

200mmØ WATERMAIN TABLE				
STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION	
0+00	82.70	880.30	TEE CONNECTION TO EXISTING 200mmØ WATERMAIN	
0+09	82.82	80.42	45° HORIZONTAL BEND	
0+12.9	82.85	80.45	V&VB @ PROPERTY LINE	
0+15	82.86	80.55	45° HORIZONTAL BEND	
0+20	83.15	80.75	CROSS BELOW 200mmØ STM SEWER (CLEARANCE = 0.85m)	
0+23.5	83.30	80.80	50mmØ SERVICE (1+00)	
0+25	83.35	80.85	---	
0+50	83.25	80.85	---	
0+54.2	83.24	80.84	CROSS BELOW 375mmØ STM SEWER (CLEARANCE = 0.80m)	
0+57.7	83.23	80.83	50mmØ SERVICE (2+00)	
0+64.4	83.16	80.76	CROSS BELOW 375mmØ STM SEWER (CLEARANCE = 0.85m)	
0+67.7	83.14	80.74	CROSS BELOW 200mmØ STM SEWER (CLEARANCE = 0.95m)	
0+75	83.18	80.78	---	
0+79.1	83.19	80.79	200x200x150 TEE - FIRE HYDRANT LEAD (4+00)	
0+98	83.38	80.98	50mmØ SERVICE (5+00)	
0+99	83.39	80.99	50mmØ SERVICE (6+00)	
0+100	83.40	81.00	200mmØ CAP AND THURSTBLOCK	

* 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 W22 WHERE COVER IS LESS THAN 2.4m

150mmØ FIRE HYDRANT LEAD				
STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION	
4+00	83.19	80.79	200x200x150 TEE - FIRE HYDRANT LEAD (0+79.1)	
4+02.7	83.52	81.00	CROSS BELOW 600mmØ STM SEWER (CLEARANCE = 0.50m)	
4+04.7	83.58	81.15	FIRE HYDRANT	

50mmØ WATER SERVICE TABLE				
STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION	
1+00	83.30	80.30	50mmØ SERVICE (0.23.5)	
1+02.3	83.50	80.95	50mmØ STAND POST	
1+03.3	83.60	80.95	50mmØ CAP FOR BUILDING SERVICE	
2+00	83.23	80.83	50mmØ SERVICE (0.57.7)	
2+25	83.33	81.13	---	
2+28.9	83.48	81.08	CROSS ABOVE 200mmØ SAN SEWER (CLEARANCE = 0.40m)	
2+45	83.68	81.15	50mmØ STAND POST	
2+47.6	83.65	81.15	50mmØ CAP FOR BUILDING SERVICE	
3+00	83.68	81.15	50mmØ CAP FOR BUILDING SERVICE	
3+19.6	83.37	80.97	CROSS BELOW 200mmØ STM SEWER (CLEARANCE = 1.05m)	
3+19.7	83.45	81.05	CROSS ABOVE 200mmØ SAN SEWER (CLEARANCE = 0.33m)	
3+25	83.58	81.15	---	
3+31.5	83.65	81.25	50mmØ STAND POST	
3+33.1	83.75	81.25	50mmØ CAP FOR BUILDING SERVICE	
5+00	83.38	80.98	50mmØ SERVICE (0+98)	
5+25	83.38	80.98	---	
5+44	84.10	81.70	50mmØ STAND POST	
5+47.9	84.47	81.95	50mmØ CAP FOR BUILDING SERVICE	
6+00	83.38	80.98	50mmØ SERVICE (0+98)	
6+02.7	83.45	81.26	CROSS BELOW 600mmØ STM SEWER (CLEARANCE = 0.45m)	
6+05.1	83.48	81.41	CROSS ABOVE 200mmØ SAN SEWER (CLEARANCE = 0.25m)	
6+09	83.55	81.30	50mmØ STAND POST	
6+09.8	83.65	81.25	50mmØ CAP FOR BUILDING SERVICE	

** WATERMAIN CROSSING ABOVE SANITARY SEWER AS PER CITY OF OTTAWA STANDARD DETAIL W25.2. PROVIDE ADEQUATE INSULATION AS PER CITY OF OTTAWA STANDARD DETAIL W22

WATERMAIN NOTES:

- SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH ALL CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS, SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
- SPECIFICATIONS:
ITEM WATERMAIN TRENCHING
THERMAL INSULATION IN SHALLOW TRENCHES
THERMAL INSULATION OF WATERMAIN
AT OPEN STRUCTURES
WATERMAIN CROSSING BELOW SEWER
HYDRANT INSTALLATION
WATERMAIN 150mmØ AND LARGER
WATERMAIN 50mmØ AND SMALLER
REFERENCE
W17 CITY OF OTTAWA
W22 CITY OF OTTAWA
W23 CITY OF OTTAWA
W25 CITY OF OTTAWA
W19 CITY OF OTTAWA
PVC DR 18
PEX SDR 9
- WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
- WATER SERVICES ARE TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

TEE CONNECTION TO EXISTING 200mmØ WATERMAIN STUB BY CITY FORCES. EXCAVATION AND REINSTATEMENT BY CONTRACTOR. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF EXISTING WATERMAIN. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.

