

- GENERAL NOTES:**
- All dimensions are in metres; all elevations are in metres and are geodetic. TBM = 2 nails on utility pole. Elevation = 72.41.
 - This is not a legal survey. Boundary and topographic information were derived from PLANNING, SURVEY & DESIGN SERVICES LTD. File No. 652-18.
 - Contractor is responsible for location and protection of utilities.
 - Existing services information shown is based on best current information. Contractor to verify exact locations of services and report any discrepancies to Kollaard Associates Inc.
 - All dimensions to be verified on site by contractor prior to construction.
 - Any changes made to this plan must be verified and approved by Kollaard Associates Inc.
 - Client/contractor is responsible for acquiring all necessary permits. This drawing is not for construction until a building permit has been granted.
 - The proposed grades have been set and verified for site grading control only. The grade raise of the building location should be verified with report to subsurface conditions by qualified geotechnical personnel after completion of the excavation.
 - A geotechnical engineer should be retained to provide recommendations with respect to the sub-grade conditions prior to footing installation.
 - 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, and 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.
 - All materials and construction to be in accordance with City of Ottawa standards and Ontario Provincial Standards and Specifications; sewer and watermain material types; disinfection, provide minimum 2.4 metres of cover for water services, cathodic protection, City of Ottawa insulation specifications for watermain, pipe bedding, reinstatement of disturbed areas and leakage testing.
 - Reference to Kollaard file 180966 for Storm Water Management Design and Geotechnical Report file 180966.

No.	REVISION	DATE	BY
2	ISSUED SPA SUBMISSION	2019/01/25	ML
1	ISSUED FOR CLIENT REVIEW	2019/01/24	ML
0	PRELIMINARY	2018/12/13	ML
#	REVISION ITEM / DESCRIPTION	REV. DATE	INT.

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 K0G 1J0 FAX (613) 258-0475
 http://www.kollaard.ca

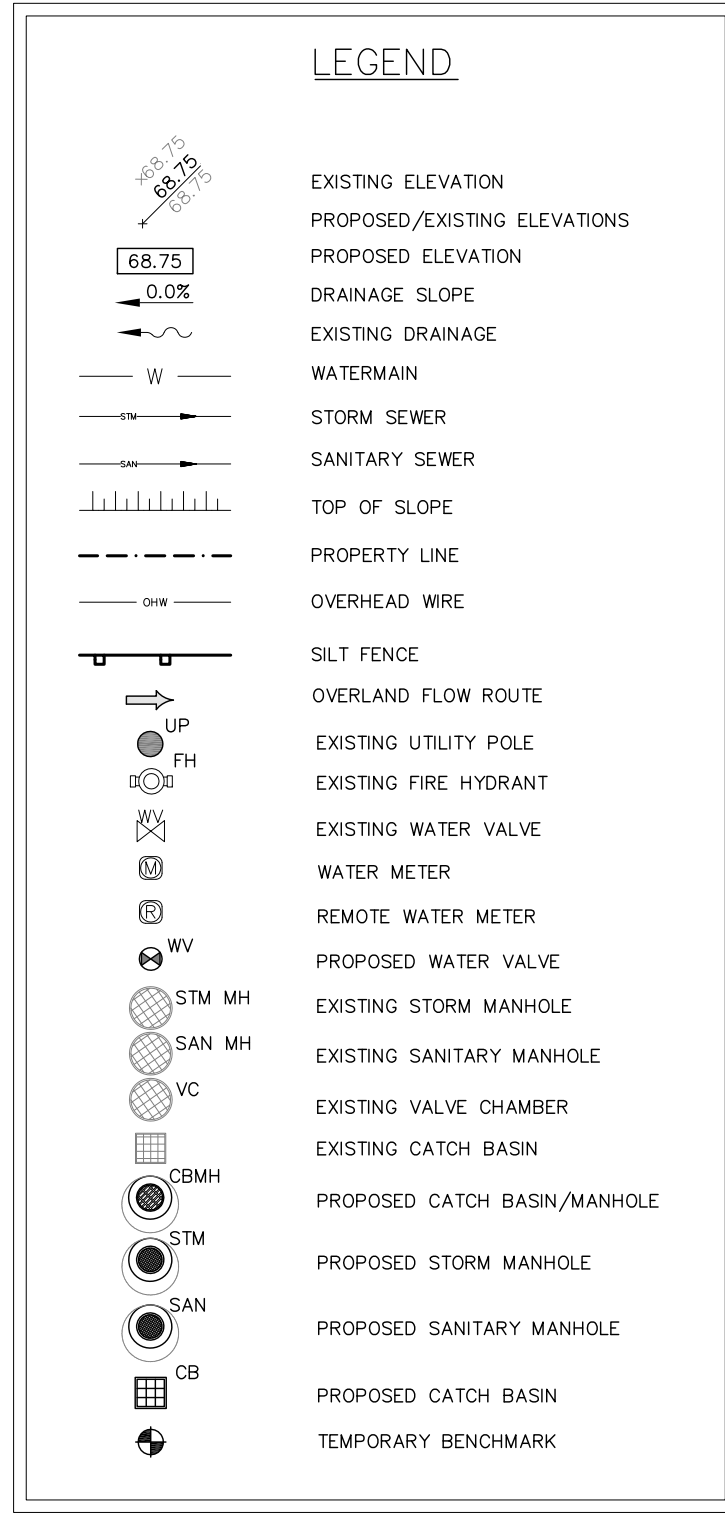
CLIENT:
BUILDING INVESTMENTS INC.
 Nick Legault, CEO
 205-1320 Carling Ave
 Ottawa, ON, K1Z7K8
 Tel 613-853-4833
 email nlegault@buildinginvestments.ca

