm CLEAR STONE ON NON WOVEN FILTER CLOTH (7.5 × 15.0)



CLIENT
CROWN POINTE Co-TENANCY
C/O
TAGGART REALTY MANAGEMENT
225 METCALFE STREET, OTTAWA, On K2P 1P9

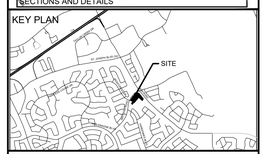
ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2021-10-28

NOT FOR CONSTRUCTION

SEE C-010 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

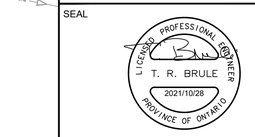
KEY PLAN



CONSULTANTS

1:500 0 5 10 15 25m

SEAL



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PROJECT
CROWN POINTE
900 WATTERS ROAD
CROWN POINTE COMMERCIAL
PHASE 3

PROJECT NO: 163063	
DRAWN BY: D.D.	CHECKED BY: J.B.
PROJECT MGR: T.R.B.	APPROVED BY: ----

SHEET TITLE
EROSION AND SEDIMENT CONTROL PLAN

SHEET NUMBER	ISSUE
C-900	1

SCALE CHECK 1:500

CITY FILE No. D07-XX-XX-XXXX

CITY PLAN No. xxxxx

File Location: J:\163063_Crown_Pointe\7.0_Production\7.03_Design\04_Civil\Sheets\C-900 EROSION AND SEDIMENT CONTROL PLAN.dwg Last Saved: October 28, 2021, by ddore Plotted: Thursday, October 28, 2021 4:40:22 PM by Denis Dore

APPENDIX E

Braden Walker

From: Paul Black <black@fotenn.com>
Sent: October 27, 2020 8:18 AM
To: Braden Walker
Subject: RE: 920 Watters - Receipt
Attachments: Watters, 920_design_brief_submission requirements.pdf; Pre-application Consultation Servicing Memo_920 Watters.docx; 4R31114.pdf; OC2012460-AL-Trim (e).pdf; OC2012442-Al-Hydro (e).pdf; OC2012459-AL-Trim (e).pdf

HI Braden,
My apologies, I thought I had already been sent this to you. See attached and below.

Further to the pre-application consultation meeting held on October 6, 2020 for the above-noted site, please see the summary of staff comments provided below for the proposed commercial development at 920 Watters Road by Taggart.

Engineering-related notes:

Please see the high-level engineering-related notes below (#1 and #2), and the attached Servicing Memo. The Servicing Memo reflects the engineering design and submission requirements for the Site Plan Control application, among other relevant information applicable to the said application. **The Applicant is to consult both the Servicing Memo and the notes listed below**. The Memo has been updated further to the second pre-application consultation, with slight revisions to the listed items, submission requirements (some documents can now be combined), and links.

1. Easements:

The presence of infrastructure easements may have impacts to development on the subject site. The Applicant would be responsible to carry out a land title search to obtain easement information accordingly, in order to determine what is permitted, setbacks, and any applicable restrictions. Refer to plan 4R-31114 accordingly. In addition, please note that correspondence with Taggart and the City's Corporate Real Estate Office (CREO) took place in August 2018, with CREO stating that they were in support of parking and some landscaping on the City storm/sanitary sewer easements, as long as the easements remain accessible to the City for any works. The submission is to reflect the above-noted, accordingly. Per the 2018 pre-application consultation notes, it was also strongly suggested that the applicant contact Mark Beaudette at Hydro One to determine if the necessary setbacks are being complied with for any new building adjacent to their power lines or transformers.

2. Development Charges (DC):

    a. Please note that the subject site falls within Area E-2, the lands to which the Cardinal Creek Erosion Works Stormwater Facilities 2019 by-law applies (area-specific DC). For further information, please consult the link below. Questions concerning the by-law are to be addressed to Gary Baker, DC Program Coordinator (613-580-2424 ext. 27406 | gary.baker@ottawa.ca).

https://ottawa.ca/en/planning-development-and-construction/developing-property/development-application-review-process/development-application-submission/fees-and-funding-programs/development-charges/area-specific-development-charges-stormwater-management-facilities#cardinal-creek-erosion-works

b. Also, please note that the Millennium Park DC may also apply at the building permit stage. Please start by speaking with Gary Baker regarding this Development Charge. Any questions or clarifications may be re-directed to Building Code Services, accordingly.

Urban Design:

McDonald's:

- Please utilize heavy landscaping and decorative fencing to screen the drive through pick up area abutting Trim Road
- Please reduce the drive-through pick up lanes from 2 to 1 lane.
- Please provide a direct/straight and landscaped pedestrian connection between the Giant Tiger and Trim Road; this may require eliminating parking spaces, but it will increase safety.

Food Store:

- Please provide soft landscaping at the rear and along the south side of the proposed food store; the existing spine for pedestrians through the site can be used.
- Please remove as much perimeter parking as possible and have a drive aisle abutting the landscape buffer strip adjacent to Trim Road.

Zoning/setbacks:

- Note that the zoning is split on this site and specific restrictions apply to the McDonald's; ensure you comply with all provisions in both zones
- Special setbacks may be required by Hydro One for the adjacent buildings along with landscaping restrictions.

Transportation:

Submit a screening form. If a TIA is warranted proceed to scoping.
The application will not be deemed complete until the submission of the draft step 1-4, including the functional draft RMA package (if applicable) and/or monitoring report (if applicable).
Although a full review of the TIA Strategy report (Step 4) is not required prior to an application, it is strongly recommended.

ROW protection on Watters is 26m.
A Stationary Noise Impact Study is required if there is noise sensitive land use within 100m of the loading dock or drive thru.
Clear throat requirements on Watters as per TAC guidelines.
Grocery store loading, access and egress will be reviewed at site plan application. Provide turning templates for largest design vehicle.
The location of the Watters access must not interfere with the queuing at the Trim signal.

Parkland Dedication:

Cash in lieu of parkland must be paid on the uplift portion of this site through the approval process.

Submission requirements:

As a general comment, all reports and studies submitted with this new site plan application must be less than 5 years old. Please review the list below in conjunction with the list provided in the attached Servicing Memo:

Plans

Topographical Plan of Survey
Site Plan
Landscape Plan
Tree Conservation Plan/Report
Grade Control and Drainage
Site Servicing Plan
Erosion and Sediment Control Plan
Architectural Building Elevation Drawings (dimensioned and color)
Perspective Plan of new site for on-site sign posting

Studies and Reports

Transportation Impact Assessment (see notes from Transportation)
Design Brief and Stormwater Management Report
Stationary Noise Report
Geotechnical Report
Planning Rationale and Design Brief
Stage 1 Archaeological Resource Assessment (Stage 2 if required)
Phase 1 Environmental Site Assessment (Phase 2 ESA if required)
Tree Conservation Report

Please advise if you require any further information.

