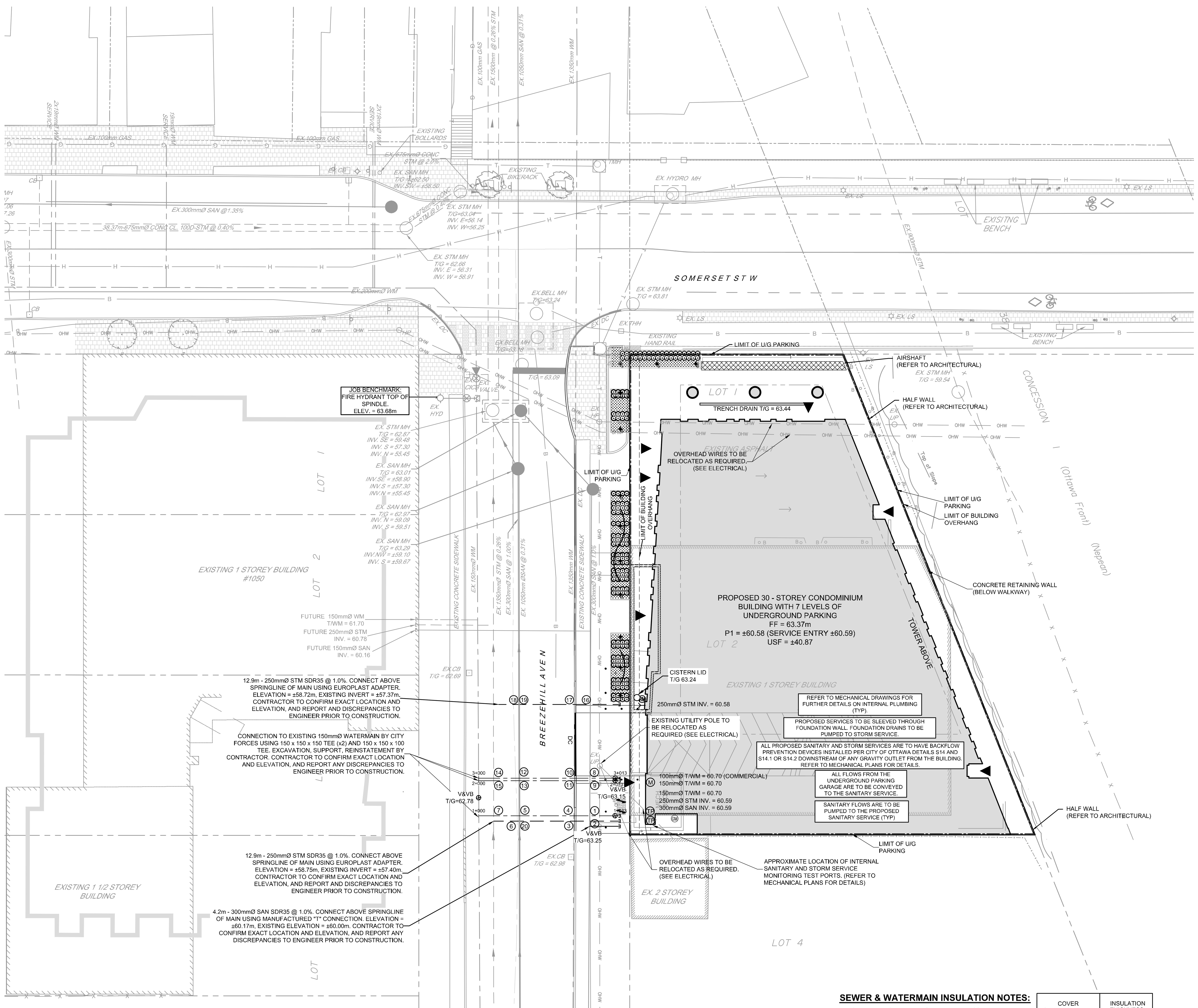


ANDREW MCCREIGHT
MANAGER (A), DEVELOPMENT REVIEW CENTRAL
PLANNING, REAL ESTATE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

