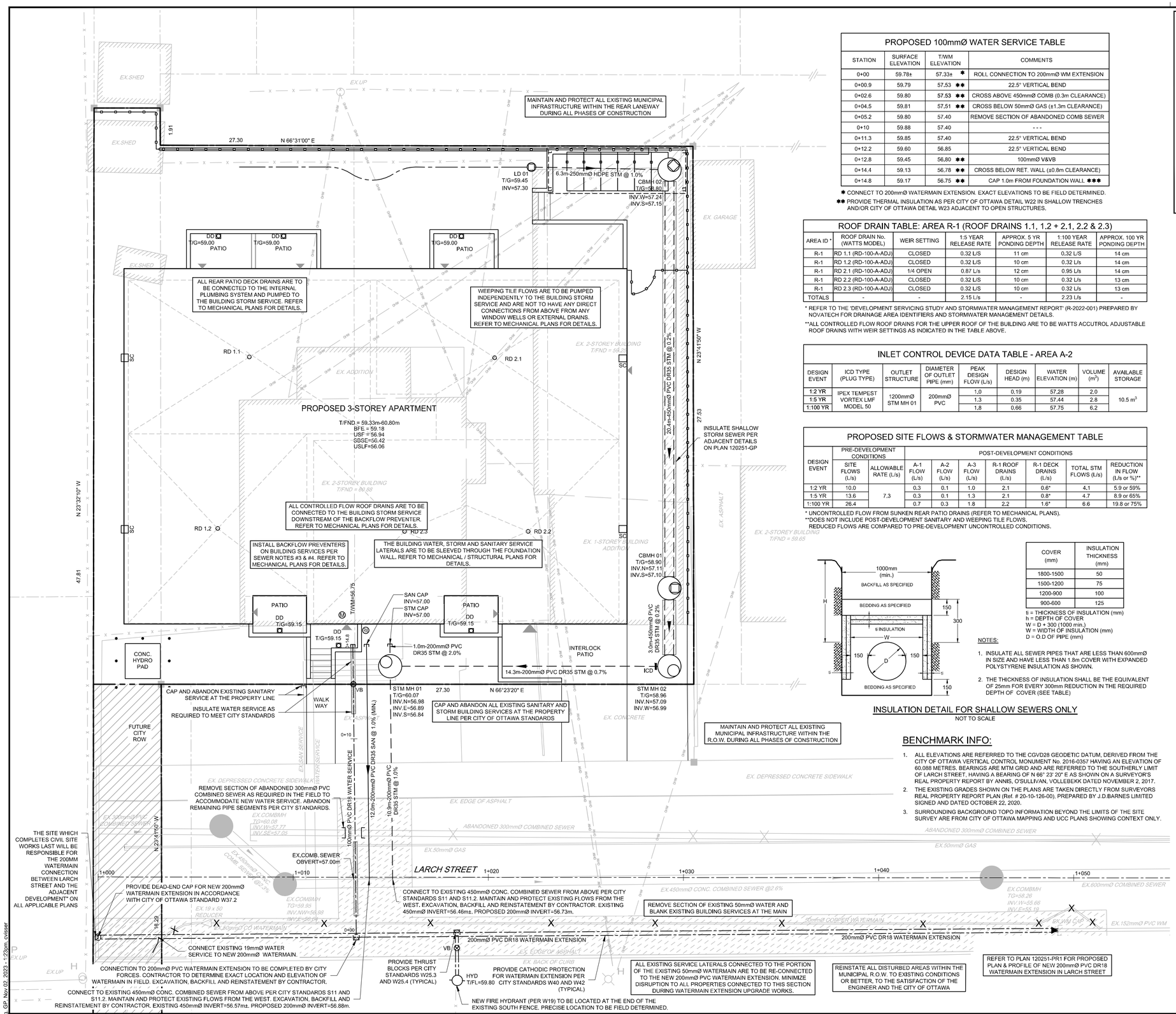


PROPOSED 100mmØ WATER SERVICE TABLE

STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
0+00	59.78±	57.33± ✱	ROLL CONNECTION TO 200mmØ WM EXTENSION
0+00.9	59.79	57.53 ✱✱	22.5° VERTICAL BEND
0+02.6	59.80	57.53 ✱✱	CROSS ABOVE 450mmØ COMB (0.3m CLEARANCE)
0+04.5	59.81	57.51 ✱✱	CROSS BELOW 50mmØ GAS (±1.3m CLEARANCE)
0+05.2	59.80	57.40	REMOVE SECTION OF ABANDONED COMB SEWER
0+10	59.88	57.40	- - -
0+11.3	59.85	57.40	22.5° VERTICAL BEND
0+12.2	59.60	56.85	22.5° VERTICAL BEND
0+12.8	59.45	56.80 ✱✱	100mmØ V&VB
0+14.4	59.13	56.78 ✱✱	CROSS BELOW RET. WALL (±0.8m CLEARANCE)
0+14.8	59.17	56.75 ✱✱	CAP 1.0m FROM FOUNDATION WALL ✱✱✱

✱ CONNECT TO 200mmØ WATERMAIN EXTENSION. EXACT ELEVATIONS TO BE FIELD DETERMINED.
✱✱ PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W22 IN SHALLOW TRENCHES AND/OR CITY OF OTTAWA DETAIL W23 ADJACENT TO OPEN STRUCTURES.

ROOF DRAIN TABLE: AREA R-1 (ROOF DRAINS 1.1, 1.2 + 2.1, 2.2 & 2.3)

AREA ID *	ROOF DRAIN No. (WATTS MODEL)	WEIR SETTING	1:5 YEAR RELEASE RATE	APPROX. 5 YR PONDING DEPTH	1:100 YEAR RELEASE RATE	APPROX. 100 YR PONDING DEPTH