Regards,

Julie Lebrun, MCIP, RPP (MICU, UPC)

Planner / Urbaniste

Development Review, Suburban Services East /

Examen des demandes d'aménagement, Services suburbains est

Planning, Infrastructure and Economic Development /

Services de planification, d'infrastructure et de développement économique

City of Ottawa | Ville d'Ottawa

613.580.2424 ext./poste 27816

ottawa.ca/planning / ottawa.ca/urbanisme

Paul Black, MCIP RPP
Senior Planner
T 613.295.4395

Out of Office - COVID-19
Please be advised that Fotenn staff are currently working remotely in accordance with government recommendations for social distancing. Otherwise I am working regularly and am available by email, phone or video conference.

From: Braden Walker <braden.walker@taggart.ca>
Sent: Monday, October 26, 2020 4:42 PM
To: Paul Black <black@fotenn.com>
Subject: RE: 920 Watters - Receipt

Hi Paul,

Can you update me on this please?

Thank you,
Braden Walker | Development Manager
Taggart Realty Management
T | 613-234-7000 ext: 512 **D** | 613-604-0868 **M** | 613-223-1579
A | 225 Metcalfe Street Ottawa, Suite 708, Ottawa, Ontario K2P 1P9
E | braden.walker@taggart.ca
W | https://www.taggart.ca/

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From: Braden Walker
Sent: October 15, 2020 5:02 PM
To: Paul Black <black@fotenn.com>
Subject: RE: 920 Watters - Receipt

Hi Paul,

Have we received the comments back on our pre-consult yet?

You mentioned Millennium Park DCs. Where would I find this on the City of Ottawa website?

Thank you,
Braden Walker | Development Manager
Taggart Realty Management
T | 613-234-7000 ext: 512 **D** | 613-604-0868 **M** | 613-223-1579
A | 225 Metcalfe Street Ottawa, Suite 708, Ottawa, Ontario K2P 1P9
E | braden.walker@taggart.ca

W | https://www.taggart.ca/

Integrity. Quality. Community. Since 1948

From: Paul Black <black@fotenn.com>
Sent: October 6, 2020 10:05 AM
To: Braden Walker <braden.walker@taggart.ca>
Subject: RE: 920 Watters - Receipt
Importance: High

HI Braden,
I screwed up and thought that Julie had sent the meeting request to you, but am finding out now that it hasn't been. The meeting is right now and I can't get a hold of you. I will proceed with the meeting, and if you're able, you can join the call. We can schedule a follow-up as well.

I'm so sorry about this error. I'll forward you the invite.

Paul

Paul Black, MCIP RPP
Senior Planner
T 613.295.4395

Out of Office - COVID-19
Please be advised that Fotenn staff are currently working remotely in accordance with government recommendations for social distancing. Otherwise I am working regularly and am available by email, phone or video conference.

From: Braden Walker <braden.walker@taggart.ca>
Sent: Friday, September 18, 2020 4:26 PM
To: Jacob Bolduc <bolduc@fotenn.com>
Cc: Paul Black <black@fotenn.com>
Subject: RE: 920 Watters - Receipt

Thanks Jacob,

No need for the PDF I've done it.

Please let me know when the pre-app is scheduled.

Thank you,
Braden Walker | Development Manager
Taggart Realty Management
T | 613-234-7000 ext: 512 **D** | 613-604-0868 **M** | 613-223-1579
A | 225 Metcalfe Street Ottawa, Suite 708, Ottawa, Ontario K2P 1P9
E | braden.walker@taggart.ca
W | https://www.taggart.ca/

From: Jacob Bolduc <bolduc@fotenn.com>
Sent: September 18, 2020 3:10 PM
To: Braden Walker <braden.walker@taggart.ca>
Cc: Paul Black <black@fotenn.com>
Subject: 920 Watters - Receipt

Good afternoon Braden,

Please find attached the receipt for the 920 Watters Pre-App. I don't have access to a scanner at the moment, so this is just a picture with my phone. I can get you a scanned PDF version on Monday/Tuesday when I'm in the office, if you need it.

Thanks,

Jacob Bolduc, RPP, MCIP
Planner

FOTENN
396 Cooper Street, Suite 300
Ottawa, ON K2P 2H7
T 613.730.5709 ext. 238
fotenn.com

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SERVICING MEMO

Date:	October 6, 2020
To / Destinataire	Julie Lebrun, MCIP, RPP Planner, Development Review East
From / Expéditeur	Sara Mashaie, P.Eng. Project Manager, Infrastructure Approvals, Development Review East
Subject / Objet	**Pre-Application Consultation** **920 Watters Rd., Ward 1 – Orléans** *Proposed commercial development at Taggart Realty Crowne Pointe Centre* File No. PC2020-0244

Please note the following information regarding the engineering design submission for the above noted site:

****Note:** Some items may not be required as part of your submission and are for informational purposes.

1. The Servicing Study Guidelines for Development Applications are available at the following address: https://ottawa.ca/en/city-hall/planning-and-development/information-developers/development-application-review-process/development-application-submission/guide-preparing-studies-and-plans#servicing-study-guidelines-development-applications

2. The following Engineering plans and reports are requested for the **Site Plan Control** submission:

    a. Site Servicing Plan

    b. Site Servicing Report

    c. Stormwater Management Report (can be combined with the Site Servicing Report)

    d. Grade Control and Drainage Plan

    e. Erosion and Sediment Control Plan (can be combined with the Grade Control and Drainage Plan)

    f. Geotechnical Report

3. Plans are to be submitted on standard **A1 size** (594mm x 841mm) sheets, utilizing an appropriate Metric scale (1:200, 1:250, 1:300, 1:400, or 1:500). With all submitted plans and reports, please provide an individual PDF format of the files.

4. Servicing and site works shall be in accordance with the following documents:

   - ⇨ Ottawa Sewer Design Guidelines (October 2012)
   - ⇨ Ottawa Design Guidelines – Water Distribution (2010)
   - ⇨ Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (2007)
   - ⇨ City of Ottawa Slope Stability Guidelines for Development Applications (revised 2012)
   - ⇨ City of Ottawa Environmental Noise Control Guidelines (January, 2016)
   - ⇨ City of Ottawa Park and Pathway Development Manual (2012)
   - ⇨ City of Ottawa Accessibility Design Standards (2012)
   - ⇨ Ottawa Standard Tender Documents (latest version)
   - ⇨ Ontario Provincial Standards for Roads & Public Works (2013)

5. Record drawings and utility plans are also available for purchase from the City (Contact the City's Information Centre by email at InformationCentre@ottawa.ca or by phone at (613) 580-2424 x.44455).