CONNECT TO EXISTING 600mmØ CSP CULVERT WITH NEW CBMH 1. CONTRACTOR TO CONFIRM EXACT LOCATION AND ELEVATION OF EXISTING CULVERT. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.

EX. 600mmØ INVERT = 81.25m

EX. 600mmØ CONC. CULVERT

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AREA A2 - INLET CONTROL DEVICE DATA - CB 1				
DESIGN EVENT	IPEX TEMPEST MODEL	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	SURFACE PONDING (m)
1.5 YR	LMF - VORTEX ICD	200	4.0	1.38
1:100 YR	LMF - VORTEX ICD	200	4.1	1.47

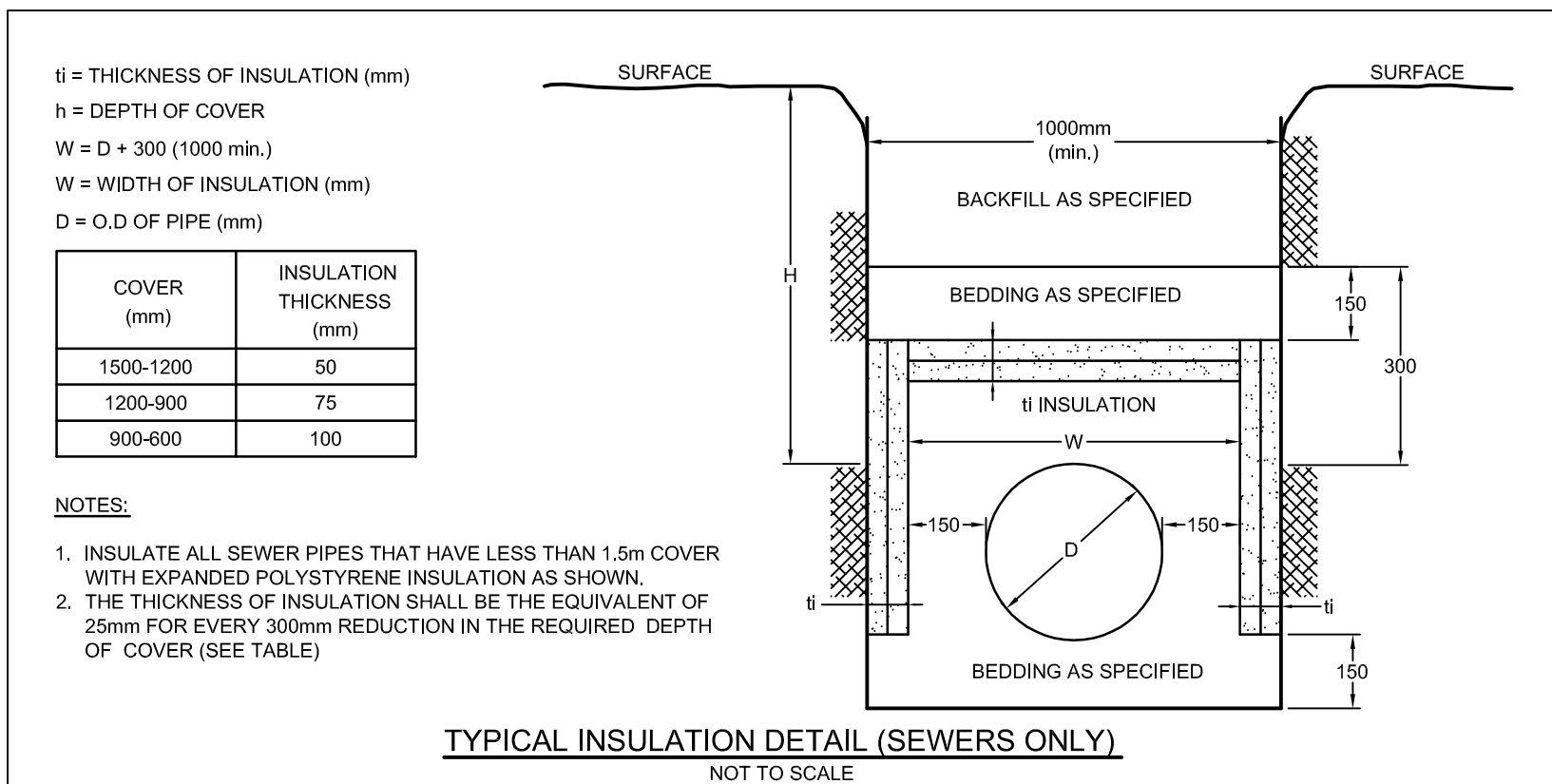
AREA A3 - INLET CONTROL DEVICE DATA - STM MH 2				
DESIGN EVENT	IPEX TEMPEST MODEL	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	SURFACE PONDING (m)
1.5 YR	LMF - VORTEX ICD	300	4.3	1.52
1:100 YR	LMF - VORTEX ICD	300	4.4	1.59

