

**UNION PARK KINGSTON
40 SIR JOHN A. MACDONALD BOULEVARD
in the City of Kingston**

**SERVICING REPORT
For
SIDERIUS DEVELOPMENTS LTD.**

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July 6, 2026

JEI Project 792



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1. Introduction

The purpose of this analysis is to determine the servicing requirements for the proposed development at 40 Sir John A. MacDonald Boulevard in the City of Kingston. The site is located on the southwest corner of Sir John A. MacDonald Boulevard and Union Street, in the City of Kingston, and was formerly the Kingston Prison for Women (P4W). The intent of this report is to identify the existing and available services to the land, for the development of the blocks within the plan of subdivision. A copy of 13M-150 is attached as Appendix A.

The site has been the subject of several development concepts since 2005. The P4W was constructed circa 1934 and closed in 2000. The only remaining structures of the original facility are the former cell block and administration building noted in Appendix A as Block 2. All of the former prison walls have been removed, with the exception of the wall on the west limit of the site. The photo below shows an aerial view of the existing site.



2. Proposed Development

The proposed development will consist of a mix of office, retail, and residential space, and a park block, on eight blocks created by 13M-150, and therefore subject to individual ownership. The blocks will be further developed through site plan approval. The blocks are identified as Blocks 1 through 8 on the concept plan in Appendix A. Proposed uses and densities shown on the concept plan and summarized as follows.

Block 1: Block 1 could consist of a residential building of up to 432 residential units with 750 square metres of commercial floor space.

Block 2: The existing cell block, annex and administration building on Block 2 will be retained and converted to market and office space, or potentially residential on the upper floors.

Block 3: Block 3 is seniors housing of up to 215 units, or potentially residential.

Block 4: Block 4 will be residential/hotel of up to 168 residential units.

Block 5: Block 5 will be a dedicated park block and internal roads and pathways comprised of approximately 4,829 square metres. Block 5 will be held and maintained by all Block owners of the subdivision.

Blocks 6 and 8 are municipal road widenings, and Block 7 is a memorial garden.

The site has an approximate area of 3.28 hectares (8.09 acres). Table 1 outlines the Blocks and associated buildings, and unit counts proposed.

Table 1 - Population					
	Building Description	No. of Residential Units	Persons per unit	Population	Commercial/Retail Space (m²)
Block 1	Residential/ Retail	432	2.5	1080	750
Block 2	Market/Office/Residential	0	2.5	0	3719
Block 3	Seniors Housing/Residential	215	2.5	538	0
Block 4	Residential/Hotel	168	2.5	420	0
Block 5	Park/Roads	0	2.5	0	0
Totals		815		2038	4469

3. General

The site is located within the serviced area of the City of Kingston, and full municipal services are located within the general vicinity of the site. Adjacent streets are constructed to a full urban standard, with curb and gutter, concrete walks with storm sewers, sanitary sewers and municipal water mains.

A Borehole Investigation on the site was carried out by Jacques Whitford Inc. in January 2005. The investigation indicated that site has shallow overburden over bedrock. Depth to bedrock is noted from the report to be between 0.45 m below ground surface (near the southwest quadrant of the site) to 2.98 m (near the northeast quadrant of the site). It is anticipated that rock excavation will be required for the construction of new municipal services, particularly sanitary sewer, storm sewer and water mains. Rock excavation will be either by drilling and blasting, or by percussive techniques (“hoe-

ram”). A detailed geotechnical investigation prior to any development proposal for the site should identify the requirements for rock excavation.

The P4W was constructed circa 1934 and closed in 2000. The only remaining structures of the original facility are the former cell block and administration building noted in Appendix A as Block 2. Because of the age of the facility, it may be that the buildings were in place prior to the construction of municipal services. It was identified from previous servicing investigations that there is a servicing tunnel linking the P4W and the Kingston Penitentiary within Sir John A. MacDonald Boulevard. The P4W drawings indicate that services exist in this tunnel through to Kingston Penitentiary. Utilities Kingston was not able to provide specific information regarding the services that may link the two sites. However, after investigation, Utilities Kingston did indicate (see Appendix - E - e-mail from Erika McEachran) *“The underground crew has completed their investigation into the P4W sanitary lateral. Their best guess after completing the investigation leads them to believe that the P4W site drains through the tunnel to KP and then is pumped to a manhole at Alwington Avenue and King Street”*.

Based on all the above information, it is concluded that sanitary sewer, as well as other services, exist in or adjacent to the tunnel to Kingston Penitentiary. This would indicate that the existing P4W site is not currently tributary to the existing Portsmouth Sanitary Sewage Pumping Station.

A CCTV inspection of the sanitary and storm sewers adjacent to the site was performed in 2005; however, it would be advisable to have the surrounding infrastructure re-investigated because of the age of the previous investigations.

Locate investigations were undertaken by Utilities Kingston in November 2020 to provide service locations of existing sanitary sewers, storm sewers, water services and gas and electric utility infrastructure on and around the perimeter of the site. Sketches of the locate investigation are attached as Appendix G.

It has been confirmed that sanitary servicing of the existing P4W building discharges to an existing 250 mm sanitary sewer in an existing service tunnel located in the median of Sir John A MacDonald Boulevard and is tributary to the existing sewage pumping station at Kingston Penitentiary. This connection at the P4W building will be required to be removed from service.

There is an existing interior storm sewer collection system of 250 mm diameter pipes present on the site which discharges to the existing 450 mm storm sewer on Union Street as noted on sketches included in Appendix G. This interior storm sewer system will be removed from the site.

4. Sanitary Sewers

As noted, plans indicate that the P4W building (Block 2) is serviced directly by sanitary sewer through the underground service tunnel on Sir John A. MacDonald Boulevard to an existing pumping station located on the Kingston Penitentiary site. This federal government owned pumping station discharges to the municipal sanitary sewer located to the east on King Street.

There is an existing 250 mm gravity sanitary sewer on the opposite side of Union Street, near the northwest corner of the subject site, at approximate invert elevation 87.8 metres. There is also a gravity sanitary sewer on King Street which terminates in the vicinity of the westerly site boundary. A sketch showing the location of these sewers, as provided by Utilities Kingston, is attached as Appendix B.

In general terms, sanitary drainage from the neighbourhood surrounding the P4W (but not including the P4W site) is to the Portsmouth Sanitary Sewage Pumping Station located at King Street and Gardiners Street west of the P4W. The P4W site is within the pumping station tributary area. The pump station discharges by way of a 450 mm sewer forcemain, also located on King Street, to a gravity sewer to the east.

The City of Kingston Sewer By-law 2008-192 stipulates *“only one sewer lateral per lot shall be permitted to connect to the sanitary sewerwhere separate sewer laterals for each lot is impractical, the Owner shall create reciprocal easements for maintenance purposes over each lot.”*

As noted, the site is to be developed as plan of subdivision and each of the five blocks will be serviced by separate sanitary laterals. Blocks 1, 2 and 3 will be provided with gravity sanitary lateral to the existing 250mm sanitary sewer on Union Street. Block 4 will be provided with sanitary servicing from the existing 250mm sanitary sewer on King Street via a proposed walkway.

4.1. Proposed Sanitary Servicing

The existing 250 mm sanitary sewer on Union Street will be extended to provide gravity sanitary service to Blocks 1, 2 and 3. See servicing plan attached as Appendix D. A Sanitary Sewer Design chart is included in Appendix D.

The invert of the existing 250 mm sanitary sewer on Union Street at the sanitary manhole at the northwest corner of the site is at an approximate elevation of 87.80 metres and will allow Block 1, Block 2 and Block 3 to have gravity flow to the extended sanitary sewer, however depending on the underground parking levels of the buildings, lower levels may require pumping of sewage flows to the gravity laterals.

Block 4 of the site will be tributary to the existing 250 mm sanitary sewer on King Street West on the south limit of the site. It will be necessary to extend the existing 250mm sanitary sewer on King Street West, approximately 6.0 metres easterly. A 250 mm sanitary sewer will be installed within Block 5 common walkway to service Block 4. See servicing plan attached as Appendix D.

The following table depicts assumed ground floor elevation of all buildings on the site except for Block 2 (former P4W Cellblock & Administration building).

Table 2 - Sanitary Invert Elevations				
Block	Existing Ground Elevation	Assumed Ground Floor elevation	Proposed Sanitary MH	Invert at MH
Block 1	90.8 to 93.0	92.6	E	89.08
Block 2	90.6 to 93.0		G	89.30
Block 3	90.5 to 91.0	91.0	B	88.50
Block 4	93	93.4	L	87.76

See Table 3 for calculated sanitary flows from the site.

Table 3 - Calculation of sanitary sewage flow														
Tributary Area				Domestic flow				Commercial flow			Infiltration			Total
	Number of rooms or units	persons/room or unit	incremental population	total population	Harmon factor (maximum = 4.0)	per capita flow (l/cap. Day)	domestic flow (l/s)	total Commercial floor area (ha.)	Commercial rate (l/ha.sec)	Commercial flow (l/s)	Total Area (ha)	Infiltration rate (l/ha. s)	Infiltration flow (l/s)	total flow (l/s)
Block 1	432	2.5	1080.0	1080.0	3.78	350	16.53	0.258	0.5800	0.15	0.665	0.28	0.19	16.87
Block 2	0	2.5	0.0	0.0	4.00	350	0.00	0.000	0.5800	0.00	0.727	0.28	0.20	0.20
Block 3	215	2.5	537.5	537.5	3.96	350	8.62	0.000	0.5800	0.00	0.938	0.28	0.26	9.40
Block 5	0	2.5	0.0	0.0	4.00	350	0.00	0.000	0.5800	0.00	0.479	0.28	0.13	0.13
TOTAL TO UNION STREET	647			1617.5	3.66	350	23.95	0.258	0.5800	0.15	2.809	0.28	0.79	24.89
												0.28		
Block 4	168	2.5	420.0	420.0	4.00	350	6.81	0.053	0.5800	0.03	0.346	0.28	0.10	6.93
TOTAL TO KING STREET	168			420.0	4.00	350	6.81	0.053	0.5800	0.03	0.346	0.28	0.10	6.84

The existing 250 mm sanitary sewer on Union Street at approximately 3.86% gradient has adequate capacity to convey the sanitary sewage from Block 1, Block 2 and Block 3 of the redeveloped site to the Portsmouth Sewage Pumping Station. Utilities Kingston has provided preliminary design drawings for a future 1050 mm trunk watermain on Union Street, and the watermain will be installed to an elevation that will allow the sanitary sewer connection to the existing sanitary manhole with no conflict. The preliminary design drawing for the watermain is attached as Appendix F.

The existing 250 mm sanitary sewer on King Street also has adequate capacity to convey sanitary sewage flows from Block 4 to the Portsmouth Sewage Pumping Station. The existing sanitary sewer on King Street will require an extension easterly. See Appendix D for Servicing Plan.

5. Water Servicing

There are existing water mains on Sir John A. MacDonald Boulevard (600 mm), King Street (250 mm), and Union Street (250 mm) adjacent to the site. There is an existing fire main connection (150 or 200 mm) to the P4W on Union Street, and a fire connection (150 mm) from the lower tunnel on Sir John A. MacDonald Blvd. A sketch showing the location of these watermain, as provided by Utilities Kingston, is attached as Appendix B. Utilities Kingston has provided preliminary design drawings for a future 1050 mm trunk watermain on Union Street and is attached as Appendix F. Utilities Kingston has notified that no watermain connections will be allowed to this trunk watermain.

The City of Kingston Water By-law 2006-122 stipulates “*only one water service per lot shall be permitted from the water distribution system.*”

Redevelopment of the P4W site will involve the removal of any watermain on the site, and the construction of new water services to the Blocks. Each of the five blocks will be serviced by separate water service connected to the municipal system. Connection of new water services to the municipal water distribution system will be to the 250 mm watermain on Union Street for Blocks 1 and 3. Blocks 2 and 4 will be serviced with new water services connected to the existing 600 mm watermain on Sir John A MacDonald Boulevard. The water service for Blocks 1 and 3 will be constructed as a requirement for PCAUS. The water services for the remaining blocks will be constructed as part of the site plan approval for each block. On-site fire hydrants may be required for the development. See the servicing plan attached as Appendix D.

All buildings on the site are expected to be provided with sprinkler systems for fire protection, constructed as non-combustible construction. Fire Underwriters Survey – Water Supply for Public Fire Protection – 2020 describes non-combustible construction as ‘*unprotected metal structural components, masonry or metal walls.*’

A removals plan for removal of existing on-site services is attached in Appendix D.

5.1. Domestic Water Demand

Water demand for the site is based on domestic demand and demand for firefighting. Domestic demand is based on population and per capita consumption rates.

Domestic water demand is estimated in accordance with the City of Kingston Subdivision Design Guidelines and Technical Standards. The guidelines give estimated usage per person, and give peak factors based on usage at peak periods during the day and during the year, as follows:

- Average flow – 350 L per person/day
- Peak Factor – maximum day flow - 2.75
- Peak Factor – maximum hour flow - 4.25

The maximum and minimum pressure under normal operating conditions is required to be 700 kPa and 280 kPa respectively. Table 4 gives the domestic demand for the required design conditions for this project.

Table 4 - Water Demand for Design Conditions					
	Population	Per capita consumption (l/day)	Peak Factor	Domestic Flow (l/sec)	Domestic Flow (USGPM)
BLOCK 1					
Average Day	1080	350	1.00	4.38	69.34
Max. Day	1080	350	2.75	12.03	190.70
Max. Hour	1080	350	4.25	18.59	294.71
BLOCK 2					
Average Day	0	350	1.00	0.00	0.00
Max. Day	0	350	2.75	0.00	0.00
Max. Hour	0	350	4.25	0.00	0.00
BLOCK 3					
Average Day	538	350	1.00	2.18	34.51
Max. Day	538	350	2.75	5.99	94.91
Max. Hour	538	350	4.25	9.25	146.67
BLOCK 4					
Average Day	420	350	1.00	1.70	26.97
Max. Day	420	350	2.75	4.68	74.16
Max. Hour	420	350	4.25	7.23	114.61

5.2. Water Demand for Fire Protection

Utilities Kingston has provided hydrant flow test data for the following hydrants.

Hydrant ID #	Static Pressure (psi)	Colour Code
3074	66	Blue AA+
4098	70	Blue AA+
672	60	Blue AA+
2943	80	Blue AA+

Hydrants are rated in accordance with the Ontario Fire Code as per the following criteria.

Class	Colour code	Rated flow US gal/min @ 20psi	L/s @ 140kPa
AA+ *	Blue	Greater than 2999	Greater than 189
AA	Blue	Greater than 1499	Greater than 95
A	Green	1000 to 1499	63 to 95
B	Orange	500 to 999	32 to 63
C	Red	Less than 500	Less than 32

* AA+ is a non-standard classification that assists the fire department in identifying hydrants and mains that are capable of providing higher flow rates.

Fire hydrant ratings supplied by Utilities Kingston for the existing municipal hydrants in the immediate area indicate the hydrants as AA+.

Hydrant flow testing to NFPA standards was performed by Drapeau Automatic Sprinkler Corp. for hydrant #3074 located on Sir John A MacDonald Boulevard in front of Block 2 and the results are noted in the following table.