PROJECT:
MULTI-UNIT RESIDENTIAL BUILDING

LOCATION:
**841 GRENON AVENUE,
 CITY OF OTTAWA, ON.**

DESIGNED BY: --- CHECKED BY: SD
 DRAWN BY: ML APPROVED BY: SD
 DATE: DEC. 12, 2018
 SHEET SET:

DRAWING No: 180966-SER
 DRAWING NAME: **SITE SERVICING PLAN**



SEWER NOTES:

- SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARDS FOR ROADS AND PUBLIC WORKS.
- SPECIFICATIONS:

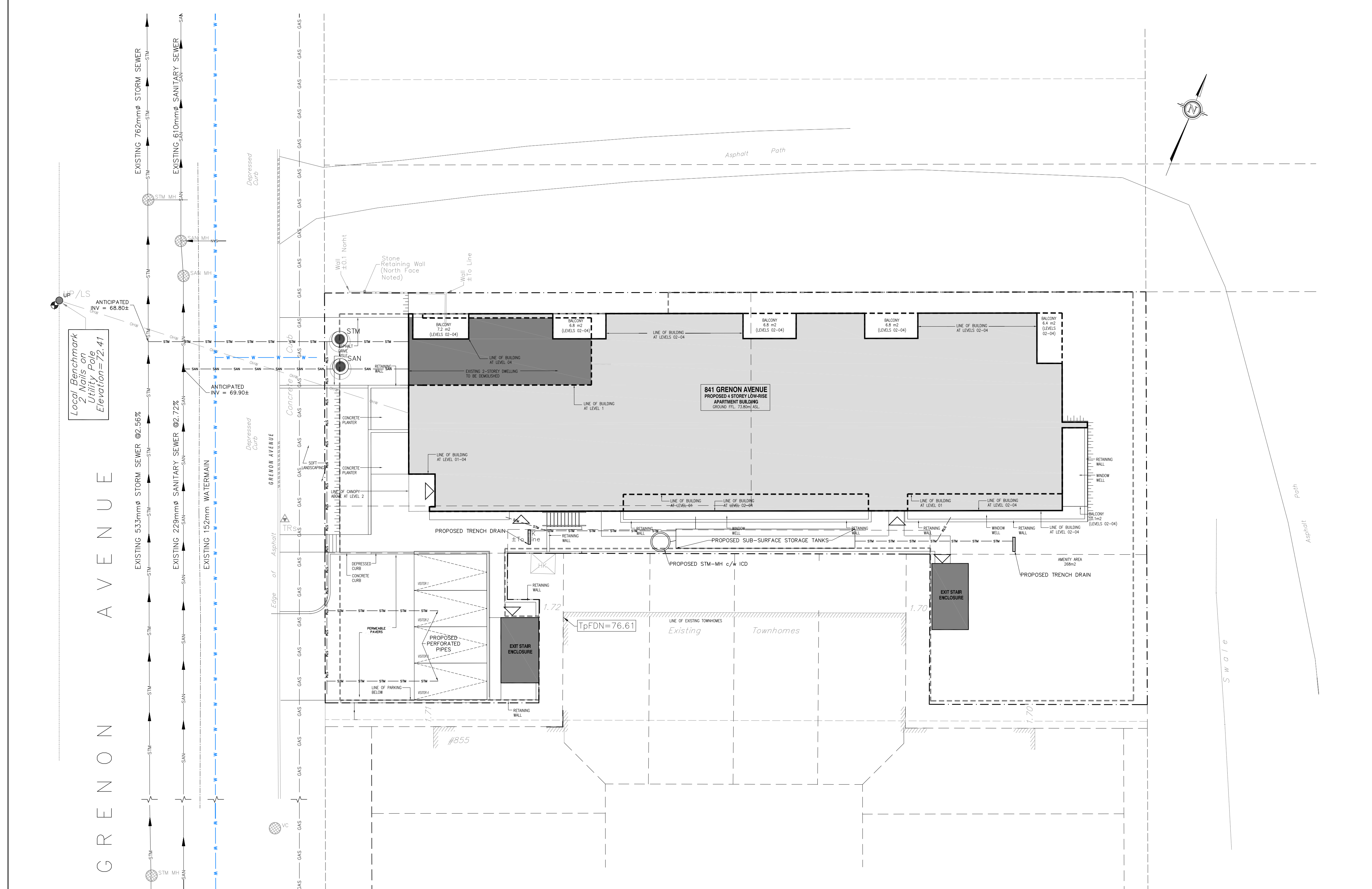
ITEM	SPEC. No.	CITY STD. DWG. No.
CATCH BASIN (600mm x 600mm)	OPSD 705.010	52
STORM/SANITARY MANHOLE (1200)	OPSD 701.010	
STORM/SANITARY MANHOLE (1500)	OPSD 701.011	
STORM/SANITARY MANHOLE (1800)	OPSD 701.012	
SEWER SERVICE CONNECTION	OPSD 701.021	S11 & S11.1
CATCH BASIN & MANHOLE ADJUSTMENTS	OPSD 704.010	
STORM MANHOLE FRAME & COVER	OPSD 401.031	S241 & S25
CATCH BASIN FRAME & COVER	OPSD 400.020	S19, S22 & S23
SEWER TRENCH	OPSD 401.030	S8 & S7
SANITARY MANHOLE FRAME & COVER	OPSD 401.030	S24 & S25
- SEWER TRENCH: SITE SERVICES EXCAVATION, BEDDING & BACKFILL AS PER THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION PREPARE BY KOLLAARD ASSOCIATES INC.
- INSULATE ALL STORM PIPES THAT HAVE LESS THAN 1.5m COVER AND ALL SANITARY PIPES THAT HAVE LESS THAN 2m COVER WITH THERMAL INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
- PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
- FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTION PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, POSI-SEAL AND DURASEAL). SANITARY RUBBER GASKET TYPE JOINTS SHALL CONFORM TO CSA (B-182.2,3,4).
- 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 OPSD 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 CBMS ARE TO HAVE 300mm SUMPS (AS PER SUMP DETAIL ON OPSD 701.010), UNLESS OTHERWISE INDICATED.
- BUILDING CONTRACTOR TO PROVIDE TEMPORARY ADDITIONAL GRANULAR BACKFILL ABOVE SHALLOW CULVERTS AND STORM SEWERS TO SUPPORT HEAVY CONSTRUCTION EQUIPMENT.
- CONTRACTOR TO TELEVISION (CCTV) ALL PROPOSED SEWERS, 200mm OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES TO MUNICIPAL SATISFACTION.
- WHERE THE SANITARY SEWER CROSSES ABOVE THE WATERMAIN, THE CONTRACTOR IS TO PROVIDE A MINIMUM OF 0.5m VERTICAL SEPARATION, ADEQUATE STRUCTURAL SUPPORT OF THE SEWER TO PREVENT SETTLING AND EXCESSIVE JOINT DEFLECTION AND ENSURE THAT THE LENGTH OF THE WATER PIPE BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.