6. The Stormwater Management Criteria, for the subject site, is to be based on the following:

   i. The 5-yr storm event using the IDF information derived from the Meteorological Services of Canada rainfall data, taken from the MacDonald Cartier Airport, collected 1966 to 1997.

   ii. For separated sewer system built pre-1970 the design of the storm sewers are based on a 2 year storm.

   iii. The pre-development runoff coefficient or a maximum equivalent 'C' of 0.5, whichever is less (§ 8.3.7.3).

iv. A calculated time of concentration (Cannot be less than 10 minutes).

v. Flows to the storm sewer in excess of the 5-year storm release rate, up to and including the 100-year storm event, must be detained on site.

vi. For a combined sewer system the maximum C= 0.4 or the pre-development C value, whichever is less. In the absence of other information the allowable release rate shall be based on a 2 year storm event.

Note: There may be area specific SWM Criteria that may apply. Check for any related SWM &/or Sub-watershed studies that may have been completed.

7. Deep Services (Storm, Sanitary & Water Supply)

i. Provide existing servicing information and the recommended location for the proposed connections. Services should ideally be grouped in a common trench to minimize the number of road cuts.

ii. Connections to trunk sewers and easement sewers are typically not permitted.

iii. Provide information on the monitoring manhole requirements – should be located in an accessible location on private property near the property line (ie. Not in a parking area).

iv. Review provision of a high-level sewer.

v. Provide information on the type of connection permitted

Sewer connections to be made above the springline of the sewermain as per:

a. Std Dwg S11.1 for flexible main sewers – *connections made using approved tee or wye fittings.*

b. Std Dwg S11 (For rigid main sewers) – *lateral must be less that 50% the diameter of the sewermain,*

c. Std Dwg S11.2 (for rigid main sewers using bell end insert method) – *for larger diameter laterals where manufactured inserts are not available; lateral must be less that 50% the diameter of the sewermain,*

d. Connections to manholes permitted when the connection is to rigid main sewers where the lateral exceeds 50% the diameter of the sewermain. – Connect obvert to obvert with the outlet pipe unless pipes are a similar size.

e. No submerged outlet connections.

8. Water Boundary condition requests must include the location of the service and the expected loads required by the proposed development. Please provide the following information:

   i. Location of service

   ii. Type of development and the amount of fire flow required (as per FUS, 1999).

   iii. Average daily demand: ___ l/s.

   iv. Maximum daily demand: ___l/s.

   v. Maximum hourly daily demand: ___ l/s.

9. All development application should be considered for an ECA by the MOECC.

   a. Consultant determines if an approval for sewage works under Section 53 of OWRA is required. Consultant determines what type of application is required and the City's project manager confirms. (If the consultant is not clear if an ECA is required, they will work with the City to determine what is required. If the consultant is still unclear or there is a difference of opinion only then will they approach the MOECC).
   b. The project will be either transfer of review (standard), transfer of review (additional), direct submission, or exempt as per O. Reg. 525/98.
   c. Pre-consultation is not required if applying for standard works (schedule A of the Agreement) under Transfer Review.
   d. Mandatory pre-consultation is required if applying for additional works (schedule A of the Agreement) under Transfer Review.
   e. Pre-consultation with local District office of MOECC is recommended for direct submission.
   f. Consultant completes an MOECC request form for a pre-consultation. Send request to moeccottawasewage@ontario.ca.

10. Phase 1 ESAs and Phase 2 ESAs must conform to clause 4.8.4 of the Official Plan that requires that development applications conform to Ontario Regulation 153/04.

Should you have any questions or require additional information, please contact me directly at (613) 580-2424, ext. 27885 or by email at sara.mashaie@ottawa.ca.

APPENDIX F

CROWN POINTE
CORWN POINTE Co-TENANCY

Sheet List Table	
Sheet Number	Sheet Title
--	000 COVER
C-001	GENERAL PLAN OF SERVICES
C-010	DETAILS AND NOTES
C-200	GRADING PLAN
C-400	SANITARY DRAINAGE AREA PLAN
C-500	STORM DRAINAGE AREA PLAN
C-900	EROSION AND SEDIMENT CONTROL PLAN
--	EXISTING CONDITIONS
--	REMOVALS PLAN

IBI GROUP
400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 fax 613 225 9868
ibigroup.com

900 WATTERS ROAD
CROWN POINTE COMMERCIAL
PHASE 3

CONTRACT NO. 163063

ISSUED FOR SPA 2021-10-28

CITY PLAN No.____

CITY FILE No. D07-__-__-____

SCALE CHECK 10mm
File Location: J:\163063_Crown_Pointe\7.0_Production\7.03_Design\04_Civil\Sheets\COVER.dwg Last Saved: October 28, 2021 by d6dore Plotted: Thursday, October 28, 2021 4:38:52 PM by Denis Dore

DRAWING NOTES

1.0 GENERAL

1.1 CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

1.2 DO NOT SCALE DRAWINGS.

1.3 CONTRACTOR TO REPORT ALL DISCOVERIES OF ERRORS, OMISSIONS OR DISCREPANCIES TO THE ARCHITECT OR DESIGN ENGINEER AS APPLICABLE.

1.4 USE ONLY THE LATEST REVISED DRAWINGS OR THOSE THAT ARE MARKED "ISSUED FOR CONSTRUCTION".

1.5 ALL CONSTRUCTION SHALL COMPLY WITH CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

1.6 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.

1.7 FOR LEGAL SURVEY INFORMATION REFER TO REGISTERED PLAN.

1.8 REFER TO SITE PLAN BY ARCHITECTS HOBIN ARCHITECTURE INCORPORATED.

1.9 CONTRACTOR TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES AS IDENTIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.). DURING ALL PHASES OF THE SITE PREPARATION AND CONSTRUCTION THE MEASURES ARE TO BE MAINTAINED TO THE SATISFACTION OF THE ENGINEER AND CITY OF OTTAWA IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL. SHOULD ANY ADDITIONAL MEASURES BE REQUIRED TO ADDRESS FIELD CONDITIONS THEY SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR THE CITY OF OTTAWA. SUCH ADDITIONAL MEASURES MAY INCLUDE BUT NOT BE LIMITED TO INSTALLATION OF SEDIMENT CAPTURE FILTER SOCKS WITHIN MANHOLES AND CATCHBASINS TO PREVENT SEDIMENT FROM ENTERING THE STRUCTURE AND INSTALLATION AND MAINTENANCE OF A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED.

1.10 ALL IRON WORK ELEVATIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR ADJUSTMENTS AS DETERMINED BY THE ENGINEER.

1.11 ALL CONCRETE CURBS AND SIDEWALKS TO CONFORM TO O.P.S. AND CONSTRUCTED TO CITY STANDARDS. ALL ONSITE CURBS TO BE BARRIER TYPE, WITH DEPRESSIONS AS NOTED.