Hydrant ID #	Static Pressure (psi)	Available Flow @ 20 psi (1 port) USGPM	Available Flow @ 20 psi L/sec	Available Flow @ 20 psi (2 port) USGPM	Available Flow @ 20 psi L/sec	Colour Code & Class
3074	66	6734	424	7589	478	Blue AA+

Required fire flows for new development are calculated in accordance with the Fire Underwriters Survey (FUS) – Water Supply for Public Fire Protection – 2020. The FUS calculation is a recommended best practice and is required by the City of Kingston Site Plan Design Guidelines. See Appendix C for FUS fire flow calculations.

The buildings will be constructed as non-combustible construction. Fire Underwriters Survey – Water Supply for Public Fire Protection – 2020 describes non-combustible construction as ‘unprotected metal structural components, masonry or metal walls.’ All buildings on the site will be provided with sprinkler systems for fire protection.

The following Table gives the design flow required for fire flow conditions for this project based on flow calculations for Block 1 - Building B and Block 3 - Building A as they are rated for the highest fire flow requirements.

Design Condition	Fire flow (l/sec)	Fire Flow (l/min)	Fire flow (USGPM)
Max Day plus Fire (Fire Underwriters Calculation)	250	15000	3,962

The required fire flows for fire protection are calculated in Appendix C. The minimum requirement is 3,962 USGPM (260 l/sec) at 20 psi as calculated by FUS.

It is noted that the available flows from hydrant #3074 as provided by Drapeau Automatic Sprinkler Corp. exceed the required fire flows for FUS, and therefore the available flows exceed the required volumes for this project.

6. Utilities

6.1. Natural Gas

The natural gas provider is Utilities Kingston. Municipally owned gas mains are immediately adjacent to the site. Gas infrastructure sketch as provided by Utilities Kingston, is attached as Appendix B and see Appendix G for Locate Investigation Sketches by Utilities Kingston. Gas Load Summaries are not available currently.

Blocks 1, 2 and 4 will be serviced from the existing 100 mm Steel I.P. Gas Main on Sir John A MacDonald Boulevard. Block 3 will be serviced from the existing 50mm PE, I.P. Gas Main on Union Street. Gas services for all blocks is to be further reviewed at the time of submission for site plan submission.

6.2. Steam service

Steam service to the site is presently provided from the KP steam plant located to the south. This service will be abandoned.

6.3. Electricity

Utilities Kingston has confirmed that the electrical grid within the neighbourhood is adequate for the redevelopment of the site. There is a single feed of 5kV and also 44kV adjacent to the site. Electrical infrastructure sketch as provided by Utilities Kingston is attached as Appendix B.

There is an existing electrical distribution overhead pole line along the west limit of the site, west of the existing wall. There is also an existing overhead 5kV pole line within an easement that provides hydro servicing to the Corrections Canada Museum and Corrections Canada Steam Plant on the lands to the southeast. This easement crosses the Block 3 and Park Block 5 and will require to be released. A new electrical service to these properties will be provided as part of this development.

An electrical service analysis has been completed by Callidus Engineering for the site. A total electrical demand for the site is calculated as 3,940 kW. The electrical service analysis is attached as Appendix I.

7. Conclusions

The subject site is within the serviced area of the City of Kingston, and the existing municipal services in the immediate area are generally sufficient for the development of the site. It is noted that some services are currently made through the tunnel connecting the former P4W with Kingston Penitentiary, and these services will have to be abandoned in favour of new municipal services in accordance with City of Kingston standards.

It is noted that rock excavation for the construction of new municipal services will be a large component of the servicing cost for the development. Any improvements to the existing systems, or new municipal works, will be required to be constructed by the developer, in accordance with City of Kingston standards.

7.1. Sanitary Servicing

Each Block will be serviced by separate sanitary laterals. Depending on the underground parking levels of the buildings lower levels may require pumping of sewage flows to the gravity laterals.

The existing 250 mm sanitary sewer on Union Street will be extended 43 metres to the east to provide gravity sanitary service to Block 1 and to Block 2. Two 250 mm sanitary laterals will be installed from the extended sewer to the south side of Union Street. Block 3 will be provided with a 250 mm sanitary service from the existing sanitary manhole on Union Street. Block 2 will be serviced via a 250 mm sanitary lateral to be installed within the Block 5 common walkway. See preliminary servicing sketch attached as Appendix D.

Block 4 of the site will be tributary to the existing 250 mm sanitary sewer on King Street West on the south limit of the site. It will be necessary to extend the existing 250mm sanitary sewer on King Street West, approximately 6.0 metres easterly. A 250 mm sanitary sewer will be installed within Block 5 common walkway to service Block 4.

See the servicing plan attached as Appendix D. A removals plan for removal of existing on-site services is also attached in Appendix D.

7.2. Water Servicing

Connection of new water services to the municipal water distribution system will be to the 250 mm watermain on Union Street for Blocks 1 and 3. Blocks 2 and 4 will be serviced with new water services connected to the existing 600 mm watermain on Sir John A MacDonald Boulevard. The water service for Blocks 1 and 3 will be constructed as a requirement for PCAUS, The water services for the remaining blocks will be constructed as part of the site plan approval for each block. On-site fire hydrants may be required for the development. See the servicing plan attached as Appendix D.

Connection to the proposed 1050 mm trunk watermain on Union Street will not be allowed to service the site.

It is noted that the available flows from hydrants as provided by Utilities Kingston and by Drapeau Automatic Sprinkler Corp. exceed the required fire flows, and therefore the available flows are in excess of the required volume for this project. A removals plan for removal of existing on-site services is attached in Appendix D.

7.3. Gas Servicing

The natural gas provider is Utilities Kingston. Municipally owned gas mains are immediately adjacent to the site. Gas infrastructure sketch as provided by Utilities Kingston, is attached as Appendix B and see Appendix G for Locate Investigation Sketches by Utilities Kingston. Gas Load Summaries are not available currently.

Blocks 1, 2 and 4 will be serviced from the existing 100 mm Steel I.P. Gas Main on Sir John A MacDonald Boulevard. Block 3 will be serviced from the existing 50mm PE, I.P. Gas Main on Union Street. Gas services for all blocks is to be further reviewed at the time of submission for site plan submission.

7.4. Electricity

Utilities Kingston has confirmed that the electrical grid within the neighbourhood is adequate for the redevelopment of the site. There is a single feed of 5kV and also 44kV adjacent to the site. Electrical infrastructure sketch as provided by Utilities Kingston is attached as Appendix B.

There is an existing electrical distribution overhead pole line along the west limit of the site, west of the existing wall. There is also an existing overhead 5kV pole line within an easement that provides hydro servicing to the Corrections Canada Museum and Corrections Canada Steam Plant on the lands to the southeast. This easement crosses Block 3 and Park Block 5 and will require to be released. A new electrical service to these properties will be provided as part of this development.

An electrical service analysis has been completed by Callidus Engineering for the site. A total electrical demand for the site is calculated as 3,940 kW. The electrical service analysis is attached as Appendix I.

7.5. Bell

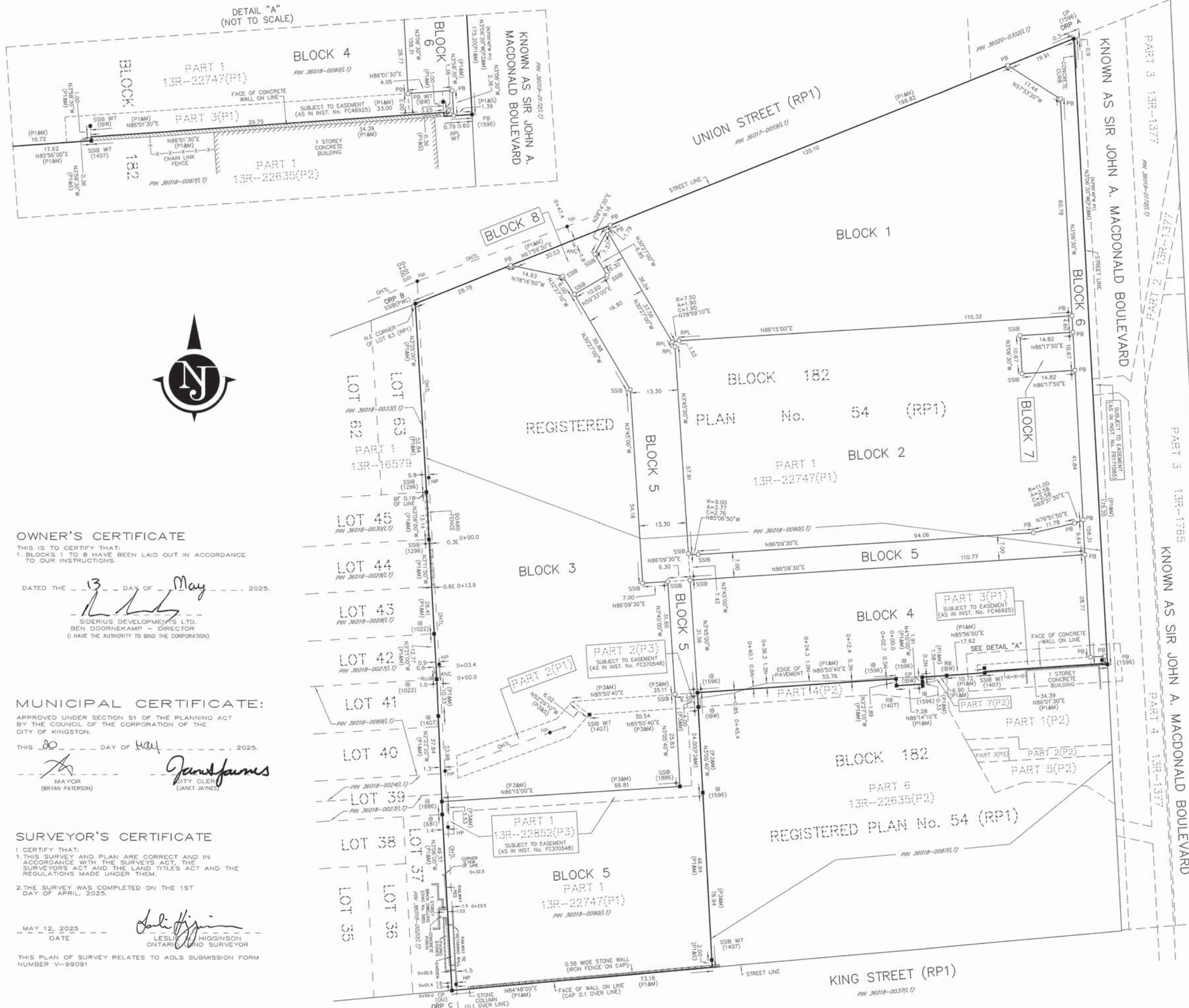
The proposed concept plan has been circulated to Bell, and provisions for servicing shall be made as the surrounding lands are developed. There are no known constraints for servicing of the site.

7.6. Telecommunications

High band/high speed telecommunication capability is provided by Bell Canada and Cogeco and Utilities Kingston fibre network. The cable provider is Cogeco Cable Systems Inc. The proposed concept plan has been circulated to Cogeco, and provisions for servicing shall be made as the surrounding lands are developed. There are no known constraints for servicing of the site.

Appendix A

13M-150
Concept Plan



PLAN 13M- 150

I CERTIFY THAT THIS PLAN IS REGISTERED IN THE LAND REGISTRY OFFICE FOR THE LAND TITLES DIVISION OF FRONTENAC No. 13 AT 15:30 O'CLOCK ON THE 28th DAY OF May, 2025 AND ENTERED IN THE PARCEL REGISTER FOR PROPERTY IDENTIFIER 36018-0090(LT) AND THE REQUIRED CONSENTS ARE REGISTERED AS PLAN DOCUMENT No. FC 465069

REPRESENTATIVE FOR LAND REGISTRAR

THIS PLAN OF SUBDIVISION COMPRISES OF:
ALL OF PIN 36018-0090(LT)
PART OF BLOCK 4 IS SUBJECT TO EASEMENT AS PER INSTRUMENT No. FC46925
PART OF BLOCK 5 IS SUBJECT TO EASEMENT AS PER INSTRUMENT No. FC370548

PLAN OF SUBDIVISION
PART OF BLOCK 182
REGISTERED PLAN No. 54
CITY OF KINGSTON
COUNTY OF FRONTENAC
SCALE: 1 : 500

20m 10 0 30 metres

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

HOPKINS CHITTY LAND SURVEYORS INC.
2025

NOTE & LEGEND:

BEARINGS SHOWN HEREON ARE GRID BEARINGS REFERRED TO THE CENTRAL MERIDIAN, 75° WEST, ZONE 18, OF NAD 83 (1989 ADJUSTMENT), 6° UTM COORDINATE SYSTEM (GRS80 ELLIPSOID) AND ARE DERIVED FROM HORIZONTAL CONTROL MONUMENTS 0101990201, 0081980616 & 01019840003

NAD 83 UTM COORDINATES (ZONE 18)		
POINT No.	NORTHING (M)	EASTING (M)
0101990201	4897364.995	375546.430
0081980616	4908651.683	393861.806
01019840003	4904874.771	394057.750
COMBINED SCALE FACTOR : 0.999782961		

ALL DISTANCES SHOWN HEREON ARE HORIZONTAL GROUND DISTANCES.
GRID DISTANCES CAN BE CALCULATED BY MULTIPLYING THE GROUND DISTANCES SHOWN ON THE PLAN BY THE COMBINED SCALE FACTOR OF 0.999782961.

INTEGRATION COORDINATE TABLE		
OBSERVED REFERENCE POINTS(ORPs) DERIVED FROM GPS OBSERVATIONS USING REAL TIME KINEMATIC(RTK) BASE AND ROVER BASELINES COORDINATES TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG. 216/10		
POINT ID	NORTHING (M)	EASTING (M)
ORP A	4897805.81	379160.02
ORP B	4897731.34	378975.72
ORP C	4897539.33	378985.03
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.		

DENOTES		SURVEY MONUMENT PLANTED
SSIB	•	SURVEY MONUMENT FOUND
SB	•	SHORT STANDARD IRON BAR
IB	•	STANDARD IRON BAR
RB	•	IRON BAR
RPL	•	ROCK BAR
PB	•	ROCK PLUG
CP	•	PLASTIC BAR
WT	•	CONCRETE PIN
CALC	•	WITNESS
S	•	CALCULATED
M	•	SET
1886	•	MEASURED
1596	•	HOPKINS CHITTY LAND SURVEYORS INC.
1407	•	LESLIE M. HIGGINSON O.L.S.
PWC	•	M. PETER ALLEN O.L.S.
681	•	PUBLIC WORK CANADA
1296	•	D.C. SMITH, O.L.S.
1022	•	R.H. SMITH, O.L.S.
IBW	•	N.B. CAMPBELL, O.L.S.
OU	•	IVAN B. WALLACE, O.L.S.
RP1	•	ORIGIN UNKNOWN
P1	•	REGISTERED PLAN No. 54
P2	•	PLAN 13R-22747
P3	•	PLAN 13R-22635
HP	•	PLAN 13R-22852
ANC	•	HYDRO POLE
OHTL	•	ANCHOR
	•	OVERHEAD HYDRO TRANSMISSION LINE

SSIB'S WERE PLANTED WHERE OVERBUDEN WAS INSUFFICIENT TO SET SB'S

DATED MAY 12, 2025

HOPKINS CHITTY LAND SURVEYORS INC.
1224 GARDINERS ROAD, SUITE 102
KINGSTON, ONTARIO K7P 0G2
(613) 389-7986 (fax) 384-3513 www.hopkinschitty.com
FILE: CITY RP54, BLK182 2020-0386 GND SUB V3

OWNER'S CERTIFICATE

THIS IS TO CERTIFY THAT:
1. BLOCKS 1 TO 8 HAVE BEEN LAID OUT IN ACCORDANCE TO OUR INSTRUCTIONS.