APPROVED
By Andrew McCreight at 3:26 pm, Sep 15, 2022

NOT FOR CONSTRUCTION

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 THE CITY OF OTTAWA AND ENGINEER.
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. THE SITE BENCHMARK IS AT THE TOP OF THE SPINDLE FIRE HYDRANT LOCATED IN THE SOUTH-WEST CORNER OF THE BREEZEHILL AVE. N AND SUMMERSET ST W INTERSECTION (ELEV=63.68). REFER TO ANNIS, O'SULLIVAN VOLLEBEKK LTD. TOPOGRAPHIC PLAN OF PART OF LOTS 1,2 AND 3 EAST SIDE BREEZEHILL AVE NORTH PART OF BLOCK J, REGISTERED PLAN 73, CITY OF OTTAWA.
8) REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
9) REFER TO STORMWATER MANAGEMENT REPORT(R-2023-004, DATED MAR. 15, 2022) AND SERVICING DESIGN BRIEF (R-2013-003, DATED MAR. 15, 2022) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
10) SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
11) PROVIDE LINE/PARKING PAINTING.
12) CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL 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, VALVE AND HYDRANT LOCATIONS, T/WM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
13) REFER TO GEOTECHNICAL REPORT (NO. PG 2674-2 REVISION 4, DATED OCTOBER 4, 2021) PREPARED BY PATTERSON 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.
14) ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS. ONTARIO PROVINCIAL STANDARDS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.
15) ALL PRIVATE APPROACHES MUST BE CONSTRUCTED AS PER CITY SPECIFICATION SC13

SEWER NOTES:

1) SPECIFICATIONS:

ITEM		SPEC. No.	REFERENCE
SEWER SERVICE CONNECTION - RIGID PIPE		S 11	CITY OF OTTAWA
SEWER SERVICE ABANDONMENT		S 11.4	CITY OF OTTAWA
SEWER TRENCH -	BEDDING (GRANULAR A)		OPSD
	COVER (GRANULAR A OR GRANULAR B TYPE I, WITH MAXIMUM PARTICLE SIZE=25mm)		OPSD
STORM SEWER	PVC DR 35		
SANITARY SEWER	PVC DR 35		

2) INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 2.0m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
3) SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
4) AT LEAST 150 mm OF OPSS GRANULAR A SHOULD BE USED FOR BEDDING FOR SEWER AND WATER PIPES WHEN PLACED ON SOIL SUBGRADE. THE BEDDING SHOULD EXTEND TO THE SPRING LINE OF THE PIPE. COVER MATERIAL, FROM THE SPRING LINE TO AT LEAST 300 mm ABOVE THE OBVERT OF THE PIPE SHOULD CONSIST OF OPSS GRANULAR A (CONCRETE OR PSM PVC PIPES) OR SAND (CONCRETE PIPE). THE BEDDING AND COVER MATERIALS SHOULD BE PLACED IN MAXIMUM 225 MM THICK LIFTS COMPACTED TO A MINIMUM OF 95% OF THE MATERIAL'S SPMDD.
5) WHERE HARD SURFACE AREAS ARE CONSIDERED ABOVE THE TRENCH BACKFILL, THE TRENCH BACKFILL MATERIAL WITHIN THE FROST ZONE (ABOUT 1.8 m BELOW FINISHED GRADE) SHOULD MATCH THE SOILS EXPOSED AT THE TRENCH WALLS TO REDUCE THE POTENTIAL DIFFERENTIAL FROST HEAVING. THE TRENCH BACKFILL SHOULD BE PLACED IN MAXIMUM 300 mm THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE MATERIAL'S SPMDD.
6) 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.
7) EXCAVATION SIDE SLOPES ABOVE THE GROUNDWATER LEVEL EXTENDING TO A MAXIMUM DEPTH OF 3 m SHOULD BE CUT BACK AT 1H:1V OR FLATTER. THE FLATTER SLOPE IS REQUIRED FOR EXCAVATION BELOW GROUNDWATER LEVEL. THE SUBSOIL AT THIS SITE IS CONSIDERED TO BE MAINLY A TYPE 2 AND 3 SOIL ACCORDING TO THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS. SLOPES IN EXCESS OF 3 m IN HEIGHT SHOULD BE PERIODICALLY INSPECTED BY THE GEOTECHNICAL CONSULTANT IN ORDER TO DETECT IF THE SLOPES ARE EXHIBITING SIGNS OF DISTRESS.
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.
9) FULL PORT BACKWATER VALVES ARE REQUIRED ON THE SANITARY SERVICES. INSTALLED AS PER THE MANUFACTURES RECOMMENDATIONS AND A BACKWATER VALVE IS REQUIRED ON THE STORM SERVICES / FOUNDATION DRAINS FOR EACH BUILDING; INSTALLED AS PER STD. DWG S14.
10) CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS.
11) REINSTATE ALL EXISTING PAVEMENT, CURB AND BOULEVARDS AS PER CITY OF OTTAWA R10.
12) ALL EXISTING SANITARY AND STORM SERVICES ARE TO BE CAPPED AT THE PROPERTY LINE TO THE SATISFACTION OF THE CITY OF OTTAWA'S SEWER OPERATIONS.