1.12 ALL CONCRETE SHALL BE "NORMAL PORTLAND CEMENT" IN ACCORDANCE WITH O.P.S.S. 1350 AND SHALL ACHIEVE A MINIMUM STRENGTH OF 30MPa AT 28 DAYS.

1.13 ALL CONSTRUCTION TRAFFIC TO ACCESS SITE FROM TRIM ROAD.

1.14 FOR GEOTECHNICAL REPORT SEE GEOTECHNICAL INVESTIGATION REPORT No. PG4655-1 BY PATERSON GROUP.

1.15 CONTRACTOR TO PROTECT EXISTING INFRASTRUCTURE AND PROPERTY SUCH AS TREES, PARKING METERS, SIDEWALKS, CURBS, ASPHALT, AND STREET SIGNS FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR TO PAY THE COST TO REINSTATE OR REPLACE ANY DAMAGED INFRASTRUCTURE OR PROPERTY TO THE SATISFACTION OF THE CITY.

1.16 THE POSITION OF POLE LINES, CONDUITS, WATERMAIN, SEWERS, AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES ARE 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 THE CONTRACTOR SHALL INFORM ITSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, SHALL PROTECT ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

1.17 CONTRACTOR TO SUPPLY SUITABLE FILL MATERIAL WHERE REQUIRED TO ROUGH GRADE THE SITE. ALL IMPORTED FILL MATERIAL TO BE CERTIFIED AS ACCEPTABLE BY THE GEOTECHNICAL ENGINEER.

1.18 CONTRACTOR TO HAUL EXCESS MATERIAL OFFSITE AS NECESSARY TO GRADE SITE TO MEET THE PROPOSED GRADES. ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED OF AT AN APPROVED DUMP SITE. SHOULD THE CONTRACTOR DISCOVER ANY HAZARDOUS MATERIAL, CONTRACTOR IS TO NOTIFY ENGINEER. ENGINEER TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.

1.19 FILL MATERIAL WITHIN THE PARKING LOT AND BUILDING PAD AREAS, AND SUPPORTING BUILDING FOUNDATIONS SHALL BE COMPACTED TO 98% STANDARD MODIFIED PROCTOR DENSITY AND TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.

1.20 ALL COMPACTION METHODS TO BE PERFORMED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER TO INCLUDE BUT NOT BE LIMITED TO THE THICKNESS OF LIFTS, AND COMPACTION EQUIPMENT USED.

1.21 ALL DISTURBED BOULEVARDS TO BE REINSTATED WITH SOD ON 100mm TOPSOIL.

1.22 UTILITY DUCTS TO BE INSTALLED PRIOR TO ROAD BASE CONSTRUCTION.

1.23 CLAY DIKES TO BE INSTALLED WHERE INDICATED ON THE DRAWINGS OR AS APPROVED AND DIRECTED BY THE GEOTECHNICAL ENGINEER ALL IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

1.24 BACKWATER VALES, PER CITY STANDARDS S14, S14.1 AND S14.2 RE TO BE INSTALLED FOR ALL STORM AND SANITARY SERVICE CONNECTIONS.

2.0 SANITARY

2.1 ALL SANITARY SEWER MAINS TO BE CSA CERTIFIED, BELL AND SPIGOT TYPE, ONLY FACTORY FITTINGS TO BE USED. SEWER TO BE INSTALLED AS PER OSPD 1005.01. SANITARY SEWER MATERIALS TO BE:
250mmØ AND SMALLER - PVC DR 35

2.2 ALL SANITARY MAINTENANCE HOLES TO BE 1.2m DIAMETER AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING, RUNGS, FRAME AND COVER, DROP PIPES AND LANDINGS WHERE NEEDED.

2.3 SANITARY MANHOLE COVERS TO BE CITY OF OTTAWA STD. S25 (MOD. OPSD. 401.020). SANITARY MANHOLE COVER TO BE CLOSED COVER TYPE, AS PER CITY STANDARD S24.

2.4 SANITARY SEWER LEAKAGE TEST AND CCTV INSPECTION SHALL BE COMPLETED AS PER CITY SPECIFICATIONS PRIOR TO INSTALLATION OF BASE COURSE ASPHALT.

2.5 ANY SANITARY SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

2.6 CONNECTION TO THE EXISTING SANITARY SEWER TO BE INCLUDED IN THE COST FOR SANITARY SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

3.0 STORM

3.1 ALL STORM SEWERS TO BE CSA CERTIFIED, BELL AND SPIGOT TYPE. ALL STORM SEWERS TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS, ONLY FACTORY FITTINGS TO BE USED. STORM SEWER MATERIALS TO BE : 375mmØ AND SMALLER - PVC DR 35
450mmØ AND LARGER - 100-D REINFORCED CONCRETE. UNLESS NOTED OTHERWISE

3.2 ALL STORM MAINTENANCE HOLES TO BE SIZED IN ACCORDANCE WITH THE PLANS AND AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING, RUNGS, AND FRAME AND COVER.

3.3 STORM MH COVERS TO BE OPEN TYPE, AS PER CITY STANDARD S24.1, FRAMES TO BE PER CITY OF OTTAWA STD. S25. CONTRACTOR TO INSTALL FILTER FABRIC UNDER STORM MH COVER UNTIL SODDING IS COMPLETE.

3.4 STORM MAINTENANCE HOLES TO BE OPSD, SIZE AS SPECIFIED, TAPER TOP.

3.5 ALL CATCH BASINS TO BE AS PER OPSD 705.010, FRAME & FISH TYPE GRATE AS PER CITY OF OTTAWA STD. S19.1.

3.6 3m 150mm DIAMETER SOCK-WRAPPED PERFORATED PVC SUBDRAINS TO BE INSTALLED ALL CB'S. TO EXTEND PARALLEL TO CURB IN CBS ADJACENT TO CURB AND IN 4 DIRECTIONS FOR CBS IN CENTER OF PARKING LOT. SUBDRAINS TO DISCHARGE TO CB'S.

3.7 ANY STORM SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

3.8 CONNECTION TO THE EXISTING STORM SEWER TO BE INCLUDED IN THE COST FOR STORM SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUT TO CITY STANDARDS.

3.9 CONTRACTOR TO PROVIDE IPEX-TEMPEST MHF ICD'S SHOP DRAWINGS, OR EQUIVALENT, FOR ENGINEERS REVIEW PRIOR TO ORDERING ICD'S.

4.0 WATER

4.1 ALL WATERMAINS TO BE PVC DR 18, WITH MINIMUM COVER OF 2.4m AND INSTALLED PER CITY OF OTTAWA STANDARDS. ALL DOMESTIC WATER SERVICES ARE TO BE 200mmØ, UNLESS NOTES OTHERWISE.

