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 DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
8. ALL ELEVATIONS ARE GEODETIC AND ARE REFEREED TO THE CGVD28 GEODETIC DATUM. BEARINGS ARE DERIVED FROM MTM ZONE 9 (NAD-83, ORIGINAL). PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO RETAIN A SURVEYOR TO PROVIDE A LOCAL SITE BENCHMARK.
9. REFER TO GEOTECHNICAL INVESTIGATION REPORT PROPOSED RESIDENTIAL DEVELOPMENT, 1100 SPOOR STREET (COPPERWOOD - BLOCK 73), OTTAWA ONTARIO, PG4258-3, (DATED MARCH 5, 2026), 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 ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND DIMENSIONS.
11. REFER TO THE STORMWATER MANAGEMENT REPORT No. R-2026-028, DATED **APRIL 08**, 2026, 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 AND R25).
13. PROVIDE LINE/PARKING PAINTING.
14. 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.
15. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.

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.	REFERENCE
SANITARY/STORM/CATCHBASIN MANHOLE (1200Ø)	701.010	OPSD
CATCHBASIN (600x600)	705.010	OPSD
CATCHBASIN FRAME AND COVER	400.020	OPSD
STORM/SANITARY MH FRAME	S25	CITY OF OTTAWA
SANITARY COVER	S24	CITY OF OTTAWA
STORM COVER (CLOSED)	S24.1	CITY OF OTTAWA
STORM COVER (OPEN)	S28.1	CITY OF OTTAWA
SEWER TRENCH	S6 & S7	CITY OF OTTAWA
STORM SEWER < 450mmØ	PVC DR 35(UNLESS SPECIFIED OTHERWISE)	
STORM SEWER >= 450mmØ	CONC 65D (UNLESS SPECIFIED OTHERWISE)	
SANITARY SEWER (	PVC DR 35	
CATCHBASIN LEAD	PVC DR 35	
CATCHBASIN COVER	S19	CITY OF OTTAWA
WATERTIGHT FRAME & COVER	401.030	OPSD

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 (REFER TO DETAIL)
3. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0% (2.0% PREFERRED)
4. ALL STORM AND SANITARY LATERALS SHALL BE EQUIPPED WITH BACKFLOW PREVENTION DEVICES AS PER THE CITY OF OTTAWA STANDARD DETAILS S14 AND S14.1 OR S14.2.
5. A MINIMUM OF 150 mmOF OPSS GRANULAR A SHOULD BE PLACED FOR BEDDING FOR SEWER OR WATER PIPES WHEN PLACED ON A SOIL SUBGRADE. THE BEDDING SHOULD EXTEND TO THE SPRING LINE OF THE PIPE. COVER MATERIAL, FROM THE SPRING LINE TO A MINIMUM OF 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 AND COMPACTED TO 98% OF THE SPMDD.
6. THE BACKFILL MATERIAL WITHIN THE FROST ZONE (ABOUT 1.8m BELOW FINISHED GRADE) SHOULD MATCH THE SOILS EXPOSED AT THE TRENCH WALLS TO REDUCE POTENTIAL DIFFERENTIAL FROST HEAVING. THE BACKFILL SHOULD BE PLACED IN MAXIMUM 300mm THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS SPMDD. ALL COBBLES LARGER THAN 200 MM IN THEIR LONGEST DIRECTION SHOULD BE SEGREGATED FROM RE-USE AS TRENCH BACKFILL.
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. ALL STORM MANHOLES WITH PIPE SIZES LESS THAN 900mm ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
9. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS 200mm OR GREATER IN DIAMETER PRIOR TO BASE COURSE ASPHALT TO ENSURE THAT THEY ARE CLEAN AND OPERATIONAL. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES AND RE CCTV PRIOR TO ACCEPTANCE. OBTAIN APPROVAL FROM THE CITY'S SEWER OPERATIONS. PROVIDE THE CCTV INSPECTION AND REPORT TO THE ENGINEER FOR REVIEW AND APPROVAL.
10. 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.
11. 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.
12. ALL CATCHBASINS AND CATCHBASIN MANHOLES TO BE PROVIDED WITH MINIMUM 3 METER LONG PERFORATED SUBDRAINS EXTENDING IN TWO DIRECTIONS 300mm BELOW THE SUBGRADE LEVEL. SUBDRAIN IS TO BE PROVIDED AT THE TRANSITIONS BETWEEN DIFFERENT PAVEMENT COMPOSITIONS. THE SUBGRADE SURFACE SHOULD BE SHAPED TO PROMOTE WATER FLOW TO THE DRAINAGE LINES.
11. ALL WORKS SHALL BE PERFORMED AS APPLICABLE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SPECIFICATIONS, AND IN PARTICULAR O.P.S.S. 407 AND 410.