R-1	RD 1.1 (RD-100-A-ADJ)	CLOSED	0.32 L/S	11 cm	0.32 L/S	14 cm
R-1	RD 1.2 (RD-100-A-ADJ)	CLOSED	0.32 L/S	10 cm	0.32 L/s	14 cm
R-1	RD 2.1 (RD-100-A-ADJ)	1/4 OPEN	0.87 L/s	12 cm	0.95 L/s	14 cm
R-1	RD 2.2 (RD-100-A-ADJ)	CLOSED	0.32 L/S	10 cm	0.32 L/s	13 cm
R-1	RD 2.3 (RD-100-A-ADJ)	CLOSED	0.32 L/S	10 cm	0.32 L/s	13 cm
TOTALS		-	2.15 L/s	-	2.23 L/s	-

* REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2022-001) PREPARED BY NOVATECH FOR DRAINAGE AREA IDENTIFIERS AND STORMWATER MANAGEMENT DETAILS.

**ALL CONTROLLED FLOW ROOF DRAINS FOR THE UPPER ROOF OF THE BUILDING ARE TO BE WATTS ACCUTROL ADJUSTABLE ROOF DRAINS WITH WEIR SETTINGS AS INDICATED IN THE TABLE ABOVE.

INLET CONTROL DEVICE DATA TABLE - AREA A-2

DESIGN EVENT	ICD TYPE (PLUG TYPE)	OUTLET STRUCTURE	DIAMETER OF OUTLET PIPE (mm)	PEAK DESIGN FLOW (L/s)	DESIGN HEAD (m)	WATER ELEVATION (m)	VOLUME (m^3)	AVAILABLE STORAGE
1:2 YR	IPEX TEMPEST VORTEX LMF MODEL 50	1200mmØ STM MH 01	200mmØ PVC	1.0	0.19	57.28	2.0	10.5 m^3
1:5 YR				1.3	0.35	57.44	2.8	
1:100 YR				1.8	0.66	57.75	6.2	