4.2 THRUST BLOCKS TO BE INSTALLED AT ALL BENDS, TEES, AND CAPS ALL AS PER OPSD 1103.01 AND 1103.02.

4.3 CONTRACTOR TO CONDUCT PRESSURE AND LEAKAGE TESTING OF ALL WATERMAINS AND DISINFECT AND CHLORINATE ALL WATERMAINS TO THE SATISFACTION OF M.O.E. AND THE CITY OF OTTAWA.

4.4 TRACER WIRE TO BE INSTALLED ALONG THE FULL LENGTH OF WATERMAIN AND ATTACHED TO EACH MAIN STOP AS PER CITY OF OTTAWA STANDARDS.

4.5 ALL COMPONENTS OF THE WATER DISTRIBUTION SYSTEM SHALL BE CATHODICALLY PROTECTED AS PER CITY OF OTTAWA STANDARDS.

4.6 ALL VALVES & VALVE BOXES AND CHAMBERS, HYDRANTS, AND HYDRANT VALVES AND ASSEMBLIES SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS.

4.7 ANY WATERMAIN WITH LESS THAN 2.4m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

4.8 CONTRACTOR IS RESPONSIBLE FOR ACQUIRING THE WATER PERMIT FROM THE CITY OF OTTAWA AND PAYMENT OF ANY FEES ASSOCIATED WITH SECURING THE WATER PERMIT. OWNER IS RESPONSIBLE FOR REIMBURSING THE CONTRACTOR FOR THE ACTUAL COST OF ACQUIRING THE WATER PERMIT.

4.9 CONNECTION TO EXISTING WATERMAIN TO BE INCLUDED IN THE COST FOR THE WATERMAIN INSTALLATION. THIS COST INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

4.10 ALL WATERMAIN CROSSINGS TO BE COMPLETED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2

5.0 PARKING LOT AND WORK IN PUBLIC RIGHTS OF WAY

5.1 CONTRACTOR TO REINSTATE ROAD CUTS PER CITY OF OTTAWA STANDARD R-10.

5.2 THE CONTRACTOR SHALL PREPARE A TRAFFIC MANAGEMENT PLAN FOR REVIEW AND APPROVAL BY THE CITY OF OTTAWA. CONTRACTOR TO MAINTAIN TRAFFIC FLOW DURING THE ENTIRE CONSTRUCTION PERIOD. MAINTENANCE OF ROAD CUTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROVISION OF FLAGMEN, DETOURS AS NECESSARY, BARRICADES AND SIGNS TO THE FULL SATISFACTION OF THE ENGINEER AND ROAD AUTHORITY SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

5.3 CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROOFROLLING, TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.

5.4 FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT REQUIREMENTS.

5.5 CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR B MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOETCHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF GRANULAR B MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.6 GRANULAR A MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL ENGINEER OF GRANULAR B PLACEMENT.

5.7 ASPHALT MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL ENGINEER OF GRANULAR A PLACEMENT.

5.8 CONTRACTOR TO SUPPLY, PLACE AND COMPACT ASPHALT MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF ASPHALT MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.9 CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING LINE AND GRADE IN ACCORDANCE WITH THE PLANS, AND FOR PROVIDING THE ENGINEER WITH VERIFICATION PRIOR TO PLACEMENT.

5.10 PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESSES) FOR HEAVY DUTY AND LIGHT DUTY AREAS TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT AND SHOWN ON THE PLANS.

CROSSING SCHEDULE

1	200mmØ SAN 1.05m CLEARANCE OVER 525mmØ STM
2	200mmØ SAN 0.38m CLEARANCE UNDER 200mmØ WM
3	200mmØ WM 0.75m CLEARANCE OVER 525mmØ STM
4	200mmØ SAN 0.700m CLEARANCE UNDER 150mmØ WM
5	250mmØ STM 0.250m CLEARANCE OVER 200mmØ WM
6	200mmØ WM 1.05m CLEARANCE OVER 200mmØ SAN
7	200mmØ SAN 1.55m CLEARANCE UNDER 200mmØ WM
8	375mmØ STM 0.700m CLEARANCE UNDER 200mmØ WM
9	150mmØ WM 0.250m CLEARANCE OVER 300mmØ STM

CATCH BASIN DATA TABLE

STRUCTURE ID	STRUCTURE	COVER	ELEVATION			OUTLET PIPE		HEAD	FLOW	ICD TYPE
			TOP OF	INVERT		DIAMETER	TYPE			
			GRATE	INLET	OUTLET	(mm)				
CB1	OPSD 705.010	S19	**87.65**	85.816	85.766	250	PVC DR-35	2.26	29.0	Tempest HF
CB2	OPSD 705.010	S19	**87.65**		86.061	200	PVC DR-35			
CB3	OPSD 705.010	S19	**87.30**		85.525	250	PVC DR-35	1.65	55.0	Tempest HF
CB4	OPSD 705.010	S19	**87.20**		85.425	250	PVC DR-35	1.65	45.0	Tempest HF
CB5	OPSD 705.010	S19	**87.10**		85.350	200	PVC DR-35	1.65	25.0	Tempest HF
CB6	OPSD 705.010	S19	**87.20**		85.400	300	PVC DR-35	1.65	100.0	Tempest HF
CB8	OPSD 705.010	S19	**87.20**		85.450	200	PVC DR-35	1.65	20.0	Tempest HF
CB9	OPSD 705.010	S19	**87.65**		85.900	200	PVC DR-35	1.65	30.0	Tempest HF
TD1	Zurn Z3		**86.73**		84.620	200	PVC DR-35			
SAN CB	OPSD 705.010	S19	**86.85**		84.750	200	PVC DR-35	*NO SUMP IN CB, CONNECT TO SAN		

Bold font indicates CB's with ICD's

Revision: 2021-10-28

PAVEMENT STRUCTURE **

CAR ONLY PARKING AREAS:

50mm WEAR COURSE - HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
150mm BASE - OPSS GRANULARGRANULAR "A" CRUSHED STONE
300mm SUBBASE - OPSS GRANULAR "B" TYPE II
SUBGRADE - IN SITU SOIL, OR OPSS GRANULAR "B" TYPE I OR II
MATERIAL PLACED OVER IN SITU SOIL

HEAVY TRUCK PARKING AREAS AND ACCESS LANES:

40mm WEAR COURSE - HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm BINDER COURSE - HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm BASE COURSE - OPSS GRANULAR "A" CRUSHED STONE
400mm SUBBASE - OPSS GRANULAR "B" TYPE II
SUBGRADE - IN SITU SOIL, OR OPSS GRANULAR "B" TYPE I OR II
MATERIAL PLACED OVER IN SITU SOIL