PAVEMENT STRUCTURE:

- ACCESS LANES AND HEAVY-TRUCK PARKING AREAS
40mm WEAR COURSE - SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm BINDER COURSE - SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm BASE - OPSS GRANULAR A CRUSHED STONE
450mm SUBBASE - OPSS GRANULAR B TYPE II

- CAR ONLY PARKING AREAS
50mm WEAR COURSE - SUPERPAVE 12.5 ASPHALTIC CONCRETE
150mm BASE - OPSS GRAN "A" CRUSHED STONE
300mm SUBBASE - OPSS GRAN "B" TYPE II

NOTE:
- MINIMUM PERFORMANCE GRADED (PG) 58-34 ASPHALT CEMENT.
- SUBGRADE - EITHER FILL, IN SITU SOIL OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN SITU SOIL OR FILL.

REFER TO GEOTECHNICAL REPORT FOR SUBSURFACE CONDITIONS AND CONSTRUCTION RECOMMENDATIONS

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
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN CROSSING ABOVE SEWER	W25.2	CITY OF OTTAWA
HYDRANT	WSD-24	CITY OF OTTAWA
VALVE AND VALVE BOX	WSD-19	CITY OF OTTAWA
WATERMAIN	PVC DR 18	

3. 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. ANY WATERMAIN WITH LESS THAN 2.4m COVER TO BE INSULATED PER THE SEWER AND WATERMAIN NOTES AND DETAIL.
4. PROVIDE MINIMUM CLEARANCE, BETWEEN OUTSIDE OF PIPES, AT ALL CROSSINGS AS PER CITY DETAILS W25 AND W25.2. WATERMAIN MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.50m BETWEEN SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
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 WSD-39, 40, 41, 42, 43 AND 44.
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:

1. ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED BUILDING AND PAVED AREAS.
2. EXPOSED SUB-GRADES 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. NON-SPECIFIED EXISTING FILL, ALONG WITH SITE-EXCAVATED SOIL, CAN BE USED AS GENERAL LANDSCAPING FILL WHERE SETTLEMENT OF THE GROUND SURFACE IS OF MINOR CONCERN. IN LANDSCAPED AREAS, THESE MATERIALS SHOULD BE SPREAD IN THIN LIFTS AND AT LEAST COMPACTED BY THE TRACKS OF THE SPREADING EQUIPMENT TO MINIMIZE VOIDS. IF THESE MATERIAL ARE TO BE USED TO BUILD UP THE SUBGRADE LEVEL FOR AREAS TO BE PAVED, THEY SHOULD BE COMPACTED IN THIN LIFTS TO AT LEAST 95% OF THE MATERIAL'S SPMDD. NON-SPECIFIED EXISTING FILL AND SITE-EXCAVATED SOILS ARE NOT SUITABLE FOR USE AS BACKFILL AGAINST FOUNDATION WALLS UNLESS USED IN CONJUNCTION WITH A COMPOSITE DRAINAGE MEMBRANE.
4. THE PAVEMENT GRANULAR BASE AND SUBBASE SHOULD BE PLACED IN MAXIMUM 300 MM THICK LIFTS AND COMPACTED TO A MINIMUM OF 99% OF THE SPMDD USING SUITABLE VIBRATORY EQUIPMENT.FOR AREAS WHERE THE BEDROCK SURFACE CONFLICTS WITH THE RECOMMENDED PAVEMENT STRUCTURE, THEN THE SUBBASE LAYER CAN BE REDUCED TO 150 MM THICKNESS PROVIDED THAT THE BEDROCK SURFACE IS SUITABLE FRAGMENTED/FRACTURED. THE UPPER 300 MM OF THE BEDROCK SURFACE SHOULD BE REVIEWED AND APPROVED BY PATERSON PRIOR TO PLACING THE BASE AND SUBBASE MATERIALS.
5. BACKFILL MATERIAL BELOW SIDEWALKS AND WALKWAY SUBGRADE AREAS THROUGHOUT THE SUBJECT SITE, INCLUDING ALONG THE BUILDINGS, SHOULD BE PROVIDED WITH A MINIMUM 300 MM THICK LAYER OF OPSS GRANULAR A OR OPSS GRANULAR B TYPE II CRUSHED STONE. THIS MATERIAL SHOULD BE PLACED IN MAXIMUM 300 MM THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE MATERIALS SPMDD.
6. IF SOFT SPOTS DEVELOP IN THE SUBGRADE DURING COMPACTION OR DUE TO CONSTRUCTION TRAFFIC, THE AFFECTED AREAS SHOULD BE EXCAVATED AND REPLACED WITH OPSS GRANULAR B TYPE II MATERIAL. WEAK SUBGRADE CONDITIONS MAY BE EXPERIENCED OVER SERVICE TRENCH FILL MATERIALS. THIS MAY REQUIRE THE USE OF A GEOTEXTILE, SUCH AS TERRATRACK 200 OR EQUIVALENT THICKER SUBBASE OR OTHER MEASURES THAT CAN BE RECOMMENDED AT THE TIME OF CONSTRUCTION AS PART OF THE FIELD OBSERVATION PROGRAM.
7. ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED. REFER TO CITY OF OTTAWA DETAIL SC1.1.
8. GRADE AND/OR FILL BEHIND PROPOSED CURB AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
9. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED
10. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
11. REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
12. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING THE AS-BUILT ELEVATION OF EVERY DESIGN GRADE SHOWN ON THIS PLAN.
13. ASENSITIVE MARINE CLAY TO BE REMOVED AND REPLACED WITH ENGINEERING FILL AS DIRECTED GEOTECHNICAL CONSULTANT.