WATERMAIN NOTES:

1) SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
CONNECTION DETAIL FROM EXISTING TO NEW WM	W25.1	CITY OF OTTAWA
WATERMAIN CROSSING OVER SEWER	W25.2	CITY OF OTTAWA
WATERMAIN (150mm)	PVC DR 18	
THERMAL INSULATED AT OPEN STRUCTURE	W23	CITY OF OTTAWA
WATER SERVICE INSTALATION AT SEWER CROSSING.	W38	CITY OF OTTAWA

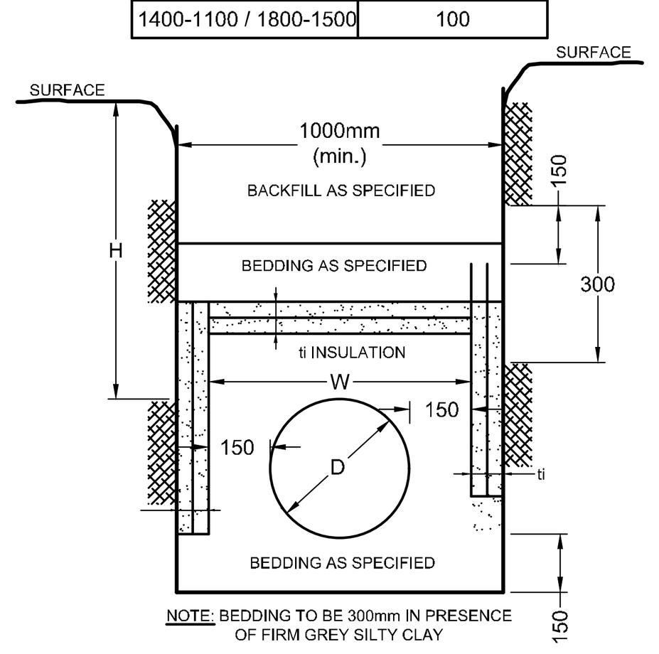
2) SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARD AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
3) WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED. OTHERWISE THERMAL INSULATION IS REQUIRED AS PER STD. DWG W22.
4) PROVIDE MINIMUM 0.50m CLEARANCE BETWEEN OUTSIDE OF PIPES WHEN CROSSING BELOW, AND 0.25m MINIMUM WHEN CROSSING ABOVE.
5) WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
6) ALL EXISTING WATER SERVICES TO BE BLANKED AT MAIN. EXCAVATION AND REINSTATEMENT BY CONTRACTOR.
7) AS AN EXTRA MEASURE, A MONITORING PROGRAM IS REQUIRED TO ENSURE THE LATERAL SUPPORT ZONE OF THE EX. 1372mmØ WATERMAIN HAS NOT BEEN IMPACTED. THE MONITORING PROGRAM WILL CONSIST OF INSTALLATION OF 2 UTILITY MONITORING POINTS INSTALLED DIRECTLY ON TOP OF THE 1,372 MM DIAMETER WATERMAIN. FURTHER, IT IS RECOMMENDED THAT TWO (2) INCLINOMETERS BE INSTALLED ADJACENT TO THE WATERMAIN AND THE WEST SHORING FACE FOR MONITORING LATERAL DEFLECTION. IN ADDITION, THE TEMPORARY SHORING SYSTEM SHOULD BE MONITORED BY ON A DAILY BASIS UNTIL TIE BACKS ARE STRESSED AND WEEKLY UNTIL THE FOUNDATION EXTENDS ABOVE EXTERIOR FINISHED GRADE. AN ALERT LEVEL FOR SETTLEMENT OF THE WATERMAIN GREATER THAN 3 MM SHOULD BE ASSESSED IMMEDIATELY. AN ACTION LEVEL FOR MOVEMENT OF 6 MM WILL REQUIRE IMMEDIATE INVESTIGATION AND POSSIBLE MITIGATION MEASURES. WEEKLY REPORTING INCLUDING INSPECTION FINDINGS AND RECOMMENDATIONS SHOULD BE PROVIDED TO THE OWNER AND THE CITY BY THE GEOTECHNICAL CONSULTANT.