** REFER TO GEOTECHNICAL REPORT BY PARERSON GROUP

WATERAIN SCHEDULE

	Station	Description	Finished	Top of	As Built
A	0+000.00	TEE	87.64	85.24	
	0+002.07	VB	87.63	85.23	
	0+008.35	45° BEND	87.88	85.48	
	0+027.10	22.5° BEND	88.12	85.72	
	0+028.41	45° BEND	88.13	85.73	
	0+032.14	TEE 200x50	86.97	84.57	
B	0+034.00	SERVICE	87.54	85.14	
C	0+000.00	TEE	87.90	85.50	
	0+002.20	VB	87.86	85.46	
	0+075.14	VB	88.16	85.76	
E	0+077.14	TEE	88.15	85.75	
D	0+000.00	TVS	86.50	84.10	
	0+023.18	HYDANT TEE	87.36	84.96	
E	0+091.94	TEE	88.15	85.75	
E	0+000.00	TEE	88.15	85.75	
	0+002.00	VB	88.15	85.75	
	0+012.31	45° BEND	88.22	85.82	
	0+038.14	45° BEND	87.88	85.48	
	0+042.60	HYDANT TEE	87.89	85.49	
	0+048.42	VB	87.89	85.49	
	0+049.13	45° BEND	87.89	85.49	
	0+053.55	45° BEND	88.08	85.68	
F	0+057.13	SERVICE	88.15	85.75	
G	0+000.00	45° BEND	87.79	85.39	
	0+002.37	22.5° BEND	87.86	85.46	
H	0+010.74	HYDANT	88.07	85.67	

SAN STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT IN AS-BUILT	INVERT OUT	INVERT OUT AS-BUILT	DESCRIPTION
*MH100A	87.84	NE85.830		NW84.807		1200mmØ OPSD-701.010
MH101A	87.67	SE84.521		SW84.461		1200mmØ OPSD-701.010
MH102A	87.79	NE83.982		W83.922		1200mmØ OPSD-701.010
MH103A	87.98	E83.665				1200mmØ OPSD-701.010

*MH101A IS TO HAVE 200Ø DROP PIPE

STM STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT IN AS-BUILT	INVERT OUT	INVERT OUT AS-BUILT	DESCRIPTION
BULK	88.18			NW85.900		McDonald's STM
MH100	87.34			SE84.576		1200mmØ OPSD-701.010
MH101	87.84	NE84.626 NW84.351		SE84.351		1200mmØ OPSD-701.010
MH102	87.83	NW83.857		SW83.857		1200mmØ OPSD-701.010
MH103	87.93	NE83.600		SE83.353		1200mmØ OPSD-701.010
MH104	87.74	SE85.773		SW84.802		1200mmØ OPSD-701.010
XSTMMH	88.22	NE85.650				

LEGEND:

- MH3A — SANITARY MANHOLE
- MH3 — STORM MANHOLE
- CB T/G 99.76 — CATCHBASIN c/w TOP OF GRATE
- CICB T/G 99.76 — CURB INLET CATCHBASIN c/w TOP OF GRATE
- RYCB T/G 99.76 — REAR YARD CATCHBASIN c/w GUTTER GRADE
- RYCB T/G 100.25 — REAR YARD "END" CATCHBASIN C/W TOP OF GRATE 300Ø)
- CBMH T/G 101.55 — CATCHBASIN MANHOLE c/w TOP OF GRATE
- VB — VALVE AND VALVE BOX
- V&C — VALVE AND CHAMBER
- HYD B/F 100.56 — HYDRANT c/w BOTTOM OF FLANGE ELEVATION
- BARRIER CURB AS PER SC1.1
- MOUNTABLE CURB AS PER SC1.3
- PROPOSED CONCRETE SIDEWALK
- PROPOSED HEAVY DUTY CONCRETE SIDEWALK
- 200mmØ SAN — SANITARY SEWER & FLOW DIRECTION
- 825mmØ STM — STORM SEWER & FLOW DIRECTION
- 200Ø WATERMAIN — WATERMAIN
- RED 150Ø WM — WATERMAIN REDUCER
- 200Ø WM VBENDS — VERTICAL BEND LOCATION
- 250mmØ SUBDRAIN
- 1.5% — SLOPE C/W FLOW DIRECTION
- MAJOR OVERLAND FLOW ROUTE
- ×104.62 — PROPOSED SPOT GRADE
- ×104.40 SWP — PROPOSED SWALE GRADE
- ×104.50 SWHP — PROPOSED SWALE HIGH POINT
- 104.60 TOS 103.59 — LOT CORNER GRADE C/W EXISTING GROUND
- 86.45 EX × — TIE INTO EXISTING GRADE
- ×92.51 — EXISTING SURVEY GRADE
- ×92.35 EIS — EXISTING IBI SURVEY GRADE
- 96.75 — FULL STATIC PONDING GRADE
- RETAINING WALL
- 105.30 TOW — TOP OF RETAINING WALL
- 103.50 BOW — PROPOSED BOTTOM OF RETAINING WALL
- TERRACING 3:1 MAXIMUM UNLESS NOTED OTHERWISE
- TP 13-301 — PRELIMINARY ROOF DRAIN LOCATION
- TEST PITS (SEE GEOTECHNICAL REPORT)
- CLAY DYKES PER S8
- USF=92.394 — PROPOSED UNDERSIDE OF FOOTING ELEVATION
- TOF=94.731 — PROPOSED TOP OF FOUNDATION ELEVATION
- SIAMESE CONNECTION (IF REQUIRED)
- M — METER
- RM — REMOTE METER
- PRV — PRESSURE REDUCING VALVE
- A — WATERMAIN IDENTIFICATION
- 1 — PIPE CROSSING IDENTIFICATION
- CONCRETED PAD
- INLET CONTROL DEVICE LOCATION
- PROTECTIVE BOLLARD
- HEAVY DUTY ASPHALT / FIRE ROUTE
- PEDESTRIAN CROSSING C/W TWSI AND DEPRESSED CURB
- PAD MOUNTED TRANSFORMER
- LIGHT FIXTURE
- PRIMARY DUCT BANK
- SECONDARY POWER
- H/B/T/G — EXISTING UTILITIES
- EXISTING DUCT BANK