DATED THE 13 DAY OF May, 2025.

SIDERIUS DEVELOPMENTS LTD.
BEN DOORNEKAMP - DIRECTOR
(I HAVE THE AUTHORITY TO BIND THE CORPORATION)

MUNICIPAL CERTIFICATE:

APPROVED UNDER SECTION 51 OF THE PLANNING ACT BY THE COUNCIL OF THE CORPORATION OF THE CITY OF KINGSTON.

THIS 30 DAY OF May, 2025.

MAYOR
(BRYAN PATERSON)

CITY CLERK
(JANET JAYNES)

SURVEYOR'S CERTIFICATE

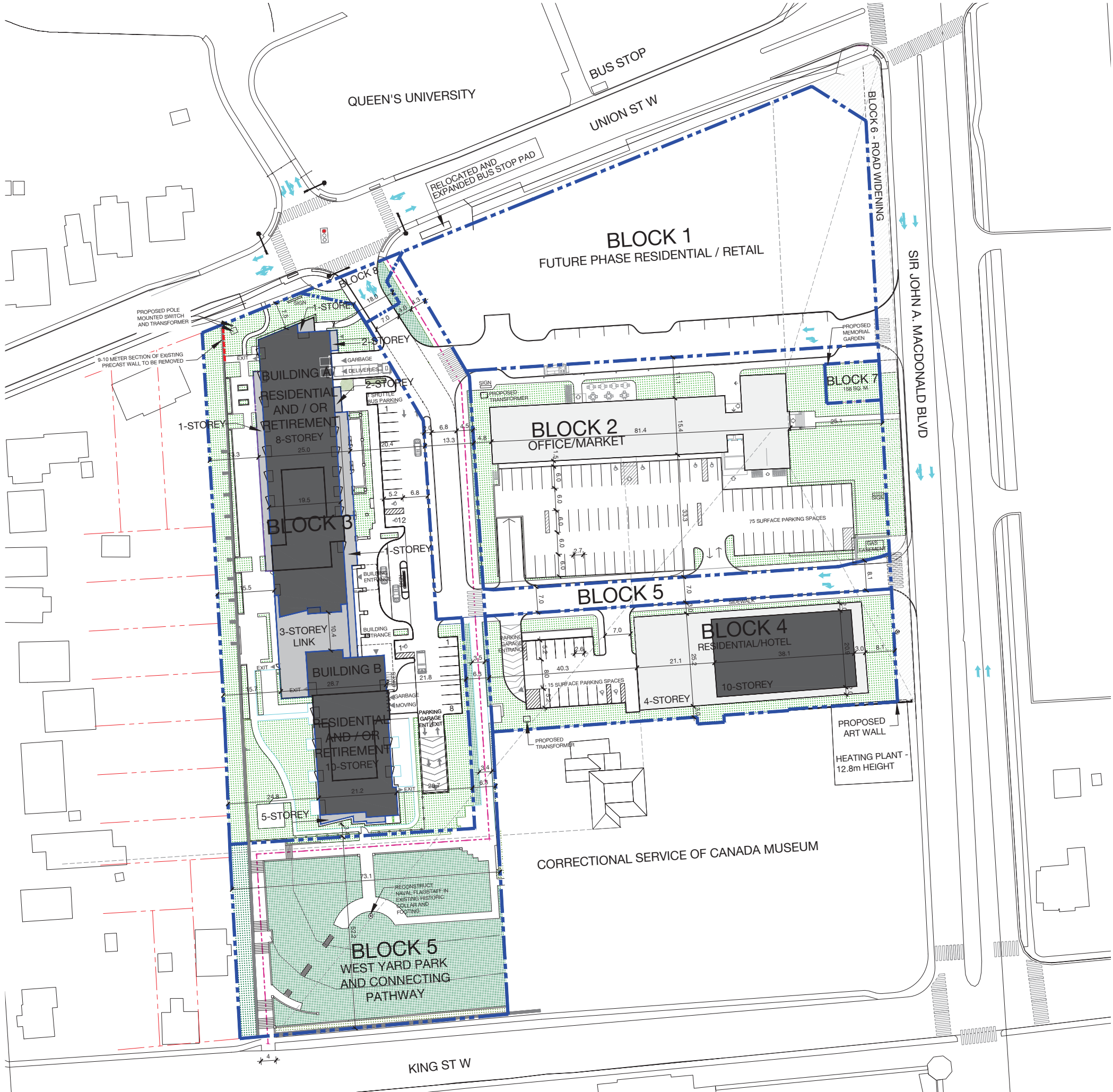
I CERTIFY THAT:
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.

2. THE SURVEY WAS COMPLETED ON THE 1ST DAY OF APRIL, 2025.

MAY 12, 2025
DATE

LESLIE M. HIGGINSON
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS SUBMISSION FORM NUMBER V-99091



SITE STATISTICS	
SITE AREA	
Total Site Area:	32,840 m ² (3.28 ha)
TOTAL GFA	
*Residential GFA:	36,814 m ² (396,262 sf)
*Office GFA:	33,095 m ² (356,232 sf)
*Market GFA:	2,651 m ² (28,536 sf)
	1,068 m ² (11,494 sf)

DEVELOPMENT BLOCKS	
BLOCK 1 (516-518 UNION ST.) - FUTURE PHASE RESIDENTIAL/RETAIL	
Lot Area:	6,645 m ² (71,526 sf)
BLOCK 2 (40 SIR JOHN A MACDONALD BLVD.) - MARKET / OFFICE	
Lot Area:	6,480 m ² (69,750 sf)
Total Market GFA:	1,068 m ² (11,494 sf)
Total Office GFA:	2,651 m ² (28,536 sf)
Total GFA:	3,719 m ² (40,030 sf)
Ground Floor Area:	1,068 m ² (11,494 sf)
Vehicle Parking:	± 135 spaces (± 75 surface, ± 60 underground)

BLOCK 3 (542-544 UNION ST.) - SENIORS HOUSING CONTINUUM OF CARE / RESIDENTIAL	
Lot Area:	8,660 m ² (93,216 sf)
Total Residential GFA:	22,055 m ² (237,398 sf)
Total Units:	215 (141 Retirement Units and 74 Seniors Apartments)
Ground Floor Area:	2,813 m ² (30,279 sf)
Vehicle Parking:	± 157 spaces (± 22 surface, ± 135 underground)
Bicycle Parking:	12 spaces
Bus Parking:	1 space

BLOCK 4 (30 SIR JOHN A MACDONALD BLVD) - RESIDENTIAL / HOTEL	
Lot Area:	3,465 m ² (37,297 sf)
Residential/Hotel GFA:	11,040 m ² (118,834 sf)
Total GFA:	11,040 m ² (118,834 sf)
Total Units:	168
Ground Floor Area:	1,775 m ² (19,106 sf)
Vehicle Parking:	± 115 spaces (± 15 surface, ± 100 underground)

BLOCK 5 - WEST YARD PARK AND CONNECTING PATHWAY	
Lot Area:	6,300 m ² (67,813 sf)

BLOCK 6 - ROAD WIDENING	
Lot Area:	916 m ² (9,864 sf)

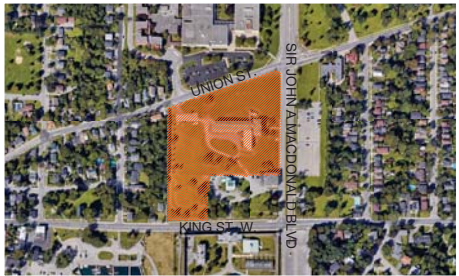
BLOCK 7 - PARKLAND	
Lot Area:	158 m ² (1,701 sf)

BLOCK 8 - ROAD WIDENING	
Lot Area:	216 m ² (2,325sf)

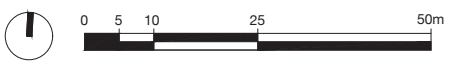
TOTAL # RESIDENTIAL UNITS: 383	
TOTAL # VEHICLE PARKING SPACES: ± 407	
- SURFACE: ± 112	
- UNDERGROUND: ± 295	

- NOTES
- For the purpose of this plan, Block 1 is conceptual and will be subject to future planning applications.
 - Assumes 85% efficiency, 55.7sm/unit
 - This plan is based on a survey.

UNION PARK KINGSTON CONCEPT PLAN



LEGEND	
	PODIUM
	MID-RISE BUILDING
	LANDSCAPE/ PARK
	WESTYARD PARK AND CONNECTION PATHWAY
	HIGH-QUALITY HARDSCAPING
	PROPOSED SEVERANCE LINE
	PROTECTED VIEW PLANE
	PUBLIC CONNECTION PATHWAY
	PROPOSED PEDESTRIAN CROSSING
	ACCESSIBLE PARKING STALL
	SIGNALIZED INTERSECTION
	SIGNAGE
	BIKE RACKS
	EXISTING WEST LIMESTONE AND PRISON WALL



34	REVISED PLAN	2026.07.06	JC
33	REVISED PLAN	2026.05.26	ET
32	REVISED PLAN	2023.03.17	JC
No.	REVISION	DATE	
CLIENT			BY
SIDERIUS			
DEVELOPMENTS LTD.			
FOTENN			
Planning + Design			
396 Cooper Street, Suite 300, Ottawa ON K2P 2H7			
613.730.5709 www.fotenn.com			
DESIGNED		JC	
REVIEWED		ET	
DATE		2026.07.06	

P1

Appendix B

Water, Sewer, Gas & Electric Infrastructure as provided by Utilities Kingston

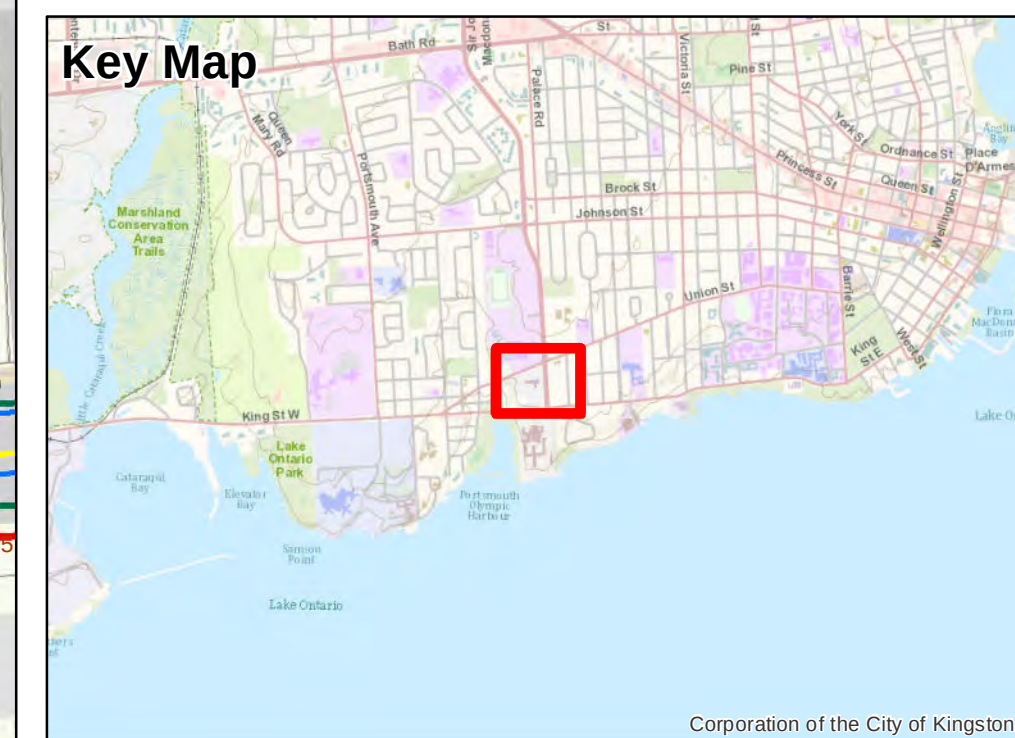
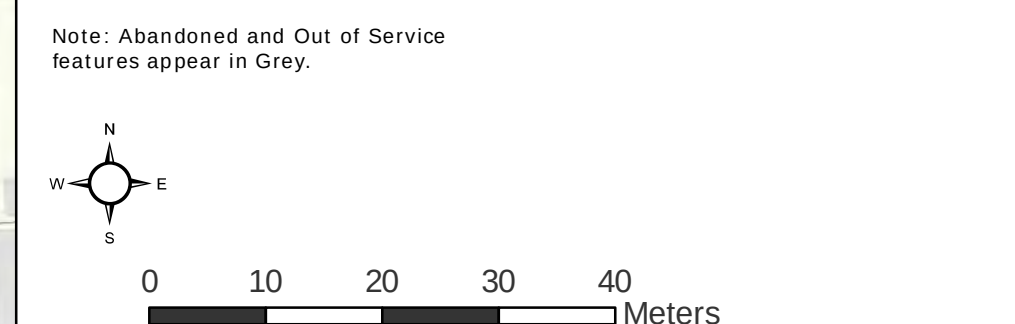
FOR INFORMATION ONLY