SEWER & WATERMAIN INSULATION NOTES:

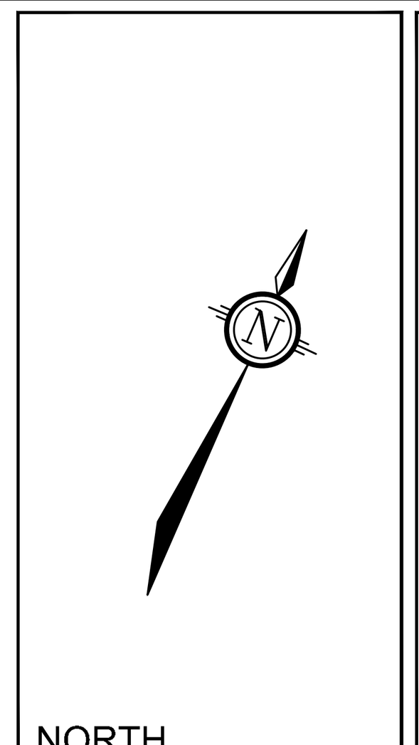
1. INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 2.0m COVER AND ALL WATERMAIN WITH LESS THAN 2.4m OF COVER WITH EXPANDED POLYSTYRENE INSULATION AS PER OPSD 1109.030.
2. THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER WITH 50mm MINIMUM (SEE TABLE)

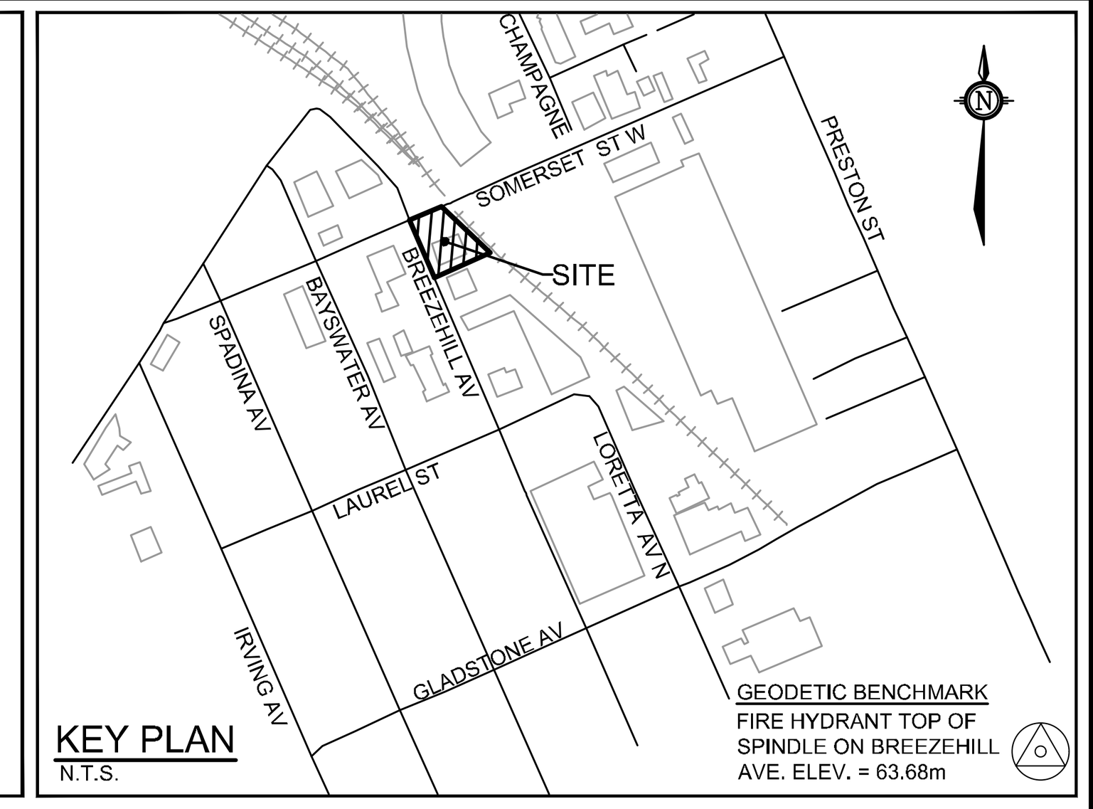
T = THICKNESS OF INSULATION (mm)
W = WIDTH OF INSULATION (mm)
W = D + 300 (1000 min.)
D = O.D OF PIPE (mm)