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.

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

TYPICAL SERVICING NOTES:

1. NO HORIZONTAL BENDS IN RIGHT-OF-WAY UNLESS OTHERWISE APPROVED BY THE CITY. MAXIMUM OF TWO 22.5° HORIZONTAL BENDS FOR SANITARY AND STORM SERVICES.
2. 1.0 % MINIMUM SANITARY AND STORM SERVICE GRADIENT WITH 2% PREFERRED.
3. SEE S7 FOR PIPE FOUNDATION, EMBEDMENT AND FINAL BACKFILL REQUIREMENTS.
4. MULTIPLE TAPS WITH SADDLES IN PVC WATERMAIN SHALL BE STAGGERED AND MINIMUM 600mm APART.
5. ELEVATION OF SERVICES VARIABLE DEPENDING ON GRADIENT AND/OR DEPTH OF COVER.
6. ALL DIMENSIONS ARE IN MILLIMETERS.
7. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING AS-BUILT ELEVATIONS OF ALL DESIGN GRADES SHOWN ON THIS PLAN.
8. GRADE AND/OR FILL BEHIND PROPOSED CURB AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
9. REFER TO ELECTRICAL DESIGN FOR UTILITY LOCATIONS.

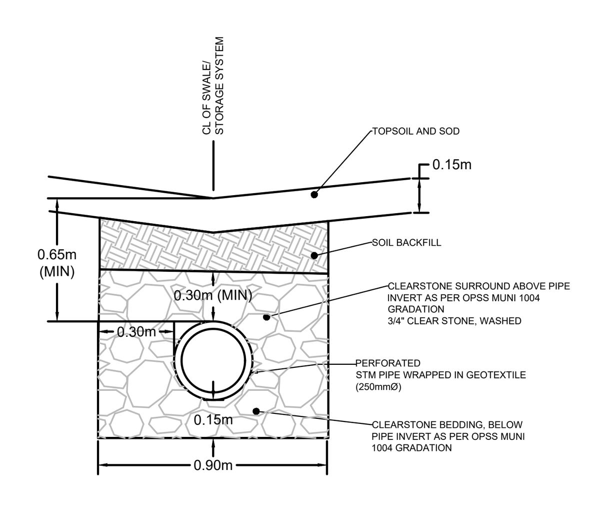
PROPOSED 200mmØ WATERMAIN (1+000.0)

STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
1+000.0	87.00	84.60	300mmX200mm TEE
1+002.9	87.09	84.69	CROSS ABOVE 200mmØ SAN (±0.97mm CLEARANCE)
1+005.2	87.04	85.46	CROSS ABOVE 900mmØ STM AS PER CITY OF OTTAWA STANDARD W25.2 (±0.50 CLEARANCE)
1+011.4	87.16	84.79	5° HORIZONTAL BEND
1+014.9	87.42	84.85	200mmØ VALVE AND VALVE BOX
1+022.9	87.25	84.85	CROSS BELOW 250mmØ CB LEAD (±1.06 CLEARANCE)
1+030.3	87.45	85.70	CROSS ABOVE PROPOSED 135mm SANITARY SERVICE PER W25.2 (±0.50m CLEARANCE)
1+047.9	87.44	85.62	CROSS ABOVE PROPOSED 135mm SANITARY SERVICE PER W25.2 (±0.50m CLEARANCE)
1+059.0	87.45	84.81	CROSS BELOW 250mmØ CB LEAD (±0.50 CLEARANCE)
1+071.0	87.41	85.56	CROSS ABOVE PROPOSED 135mm SANITARY SERVICE PER W25.2 (±0.50m CLEARANCE)
1+086.5	87.49	85.49	CROSS ABOVE PROPOSED 135mm SANITARY SERVICE PER W25.2 (±0.50m CLEARANCE)
1+091.7	87.49	85.09	CROSS ABOVE 200mmØ SAN (±0.31m CLEARANCE)
1+091.8	87.48	85.13	45° HORIZONTAL BEND
1+093.0	87.50	85.12	200mmX150mm TEE (HYD)
1+094.3	87.51	85.14	45° HORIZONTAL BEND
1+098.0	87.54	85.42	CROSS ABOVE PROPOSED 135mm SANITARY SERVICE PER W25.2 (±0.50m CLEARANCE)
1+130.3	87.51	85.12	22.5° HORIZONTAL BEND
1+141.3	87.76	85.37	22.5° HORIZONTAL BEND
1+147.0	87.77	85.47	DMA CHAMBER AS PER CITY OF OTTAWA STANDARD W3
1+150.6	87.70	85.30	11.25° HORIZONTAL BEND
1+157.8	87.53	85.13	CROSS ABOVE 1500mmØ STM (±0.98m CLEARANCE)
1+160.0	87.55	85.15	CROSS ABOVE 375mmØ SAN (±3.42m CLEARANCE)
1+163	87.46	85.06	300mmX200mm TEE