40 Sir John A MacDonald Blvd

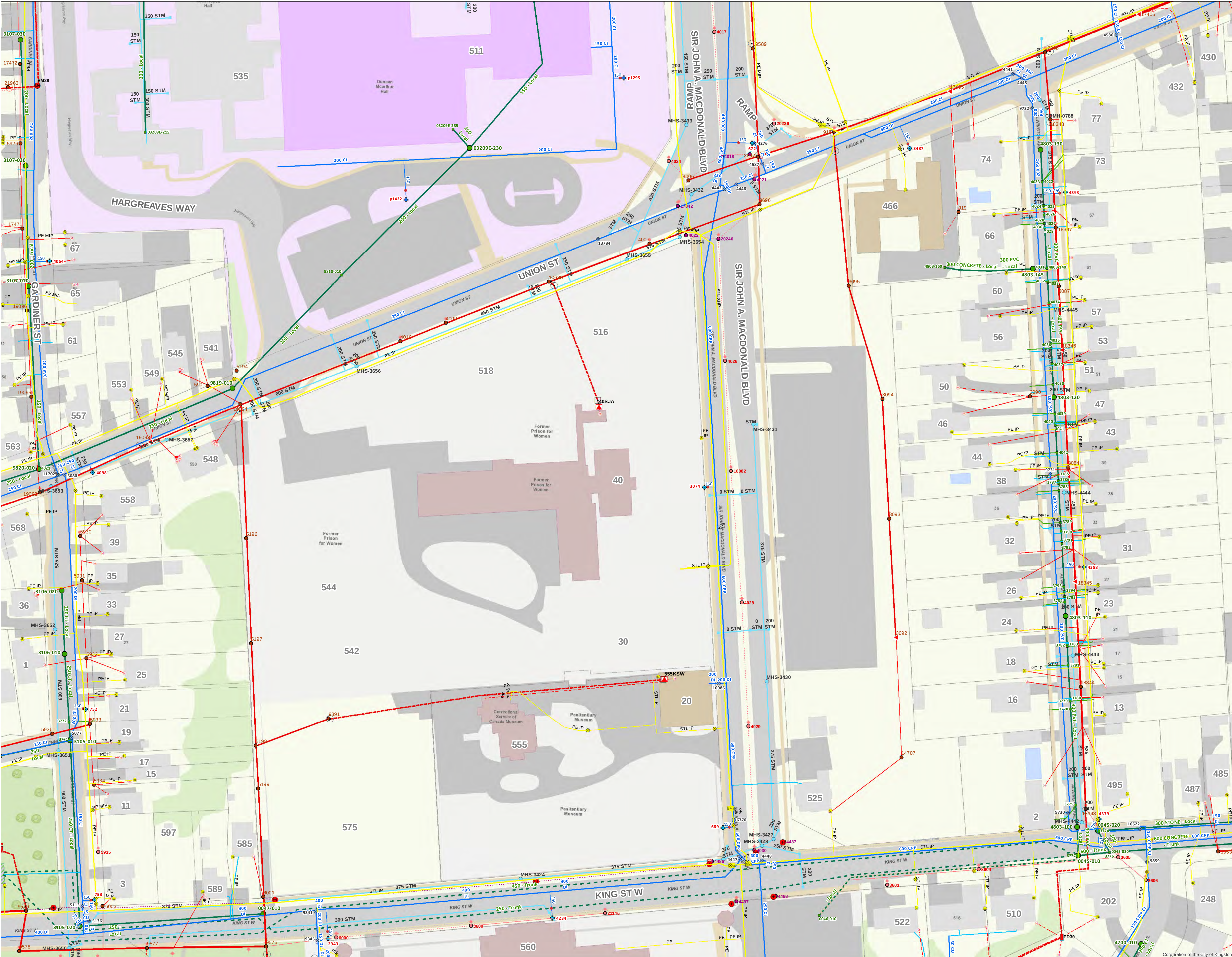
17-March-2025

Legend

- Electric**
 - Transformer Bank
 - Distribution Pole
 - Secondary Meter
 - Secondary OH Conductor
 - Transmission OH Conductor
 - Sub-Transmission OH Conductor
 - Distribution OH Conductor
 - Transformer Bank
 - Secondary UG Conductor
 - Transmission UG Conductor
 - Sub-Transmission UG Conductor
 - Distribution UG Conductor
 - Switch Bus Bar
 - Duct Bank
 - Trench
- Wastewater**
 - Discharge Structure
 - Lift Station
 - Pump Station
 - Storage Basin
 - Treatment Plant
 - System Valve
 - Control Valve
 - Manhole
 - Fitting
 - Trunk Force Main
 - Trunk
 - Sewer Force Main
 - Gravity Sewer
 - Service Sewer
 - Syphon Sewer
 - Trunk Main
 - Pressurized Lateral Line
 - Lateral Line
 - Casing
 - Sanitary Structure
 - WWTP
 - Catch Basin
 - Storm Manhole
 - Storm Pipe
 - Storm Inlet
 - Proposed Manhole
 - Proposed Pipe
 - Proposed Sewer Force Main
 - Proposed Pressurized Lateral
 - Proposed Lateral
 - Proposed Storm Manhole
 - Approved for Construction
- Water**
 - Colour Code
 - RED <31 LPS
 - ORANGE 31-62 LPS
 - GREEN 63-95 LPS
 - BLUE >95 LPS
 - No Flow Data
 - Hydrant Valve
 - System Valve
 - Water Main
 - Hydrant Lead
 - Water Service
 - Water Structures
- Gas**
 - Meter
 - Valve
 - Transition
 - Main
 - Services



Utilities Kingston assumes no responsibility for inaccurate or inconsistent data set out in this map product. Utilities Kingston does not accept any responsibility for reliance thereon. Further, Utilities Kingston does not accept any responsibility for the accuracy of this information, nor is it responsible for any expenses or damages incurred, directly or indirectly, resulting from the use of this information. It is the responsibility of the user to verify map data in the field.



Appendix C

Hydrant Flow Test & Fire Flow Calculations



DASC

SPRINKLER - FIRE ALARM - SUPPRESSION

Owner	Siderius Developments Ltd.	Property being Inspected	Union Park
Address	588 Scotland Road	Property address	Sir John A between Union and King
	Odessa, ON K0H 2H0	TWSP/MUN	Kingston
City, Prov, PC	Kingston ON	Date	November 17 2020
Telephone No.		Time AM / PM	2:00PM

Flow Test type? Hydrant _ 3074

Standpipe _____ (number of floors) _____

Size &	Pressure (PSI)		Pitot	Flow	US GPM Available at 20 PSI Residual
Number Discharges	Normal	Residual	Reading (PSIG)	USGPM	
Static	66				
1 - 2 1/2		65	30	852	6734.86
2 - 2 1/2		64	20	1396	7589.59



Appendix C
Union Park - Union Street at Sir John A. MacDonald Boulevard
Calculation of required fire flows using Fire Underwriters (2020) methodology

Block 3	Building B 10 storey building					
	separation distance (m)	maximum charge	applied percentage of maximum charge	applied charge/credit		Notes
approximate building footprint (m2)					816	
number of storeys					10	
A = total floor area (m2)					8031	
C = coefficient related to type of construction *1					0.8	Coefficient for non-combustible construction (unprotected metal structural components, masonry or metal walls)
Step 1 calculation of (F=220 x C x A^0.5) in litres per minute					15772	
Reduction for low hazard occupancy				-15%	-2366	
Step 2 - calculation result					13406	
Step 3 - reduction for sprinklers				-40%	-5362	
Step 4 - Separation charges (see table)						
south side	>45	0%	75%	0%		Open Space to the south. Use 75% of maximum charge
north side	20.90	10%	75%	8%		Building A to the north is connected by 2 storey atrium. Use 75% of maximum charge
west side	23.00	10%	75%	8%		Existing residential and the penitentiary wall to the west, any future development would be sprinkler protected. Use 75% of maximum charge
east side	21.00	10%	75%	8%		Open space and Penitentiary Museum to the east. Use 75% of maximum charge
total separation charges as a percentage of step 2 value (maximum = 75%)				23%	3016	
TOTAL REQUIRED FIRE FLOW (Step 2, plus charges and credits, rounded to nearest 1000 litres/minute)					11000	
TOTAL REQUIRED FIRE FLOW (l/s)					183	
TOTAL REQUIRED FIRE FLOW (USGPM)					2904	
Flow available at Hyd 2943 (USGPM)					9141	Hydrant on King Street 0m south side of street
Flow available at Hyd 3074 (USGPM)					6195	Hydrant on Sir John A MacDonald Blvd west side

Separation	
distance (m)	Maximum Charge
0 to 3	25%
3.1 to 10	20%
10.1 to 20	15%
20.1 to 30	10%
30.1 to 45	5%
The total percentage shall not exceed 75%.	

Appendix C
Union Park - Union Street at Sir John A. MacDonald Boulevard
Calculation of required fire flows using Fire Underwriters (2020) methodology

BLOCK 3	Building A 10 storey building					
	separation distance (m)	maximum charge	applied percentage of maximum charge	applied charge/credit		Notes
approximate building footprint (m2)					2108	
number of storeys					10	
A = total floor area (m2)					13228	
C = coefficient related to type of construction *1					0.8	Coefficient for non-combustible construction (unprotected metal structural components, masonry or metal walls)
Step 1 calculation of (F=220 x C x A^0.5) in litres per minute					20242	
Reduction for low hazard occupancy				-15%	-3036	
Step 2 - calculation result					17206	
Step 3 - reduction for sprinklers				-40%	-6882	
Step 4 - Separation charges (see table)						
south side	20.90	10%	75%	8%		Building B to the south is connected by 2 storey atrium. Use 75% of maximum charge
north side	18.50	15%	75%	11%		to centreline of Union Street road allowance. Use 75% of maximum charge
west side	13.20	15%	75%	11%		Existing residential to the west and the penitentiary wall, any future development would be sprinkler protected. Use 75% of maximum charge
east side	30.00	5%	75%	4%		Block B and open space to the east. Use 75% of maximum charge
total separation charges as a percentage of step 2 value (maximum = 75%)				34%	5807	
TOTAL REQUIRED FIRE FLOW (Step 2, plus charges and credits, rounded to nearest 1000 litres/minute)					16000	
TOTAL REQUIRED FIRE FLOW (l/s)					267	
TOTAL REQUIRED FIRE FLOW (USGPM)					4224	
Flow available at Hyd 4098 (USGPM)					4719	Hydrant on south side of Union Street at Gardiner Street
Flow available at Hyd 3074 (USGPM)					6195	Hydrant on Sir John A MacDonald Blvd west side

Separation distance (m)	Maximum Charge
0 to 3	25%
3.1 to 10	20%
10.1 to 20	15%
20.1 to 30	10%
30.1 to 45	5%
The total percentage shall not exceed 75%.	

Appendix C
Union Park - Union Street at Sir John A. MacDonald Boulevard
Calculation of required fire flows using Fire Underwriters (2020) methodology

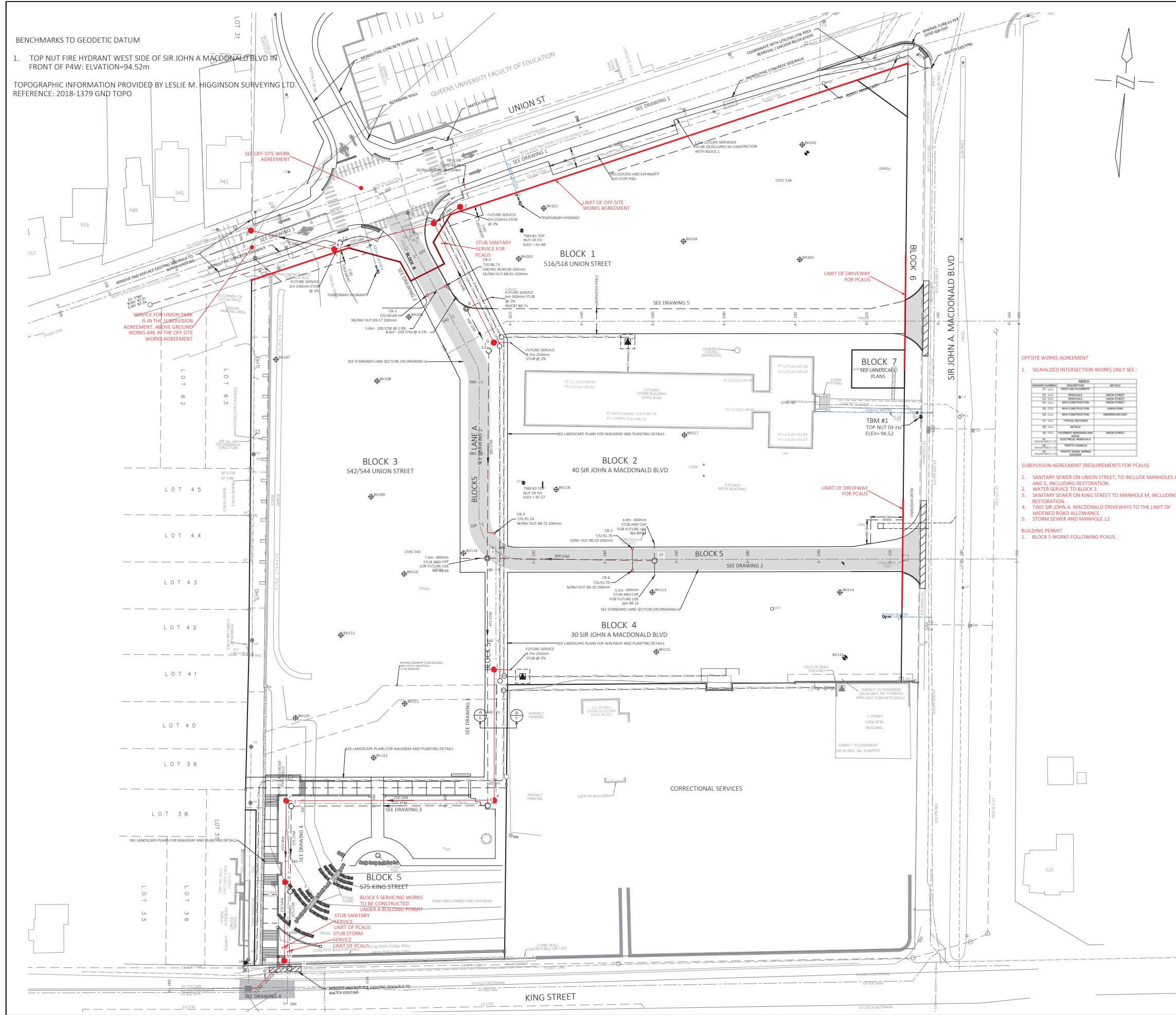
BLOCK 2	Building 4 storey building (former cell block)					
	separation distance (m)	maximum charge	applied percentage of maximum charge	applied charge/credit		Notes
approximate building footprint (m2)					1777	
number of storeys					4	
A = total floor area (m2)					7108	
C = coefficient related to type of construction *1					0.8	Coefficient for non-combustible construction (unprotected metal structural components, masonry or metal walls)
Step 1 calculation of (F=220 x C x A^0.5) in litres per minute					14838	
Reduction for low hazard occupancy				-15%	-2226	
Step 2 - calculation result					12612	
Step 3 - reduction for sprinklers				-40%	-5045	
Step 4 - Separation charges (see table)						
south side	15.00	15%	75%	11%		Block D to the south, any future development would be sprinkler protected. Use 75% of maximum charge
north side	20.50	10%	75%	8%		Block A to the north, any future development would be sprinkler protected. Use 75% of maximum charge
west side	38.00	5%	75%	4%		Block C to the west any future development would be sprinkler protected. Use 75% of maximum charge
east side	>45	0%	75%	0%		Sir John A MacDonald Blvd and open space to the east. Use 75% of maximum charge
total separation charges as a percentage of step 2 value (maximum = 75%)				23%	2838	
TOTAL REQUIRED FIRE FLOW (Step 2, plus charges and credits, rounded to nearest 1000 litres/minute)					10000	
TOTAL REQUIRED FIRE FLOW (l/s)					167	
TOTAL REQUIRED FIRE FLOW (USGPM)					2640	
Flow available at Hyd 4098 (USGPM)					4719	Hydrant on south side of Union Street at Gardiner Street
Flow available at Hyd 3074 (USGPM)					6195	Hydrant on Sir John A MacDonald Blvd west side

Separation distance (m)	Maximum Charge
0 to 3	25%
3.1 to 10	20%
10.1 to 20	15%
20.1 to 30	10%
30.1 to 45	5%
The total percentage shall not exceed 75%.	