PROPOSED SITE FLOWS & STORMWATER MANAGEMENT TABLE

DESIGN EVENT	PRE-DEVELOPMENT CONDITIONS		POST-DEVELOPMENT CONDITIONS						
	SITE FLOWS (L/s)	ALLOWABLE RATE (L/s)	A-1 FLOW (L/s)	A-2 FLOW (L/s)	A-3 FLOW (L/s)	R-1 ROOF DRAINS (L/s)	R-1 DECK DRAINS (L/s)	TOTAL STM FLOWS (L/s)	REDUCTION IN FLOW (L/s or %)**
1:2 YR	10.0	7.3	0.3	0.1	1.0	2.1	0.6*	4.1	5.9 or 59%
1:5 YR	13.6		0.3	0.1	1.3	2.1	0.8*	4.7	8.9 or 65%
1:100 YR	26.4		0.7	0.3	1.8	2.2	1.6*	6.6	19.8 or 75%

* UNCONTROLLED FLOW FROM SUNKEN REAR PATIO DRAINS (REFER TO MECHANICAL PLANS).
**DOES NOT INCLUDE POST-DEVELOPMENT SANITARY AND WEEPING TILE FLOWS.
REDUCED FLOWS ARE COMPARED TO PRE-DEVELOPMENT UNCONTROLLED CONDITIONS.

COVER (mm)	INSULATION THICKNESS (mm)
1800-1500	50
1500-1200	75
1200-900	100
900-600	125

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

NOTES:

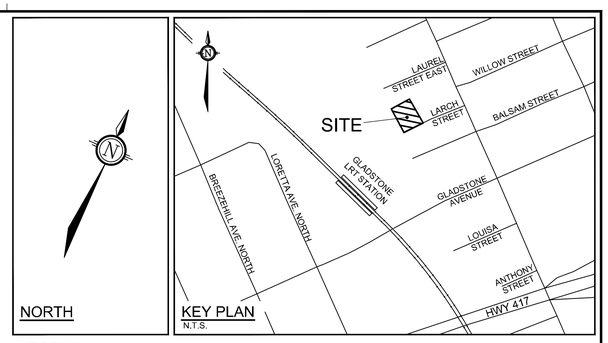
1. INSULATE ALL SEWER PIPES THAT ARE LESS THAN 600mmØ IN SIZE AND HAVE LESS THAN 1.6m COVER WITH EXPANDED POLYSTYRENE INSULATION AS SHOWN.
2. THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER (SEE TABLE)

INSULATION DETAIL FOR SHALLOW SEWERS ONLY

NOT TO SCALE

BENCHMARK INFO:

1. ALL ELEVATIONS ARE REFERRED TO THE CGVD28 GEODETIC DATUM, DERIVED FROM THE CITY OF OTTAWA VERTICAL CONTROL MONUMENT No. 2016-0357 HAVING AN ELEVATION OF 60.088 METRES. BEARINGS ARE MTM GRID AND ARE REFERRED TO THE SOUTHERLY LIMIT OF LARCH STREET, HAVING A BEARING OF N 66° 23' 20" E AS SHOWN ON A SURVEYOR'S REAL PROPERTY REPORT BY ANNIS, O'SULLIVAN, VOLLEBEKK DATED NOVEMBER 2, 2017.
2. THE EXISTING GRADES SHOWN ON THE PLANS ARE TAKEN DIRECTLY FROM SURVEYORS REAL PROPERTY REPORT PLAN (Ref. # 20-10-126-00), PREPARED BY J.D.BARNES LIMITED SIGNED AND DATED OCTOBER 22, 2020.
3. SURROUNDING BACKGROUND TOPO INFORMATION BEYOND THE LIMITS OF THE SITE SURVEY ARE FROM CITY OF OTTAWA MAPPING AND UCC PLANS SHOWING CONTEXT ONLY.



KEY PLAN
N.T.S.