WATERMAIN NOTES:

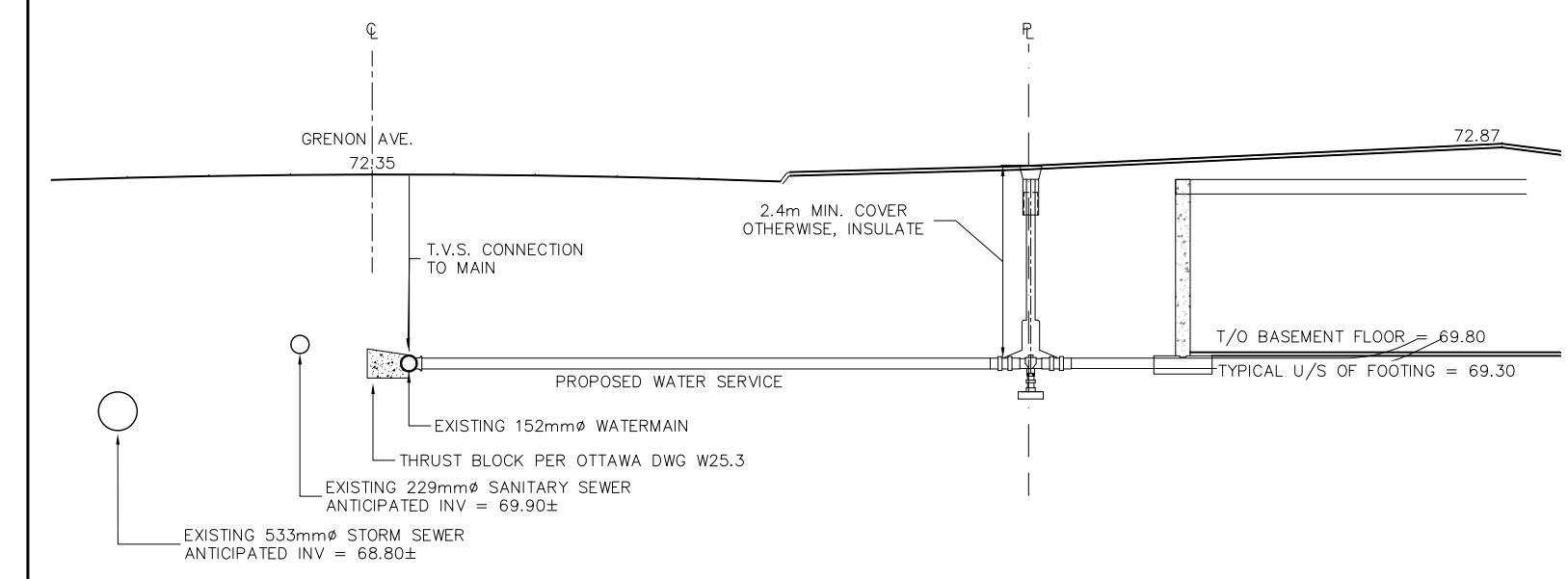
- CITY TO SUPPLY, INSTALL & DISINFECT THE WATER SERVICE. CONTRACTOR TO EXCAVATE, BACKFILL AND REINSTATE THE ROADWAY AS PER STD DWG R10.
- SPECIFICATIONS:

ITEM	SPEC. No.	CITY STD. DWG. No.
WATERMAIN BEDDING AND BACKFILL	802.010/802.031	W7 (TRENCH DETAIL)
CATHODIC PROTECTION	1109.010	W40
PRESSURE TESTING AWWA	C-605-5	
CHLORINATION AWWA	C-651-05	
WATERMAIN MATERIAL	PVC DR18 (CLASS 150)	
- WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED. WHERE LESS THAN 2.4m COVER, THERMAL INSULATION IS TO BE PROVIDED AS PER CITY STD DWG W22 (in shallow trenches), W23 (At open structures).
- A MINIMUM OF 0.5m VERTICAL CLEARANCE IS REQUIRED BETWEEN THE WATERMANS AND ALL UTILITIES AND SEWERS. IN LOCATIONS WHERE THIS IS NOT ACHIEVABLE, MUST FOLLOW PROCEDURE F-6-1 SEC. 5.2 OF THE ONTARIO DRINKING WATER RESOURCES ACT.
- METALLIC WARNING TAPE SHALL BE USED OVER ALL WATERMANS.
- INSTALL AND TEST TRACKER WIRE FOR ALL PROPOSED WATERMAIN IN ACCORDANCE WITH THE CITY OF OTTAWA DESIGN STANDARDS AS SPECIFIED IN SECTION 8.28.
- EXISTING WATERMAIN INFORMATION SHOWN IS BASED ON BEST CURRENT INFORMATION. CONTRACTOR TO VERIFY EXACT LOCATION OF WATERMAIN AND REPORT ANY DISCREPANCIES TO KOLLAARD ASSOCIATES INC.
- WATER SHUTOFF VALVE AND VALVE BOX TO BE WITHIN THE ROAD ALLOWANCE AND LOCATED A MINIMUM OF 1.0 METRES FROM THE BUILDING FOUNDATION. TYPICAL PRIVATE SERVICE AS PER STD. DWG. W20 WITH THE EXCEPTION THAT THE VALVE ARE TO BE LOCATED 1.0 m MINIMUM FROM THE FOUNDATION WALL. VALVE BOX ASSEMBLY AS PER STD. DWG. W24.
- CONNECTIONS AT ELBOWS AND TEES IN WATER MAINS SHOULD BE MADE WITH THE USE OF JOINT RESTRAINERS DESIGNED FOR WATERMAIN APPLICATION. JOINT AND PIPE RESTRAINERS SHOULD MEET THE REQUIREMENTS OF AWWA C900, C905 AND C907 AND ASTM F1624-11. JOINT RESTRAINERS SHOULD BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.
- ALL CONNECTORS, RODS AND VALVE BOLTS SHALL BE STAINLESS STEEL.
- VALVES ARE TO BE OPERATED BY CITY OF OTTAWA STAFF ONLY.
- NO CONNECTION TO EXISTING WATER NETWORK SHALL BE COMPLETED UNTIL A WATER PERMIT IS OBTAINED FROM THE CITY OF OTTAWA AND CITY OF OTTAWA FORCES ARE ON HAND TO MAKE THE CONNECTION.