COVER SEWER / WATER (mm)	INSULATION THICKNESS (mm)
2000-1700 / 2400-2100	50
1700-1400 / 2100-1800	75
1400-1100 / 1800-1500	100



INSULATION DETAIL FOR SHALLOW SEWERS & WATERMAIN
N.T.S





KEY PLAN
N.T.S.

WATERMAIN TABLE (DUEL 100mm & 150mm)			
STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
2/3+000.0	62.78	±60.38✱	CONNECT TO EXISTING 150mmØ WATERMAIN
2/3+001.4	62.84	60.44	CROSS ABOVE EXISTING 1350mmØ STORM
2/3+003.9	62.94	60.54	CROSS ABOVE EXISTING 300mmØ SANITARY AS PER CITY DETAIL W25.2 (±0.25m CLEARANCE)
2/3+009.1	62.95	59.38	CROSS BELOW EXISTING 1350mmØ WATERMAIN
2/3+010.6	63.00	59.45	CROSS BELOW EXISTING 300mmØ SANITARY
2/3+013.1	63.15	60.75	STAND POST AT PROPERTY LINE
2/3+013.5	63.19	60.70	WATERMAIN CAP

WATERMAIN TABLE (150mmØ)			
STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
1+000.0	62.79	±60.39✱	CONNECT TO EXISTING 150mmØ WATERMAIN
1+001.1	62.81	±60.41	CROSS ABOVE EXISTING 1350mmØ STORM
1+005.0	62.94	60.60	CROSS ABOVE EXISTING 300mmØ SANITARY AS PER CITY DETAIL W25.2 (±0.30m CLEARANCE)
1+009.0	62.97	59.40	CROSS BELOW EXISTING 1350mmØ WATERMAIN
1+010.6	62.96	59.40	CROSS BELOW EXISTING 300mmØ SANITARY
1+012.8	63.25	60.75	STAND POST
1+013.5	63.26	60.70	WATERMAIN CAP

