### **GENERAL NOTES:**

- 1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- 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.
- 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.
- 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 AND ARE REFERRED TO THE CGVD28 DATUM AND REFERENCES OLRT MONUMENT 20110154. BEARINGS ARE GRID AND ARE REFERED TO MTM ZONE 9 (76°30' WEST LONGITUDE) NAD-83 (ORIGINAL). THE SITE BENCHMARK IS A MAG NAIL IN SIDEWALK, AT THE NORTH CORNER OF THE SUBJECT SITE, WITH AN ELEVATION OF 69.33m. REFER TO ANNIS, O'SULIVAN, VOLLEBEKK TOPOGRAPHICAL PLAN OF SURVEY, LOT 16 (SOUTH ARGYLE AVENUE) REGISTERED PLAN 30, CITY OF OTTAWA.(AMENDED NOV 15, 2024 TO ILLUSTRATE BENCHMARK MAG IN SIDEWALK)
- 8. IF THE SITE BENCHMARK IS TO BE DISTURBED DURING CONSTRUCTION, THE LEGAL SURVEYOR FOR THIS PROJECT (AOV) IS TO BE RETAINED TO ESTABLISH A NEW SITE BENCHMARK.
- 9. REFER TO GEOTECHNICAL REPORT (PG7026), DATED APRIL 15, 2024, 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.
- 10. REFER TO HYDROGEOLOGICAL ASSESSMENT REPORT (ONCE AVAILABLE) FOR HYDROGEOLOGICAL ASPECTS OF THE SUBSURFACE CONDITIONS OF THE SITE.
- 11. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND DIMENSIONS.
- 12. REFER TO SERVICING AND STORMWATER MANAGEMENT BRIEF (R-2024-031), DATED DECEMBER 13, 2024, PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
- 13. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS. REFER TO CITY OF OTTAWA DRAWING R10 FOR DETAILS
- 14. PROVIDE LINE/PARKING PAINTING.
- 15. 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

### SEWER NOTES

SPECIFICATIONS: ITEM	SPEC. No.	REFERENCE
STORM / SANITARY MH FRAME & COVER SEWER TRENCH - BEDDING (GRANULAR A)	401.010	OPSD
- COVER (GRANULAR A OR GRANULAR B 1	TYPE I, WITH MAXIMU	IM PARTICLE SIZE=25mm)
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
CATCHBASIN LEAD	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% (2.0% PREFERRED).
- THE PIPE BEDDING FOR THE SEWER AND WATER PIPES SHOULD CONSIST OF AT LEAST 150 mm OF OPSS GRANULAR A. THE BEDDING LAYER THICKNESS SHOULD BE INCREASED TO A MINIMUM OF 300 mm WHERE THE SUBGRADE WILL CONSIST OF GREY SILTY CLAY, THE MATERIAL SHOULD BE PLACED IN A MAXIMUM 225 mm THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 99% OF ITS SPMDD. THE BEDDING MATERIAL SHOULD EXTEND AT LEAST TO THE SPRING LINE OF THE PIPE. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
- THE COVER MATERIAL, WHICH SHOULD CONSIST OF OPSS GRANULAR A, SHOULD EXTEND FROM THE SPRING LINE OF THE PIPE TO AT LEAST 300 mm ABOVE THE OBVERT OF THE PIPE. THE MATERIAL SHOULD BE PLACED IN MAXIMUM 225 mm THICK LIFTS AND COMPACTED TO A MINIMUM OF 99% OF ITS SPMDD.
- 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 MINIMIZE 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.
- 7. 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.
- 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. STORM MANHOLES AND CBMHS ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
- 10. A PRE-DEVELOPMENT CCTV INSPECTION WILL BE COMPLETED PRIOR TO CONSTRUCTION ACTIVITIES. 11. CONTRACTOR 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.

### WATERMAIN NOTES:

- 1. SPECIFICATIONS:
  - WATERMAIN TRENCHING THERMAL INSULATION IN SHALLOW TRENCHES WATERMAIN CROSSING BELOW SEWER/ABOVE SEWER WATERMAIN HYDRANT VALVE AND VALVE BOX
- SPEC. No. W17 REFERENCE CITY OF OTTAWA CITY OF OTTAWA W25 / W25.2 CITY OF OTTAWA PVC DR 18 CITY OF OTTAWA W18 / W19 CITY OF OTTAWA
- 2. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS 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.

W22

W24

- 3. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
- 4. PROVIDE MINIMUM 0.25m ABOVE, 0.50m IF BELOW, CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL WATERMAIN CROSSINGS.
- 5. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
- 6. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS, CITY OF OTTAWA STANDARD DETAILS W-39, W40, W41, W42, W43, AND W44.
- 7. PROVIDE THERMAL INSULATION FOR WATERMAIN AT OPEN STRUCTURES PER CITY OF OTTAWA STANDARD DETAIL W-23
- 8. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

### **GRADING NOTES:**

- - - GRADES SHOWN ON 123062-GR.

