

Watermain Crossing Table

Watermain	Obvert elevation	Sanitary invert at crossing	Storm line invert at crossing	Foundation drain pipe at crossing
Watermain	88.33	88.65	88.70	88.72

	Purpose	TOG	Up stream Invert	D/N stream Invert	Size	OPSD	MH Cover Standard DWG	Top Cover
CB#1	Storm	90.50	-	90.00	600x600	705.010	S19.1	Open
CBMH#2	Storm	90.80	89.80	89.80	1200mm Dia	701.010	S24.1	Closed
CBMH#3	Storm Monitoring MH	90.80	89.58	89.58	1200mm Dia	701.010	S24.1	Closed
CBMH#4	Sanitary Monitoring MH	90.80	88.05	88.05	1200mm Dia	701.010	S24	Closed
Stormceptor EF04	80% TSSA Removal	90.80	88.02	08.02	1200mm Dia	N/A	S24	Closed

NOTES FOR SERVICING

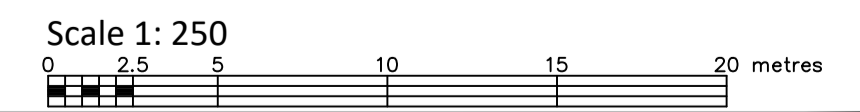
- ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS FOR THE CITY OF OTTAWA STANDARD SPECIFICATION AND DRAWINGS, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE SPECIFIED, TO THE SATISFACTION OF THE CITY AND THE CONSULTANT.
- THE POSITION OF EXISTING POLE LINES, CONDUITS, WATER MAINS SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCES OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO HYDRO, BELL, CABLE, TV, AND CONSUMERS GAS LINES.
- ALL TRENCHING AND EXCAVATIONS ARE TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- REFER TO ARCHITECT PLANS FOR BUILDING DIMENSIONS LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. THE INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- TOPOGRAPHIC SURVEY COMPLETED ON THE 8TH DAY OF JANUARY 2021 AND PROVIDED BY FARLEY, SMITH & DENIS SURVEYING LTD. CONSTRUCTION TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE LOCATION OF UNDERGROUND SERVICES IS BASED ON THE SURVEY PROVIDED WITH THE INFORMATION FROM THE CITY OF OTTAWA. HOWEVER, THE CONTRACTOR MUST ENSURE THAT THIS INFORMATION IS VERIFIED PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZED METRIC UNITS.
- AS INDICATED ON THE DRAWINGS.
- ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
- ALL EDGES OF THE DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500MM WIDTH MINIMUM.
- ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS ARE TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
- ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSD STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSD 206.310.83.14. MATERIAL TO OPSD 1001, 1003 & 1010.
- ABUTTING PROPERTY GRADES TO BE MATCHED.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
- MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
- REMOVE FROM THE SITE ALL EXCESS EXCAVATED MATERIAL, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
- ALL PROPOSED UTILITIES CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
- SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY ARE TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
- PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES. FOR ANY SOILS RELATED INFORMATION, REFER TO THE GEOTECHNICAL INVESTIGATION REPORT.
- CONTRACTOR TO REINSTATE PAVER STONES IN CITY ROW.
- PAVEMENT STRUCTURE SHALL CONSIST OF:

Thickness (mm)	Material Description
40	Wear Course - HL-3 or Superpave 12.5 Asphaltic Concrete
50	Wear Course - HL-8 or Superpave 19 Asphaltic Concrete
150	Base - OPSS Granular A Crushed Stone
450	Subbase - OPSS Granular B Type II

 Subgrade - Either fill in-situ soil, or OPSS Granular B Type I or II material placed over in-situ soil, bedrock or concrete fill.