Appendix D

Servicing Plan & Removals Plan

Sanitary Sewer Design Chart



LEGEND	EXISTING	PROPOSED
PAVEMENT		
CONCRETE CURB TYPE		
DITCH		
STORM SEWER & MANHOLE WITH DIRECTION OF FLOW		
SAN. SEWER & MANHOLE WITH DIRECTION OF FLOW		
WATERMAIN AND VALVE		
GAS MAIN		
HYDRO (UNDERGROUND)		
HYDRO (OVER HEAD)		
SINGLE CATCH BASIN		
DITCH INLET CATCH BASIN		
TWIN INLET CATCH BASIN		
CATCH BASIN MANHOLE		
HYDRANT & VALVE BOX		
BELL UTILITY POLE & ANCHOR		
HYDRO UTILITY POLE & ANCHOR		
STREET LIGHT		
TREES		
PROPERTY BOUNDARY		
EASEMENT		
FENCE		
SALT FENCE		
BENCH MARK LOCATION		
EXISTING GRADE		
PROPOSED GRADE		
DOOR		
HEAVY DUTY ASPHALT		
LIGHT DUTY ASPHALT		
CONCRETE		
TEST PIT LOCATION		
CHANNEL GRADE LEVEL BOX (BELL CANADA) 30w x 48 x 24 d		

11	CB	JUNE 15, 2026	REVISED WATER SERVICE TO BLOCK 1	MI
10	NB	MARCH 17, 2025	REVISED AS PER TECHNICAL COMMENTS	MI
9	NB	MARCH 3, 2025	REVISED AS PER TECHNICAL COMMENTS	MI
8	NB	JANUARY 31, 2025	REVISED AS PER TECHNICAL COMMENTS	MI
7	NB	DECEMBER 16, 2024	REVISED TO DELETE UNDERGROUND STORMWATER STORAGE AND TO FIT REVISED M-PLAN	MI
6	CB	MAY 9, 2024	REVISED FOR SUBDIVISION AGREEMENT AND OFF-SITE WORK AGREEMENT	MI
5	NB	OCTOBER 20, 2023	REVISED SANITARY S LOCATION	MI
4	NB	OCTOBER 13, 2023	REVISED AS PER CITY COMMENTS	MI
No.	By	Date	Revision	Checked

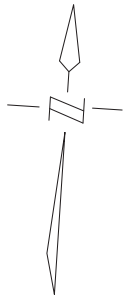
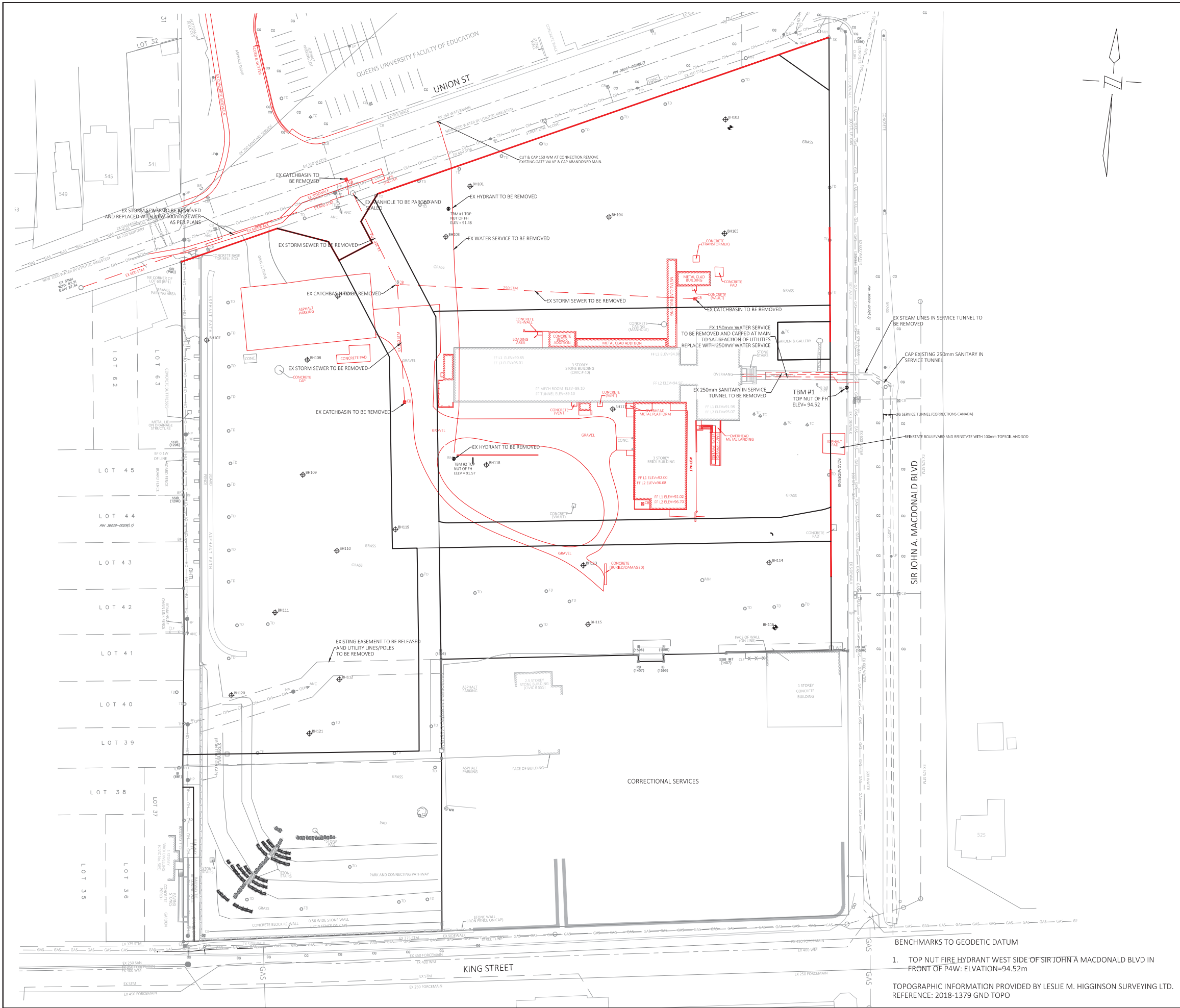
Josselyn Engineering Inc.

**1225 GARDINERS ROAD, #105
KINGSTON, ONTARIO K7P 0G3
TEL : 613-634-9278
E-MAIL : mjosselyn@josselyn.ca**

OWNER:
PROJECT:
DRAWING TITLE:

SIDERIUS DEVELOPMENTS LTD.
UNION PARK
GENERAL PLAN OF SERVICES

Designed By:	M.J.	Date:	MARCH 10, 2023.	Project No.	792	Drawing No.	G1
Drawn By:	N.B.	Scale:	1:500				
Checked By:	M.J.						



LEGEND	EXISTING	PROPOSED
PAVEMENT		
CONCRETE CURB TYPE		
DITCH		
STORM SEWER & MANHOLE WITH DIRECTION OF FLOW		
SAN. SEWER & MANHOLE WITH DIRECTION OF FLOW		
WATERMAIN AND VALVE		
GAS METER LOCATION		
GAS MAIN		
HYDRO (UNDERGROUND)		
HYDRO (OVER HEAD)		
SINGLE CATCH BASIN		
DITCH INLET CATCH BASIN		
TWIN INLET CATCH BASIN		
CATCH BASIN MANHOLE		
HYDRANT & VALVE BOX		
BELL UTILITY POLE & ANCHOR		
HYDRO UTILITY POLE & ANCHOR		
STREET LIGHT		
TREES		
PROPERTY BOUNDARY		
EASEMENT		
FENCE		
SALT FENCE		
BENCH MARK LOCATION		
EXISTING GRADE		
PROPOSED GRADE		
DOOR		
HEAVY DUTY ASPHALT		
LIGHT DUTY ASPHALT		
CONCRETE		
TEST PIT LOCATION		
CHANNEL GRADE LEVEL BOX (SEE CANADA) 30w x 48 x 24 d		

1	NB	DECEMBER 4, 2024	ISSUED FOR SUBDIVISION AGREEMENT APPROVAL	NI
3	CB	MAY 9, 2024	REVISED FOR SUBDIVISION AGREEMENT AND OFF-SITE WORK AGREEMENT	NI
2	NB	AUGUST 18, 2023	ISSUED FOR FINAL PLAN APPROVAL	NI
1	NB	JUNE 28, 2023	REVISED AS PER CITY COMMENTS	NI
No.	By	Date	Revision	Checked

Josselyn Engineering Inc.

**1225 GARDINERS ROAD, #105
KINGSTON, ONTARIO K7P 0G3
TEL : 613-634-9278
E-MAIL : mjosselyn@josselyn.ca**

OWNER:
SIDERIUS DEVELOPMENTS LTD.

PROJECT:
UNION PARK

DRAWING TITLE:
REMOVALS PLAN

Designed By: M.J.	Date: MARCH 10, 2023.	Project No.	Drawing No.
Drawn By: N.B.	Scale: 1:500	792	R1
Checked By: M.J.			

BENCHMARKS TO GEODETIC DATUM

1. TOP NUT FIRE HYDRANT WEST SIDE OF SIR JOHN A MACDONALD BLVD IN FRONT OF P4W: ELVATION=94.52m

TOPOGRAPHIC INFORMATION PROVIDED BY LESLIE M. HIGGINSON SURVEYING LTD.
REFERENCE: 2018-1379 GND TOPO

Sanitary Sewer Design Calculations



Project: Union Park														DESIGN CRITERIA																						
Municipality: City of Kingston														domestic per capita flow (l/person/day) 350																						
Date: June 15, 2026														infiltration (l/ha.s) 0.28																						
Josselyn Engineering Inc.														ICI flow (l/ha.s) 0.58																						
DESCRIPTION						Domestic Flow								Commercial Flow				Industrial			Infiltration				DESIGN DATA											
location	from MH	to MH	Sub-basin ID	Incremental Area (ha.)	Incremental Residential Units	Incremental Residential Units	Total Residential Units	density (persons per unit.)	incremental population	total population	Harmon factor (maximum = 4.0)	per capita flow	domestic flow (l/s)	incremental Commercial area (ha.)	total Commercial area (ha.)	Commercial rate (l/ha.sec)	Commercial flow (l/s)	total Industrial area (ha.)	Industrial rate	Industrial flow (l/s)	Total Area	Infiltration rate (l/s)	Infiltration flow (l/s)	total flow (l/s)	length (m)	upstream invert	downstream invert	pipe size (mm)	gradient (%)	Manning's "n"	capacity (l/s)	velocity flowing full (m/s)	percentage of full flow (q/Q)	percent of full flow velocity (v/V)	velocity at design flow (m/s)	
Block 1	BLDG	E	10	0.67	432	432	432	2.5	1080.0	1080.0	3.78	350	16.53	0.26	0.26	0.58	0.15		0.58	0.00	0.67	0.28	0.19	16.87	1.0	89.110	89.080	250	3.00	0.013	103.0	2.10	16.4%	73%	1.54	
	E	C		0.00	0	0	432	2.5	0.0	1080.0	3.78	350	16.53	0.00	0.00	0.58	0.00		0.58	0.00	0.67	0.28	0.19	16.87	8.7	88.940	88.850	250	1.03	0.013	60.4	1.23	27.9%	86%	1.05	
Block 2	BLDG	G	12	0.80	0	0	0	2.5	0.0	0.0	4.00	350	0.00	0.80	0.80	0.58	0.46		0.58	0.00	0.80	0.28	0.22	0.69	4.7	89.400	89.300	250	2.13	0.013	86.8	1.77	0.8%	29%	0.51	
	G	C		0.00	0	0	0	2.5	0.0	0.0	4.00	350	0.00	0.00	0.00	0.58	0.00		0.58	0.00	0.80	0.28	0.22	0.69	37.5	89.230	88.830	250	1.07	0.013	61.5	1.25	1.1%	32%	0.40	
	C	B		0.00	0	0	432	2.5	0.0	1080.0	3.78	350	16.53	0.00	0.00	0.58	0.00		0.58	0.00	1.47	0.28	0.41	16.94	28.8	88.780	88.490	250	1.01	0.013	59.8	1.22	28.3%	86%	1.04	
Block 3	BLDG	B	13	0.98	215	215	215	2.5	537.5	537.5	3.96	350	8.62	0.00	0.00	0.58	0.00		0.58	0.00	0.98	0.28	0.27	8.89	1.0	88.530	88.500	250	3.00	0.013	103.0	2.10	8.6%	61%	1.27	
	B	A		0.00	0	0	647	2.5	0.0	1617.5	3.66	350	23.95	0.00	0.00	0.58	0.00		0.58	0.00	2.45	0.28	0.69	24.64	24.0	88.440	87.850	250	2.46	0.013	93.3	1.90	26.4%	84%	1.60	
	A	EX		0.00	0	0	647	2.5	0.0	1617.5	3.66	350	23.95	0.00	0.00	0.58	0.00		0.58	0.00	2.45	0.28	0.69	24.64	84.2	87.800	84.530	250	3.88	0.013	117.2	2.39	21.0%	79%	1.89	
Block 4	BLDG	L		0.36	168	168	168	2.5	420.0	420.0	4.00	350	6.81	0.05	0.05	0.58	0.03		0.58	0.00	0.36	0.28	0.10	6.94	4.7	87.860	87.760	250	2.13	0.013	86.8	1.77	8.0%	60%	1.06	
	L	K			0	0	168	2.5	0.0	420.0	4.00	350	6.81	0.00	0.00	0.58	0.00		0.58	0.00	0.00	0.28	0.00	6.81	34.2	87.710	87.020	250	2.02	0.013	84.6	1.72	8.0%	60%	1.03	
Block 5		K	J	0.48	0	0	168	2.5	0.0	420.0	4.00	350	6.81	0.00	0.00	0.58	0.00		0.58	0.00	0.84	0.28	0.24	7.04	58.3	86.970	85.800	250	2.01	0.013	84.3	1.72	8.3%	61%	1.04	
		J	H		0	0	168	2.5	0.0	420.0	4.00	350	6.81	0.00	0.00	0.58	0.00		0.58	0.00	0.84	0.28	0.24	7.04	25.4	84.600	83.480	250	4.41	0.013	124.9	2.55	5.6%	54%	1.37	
		H	M		0	0	168	2.5	0.0	420.0	4.00	350	6.81	0.00	0.00	0.58	0.00		0.58	0.00	0.84	0.28	0.24	7.04	22.0	81.980	80.300	250	7.64	0.013	164.4	3.35	4.3%	50%	1.66	
		M	EX		0	0	168	2.5	0.0	420.0	4.00	350	6.81	0.00	0.00	0.58	0.00		0.58	0.00	0.84	0.28	0.24	7.04	12.9	79.310	78.820	250	3.80	0.013	116.0	2.36	6.1%	55%	1.29	

3.29

2037.5

3.29

Appendix E

E-mail from Erika McEachran, Utilities Kingston

Murray Josselyn

From: McEachran, Erika [emceachran@utilitieskingston.com]
Sent: Thursday, September 02, 2004 2:47 PM
To: McEachran, Erika; mjosselyn@josselyn.ca
Cc: jwu@wndplan.com
Subject: RE: Prison for Women re-development

Murray,

The underground crew has completed their investigation into the P4W sanitary lateral. Their best guess after completing the investigation leads them to believe that the P4W site drains through the tunnel to KP and then is pumped to a manhole at Awlington and King Street.

Thoughts or comments?

Erika

E. McEachran
Engineering Intern
Utilities Kingston
(613) 546-1181 ext. 2465

-----Original Message-----

From: McEachran, Erika
Sent: Monday, August 30, 2004 3:57 PM
To: 'mjosselyn@josselyn.ca'
Cc: jwu@wndplan.com
Subject: RE: Prison for Women re-development

Murray,

I've been doing some research into the existing lateral connections from the P4W site. At this time I do not have anything conclusive to share with you however there is a feeling out that the P4W site does not drain to the Portsmouth Pumping Station.