LEGEND:

	PROPERTY LINE		WATERMAIN CAP
RD	PROPOSED CONTROLLED FLOW ROOF DRAIN		PROPOSED FENCE AND GATE
M RM	PROPOSED WATER METER AND REMOTE METER	OHW	EXISTING OVERHEAD WIRES
DD	PROPOSED DECK DRAIN		EXISTING CONCRETE CURB
	PROPOSED BUILDING ENTRANCE	SANMH	EXISTING SANITARY MANHOLE & SEWER
	PROPOSED WATER SERVICE	CBMH	EXISTING CATCHBASIN MANHOLE
	PROPOSED STORM SERVICE	STMMH	EXISTING STORM MANHOLE & SEWER
	PROPOSED SANITARY SERVICE	CB	EXISTING CATCHBASIN C/W CATCHBASIN LEAD
VB	PROPOSED VALVE AND VALVE BOX	HYD V&VB	EXISTING HYDRANT & VALVE
T/FND	TOP OF FOUNDATION WALL ELEVATION		EXISTING TREES / VEGETATION
BFE	BASEMENT FLOOR ELEVATION	EX UP	EXISTING UTILITY POLE
USF	UNDERSIDE OF FOOTING ELEVATION		EXISTING FENCE
SBSE	SUB-BASEMENT SLAB ELEVATION	300mmØ WM	EXISTING WATERMAIN
USLF	UNDERSIDE OF LOW FOOTING ELEVATION	HYD	EXISTING HYDRANT C/W VALVE & LEAD
X	REMOVAL AND/OR ABANDONMENT		
C.S.	CLAY SEAL SEEPAGE BARRIER		
	THERMAL INSULATION FOR SHALLOW SEWERS		

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 (NUMBER PG6071-1, REV.1), DATED FEBRUARY 11, 2022, PREPARED BY PATERSON GROUP INC., 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 MECHANICAL PLAN FOR ROOF DRAIN INFORMATION.
10. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
11. REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2022-001) PREPARED BY NOVATECH.
12. SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

SEWER NOTES:

1. SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS USING THE CURRENT GUIDELINES, BYLAWS AND STANDARDS INCLUDING MATERIALS OF CONSTRUCTION, DISINFECTION AND ALL RELEVANT REFERENCES TO OPSS, OPSD & AWWA GUIDELINES - ALL CURRENT VERSIONS AND 'AS AMENDED'.
2. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
STORM / CATCHBASIN MANHOLE (1200mmØ)	701.010	OPSD
STORM / CBMH MANHOLE FRAME AND COVER	401.010 - TYPE "B"	OPSD
LANDSCAPE DRAIN (ELBOW, COVER & PIPE)	S29 / S31	CITY OF OTTAWA
SEWER TRENCH	S6	CITY OF OTTAWA
STORM SERVICE / SEWER	PVC DR 35 (HDPE for LD SYSTEM)	
SANITARY SERVICE	PVC DR 35	

3. THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH A BACKFLOW PREVENTER 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. 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.
6. INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 1.8m COVER WITH UP TO 125mm THICK HI-40 RIGID INSULATION.
7. 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.
8. 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 CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND 'AS AMENDED'.
2. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
HYDRANT INSTALLATION	W19	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWERS	W25	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.

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
15-19 LARCH ST. INC.
359 KENT STREET, SUITE 503,
OTTAWA, ONTARIO, K2P 0R6
ROBERTO CAMPAGNA
PHONE: (613) 851-7823
roberto@rocahomes.ca

No.	REVISION	DATE	BY
5	REVISED PER NEW SITE PLAN	OCT 27/23	MS
4	EXTENDED 200mm DIA. WATERMAIN	APRIL 6/23	MS
3	REVISED PER ADDITIONAL CITY COMMENTS	MAR 27/23	MS
2	REVISED PER CITY COMMENTS	SEPT 2/22	MS
1	ISSUED FOR SITE PLAN APPROVAL	FEB 17/22	MS

SCALE 1:100

DESIGN	SM
CHECKED	MS
DRAWN	DWM / SM
CHECKED	SM
APPROVED	MS

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER M. SAVIC 100102651 10/27/23 PROVINCE OF ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
15 LARCH STREET

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 120251
REV REV # 5
DRAWING No. 120251-GP

D07-12-22-0027

PLAN #18698

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