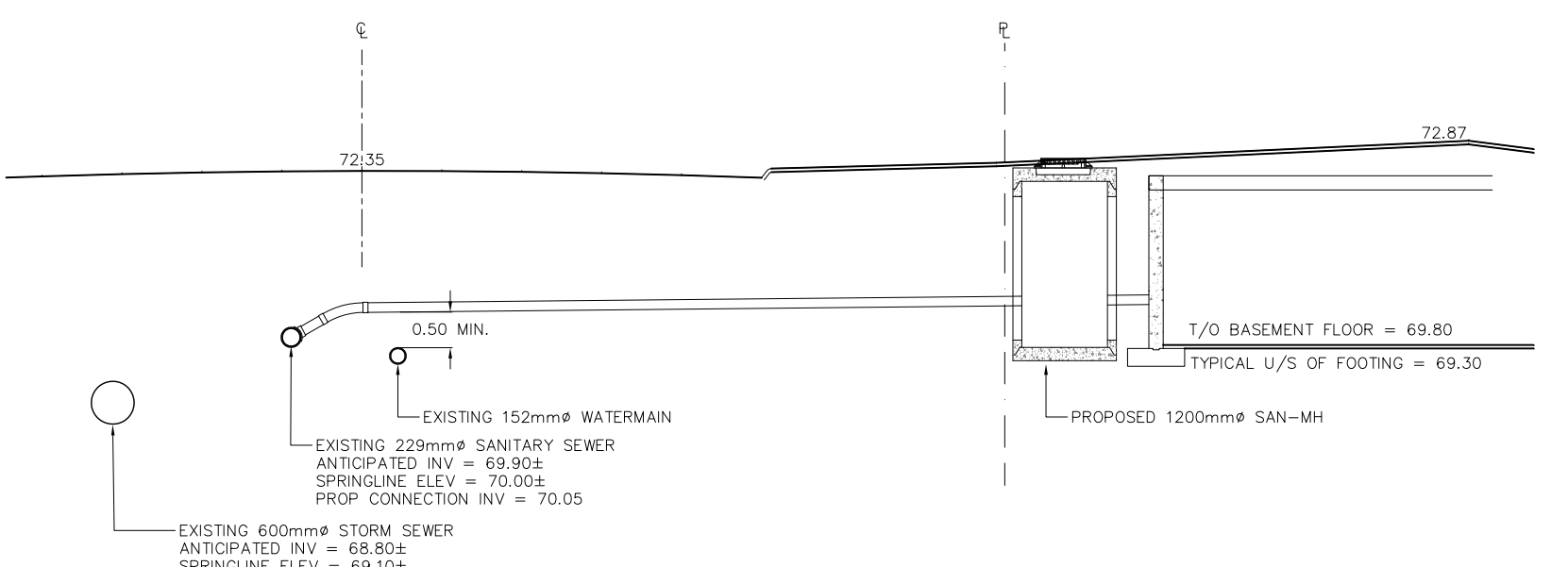
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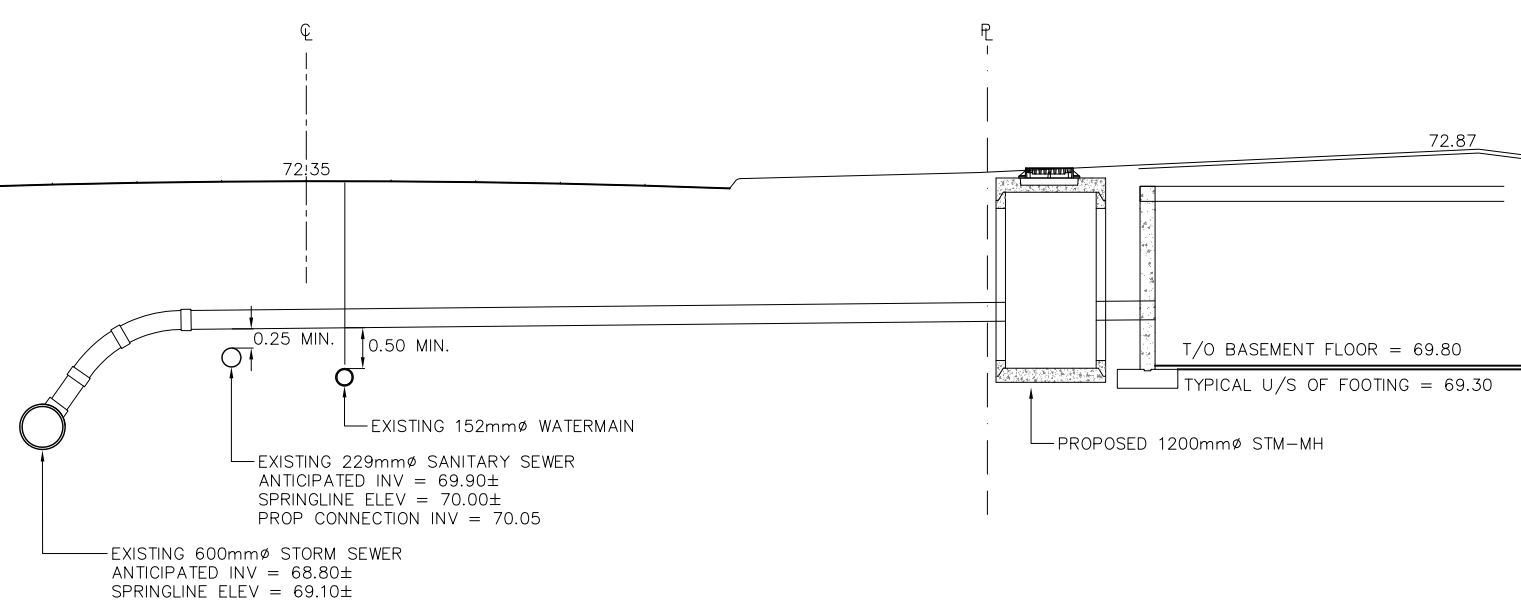
SITE SERVICING PLAN
 SCALE = 1:150



WATER SERVICE CONNECTION
 NOT TO SCALE



SANITARY SERVICE CONNECTION
 NOT TO SCALE



STORM SERVICE CONNECTION
 NOT TO SCALE