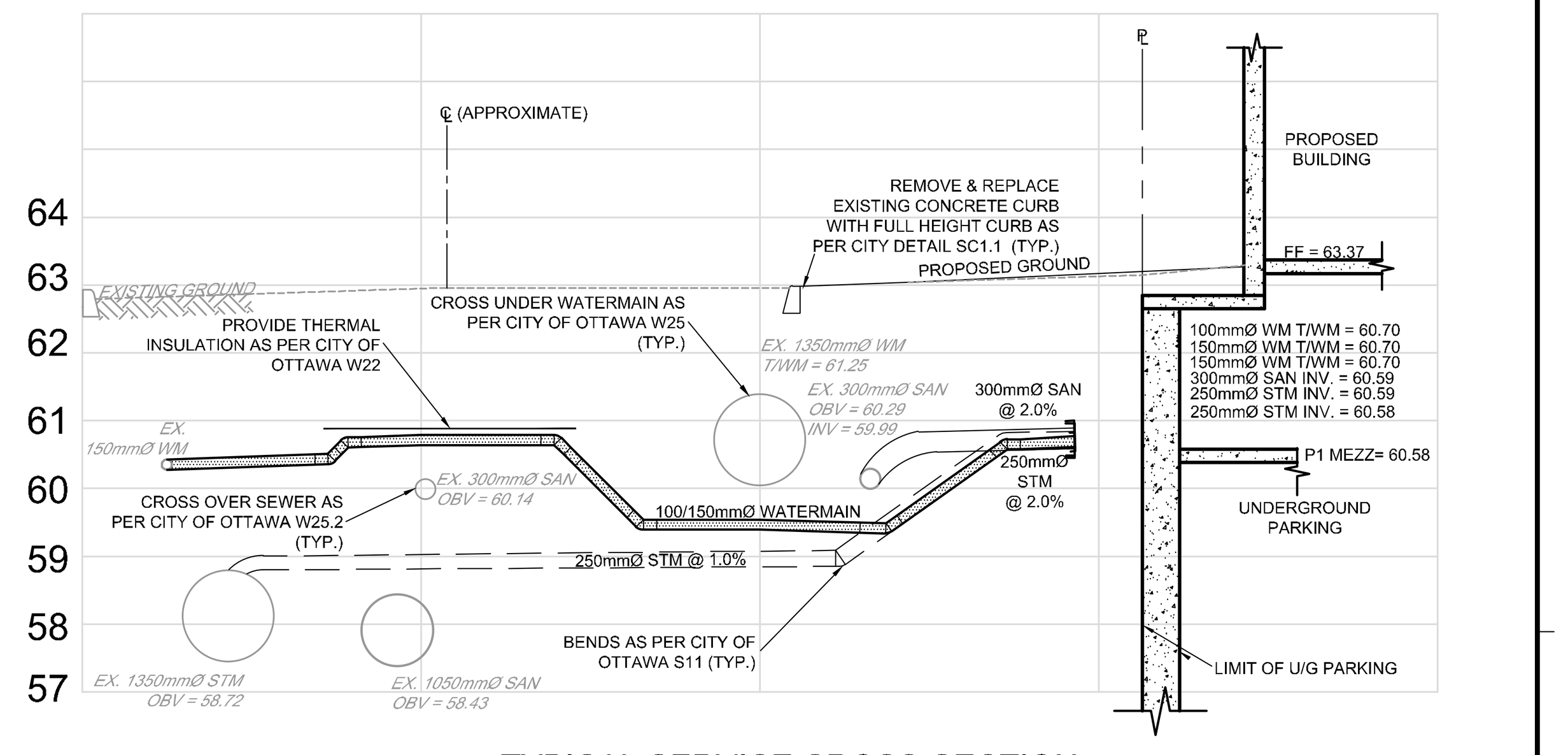
✱EXACT DEPTH OF EXISTING WATERMAIN TO BE DETERMINED AT TIME OF EXCAVATION, CONTRACTOR TO CONFIRM TOP OF WATERMAIN. PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W23 WHERE COVER IS LESS THAN 2.4m

PIPE CROSSING TABLE			
ID	LOWER PIPE	UPPER PIPE	CLEARANCE
1	150mmØ WM T/WM = 59.40	300mmØ SAN INV = 59.98	±0.50m
2	250mmØ STM OBV = 59.40	300mmØ SAN INV = 60.00	±0.91m
3	250mmØ STM OBV = 59.17	1350mmØ WM INV = ±59.90	±0.73m
4	150mmØ WM T/WM = 59.40	1350mmØ WM INV = ±59.90	±0.50m
5	300mmØ SAN OBV = 60.15	150mmØ WM INV = ±60.45	±0.30m
6	250mmØ STM OBV = 59.03	1050mmØ SAN INV = 59.62	±0.59m
7	1350mmØ STM OBV = 59.03*	150mmØ WM INV = 60.26	±1.20m
8	100mmØ WM T/WM = 59.45	300mmØ SAN INV = 59.95	±0.50m
9	150mmØ WM T/WM = 59.45	300mmØ SAN INV = 59.95	±0.50m
10	100mmØ WM T/WM = 59.38	1350mmØ WM INV = ±59.88	±0.50m
11	150mmØ WM T/WM = 59.38	1350mmØ WM INV = ±59.88	±0.50m
12	300mmØ SAN OBV = 60.14	100mmØ WM INV = 60.44	±0.30m
13	300mmØ SAN OBV = 60.14	150mmØ WM INV = 60.39	±0.25m
14	1350mmØ STM OBV = 58.92*	100mmØ WM INV = 60.34	±1.42m
15	1350mmØ STM OBV = 58.92*	150mmØ WM INV = 60.29	±1.37m
16	250mmØ STM OBV = 59.02	300mmØ SAN INV = 59.92	±0.90m
17	250mmØ STM OBV = 59.14	1350mmØ WM INV = ±60.03	±0.89m
18	250mmØ STM OBV = 58.77	300mmØ SAN INV = 59.77	±1.00m
19	1050mmØ SAN OBV = 58.59*	250mmØ STM INV = 58.84	±0.25m
20	1050mmØ SAN OBV = 58.62*	250mmØ STM INV = 58.87	±0.25m