Through communication with Cameron Smith, who completed the Portsmouth Pump Station EA, he recalls the site to drain into the gravity sewer along King Street east of Sir John A. In addition I spoke with Randy McIvor and he recalls from memory that the site drains towards Sir John A and potentially through an easement to Awlington Place. The Underground Department will be further investigating the lateral connections. I will let you know when a more conclusive answer is available.

Just in case, I am also reviewing the Portsmouth Pumping Station records and design to confirm if there would be capacity to handle an additional 12 l/s peak flow.

If you have any questions please contact me.

Erika

E. McEachran
Engineering Intern
Utilities Kingston
(613) 546-1181 ext. 2465

-----Original Message-----

From: Murray Josselyn [mailto:mjosselyn@josselyn.ca]

Sent: Saturday, August 21, 2004 10:47 AM
To: McEachran, Erika
Cc: jwu@wndplan.com
Subject: Prison for Women re-development

Erika:

A number of concepts for the re-development of the Prison for Women site have been prepared, and we have reviewed the sanitary sewage generation from each.

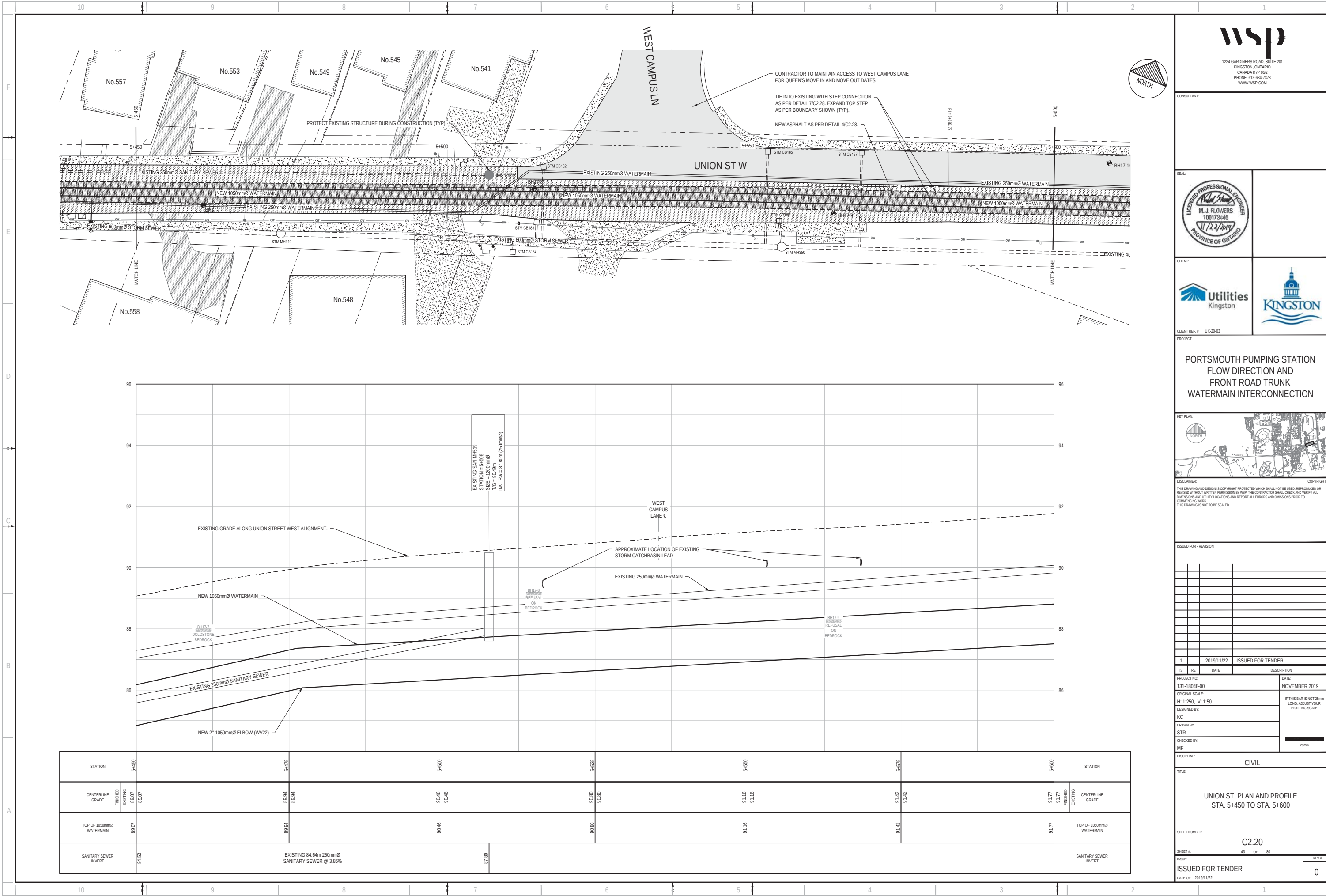
The highest rate, although they are all very similar, is approximately 12.0 litres per second peak flow.

1. Does the sewage pumping station have the capacity to accept this flow without the need for upgrades?
2. If the station does need upgrades, please confirm that this would be an
Impost funded work.

Murray Josselyn, P. Eng.
Josselyn Engineering Inc.
633 Norris Court, #3
Kingston, Ontario
K7P 2R9
tel: 613-634-9278
fax: 613-634-9138
mjosselyn@josselyn.ca

Appendix F

Preliminary Design Drawings for 1050mm Watermain, Utilities Kingston



wsp
1224 GARDINERS ROAD, SUITE 201
KINGSTON, ONTARIO
CANADA K7P 0G2
PHONE: 613-634-7373
WWW.WSP.COM

CONSULTANT:

SEAL:

CLIENT:

CLIENT REF. #: UK-20-03

PROJECT:

PORTSMOUTH PUMPING STATION
FLOW DIRECTION AND
FRONT ROAD TRUNK
WATERMAIN INTERCONNECTION

KEY PLAN:

DISCLAIMER:

COPYRIGHT:

ISSUED FOR - REVISION:

IS	RE	DATE	DESCRIPTION
1		2019/11/22	ISSUED FOR TENDER

PROJECT NO:
131-18048-00

ORIGINAL SCALE:
H: 1:250, V: 1:50

DESIGNED BY:
KC

DRAWN BY:
STR

CHECKED BY:
MF

DISCIPLINE:
CIVIL

TITLE:
UNION ST. PLAN AND PROFILE
STA. 5+450 TO STA. 5+600

SHEET NUMBER:
C2.20

SHEET #:
43 OF 80

ISSUE:
ISSUED FOR TENDER

DATE OF:
2019/11/22

REV #:
0

Appendix G

Locate Investigation Sketches by Utilities Kingston

[illegible]

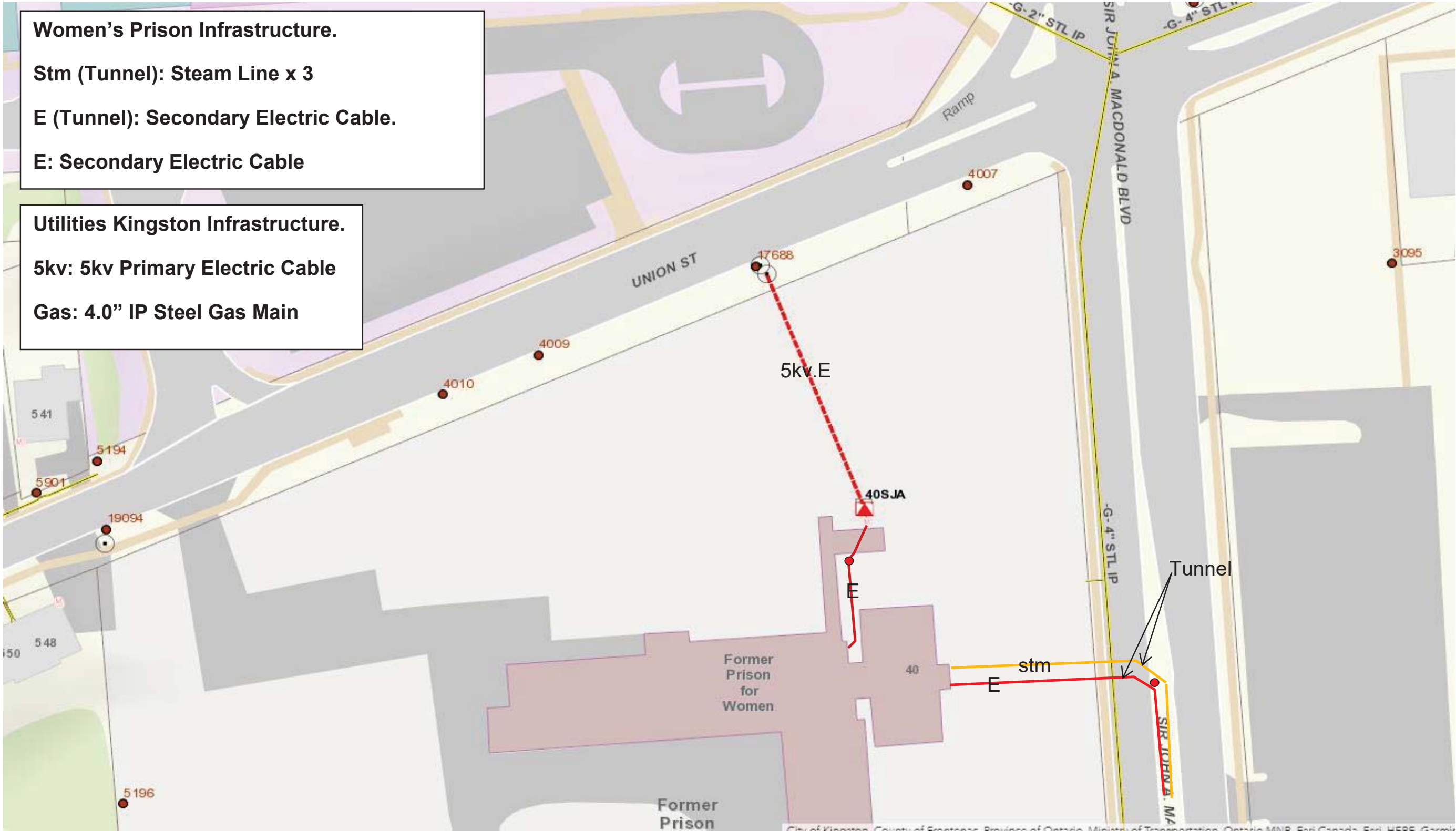
Water Main: 150MM C.I.

Sanitary Sewer (Tunnel): 250MM C.I

Water Main: 250MM C.I.

Sanitary Sewer: 250MM

40 SIR JOHN A. MACDONALD BLVD



40 SIR JOHN A. MACDONALD BLVD

Utilities Kingston Infrastructure.

5kv: 5kv Primary Electric Cable

Gas: 4.0" IP Steel Gas Main

Gas: 6.0" IP Steel Gas Main

Gas Service 555: 1 1/4" IP PE

Gas Service CB: 2.0" IP Steel

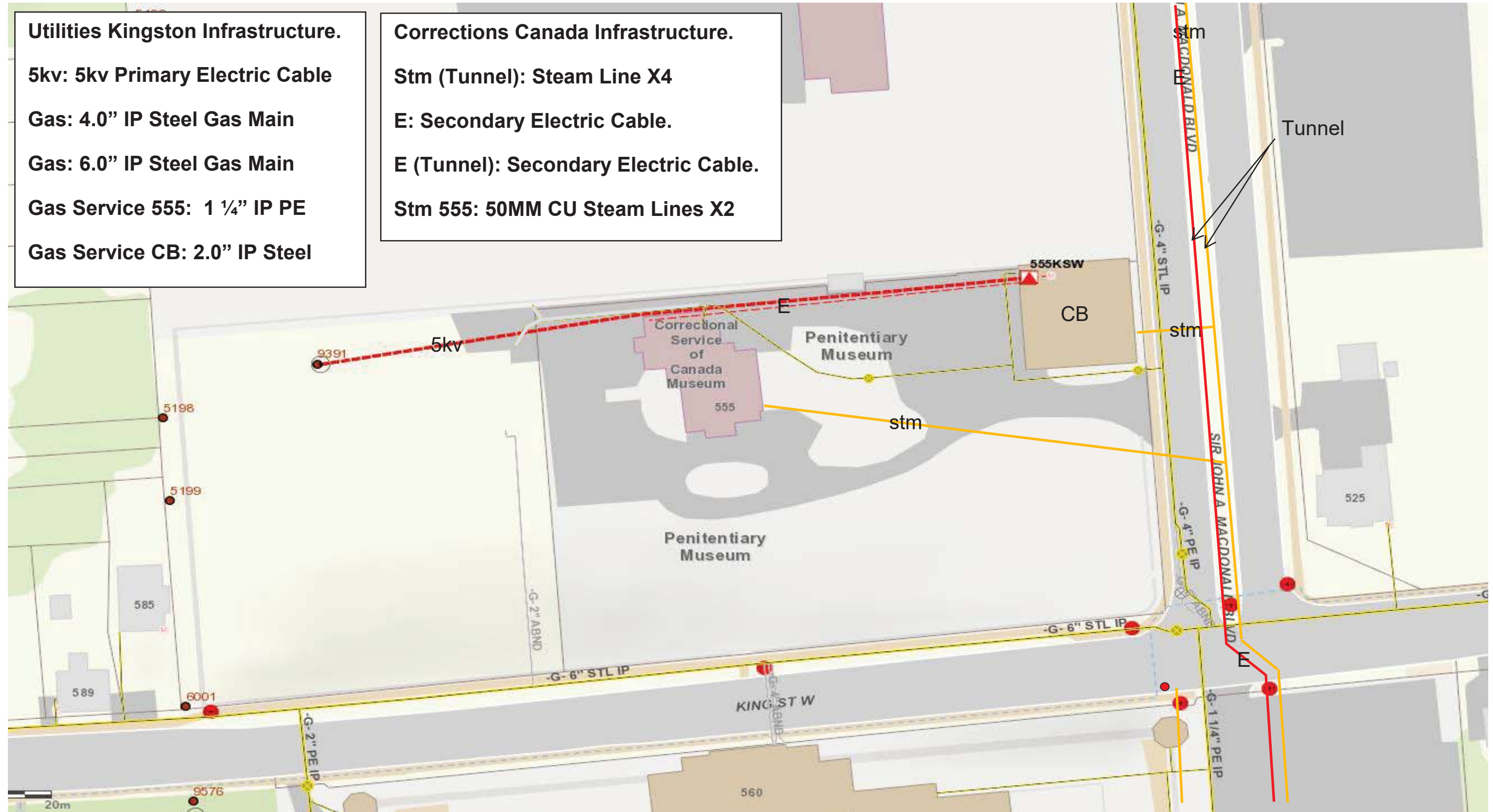
Corrections Canada Infrastructure.

