LEGEND

	PROPERTY LINE
	PROPOSED SANITARY SERVICE
	PROPOSED STORM SERVICE
CBMH 01	PROPOSED CATCHBASIN MANHOLE
CB 02	PROPOSED CATCHBASIN
M IM	PROPOSED WATER METER AND REMOTE METER
	PROPOSED BARRIER CURB
DC	PROPOSED DEPRESSED CURB
150mmØ	PROPOSED WATER SERVICE AND DIAMETER
VB	PROPOSED VALVE & VALVE BOX
	PROPOSED CAP
	PROPOSED BUILDING ENTRANCE
X	REMOVALS
	THERMAL INSULATION FOR SHALLOW SEWERS
OHW	EXISTING OVERHEAD WIRES
	EXISTING CONCRETE CURB
SANMH	EXISTING SANITARY MANHOLE & SEWER
CBMH	EXISTING CATCHBASIN MANHOLE
STMMH	EXISTING STORM MANHOLE & SEWER
CB	EXISTING CATCHBASIN C/W CATCHBASIN LEAD
HYD V&VB	EXISTING HYDRANT & VALVE
	EXISTING TREES / VEGETATION
EX UP	EXISTING UTILITY POLE
	EXISTING FENCE
300mmØ WM	EXISTING WATERMAIN
HYD	EXISTING HYDRANT C/W VALVE & LEAD
FFE	FINISHED FLOOR ELEVATION
T/FND	TOP OF FOUNDATION WALL ELEVATION
USF	UNDERSIDE OF FOOTING ELEVATION

GENERAL NOTES:

1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
2. DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
3. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
4. BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR $5,000,000.00, INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
5. RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF MUNICIPAL AUTHORITIES.
6. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
7. ALL ELEVATIONS ARE GEODETIC.
8. REFER TO GEOTECHNICAL INVESTIGATION REPORT (Ref.No. PG5044-1), DATED DEC. 3, 2019, PREPARED BY PATERSON GROUP FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
9. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
10. REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2020-071) PREPARED BY NOVATECH.
11. SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

INSULATION DETAIL FOR SHALLOW SEWERS
NOT TO SCALE

t = THICKNESS OF INSULATION (mm)
h = DEPTH OF COVER
W = D + 300 (1000 min.)
W = WIDTH OF INSULATION (mm)
D = O.D OF PIPE (mm)

COVER (mm)	INSULATION THICKNESS (mm)
1500-1200	75
1200-900	100
900-600	125

INSULATION NOTES:
1. THE THICKNESS OF SEWER INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER LESS THAN 1500mm (SEE TABLE BESIDE)

INTERNAL SWM STORAGE SYSTEM

DESIGN EVENT	STORAGE SYSTEM CONTROLLED FLOW	STORAGE VOLUMES REQUIRED	STORAGE VOLUMES PROVIDED
1:2 YR	PUMPED FLOW RATE = 3.78 L/s	38.6 m³	> 163 m³
1:5 YR		57.1 m³	
1:100 YR		129.0 m³	
1:100+20%		162.4 m³	

NOTES:
1. ALL DRAINAGE FROM AREA R-1 (PROPOSED AMENITY AREA DECK DRAINS AND ALL ROOF DRAINS AS WELL AS THE PATIO OVERFLOW DRAIN) TO BE DIRECTED TO THE INTERNAL STORMWATER STORAGE SYSTEM. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR DETAILS.
2. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR EXACT SIZE AND DETAILS OF INTERNAL STORMWATER STORAGE SYSTEM.
3. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR LOCATION AND CONNECTIONS AND DETAILS OF THE INTERNAL STORMWATER STORAGE SYSTEM.