STANTEC GEOMATICS LTD. LEGEND

AN	ANCHOR	UMB	MARKER BELL UNDERGROUND
BH	BOREHOLE	UMC	MARKER CABLE UNDERGROUND
BOL	BOLLARD	UMG	MARKER GAS UNDERGROUND
CB	CATCH BASIN	UMO	MARKER OIL UNDERGROUND
DCB	DOUBLE CB	UP	UTILITY POLE
DICB	DITCH CB	VB	VALVE BOX
CBMH	CB MANHOLE	VC	VALVE CHAMBER
DCBMH	DOUBLE CB MANHOLE	WV	WATER VALVE
CBSI	SIDE INLET CB		TREE STUMP
CSV	VALVE CURB STOP		TREE CONIFEROUS
DRN	DRAIN		TREE DECIDUOUS
EPOST	ELECTRICAL OUTLET	—OHW—	- OVERHEAD UTILITY WIRES
FP	FLAG POLE	— P —	- UNDERGROUND HYDRO
FL	FLOOD LIGHT	— T —	- UNDERGROUND BELL
GC	GARBAGE CAN	— G—	- GAS MAIN
GP	POLE GUYWIRE	—ST—	- STORM SEWER
GV	GAS VALVE	—SAN—	- SANITARY SEWER
HLS	LIGHT STANDARD HYDRO		- CURB
HM	HYDRO METER		
HTN	HYDRO TRANSFORMER		
HW	HAND WELL		
HYD	FIRE HYDRANT		
JBX	JUNCTION BOX		
MB	MAILBOX		
MH	MAINTENANCE HOLE UNIDENTIFIED		
MHBELL	MAINTENANCE HOLE BELL		
MHF	MAINTENANCE HOLE FIBRE OPTIC		
MHH	MAINTENANCE HOLE HYDRO		
MHI	MAINTENANCE HOLE INVERT		
MHSAN	MAINTENANCE HOLE SANITARY		
MHSTM	MAINTENANCE HOLE STORM		
MHT	MAINTENANCE HOLE TRAFFIC		
MW	MONITORING WELL		
OLP	LIGHT STANDARD ORNAMENTAL		
OW	OBSERVATION WELL		
SIA	SIAMESE CONNECTION		
SN	SIGN		
TBL	TABLE		
TB BELL	TERMINAL BOX - BELL		
TB CATV	TERMINAL BOX - CABLE		
TCB	TRAFFIC CONTROL BOX		
TPIT	TEST PIT		
TSL	TRAFFIC SIGNAL LIGHT		

CLIENT
CROWN POINTE Co-TENANCY
C/O
TAGGART REALTY MANAGEMENT
225 METCALFE STREET, OTTAWA, On
K2P 1P9

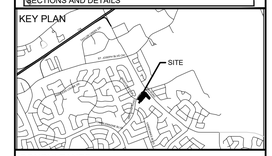
ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2021-10-22

NOT FOR CONSTRUCTION

SEE C-010 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

KEY PLAN



CONSULTANTS

SEAL

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tel 613 225 1311 / 613 241 3300 fax 613 225 9868
ibigroup.com

PROJECT
CROWN POINTE
900 WATTERS ROAD
CROWN POINTE COMMERCIAL
PHASE 3

PROJECT NO: 163063

DRAWN BY:	CHECKED BY:
D.D.	J.B.
PROJECT MGR: T.R.B.	APPROVED BY: ----

SHEET TITLE
DETAILS AND NOTES

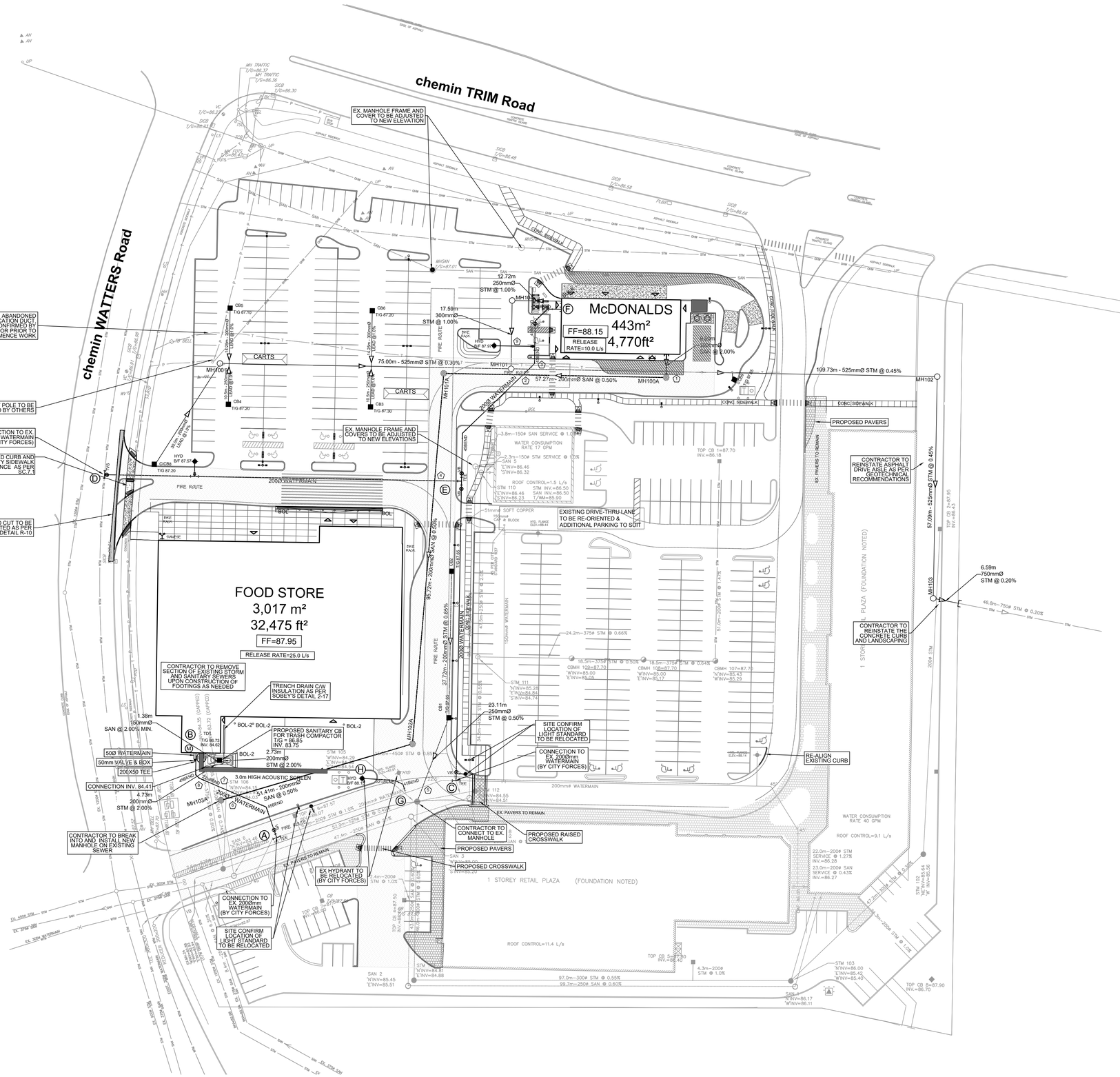
SHEET NUMBER	ISSUE
C-010	1

SCALE CHECK

CITY FILE No. D07-XX-XX-XXXX

CITY PLAN No. xxxxx

File Location: J:\163063_Crown_Pointe\7.0_Production\7.03_Design\04_Civil\Sheets\C-010 DETAILS AND NOTES.dwg Last Saved: October 28, 2021, by ddore Plotted: Thursday, October 28, 2021