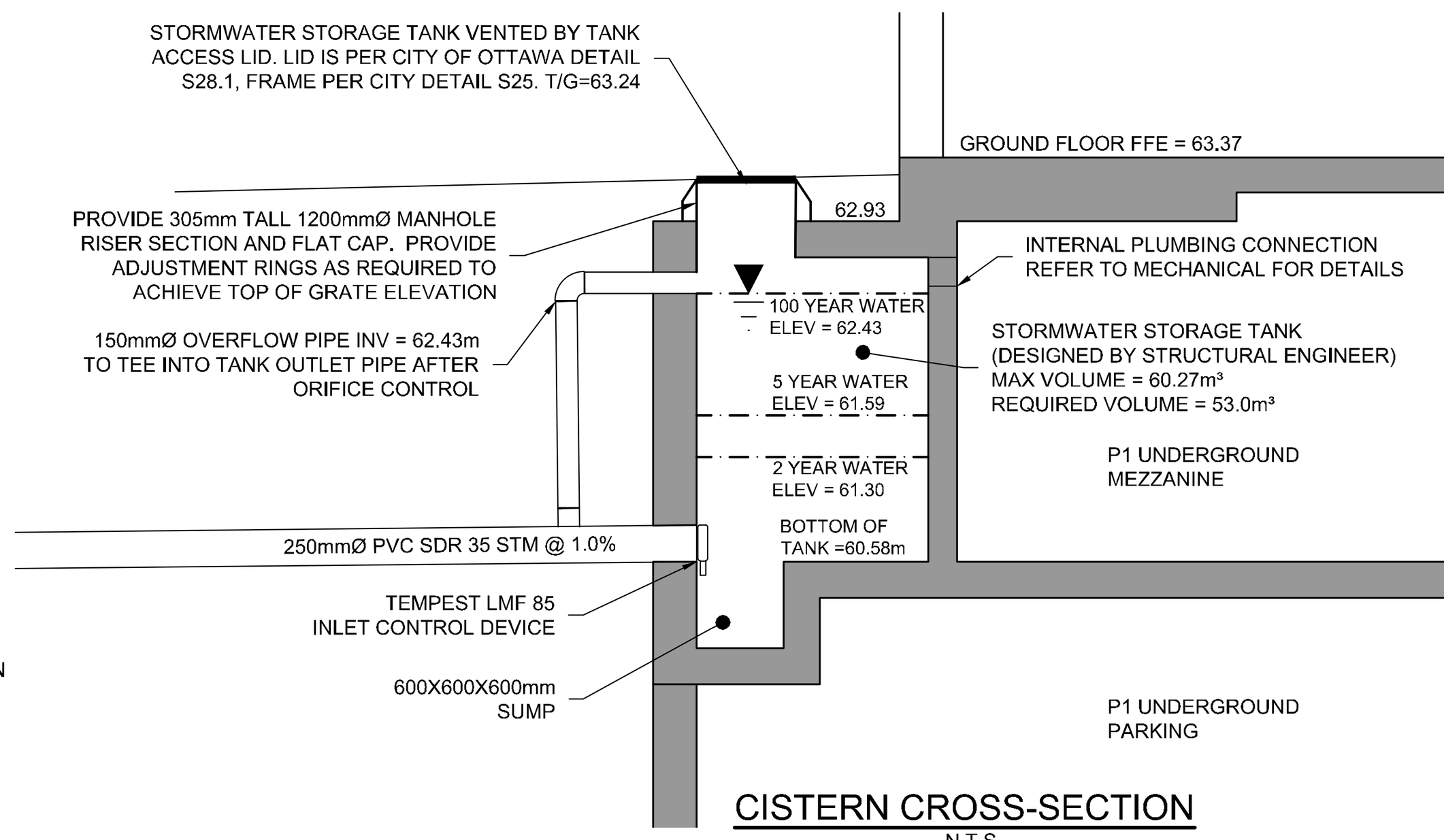
* INV/OBV INDICATED FOR CONCRETE PIPES ARE OUTER DIAMETER

LEGEND

- PROPERTY LINE
- PROPOSED LIMIT OF UNDERGROUND PARKING
- PROPOSED LIMIT OF BUILDING OVERHANG
- PROPOSED CURB
- DC — PROPOSED DEPRESSED CURB
- PROPOSED BOLLARDS
- PROPOSED TRENCH DRAIN
- 150mmØ — PROPOSED WATERMAIN AND DIAMETER
- V&VB — PROPOSED WATER VALVE LOCATION
- RM — PROPOSED REMOTE WATER METER
- PROPOSED SIAMESE CONNECTION
- PROPOSED CAP
- GM — PROPOSED GAS METER
- TP — PROPOSED SANITARY / STORM TEST PORT
- M — PROPOSED WATER METER
- PROPOSED BUILDING ENTRANCE
- DC — EXISTING DEPRESSED CURB
- EXISTING HYDRO TRANSFORMER
- B — EXISTING BOLLARD
- SP — EXISTING WATER STANDPIPE
- EX. LS — EXISTING LAMP POST
- T/V — EXISTING TOP OF VALVE
- T/G — EXISTING TOP OF GRATE
- EX.CB — EXISTING CATCH BASIN
- EXISTING FIRE HYDRANT
- SANMH — EXISTING SANITARY MANHOLE & SEWER
- STMMH — EXISTING STORM MANHOLE & SEWER
- 250mmØ WM — EXISTING WATERMAIN
- EX. V&VB — EXISTING VALVE & VALVE BOX
- T — EXISTING UNDERGROUND TELEPHONE CABLE
- G — EXISTING UNDERGROUND GAS
- OHW — EXISTING OVERHEAD WIRES
- H — EXISTING UNDERGROUND HYDRO
- B — EXISTING UNDERGROUND BELL