- NOTES FOR WATER MAIN**
- ALL WATER MAIN AND WATER MAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND THE MINISTRY OF ENVIRONMENTAL STANDARDS AND SPECIFICATIONS.
 - ALL WATER MAIN 300MM DIAMETER AND SMALLER TO BE POLYVINYL CHLORIDE (PVC) CLASS 150 OR 18 MEETINGS AWWA SPECIFICATION C900. STANDARD LATERAL MATERIAL SERVICES UP TO 300MM IS COPPER TYPE "K".
 - ALL WATER MAINS ARE TO BE INSTALLED AT A MINIMUM COVER OF 2.4M BELOW THE FINISHED GRADE, WHERE WATER MAINS CROSS OVER OTHER UTILITIES. A MINIMUM 0.30M CLEARANCE FROM UTILITIES OVERT SHALL BE MAINTAINED. WHERE WATER MAINS CROSS UNDER OTHER UTILITIES, A MINIMUM OF 0.50M, CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN SHALL BE INSTALLED AS PER THE CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE A 2.4M MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER THE CITY OF OTTAWA STANDARD W22.
 - WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA STANDARD W17.
 - VALVE BOX TO BE AS PER CITY OF OTTAWA STANDARD W24.
 - CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, END OF MAINS AND CONNECTIONS 100MM AND LARGER, IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARD W25 AND W25.4.
 - CATHODIC PROTECTION IS REQUIRED FOR ALL IRON FITTING AS PER THE CITY OF OTTAWA STANDARDS W0 & W42.
 - FIRE HYDRANTS TO BE AS PER CITY OF OTTAWA STANDARD W19. (NOT REQUIRED).
 - IF THE WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER. TYPICAL WATER SERVICE LINE AS PER W20 (FOR 100MM & 250MM DIAM WATER SERVICES), AND TO BE INSTALLED AT 1M FROM THE FOUNDATION WALLS.

- NOTES: SEWER AND MANHOLES**
- ALL SANITARY SEWER, SANITARY SEWER APPURTENANCE AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
 - SEWER BEDDING SHALL BE AS PER CITY OF OTTAWA DETAIL S6.
 - SEWER SHALL BE PERFORMED AS APPLICABLE IN ACCORDANCE WITH OPSD 407 AND 410.
 - ALL SANITARY MANHOLES 1200MM IN DIAMETER TO BE AS PER OPSD 701.01, FRAME AND COVER TO BE AS PER STANDARD S25 AND S25.4.
 - SANITARY BACKWATER VALVES ARE TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2.
 - STORM BACKWATER VALVES ARE TO BE PROVIDED CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER THE CITY OF OTTAWA STD S14.
 - ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
 - Gas main shall be 1.0m of separation from watermain as per P20.



GENERAL NOTES & LEGEND:

- PROPERTY LINE
- SILT FENCE PER OPSD 219.130
- PROPOSED BUILDING ENVELOPE
- EXISTING FIRE HYDRANT
- PROPOSED CONCRETE CURB WITH DEPRESSION
- EXISTING HYDRO POLE
- EXISTING GROUND ELEVATION
- PROPOSED ELEVATION
- PROPOSED DOOR ENTRANCE
- DIRECTION AND SLOPE OF SURFACE WATER FLOW
- PROPOSED FINISHED FLOOR ELEVATION
- PROPOSED UNDERSIDE OF FOOTING ELEVATION
- SITE BENCHMARK SITE BENCHMARK 2 NAILS IN UTILITY POLE ELEVATION=91.06
- PROPOSED TOP OF RETAINING WALL
- PROPOSED BOTTOM OF RETAINING WALL
- 100 YEAR STORM PONDING LIMIT CONTOUR LINE
- 100 YEAR + 20% STORM PONDING LIMIT CONTOUR LINE
- ASPHALT
- CONCRETE
- GRASS
- TREE

- HEAVY DUTY MUD MAT IS REQUIRED AT SITE ENTRANCE
- ALL CB TO BE PROTECTED WITH TERAFIX SILT SACK
- CONCRETE BARRIER CURB PER OPSD 600.110
- SEWER/STORM LATERAL CONNECTIONS PER OPSD 1006.020
- THE CONTRACTOR IS REQUIRED TO GET WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNERS FOR WORK OUTSIDE THE PROPERTY LINE.
- HEAVY DUTY SILT FENCE PER OPSD 219.136.
- THE FOLLOWING DOCUMENTS HAVE BEEN REVIEWED:
 - CITY OF OTTAWA STANDARD TENDER DOCUMENTS FOR UNIT PRICE (D0-900F/10048F/1005)
 - GUIDELINES ON EROSION & SEDIMENT CONTROL FOR URBAN SITES, MAY 1987.
 - ENVIRONMENTAL GUIDELINES FOR ACCESS ROADS & WATER CROSSINGS BY O.M.N.R.

Stamp: D. R. CLARK, PROFESSIONAL ENGINEER, PROVINCE OF ONTARIO

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Project: **ORLEANS RESIDENTIAL & MEDICAL FACILITY**
3996 Innes Road, Ottawa, ON.

Title: SITE SERVICING PLAN GRADING PLAN
Date: 2023/04/01
Revision: 1
Scale: 1:250
Drawing #: SS & GR