### EROSION AND SEDIMENT CONTROL NOTES

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

- MAINTAIN A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED.
- DURING CONSTRUCTION.



- 1. INSULATE ALL SEWER PIPES T THAN 2.0m COVER AND ALL WA
- LESS THAN 2.4m OF COVER WIT POLYSTYRENE INSULATION AS 1109 030
- 2. THE THICKNESS OF INSULATIO EQUIVALENT OF 25mm FOR EVE REDUCTION IN THE REQUIRED
- COVER WITH 50mm MINIMUM (S
- T = THICKNESS OF INSULATION (mm) W = WIDTH OF INSULATION (mm)
- W = D + 300 (1000 min.)D = O.D OF PIPE (mm)



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.

### 1. ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED PAVED AREAS AS DIRECTED BY THE SITE ENGINEER OR GEOTECHNICAL ENGINEER.

2. EXPOSED SUBGRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF GRANULARS

3. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.

4. MAXIMUM TERRACING GRADE TO BE 3:1 UNLESS OTHERWISE NOTED.

5. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.

6. ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER OPSD 600.040.

7. REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.

13. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING AS-BUILT ELEVATIONS OF ALL DESIGN

1) THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL SUCH AS BUT NOT LIMITED TO INSTALLING FILTER CLOTHS ACROSS MANHOLE/CATCHBASIN LIDS TO PREVENT SEDIMENTS FROM ENTERING STRUCTURES AND INSTALL AND

2) THE CONTRACTOR SHALL PLACE FILTER BAGS UNDER THE CATCHBASIN AND MANHOLE GRATES FOR THE DURATION OF CONSTRUCTION AND WILL REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION.

3) SILT FENCING FOR ENTIRE PERIMETER OF SITE, SHALL BE UTILIZED TO CONTROL EROSION FROM THE SITE

4) THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

5) PROVIDE MUD MATS AT ALL CONSTRUCTION ACCESS POINTS TO MINIMIZE SEDIMENT TRANSPORT OFFSITE.

6) EROSION AND SEDIMENT CONTROL MEASURES MAY BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR CONSERVATION AUTHORITY.

NOT TO SCALE

## **SEWER & WATERMAIN INSULATION NOTES:**

HAT HAVE LESS ATERMAIN WITH TH EXPANDED B PER OPSD	COVER SEWER / WATER (mm)	INSULATION THICKNESS (mm)
ON SHALL BE THE ERY 300mm DEPTH OF SEE TABLE)	2000-1700 / 2400-2100	50
	1700-1400 / 2100-1800	75
	1400-1100 / 1800-1500	100

### **INSULATION DETAIL FOR SHALLOW** SEWERS & WATERMAIN







1

SIDEWALK-

Z-24-48 -ZINC

CONCRETE SUPPORT 20 MPa TO UNDISTURBED GROUND

20mm CLEAR STONE 3000

TING JOINT OR CONNECTION TO

DATE: MAY

REV: MAR 20

DWG No: W19





OROFESSIONA,
G.J. MacDONALD
June 11, 2025



#19175









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EX.CB	E
мм	F

	123062	
EV		
	REV # 4	
RAWING No.		
123062-ESC		
ANA 1.DWG - 8	<sup>841mmx594mm</sup> #19175	



С	PROPOSED CAP	UNDERGROUND PARKING LIMIT	UNDER GROUND PARKING LIMIT
Ħ	PROPOSED AREA DRAIN	$\ominus \rightarrow$	EXISTING UTILITY POLE C/W GUY WIRES
BD 🔿	PROPOSED BI-LEVEL DRAIN	V&VC	EXISTING WATERMAIN C/W VALVE & VALVE CHAMBER
$\prec$	PROPOSED SIAMESE CONNECTION		EXISTING HYDRANT C/W VALVE & LEAD
			EXISTING SANITARY MANHOLE & SEWER
P		-O <sup>STM MH</sup>	EXISTING STORM MANHOLE & SEWER
	PROPOSED SEWER TEST PORT	CB 1 .	EXISTING CATCHBASIN
₪	PROPOSED WATER METER	LSO	EXISTING STREETLIGHT
RM	PROPOSED REMOTE WATER METER	OHW	EXISTING OVERHEAD HYDRO WIRE
(+)	PROPOSED TREE (REFER TO LANDSCAPE	— н —	EXISTING UNDERGROUND HYDRO
PLAN FOR DETAILS)	——— R ———	EXISTING UNDERGROUND ROGERS	
		— в —	EXISTING UNDERGROUND BELL



REV # 4

# #19175