AREA A4 - INLET CONTROL DEVICE DATA - STM MH 3				
DESIGN EVENT	IPEX TEMPEST MODEL	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	SURFACE PONDING (m)
1.5 YR	PLUG ICD-112mm Ø ORIFICE	375	22.2	0.67
1:100 YR	PLUG ICD-112mm Ø ORIFICE	375	33.9	1.55

AREA A5 - INLET CONTROL DEVICE DATA - STM MH 4				
DESIGN EVENT	IPEX TEMPEST MODEL	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	SURFACE PONDING (m)
1.5 YR	PLUG ICD - 78mm Ø ORIFICE	375	15.9	1.46
1:100 YR	PLUG ICD - 78mm Ø ORIFICE	375	16.7	1.60

ROOF DRAIN TABLE - RD 1 - 9				
AREA ID	ROOF DRAIN No.	ROOF DRAIN OPENING	1.5 YR RELEASE RATE	APPROX. 5 YR PONDING DEPTH
B1	RD 1	CLOSED	0.76 L/s	0.07 m
B1	RD 2	CLOSED	0.76 L/s	0.07 m
B2	RD 3	CLOSED	0.76 L/s	0.07 m
B2	RD 4	CLOSED	0.76 L/s	0.07 m
B3	RD 5	1/2 EXPOSED	0.95 L/s	0.08 m
B4	RD 6	FULLY EXPOSED	0.95 L/s	0.07 m
B4	RD 7	FULLY EXPOSED	0.95 L/s	0.07 m
B5	RD 8	FULLY EXPOSED	1.04 L/s	0.07 m
B5	RD 9	FULLY EXPOSED	1.04 L/s	0.07 m

* ALL PROPOSED ROOF DRAINS TO BE WATTS ACCUTROL, ADJUSTABLE FLOW CONTROL, ROOF DRAINS. REFER TO APPENDIX "P" IN THE STORMWATER MANAGEMENT REPORT (R-2013-210) FOR ROOF DRAIN DETAILS.



LEGEND

- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED WATERMAIN AND DIAMETER
- PROPOSED STANDPOST
- PROPOSED VALVE AND VALVE BOX
- PROPOSED CAP
- PROPOSED WATER METER
- PROPOSED REMOTE METER
- PROPOSED SANITARY MANHOLE & SEWER
- PROPOSED WATERTIGHT FRAME AND COVER
- PROPOSED STORM MANHOLE & SEWER
- PROPOSED INLET CONTROL DEVICE
- DIRECTION OF FLOW
- PROPOSED SHALLOW SEWER INSULATION
- PROPOSED RETAINING WALL (MAX. 1.0m HEIGHT)
- PROPOSED SEEPAGE BARRIER (PER GEOTECHNICAL REPORT)
- PROPOSED CATCHBASIN AND LEAD
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED ROOF DRAIN
- PROPOSED BUILDING ENTRANCE
- EXISTING UTILITY POLE C/W GUY WIRES
- EXISTING WATERMAIN C/W VALVE & VALVE BOX
- EXISTING HYDRANT C/W VALVE & LEAD
- EXISTING SANITARY MANHOLE & SEWER
- EXISTING STORM MANHOLE & SEWER
- EXISTING CATCHBASIN C/W CATCHBASIN LEAD
- EXISTING LIGHT STANDARD

GENERAL NOTES:

- 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.
- OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
- BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$2,000,000.00. 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.
- ALL ELEVATIONS ARE GEODETIC.
- REFER TO GEOTECHNICAL REPORT (No. 13-338, DATED NOVEMBER, 2013), PREPARED BY HOLLÉ CHEVIER ENGINEERING LTD. 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.
- REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND DIMENSIONS.
- REFER TO DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT (R-2013-210) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
- SAVE CUT AND KEY GRIND ASPHALT AT ALL ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
- PROVIDE LINE PAINTING AND PARKING LOT MARKINGS.
- 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 TIG ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, TWM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.

SEWER NOTES:

- SPECIFICATIONS:
ITEM CATCHBASIN (600x600mm)
STORM / SANITARY MANHOLE (1200x)
STORM MANHOLE (1500x)
STORM MANHOLE (1500x1800 BOX)
CB, FRAME & COVER
STORM / SANITARY MH FRAME & COVER
WATERTIGHT FRAME & COVER
SEWER TRENCH
SPEC. No.
705.010
701.010
701.011
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400.020
401.010
401.030
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REFERENCE
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CITY OF OTTAWA
- SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
- FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX: POSITIVE SEAL AND DURASEAL). THE CONCRETE GRADE FOR THE PIPE CAN BE ELIMINATED.
- 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 OPSX 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.
- STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SLUMPS UNLESS OTHERWISE INDICATED.
- ALL CATCHBASINS AND CATCHBASIN MANHOLES TO BE PROVIDED WITH MINIMUM 1 METER LONG PERFORATED SUBDRAINS WHICH EXTEND IN AT LEAST TWO DIRECTIONS FROM EACH CATCHBASIN AT PAVEMENT SUBGRADE LEVEL.
- CONTRACTOR TO TELEVIEW (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.