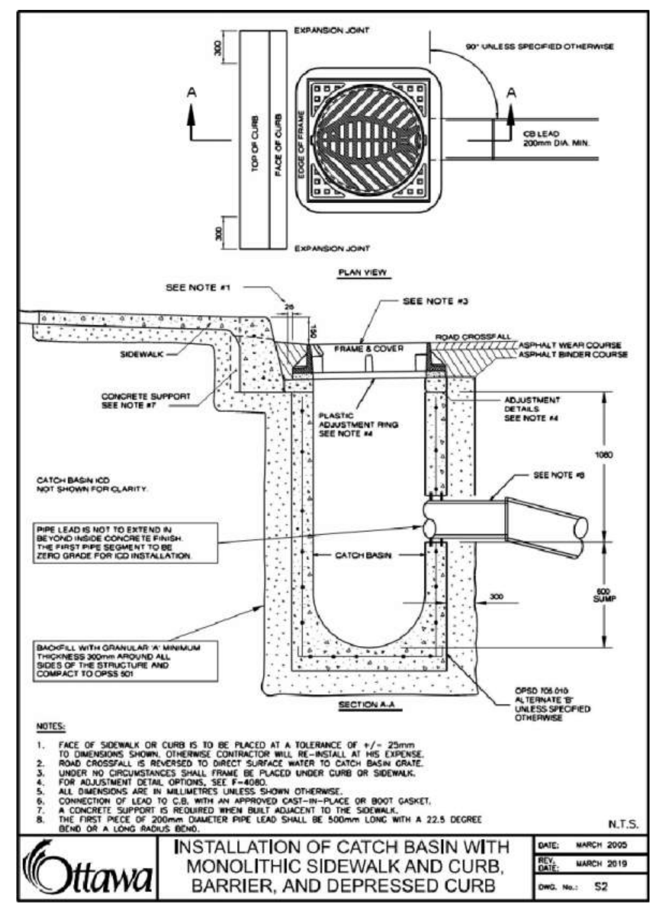
PIPE CROSSING TABLE

CROSSING	LOWER PIPE	HIGHER PIPE	CLEARANCE
1	200mmØ SAN OBV = 83.57	200mmØ WM INV = 84.54	±0.97m
2	900mmØ STM OBV =84.76*	200mmØ WM INV = 85.26	±0.50m
3	200mmØ WM OBV =84.85	250mmØ CB LEAD INV = 85.91	±1.06m
4	200mmØ WM OBV =84.81	250mmØ CB LEAD INV = 85.31	±0.32m
5	200mmØ SAN OBV =84.78	200mmØ WM INV =85.09	±0.31m
6	1500mmØ STM OBV = 83.95*	200mmØ WM INV =84.93	±0.98m
7	375mmØ SAN OBV = 81.53	200mmØ WM INV =84.95	±3.42
8	1500mmØ STM OBV = 84.02	200mmØ SAN INV =84.20	±0.18

* INV/OBV INDICATED FOR CONCRETE PIPES ARE OUTER DIAMETER



PERFERATED PIPE TRENCH DETAIL
N.T.S

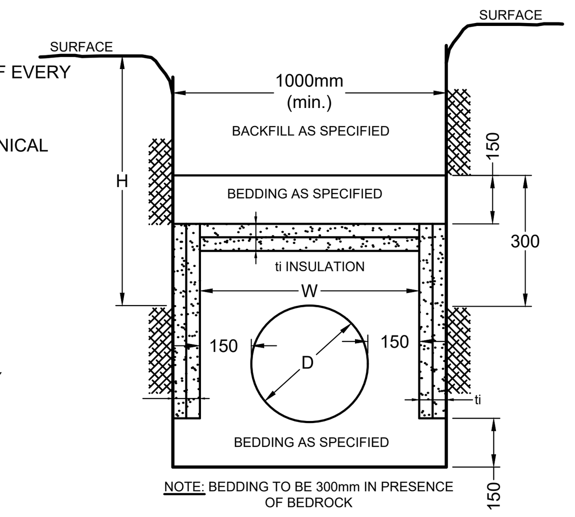


SEWER & WATERMAIN INSULATION NOTES:

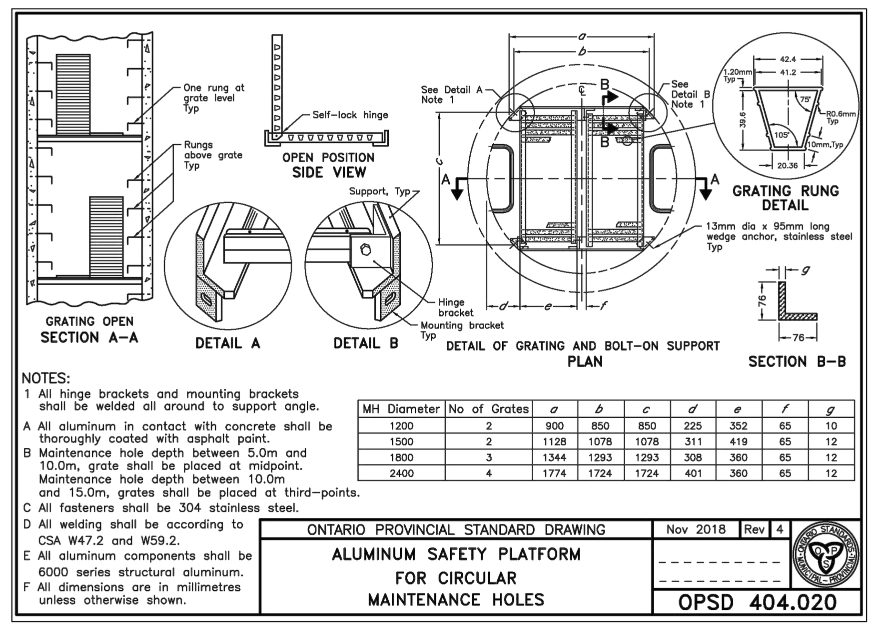
1. INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 2.0m COVER AND ALL WATERMAIN WITH LESS THAN 2.4m OF COVER WITH EXPANDED POLYSTYRENE INSULATION AS PER OPSD 1109.030.
2. THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER WITH 50mm MINIMUM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