SEWER NOTES:

1. SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
2. SPECIFICATIONS:

ITEM	SPEC. No.	
STORM / CATCHBASIN MANHOLE (1200mmØ)	701.010	OPSD
CATCHBASIN MH FRAME & COVER	401.010 Type 'B'	OPSD
CATCHBASIN (600x600)	705.010	OPSD
CATCHBASIN FRAME & COVER	S19	CITY OF OTTAWA
SEWER TRENCH	S6	CITY OF OTTAWA
SANITARY / STORM SEWER	PVC DR 35	

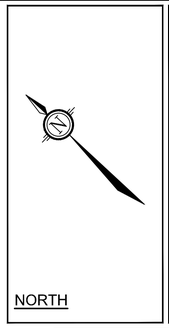
3. THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH BACKFLOW PREVENTERS WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14.1 OR S14.2, REFER TO MECHANICAL PLANS FOR DETAILS.
4. THE STORM SERVICE LATERAL SHALL BE EQUIPPED WITH A BACKFLOW PREVENTER WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14. REFER TO MECHANICAL PLANS FOR DETAILS.
5. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
6. PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
7. INSULATE ALL PIPES (SAN / STM) THAT HAVE LESS THAN 1.5m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
8. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX: POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
9. TYPICAL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
10. THE CONTRACTOR IS TO TELEVISE (CCTV) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES. PROVIDE A COPY OF ALL CCTV INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.
11. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL APPLICABLE SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS AND ANY ALIGNMENT CHANGES, ETC.
12. THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.

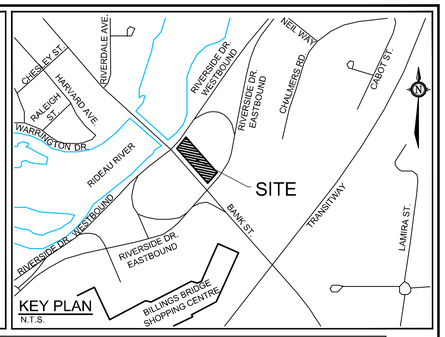
WATERMAIN NOTES:

1. SUPPLY AND CONSTRUCT ALL WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
2. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWERS	W25	CITY OF OTTAWA
CATHODIC PROTECTION FOR PVC WATERMAINS	W40	CITY OF OTTAWA
WATERMAIN MATERIAL	PVC DR 18 (100mm AND LARGER)	

3. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS. EXCAVATION, INSTALLATION OF SERVICE, BACKFILL AND RESTORATION BY THE CONTRACTOR.
4. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
5. PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS, UNLESS OTHERWISE INDICATED.
6. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.