Stm (Tunnel): Steam Line X4

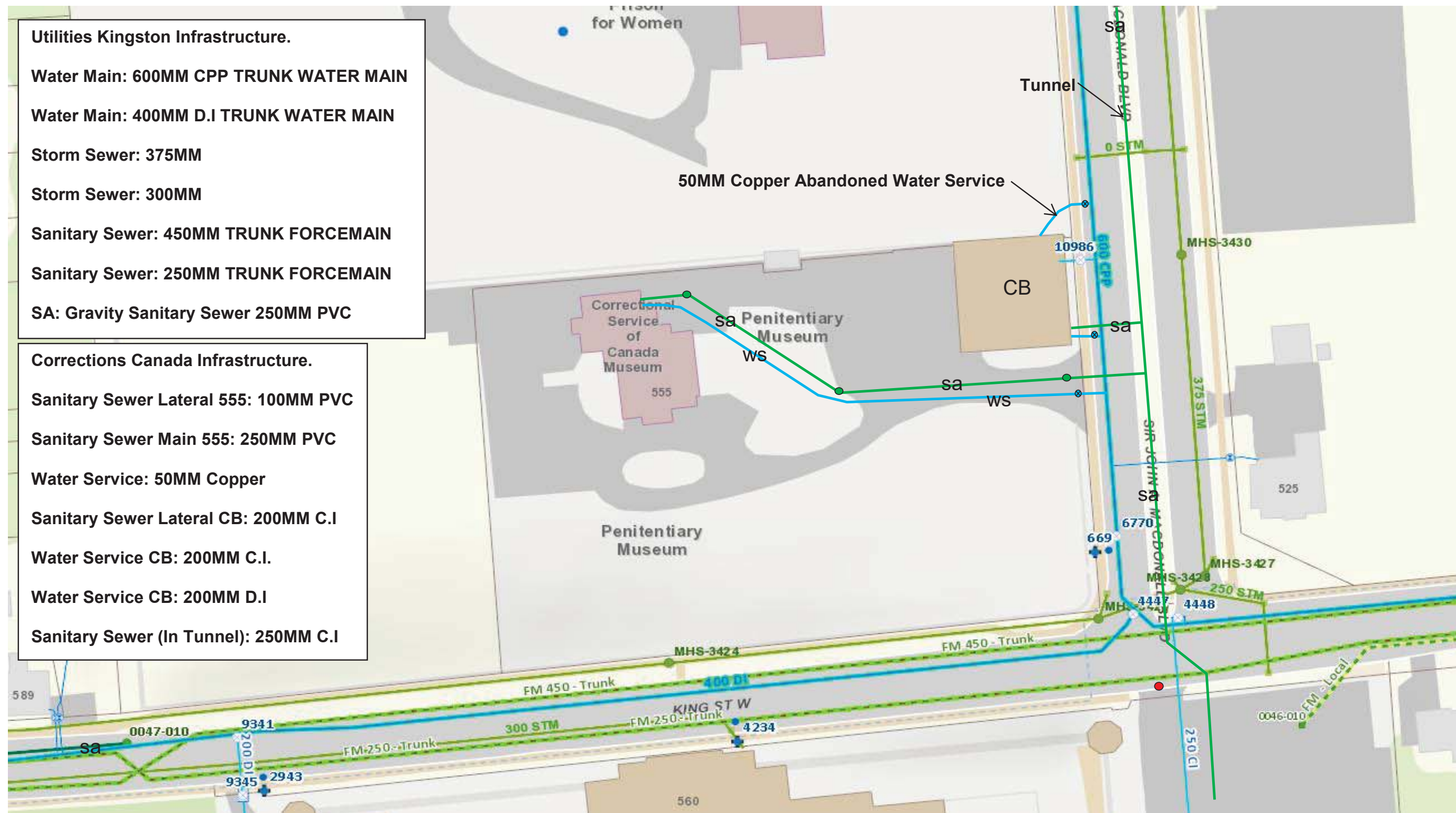
E: Secondary Electric Cable.

E (Tunnel): Secondary Electric Cable.

Stm 555: 50MM CU Steam Lines X2



40 SIR JOHN A. MACDONALD BLVD



Appendix H

Electrical Service Analysis by Callidus Engineering

UNION PARK: ELECTRICAL SERVICE ANALYSIS & COST COMPARISON

40 SIR JOHN A. MACDONALD BLVD
KINGSTON, ON

DATE:

APRIL 22, 2021

PROJECT:

CE-3901

UNION PARK: ELECTRICAL SERVICE
ANALYSIS & COST COMPARISON

UNION ST W AND SIR JOHN A.
MACDONALD BLVD, KINGSTON, ON

CLIENT:

SIDERIUS DEVELOPMENTS LTD

588 SCOTLAND RD
ODESSA, ON

NATE DOORNEKAMP

613-536-8551

NATE@DOORNEKAMP.CA

PREPARED BY:

ANDREW HALL, P.ENG

DAN MCDOUGALL, P.ENG



WE MAKE BUILDINGS WORK

1471 JOHN COUNTER BLVD.
UNIT 301
KINGSTON, ON
K7M 8S8

613 900 0845 T
info@callidus.ca E

DISCLAIMER:

This report was prepared by Callidus Engineering Inc. for Siderius Developments Ltd. The material contained herein represents our best judgement in light of the information available to us at the time of preparation. Without express written permission, any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. Callidus Engineering Inc., accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.

INTRODUCTION

Callidus Engineering has been retained by Siderius Developments Ltd to provide a high-level analysis of the electrical service required to service the multi-use development proposed at the SW corner of Union St W and Sir John A MacDonald Blvd in Kingston, ON. This analysis includes a preliminary electrical load calculation based on building sizes and uses.

The purpose of this analysis is to provide a basic understanding of the expected loads for each block of the proposed development and the total load for the property as a whole. This report was initially issued on February 23, 2018 and has been revised in 2020 and 2021 for the updated building layouts and uses.

The information included in this report is based on meetings and phone calls with Nate Doornekamp of Siderius Developments Ltd and a concept site plan produced by Fotenn Design + Planning updated in March 2021.

Estimates of service sizes and costs should be considered as having an order-of-magnitude accuracy based on the preliminary nature of the information available and the limited amount of time provided to complete the analysis. Cost estimates produced in the original 2018 report have been increase by a total of 6% (approximately 2% per year to 2021) to account for inflation and revised to account for the updated layout and quantity of property blocks.

PROPERTY DESCRIPTION

The proposed development has a total site area of 3.28 hectares and is comprised of 5 separate blocks. Block A is for future residential high-rise development; total building size is undetermined. Block B includes an existing building intended to be renovated for residential use, a new below grade parking garage. Block C is a new construction of a seniors housing continuum of care community comprised of two tower connected by a two storey link and underground parking. Block D includes a new building to be constructed for retail, residential, or hotel use. Block E including park area.

A general description of the structures is below in Table 1.

Structure	Description
Block A	Future phase residential high-rise tower(s), with a common podium with retail space and underground parking.
Block B	An existing 4 storey building with partial basement converted to 24 residential condominiums. Gross floor area is 7,108 sq m. A single level underground parking garage to be adjacent to the building with some grade level parking.
Block C	Two 10 storey residential towers with 215 units total and a focus on retirement living joined by a 2 storey link with underground parking. Gross floor area above grade is 22,055 sq m.
Block D	A 10 Storey Hotel / retail with underground parking, 364 sq m retail space and 8,335 sq m hotel space (119 units). Total gross floor area is 8,699 sq m.
Block E	A severed lot with 4,820 sq m of park space and connecting pathways.

Table 1: Description of Structures

ELECTRICAL DEMAND CALCULATION

A preliminary electrical demand calculation based on the requirements of the Ontario Electrical Safety Code for equipment sizing is outlined below in Table 2. Total amperage for each service is expressed in the most likely and useable voltage configuration of 600/347V based on the proposed building sizes. This voltage is ideal for internal power distribution and major equipment loads as it reduces conductor sizes and infrastructure costs. Additional voltage transformation will be required within each building to achieve 208/120V power for general suite and house loads.

Structure	Description	Non-Continuous Demand	Service Equipment Size
Block A	Future residential high-rise allowance	1,500 kW	1600A, 600/347V, 3 phase, 4 wire
Block B	4 storey 24 unit residential condominiums	370kW	400A, 600/347V, 3 phase, 4 wire
Block C	10 storey, 215 seniors housing units	1320 kW	1600A, 600/347V, 3 phase, 4 wire
Block D	10 storey 119 unit hotel/residence	750kW / 715kW	800A, 600/347V, 3 phase, 4 wire
Development Total		3,940 kW,	

Table 2: Electrical Demand Summary

The information above in Table 2 is outlined again below in Figure 1 with service equipment sizes overlaid on the plan of the proposed development.

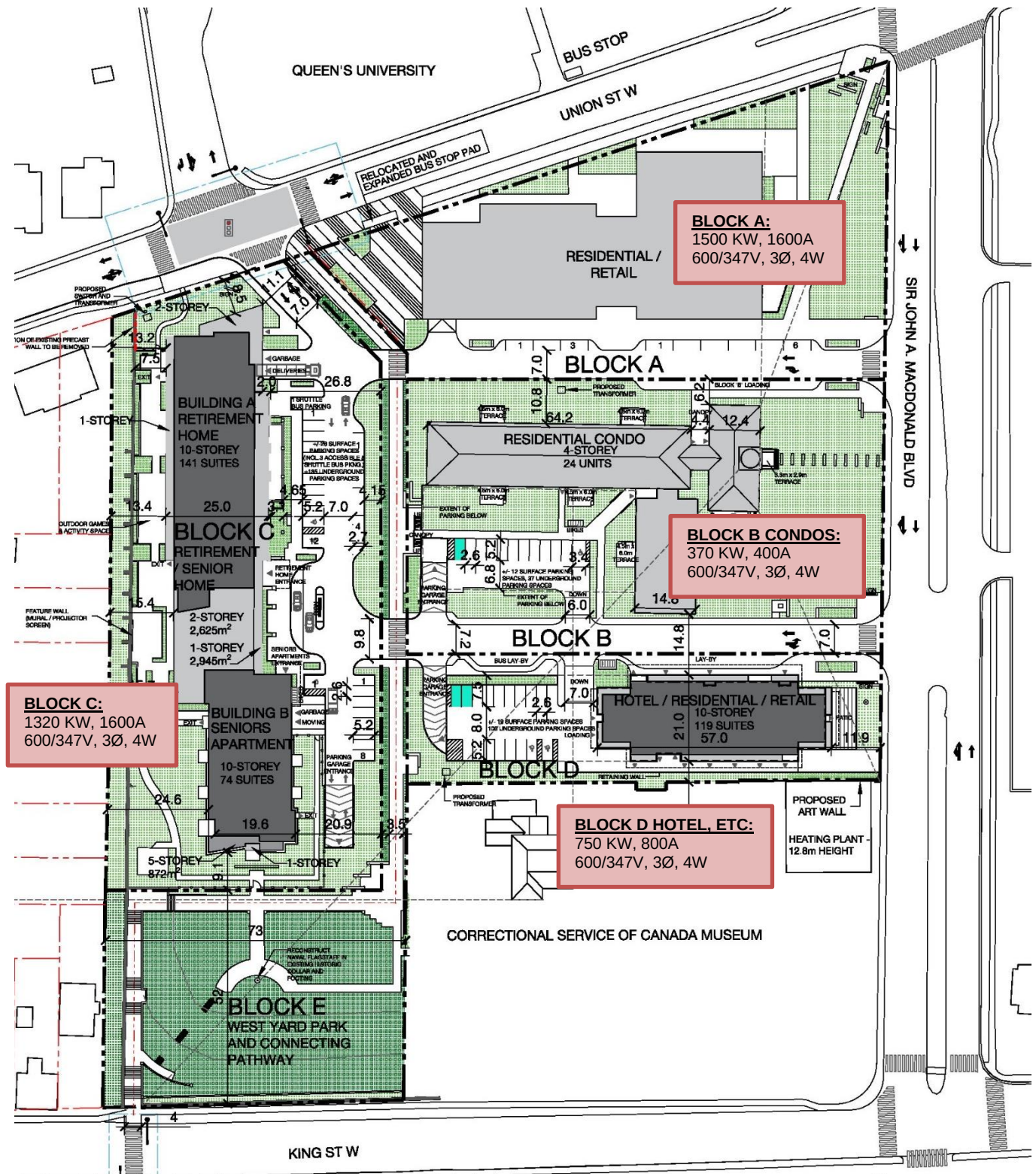


Figure 1: Site Plan with Electrical Demand per Block

44KV SWITCH AND TRANSFORMER TO SERVICE BLOCK A & C

Proposed customer owned substation to service Blocks A & C without a fenced in substation is to use a pole mounted switch and tamperproof transformer. Below is an image from a similar project.



Figure 2: Pole Mounted Switch and Transformer

BLOCK B & D - ELECTRICAL SERVICES

The Block B Residential Condominiums and Block D Hotel can each be serviced by a pad mounted 4160V to 600V transformer supplied and owned by the utility at customer's cost.

ELECTRICAL SERVICE COST ESTIMATES

Based on our understanding that each property will be separated before construction begins, we provide the following scope and estimate of the cost to service each building.

The total estimated cost for all of the services to each block is \$840,600

BLOCK A - FUTURE RESIDENTIAL / RETAIL

Scope:

- New 44kV Overhead by Utilities Kingston
- Ground Resistance Study including GPR and Ground Grid
- New Pole and 44kV Pole Mounted Switch
- Concrete Pad for the Transformer
- 1.5MVA Pad mounted transformer
- New 25m Underground Duct and Cable from Transformer to Building

Estimate:

Item	Description	Quantity	Units	Cost Per Unit	Total Cost
1	44kV Overhead Service	1	Lot	\$ -	\$ -
2	Ground Resistance Study including GPR	1	ea	\$ 6,000	\$ 6,000
3	Copper ground grid est	1	ea	\$ 26,000	\$ 27,000
4	Pole for 44kv switch	1	ea	\$ 8,000	\$ 8,500
5	44kv Pole mtd switch	1	ea	\$ 40,000	\$ 41,000
6	Transformer Concrete foundation	1	LOT	\$ 10,000	\$ 10,000
7	1.5MVA, 44kV Transformer	1	ea	\$ 88,000	\$ 89,000
8	Duct bank to building	25	m	\$ 1,000	\$ 26,000
9	Miscellaneous	1	Lot	\$ 20,000	\$ 22,000
				Total	\$ 229,500

BLOCK B - RESIDENTIAL CONDOMINIUMS

Scope:

- New Underground Duct and Cable from Utility Pole to pad mount transformer. May require easement through Block A.
- Utility supplied 500 kVA, 4160 to 600V Pad Mount Transformer
- New Underground Duct and Cable from Transformer to Building

Estimate:

Item	Description	Quantity	Units	Cost Per Unit	Total Cost
1	Transformer foundation	1	LOT	\$ 10,000	\$ 10,000
2	500 kVA Pad Mounted Transformer	1	ea	\$ 35,000	\$ 36,000
3	Duct bank to building	124	m	\$ 1,000	\$ 126,000
4	Miscellaneous	1	Lot	\$ 10,000	\$ 10,600
				Total	\$ 182,600

BLOCK C

Scope:

- New 44kV Overhead by Utilities Kingston
- Ground Resistance Study including GPR and Ground Grid
- New Pole and 44kV Pole Mounted Switch
- Concrete Pad for the Transformer
- 1.5MVA Pad mounted transformer
- New 50m Underground Duct and Cable from Transformer to Building

Estimate:

Item	Description	Quantity	Units	Cost Per Unit	Total Cost
1	44kV Overhead Service	1	Lot	\$ -	\$ -
2	Ground Resistance Study including GPR	1	ea	\$ 6,000	\$ 6,000
3	Copper ground grid est	1	ea	\$ 26,000	\$ 27,000
4	Pole for 44kv switch	1	ea	\$ 8,000	\$ 8,000
5	44kv Pole mtd switch	1	ea	\$ 40,000	\$ 41,000
6	Transformer foundation	1	LOT	\$ 10,000	\$ 10,000
7	1.5MVA, 44kV Transformer	1	ea	\$ 88,000	\$ 90,000
8	Duct bank to building	50	m	\$ 1,000	\$ 51,000
9	Miscellaneous	1	Lot	\$ 20,000	\$ 22,000
				Total	\$ 255,000

BLOCK D HOTEL / RESIDENTIAL / RETAIL

Scope:

- New Underground Duct and Cable from Utility Pole to pad mount transformer using ductbank to Block B above and extending it to new transformer pad
- Utility supplied 750 kVA, 4160 to 600V Pad Mount Transformer
- New Underground Duct and Cable from Transformer to Building

Estimate:

Item	Description	Quantity	Units	Cost Per Unit	Total Cost
1	Transformer foundation	1	LOT	\$ 10,000	\$ 10,500
2	750 kVA Pad Mounted Transformer	1	ea	\$ 40,000	\$ 41,000
3	Duct bank to building	110	m	\$ 1,000	\$ 112,000
4	Miscellaneous	1	Lot	\$ 10,000	\$ 10,000
				Total	\$ 173,500

REVISED KINGSTON HYDRO CAPITAL COST RECOVERY PROCESS

On Monday, April 12, 2021 Utilities Kingston circulated an announcement and information outlining changes to how they manage connections to Kingston Hydro's distribution system for new developments. Utilities Kingston describes the changes as, "significant and will be different from any past experience you may have had with your electrical service." These changes include the following:

1. A thorough and complete rewrite of the Contributed Capital process which will now be referred to as the Capital Cost Recovery Process.
2. A change to how Customer Connection Charges are managed.
3. Under the current/existing 5kv distribution system a change to the maximum permitted connected load from 750kva to a maximum of 1000kva under certain conditions.
4. Introduce a new distribution voltage of 13.8kv to assist in servicing intensification projects.
5. A change in the "ownership" of certain electrical assets that are part of a customer's connection.