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

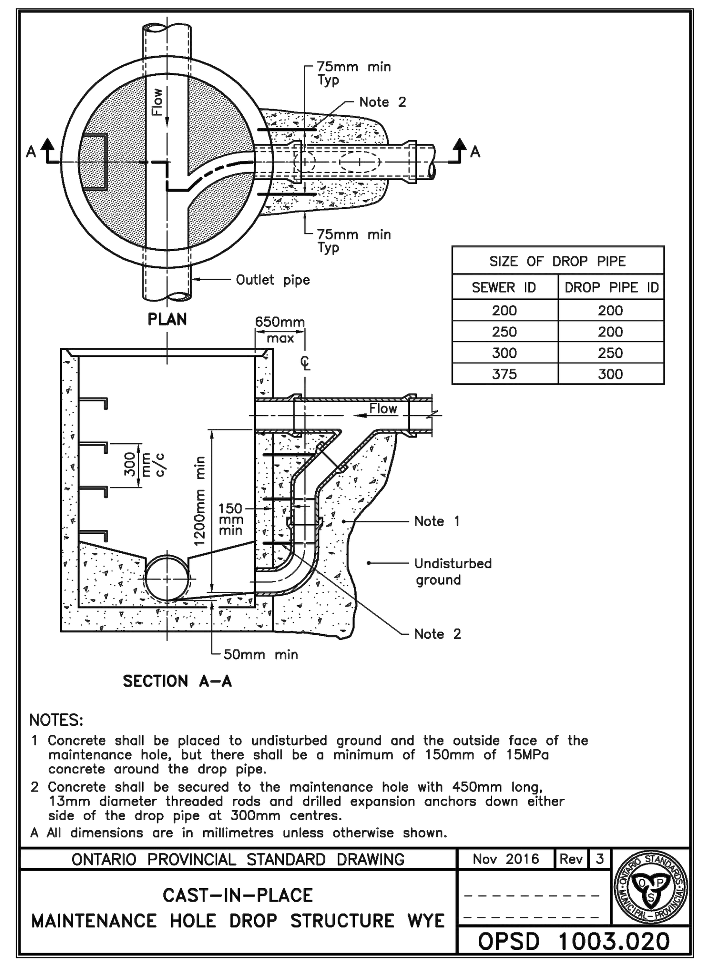
COVER SEWER / WATER (mm)	INSULATION THICKNESS (mm)
2000-1700 / 2400-2100	50
1700-1400 / 2100-1800	75
1400-1100 / 1800-1500	100