CLIENT

CROWN POINTE Co-TENANCY

C/O
TAGGART REALTY MANAGEMENT

225 METCALFE STREET, OTTAWA, On
K2P 1P9

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED TO SOBEY'S	2021-10-21
2	ISSUED FOR SPA	2021-10-28

NOT FOR CONSTRUCTION

SEE D10 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

KEY PLAN

CONSULTANTS

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PROJECT

CROWN POINTE
900 WATTERS ROAD
CROWN POINTE COMMERCIAL
PHASE 3

PROJECT NO: 163063	
DRAWN BY: D.D.	CHECKED BY: J.B.
PROJECT MGR: T.R.B.	APPROVED BY: ----

SHEET TITLE

GENERAL PLAN OF SERVICES

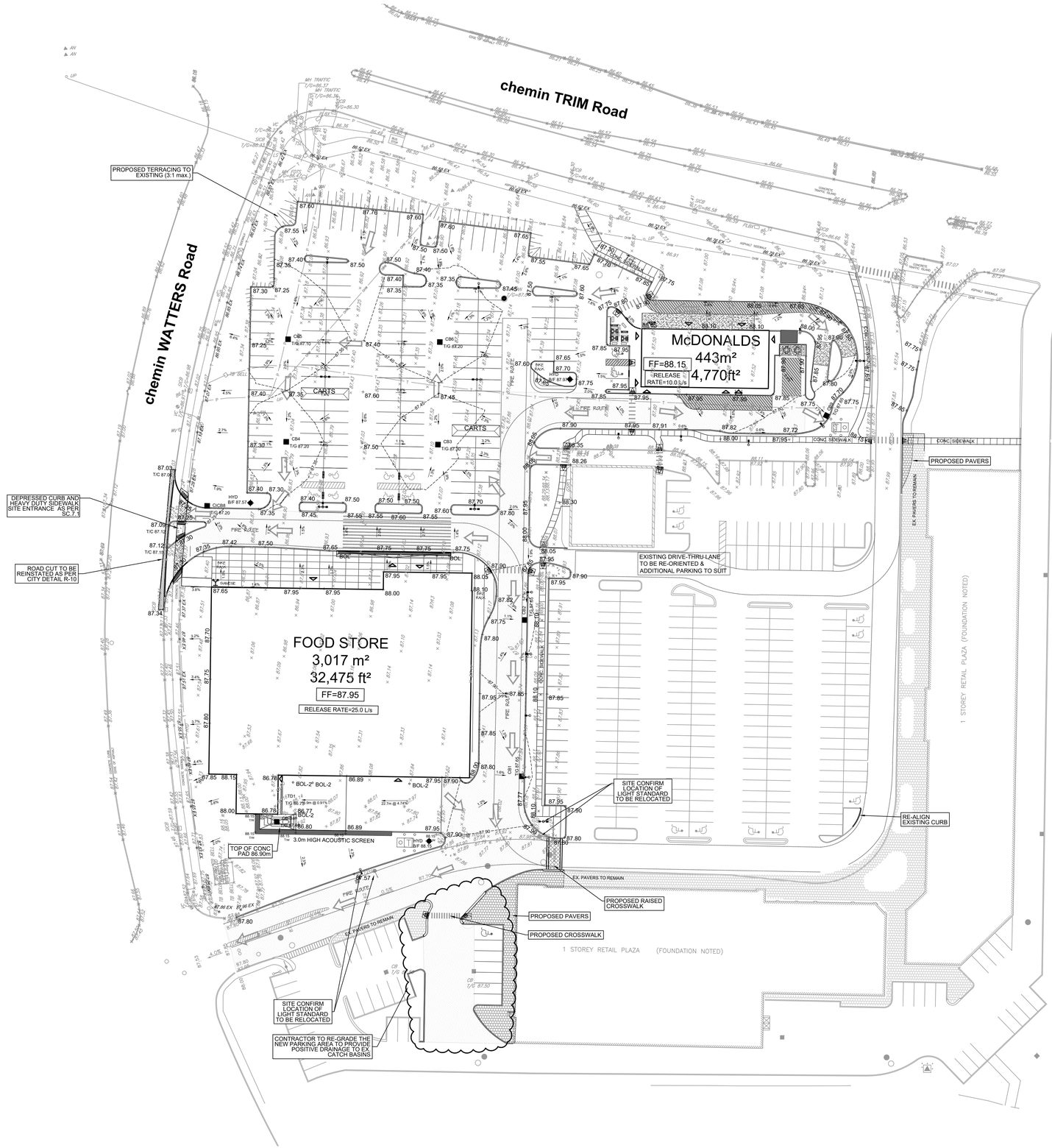
SHEET NUMBER	ISSUE
C-001	2

SCALE CHECK 1:500

File Location: J:\136063_Crown_Pointe\7.0_Production\7.03_Design\04_Civil\Sheets\C-001 GENERAL PLAN OF SERVICES.dwg Last Saved: October 28, 2021 by ddore Plotted: Thursday, October 28, 2021 4:39:07 PM by Denis Dore

CITY FILE No. D07-XX-XX-XXXX

CITY PLAN No. xxxxx



CLIENT

CROWN POINTE Co-TENANCY

C/O
TAGGART REALTY MANAGEMENT

225 METCALFE STREET, OTTAWA, On
K2P 1P9

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED TO SOBEY'S	2021-10-21
2	ISSUED FOR SPA	2021-10-28

NOT FOR CONSTRUCTION

SEE C-010 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

KEY PLAN

CONSULTANTS

1:500 0 5 15 25m

SEAL

LICENSED PROFESSIONAL ENGINEER
T. R. BRULE
2021/10/28
PROVINCE OF ONTARIO

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PROJECT

CROWN POINTE
900 WATTERS ROAD
CROWN POINTE COMMERCIAL
PHASE 3

PROJECT NO: 163063	
DRAWN BY: **D.D.**	CHECKED BY: **J.B.**
PROJECT MGR: **T.R.B.**	APPROVED BY: **----**

SHEET TITLE

GRADING PLAN

SHEET NUMBER	ISSUE
C-200	2

SCALE CHECK 1:1

CITY FILE No. D07-XX-XX-XXXX

CITY PLAN No. xxxxx

File Location: J:\136063_Crown_Pointe\7.0_Production\7.03_Design\04_CivilSheets\C-200 GRADING PLAN.dwg Last Saved: October 28, 2021 by ddore Plotted: Thursday, October 28, 2021 4:39:38 PM by Denis Dore