Utilities Kingston has not shared the specifics how capital contribution costs will be calculated and we do not expect this information will be made public. The official communication and specifics of what Utilities Kingston has shared are appended to this report.

CLOSING REMARKS

Any questions regarding the information contained within this report can be directed to the report authors via the phone number listed on the cover page.

END OF REPORT

APPENDIX 1 - REVISED KINGSTON HYDRO CAPITAL COST RECOVERY PROCESS

April 12, 2021

RE: KINGSTON HYDRO

Service Connections and Capital Cost Recovery Processes
Changes and Updates

Throughout 2020 Utilities Kingston undertook a thorough review of how we connect new customers to our electrical distribution system. That review focused on several principles:

- Fairness
- Consistency
- Transparency
- Equity, and
- Economic competitiveness.

That review was completed in the last quarter of 2020 with a report taken to Kingston Hydro's Board of Directors for approval that recommended a number changes that can be summarized as:

1. A thorough and complete rewrite of the Contributed Capital process which will now be referred to as the Capital Cost Recovery Process.
2. A change to how Customer Connection Charges are managed.
3. Under the current/existing 5kv distribution system a change to the maximum permitted connected load from 750kva to a maximum of 1000kva under certain conditions.
4. Introduce a new distribution voltage of 13.8kv to assist in servicing intensification projects.
5. A change in the "ownership" of certain electrical assets that are part of a customer's connection.

These changes are now in effect and I invite you to review the changes and information contained in attached link should you be considering a new electrical connection in Kingston Hydro's service area.

<https://utilitieskingston.com/Electricity/NewServices/CapitalCostRecovery>



The changes are significant and will be different from your past experience if you've had a development requiring an electrical connection to Kingston Hydro distribution system.

We hope that you find the attached informative and that it answers most of your questions. However please feel free to reach out should further clarity be needed to Dan Micallef, Engineering Technologist, at dmicallef@utilitieskingston.com

Sincerely,

Jim Miller, Chief Operating Officer
Utilities Kingston



Capital cost recovery financial process

Introduction and contact

The *capital cost recovery financial process* is a standardized and regulated industry tool used by electricity utilities to recover infrastructure expansion costs triggered by new development.

This process is sometimes not well understood and can be confusing for customers. In order to provide excellent customer service and transparency, it is important for Utilities Kingston to assist land developers in understanding this process and how costs are evaluated.

Utilities Kingston put this information together to help explain the process to our customers. If you have any questions or require further clarification, please contact us:

Dan Micallef,
Engineering Technologist,
613-546-1181, extension 2376
DMicallef@utilitieskingston.com

Visit [KingstonHydro.com](https://www.kingstonyhydro.com)

Kingston Hydro is the Ontario Energy Board-licensed distributor of electricity in Central Kingston.

The assets of the corporation are proudly maintained and operated by the employees of Utilities Kingston, providing customer service and cost-saving advantages through multi-utility services that include water, wastewater, gas and electricity, as well as a fibre optics provider.

Related: Kingston Hydro's conditions of service

Overview

The capital cost recovery (CCR) financial process is an industry-wide tool used by electricity utilities in Ontario, including Kingston Hydro.

We use this process to recover infrastructure expansion costs that are triggered by new development. Although electricity utilities may use different names for this process, the economic evaluations are governed by regulation and are completed in a standardized way.

The financial process for CCR (capital cost recovery) for hydro connections is governed by the Ontario Energy Board's ***Distribution System Code***.

The web page you are reading now explains the process, the financial terms used in calculating capital cost recoveries and the process used for typical customer connection scenarios.

Offer to connect

When a customer needs an electrical connection to Kingston Hydro's distribution system that involves new, expanded, enhanced, upgraded or otherwise improved infrastructure, Utilities Kingston will provide one or more of the following:

- a connection cost (A customer charge to cover work completed by Kingston Hydro on the customer's side of the demarcation point to connect a new or upgraded service to Kingston Hydro existing distribution assets. The Ontario Energy Board DSC defines what is included in these costs. In most cases a connection charge would not apply to a 5 kV or 13.8 kV connection (except metering charges) but would apply in situations where a 44 kV service is required.), and/or
- a capital contribution cost (The financial contribution the customer is required to make to Kingston Hydro when the expansion costs and the ongoing O&M costs are not covered by the expected distribution revenue from the new service connection. This capital contribution is not a deposit and therefore is not refundable.), and/or
- an expansion deposit.

These may form part of the offer to connect that customer.

Economic evaluation

Through this process, Utilities Kingston will complete an economic evaluation to determine the customer's share of the capital contribution cost, if any. This may include the initial capital costs of the expansion, plus the present value of the ongoing operation and maintenance (O&M) costs associated with the customer's connection.

The capital contribution cost that Utilities Kingston requires the customer to pay shall not exceed the customer's share of the difference between the following:

- present value of the estimated capital and the ongoing O&M (operation and maintenance) costs
- present value of the projected estimated distribution revenue from the customer's connection

The CCR (capital cost recovery) process takes into consideration the following:

- expansion infrastructure costs
- the number and type of customers expected to be connected by the expansion in the first five years
- the revenue from those customers, less the O&M (operation and maintenance) costs of the facilities

Revenue horizon

Utilities Kingston will normally compute the customer charge using a 25-year determination of net present values. However, we may choose to shorten the revenue horizon, if at our sole discretion we feel that a revenue stream will not persist for 25 years (e.g., some types of commercial uses).

Expansion deposit

The CCR (capital cost recovery) process will also determine the amount required for an expansion deposit. This considers the following:

- expected distribution revenue
- customer's connection, expansion costs and O&M (operation and maintenance) costs

An expansion deposit is intended to cover the forecasted risk that the revenue assumed in the CCR (capital cost recovery) model does not materialize. If revenues materialize as expected, then some or all of the deposit may be returned to the customer.

Large service connections

In some cases, where large service sizes are required (i.e., at 44 kV) customers may receive a connection charge as part of the offer to connect.

Large service size connections are unique and typically costly. As a result, certain costs are applied directly to the customer to facilitate the connection.

Cost for connecting a new customer

Kingston Hydro's cost for connecting a new customer is recovered through a combination of tools or processes. These include the following:

- Revenue from the new connection, and/or
- A deposit to support that revenue until it materializes, and/or
- An upfront financial payment from the customer (known as a capital contribution). We use this if the revenue from the new connection is not sufficient to offset the total costs and ongoing O&M (operation and maintenance) costs.



Overview of the process and getting started

The first step is to make an application for service. **To get started, complete a new service request form.**

For further information, please contact a services advisor directly at 613-546-1181, extension 2285 or email serviceadvisors@utilitieskingston.com.

From there, Utilities Kingston will complete the following:

1. **Determine service size (voltage and kilowatt capacity).**
2. **Assess the distribution system and determine the following:**
 1. if the system needs to be expanded, and/or;
 2. if the existing system has capacity available, or, if not;
 3. what improvements are required to service the new/increased load.
3. **Prepare an estimate of the connection costs and/or expansion costs.**
4. **Run the capital cost recovery model, with the following inputs:**
 1. estimated increase/new kW load.
 2. supply voltage.
 3. number and required type of revenue meters.
 4. O&M expenses per customer for the respective rate class for the applicable year, as approved by the OEB. This number changes yearly.
 5. expected future distribution revenue, as derived from the approved distribution rates for that rate class, for that year. This number changes yearly.
 6. expected revenue and cost horizons.
 7. expansion costs.

From this process, we provide three possible financial reports to the customer:

1. A connection cost estimate
2. A capital contribution cost
3. An expansion deposit

To view samples of these reports in advance, contact DMicallef@utilitieskingston.com.

Utilities Kingston will collect applicable costs from the customer, prior to hydro work commencing.

Definitions

Connection cost

A customer charge to cover work completed by Kingston Hydro on the customer's side of the demarcation point, to connect a new or upgraded service to Kingston Hydro existing distribution assets. The Ontario Energy Board DSC (Distribution System Code) defines what is included in these costs. In most cases a connection charge would not apply to a 5 kV or 13.8 kV connection (except metering charges) but would apply in situations where a 44 kV service is required.

Capital contribution cost

The financial contribution the customer is required to make to Kingston Hydro when the expansion costs and the ongoing O&M (operating and maintenance) costs are not covered by the expected distribution revenue from the new service connection. This capital contribution is not a deposit and therefore is not refundable.

Expansion cost

This refers to the costs associated with work completed to upgrade or extend Kingston Hydro's existing distribution assets in order to connect the requested service. This also includes circumstances where Kingston Hydro assets have not fully depreciated and are to be replaced as a result of the customer's project. The value of those assets being replaced before end-of-life shall be based on the remaining net book value of the replaced asset, plus advancement cost. The OEB DSC (Ontario Energy Board Distribution System Code) defines what is included in these costs.

Operation and maintenance cost

The costs related to Kingston Hydro's ongoing requirements to provide a safe, reliable and efficient electricity distribution system to our customers. These costs include maintenance and operational aspects of running the distribution system. The O&M (Operation and Maintenance) costs are derived from the rate class of the application submitted, such as residential or commercial >50 kW.

Capital cost recovery model

A net present value calculation that determines the financial requirements of the project that must be completed by the customer and submitted to Kingston Hydro. The model (calculation) considers the following factors:

- Expansion costs
- O&M (operation and maintenance) costs
- Expected future distribution revenue earned from the customer connection over time (years)
- Expansion and O&M (operation and maintenance) costs of the new customer connection, assessed against the expected future distribution revenue
- Net present value: a financial calculation to express the difference between the present value of cash inflows (expected future distribution revenues) and the present value of cash outflows (expansion and ongoing O&M (operation and maintenance) costs)

Number of customers

The total number of customers or connections by rate class, serviced by Kingston Hydro. The customer classifications for Kingston Hydro are as follows:

- residential
- small commercial <50 kW
- commercial >50 kW
- large users

The number of customers by class is a factor in the CCR (capital cost recovery) model, since the costs for one customer are the total costs for the class, divided by the number of customers. Each class has its own rates and service charges, because the costs of servicing each class of customers are different.

Expected distribution revenues

For residential and general service less than 50 kW (GS<50 kW) rate classes, the expected distribution revenues (EDR) from a customer connection request is considered met if the number of accounts indicated on the customer load forecast form or service request form matches the

actual activated accounts. The customer load forecast form is provided to Kingston Hydro by the customer (or agent) as the basis to determine and calculate the revenue and costs. Kingston Hydro reviews the number of accounts annually against the data submitted in the customer load forecast form.

For general service greater than 50kW (GS>50kW) and large users the EDR (expected distribution revenues) is based on the new or upgraded customer's estimated electrical load for the first five years of the new or upgraded service. The average monthly peak electrical load is provided by the customer (or agent) to Kingston Hydro and is expressed in Kilowatts (kW). The EDR (expected distribution revenue) is calculated using the electrical load based on Kingston Hydro electricity rates as approved by the O.E.B. (Ontario Energy Board).

Expansion deposit

A financial deposit that the customer provides to Kingston Hydro when expansion costs are incurred. It is calculated by subtracting the capital contribution from the expansion costs and ongoing O&M (operating and maintenance) costs. The value of the deposit is determined by the Kingston Hydro CCRM (capital cost recovery model).

If the EDR (expected distribution revenues) is equal to or greater than the combination of the expansion costs and ongoing O&M (operating and maintenance) costs, the CCRM (capital cost recovery model) will only generate a requirement for an expansion deposit (not a capital contribution).

If the EDR (expected distribution revenues) is less than the combination of the expansion costs and ongoing O&M (operating and maintenance), the CCRM (capital cost recovery model) will generate a need for both an expansion deposit and capital contribution from the customer.

The expansion deposit is returned to the customer if the expected distribution revenues materialize. If the EDR (expected distribution revenues) does not materialize as expected from the load provided by the customer, a portion of the expansion deposit will be kept by Kingston Hydro to make up for this shortfall

Expand all

Collapse all

Frequently asked questions

Can you send me the calculations you used for the capital contribution charges?

The calculations are completed using licensed software that restricts us from disclosing calculation methodology. However, cost estimates, publicly-available information regarding rates, O&M (operating and maintenance), etc. is available. Utilities Kingston can discuss these elements further, upon request.

Is it better to have multiple residential meters or one bulk commercial meter?

In most cases, it is better to have multiple residential meters, as this will increase the EDR (expected distribution revenue) and thus reduce (and some cases eliminate) the required capital contribution. The expansion deposit may increase, but if the project is fully connected in five years, the entire expansion deposit is returned.

What happens if I overestimate load?

If the load is overestimated, a portion of the expansion deposit will not be returned to the customer.

What happens if I underestimate electrical load?

If the load is underestimated, the capital contribution will be higher.

How does revenue impact the model?

Assuming expansion costs and ~~Q&M (operating and maintenance)~~ are constant between two projects, the expected distribution revenue received as derived from the applicable rates will have a significant impact on the amount of any capital contribution or expansion deposit required from a customer. For example:

- Distributor A has higher rates for residential than Distributor B.
- Expansion costs and ~~Q&M (operating and maintenance)~~ are equal.
- Distributor A will project in the ~~CCRM (capital contribution revenue model)~~ a higher expected distribution revenue/return for that development than Distributor B.
- As a result, with a higher expected distribution revenue, Distributor A would require a smaller capital contribution/expansion deposit than Distributor B.
- Distributor B would require a higher/greater capital contribution/expansion deposit amount, due to lower expected distribution revenue being received from the same development.