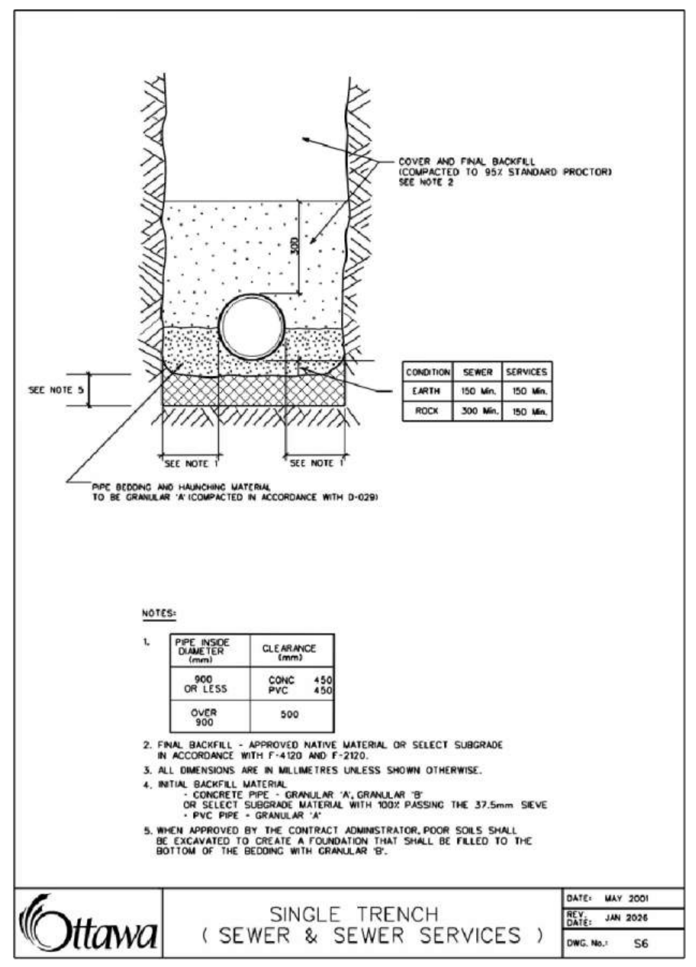
INSULATION DETAIL FOR SHALLOW SEWERS & WATERMAIN
N.T.S

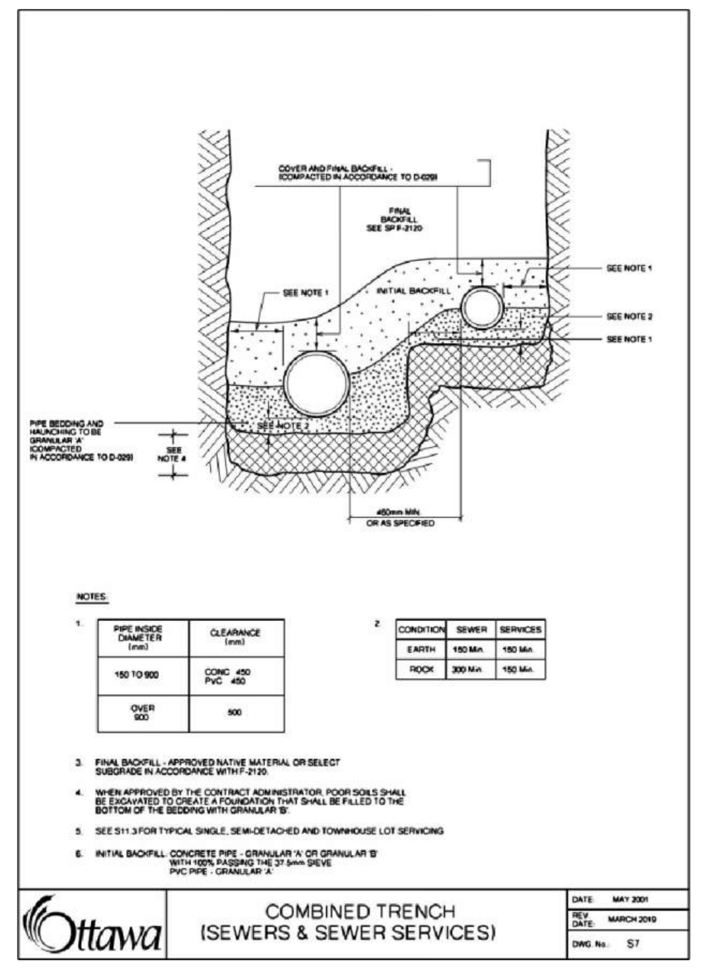


MH Diameter	No of Grates	a	b	c	d	e	f	g
1200	2	900	850	850	225	352	65	10
1500	2	1128	1078	1078	311	419	65	12
1800	3	1344	1293	1293	308	360	65	12
2400	4	1774	1724	1724	401	360	65	12



SIZE OF DROP PIPE	
SEWER ID	DROP PIPE ID
200	200
250	200
300	250
375	300





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.

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
1.	ISSUED FOR SPA	APRIL 08/2026	ARM

SCALE: AS SHOWN

DESIGN: ARM
DRAWN: AM
CHECKED: ARM
APPROVED: GJM

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
A. R. MESTWARP
100201604
April 8/2026
PROVINCE OF ONTARIO

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LOCATION
1100 SPOOR STREET, CITY of OTTAWA
COPPERWOOD ESTATES (BLOCK 73)

DRAWING NAME
NOTES AND DETAILS

PROJECT No. 125113
REV: REV #1
DRAWING No. 125113-ND1

M:\2025\125113\CAD\Civil\125113-ND.dwg, ND1, Apr 07, 2026 - 11:06am, amusyaju

PLANA1.DWG - 841mmx594mm