- EXISTING TREES / VEGETATION
- EXISTING CURB
- EX UP — EXISTING UTILITY POLE C/W GUY WIRES
- X — EXISTING FENCE



TYPICAL SERVICE CROSS-SECTION
1:100



CISTERN CROSS-SECTION
N.T.S

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.

CLARIDGE HOMES

CLARIDGE HOMES
SUITE 2001,
210 GLADSTONE AVENUE,
OTTAWA , ONTARIO
K2P 0Y6.

NOTE:
CONTRACTOR TO CONFIRM ELEVATIONS OF INFRASTRUCTURE IN THE STREET PRIOR TO EXTENDING SERVICES INTO THE SITE AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

No.	REVISION	DATE	BY
07.	ISSUED FOR COORDINATION	MAY 4/21	JAG
06.	ISSUED FOR COORDINATION	APR 29/21	JAG
05.	REVISED PER CITY COMMENTS	FEB 18/21	JAG
04.	ISSUED FOR COORDINATION	DEC 01/20	JAG
03.	REVISED PER CITY COMMENTS	AUG 24/15	JAG
02.	REVISED PER CITY COMMENTS	OCT 31/13	JAG
01.	ISSUED WITH SITE PLAN APPLICATION	JAN 31/13	GJM

SCALE 1:200

DESIGN JAG
CHECKED GJM/JGR
DRAWN MTM/BET
CHECKED JAG
APPROVED GJM/JGR

FOR REVIEW ONLY

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
1040 SOMERSET STREET WEST

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 112191-01
REV REV # 08
DRAWING No. 112191-GP

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