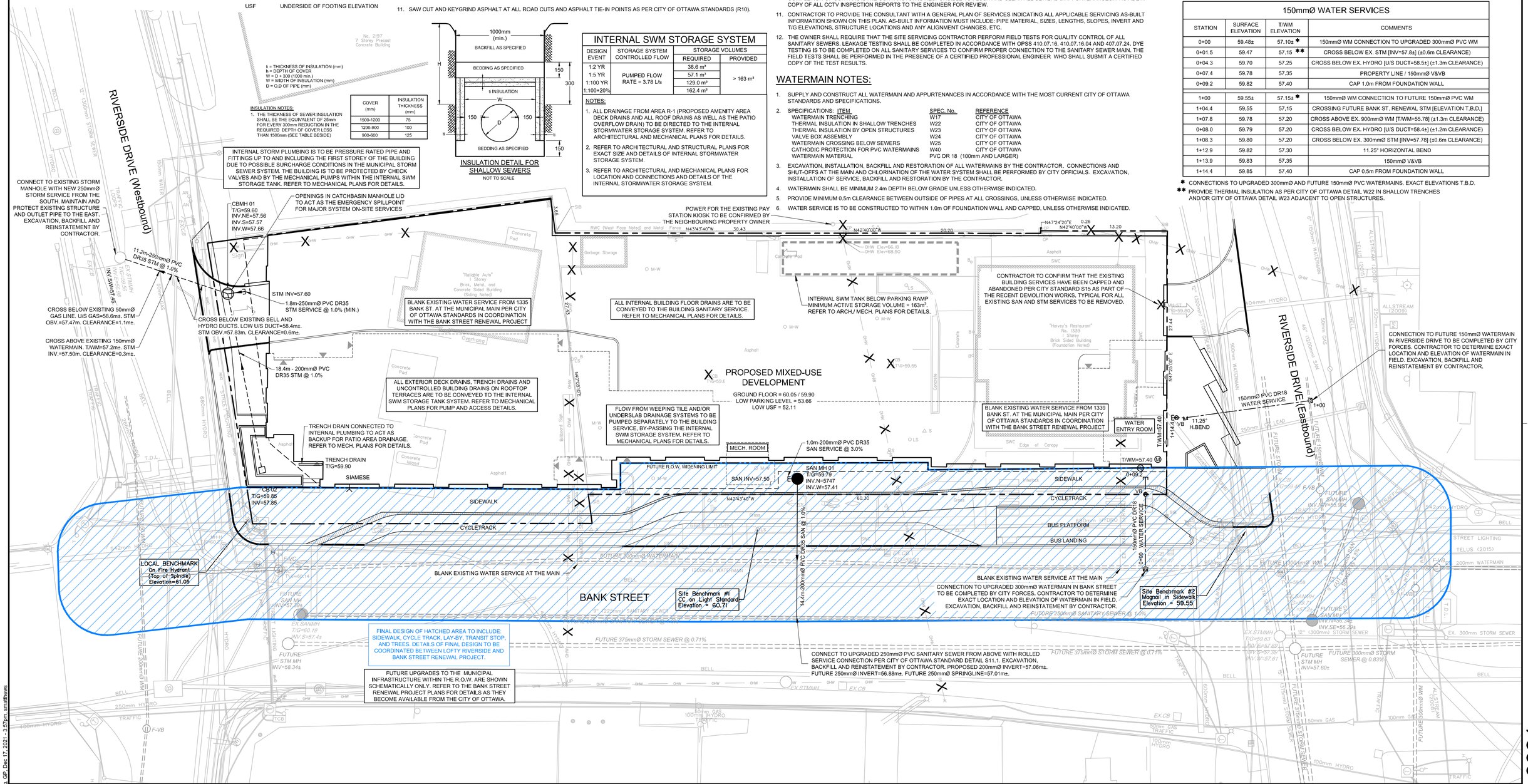


KEY PLAN
N.T.S.

150mmØ WATER SERVICES

STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
0+00	59.48±	57.10± *	150mmØ WM CONNECTION TO UPGRADED 300mmØ PVC WM
0+01.5	59.47	57.15 **	CROSS BELOW EX. STM [INV=57.8±] (±0.6m CLEARANCE)
0+04.3	59.70	57.25	CROSS BELOW EX. HYDRO [U/S DUCT=58.5±] (±1.3m CLEARANCE)
0+07.4	59.78	57.35	PROPERTY LINE / 150mmØ V&VB
0+09.2	59.82	57.40	CAP 1.0m FROM FOUNDATION WALL
1+00	59.55±	57.15± *	150mmØ WM CONNECTION TO FUTURE 150mmØ PVC WM
1+04.4	59.55	57.15	CROSSING FUTURE BANK ST. RENEWAL STM [ELEVATION T.B.D.]
1+07.8	59.78	57.20	CROSS ABOVE EX. 900mmØ WM [T/WM=55.78] (±1.3m CLEARANCE)
0+08.0	59.79	57.20	CROSS BELOW EX. HYDRO [U/S DUCT=58.4±] (±1.2m CLEARANCE)
1+08.3	59.80	57.20	CROSS BELOW EX. 300mmØ STM [INV=57.78] (±0.6m CLEARANCE)
1+12.9	59.82	57.30	11.25° HORIZONTAL BEND
1+13.9	59.83	57.35	150mmØ V&VB
1+14.4	59.85	57.40	CAP 0.5m FROM FOUNDATION WALL

* CONNECTIONS TO UPGRADED 300mmØ AND FUTURE 150mmØ PVC WATERMAINS. EXACT ELEVATIONS T.B.D.
** PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W22 IN SHALLOW TRENCHES AND/OR CITY OF OTTAWA DETAIL W23 ADJACENT TO OPEN STRUCTURES.



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

OWNER INFORMATION
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No.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	DEC 20/21	FST
1	ISSUED FOR SITE PLAN APPROVAL	MAR 3/21	FST

SCALE 1:200

DESIGN	SM / FST
CHECKED	SM
DRAWN	RB / SM
CHECKED	SM / FST
APPROVED	FST

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER F.S. THAUVETTE 100041399 DEC.20,2021 PROVINCE OF ONTARIO

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LOCATION
CITY OF OTTAWA
1335 & 1339 BANK STREET

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 119210
REV REV # 2
DRAWING No. 119210-GP

D07-12-21-0031

PLAN #18435

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