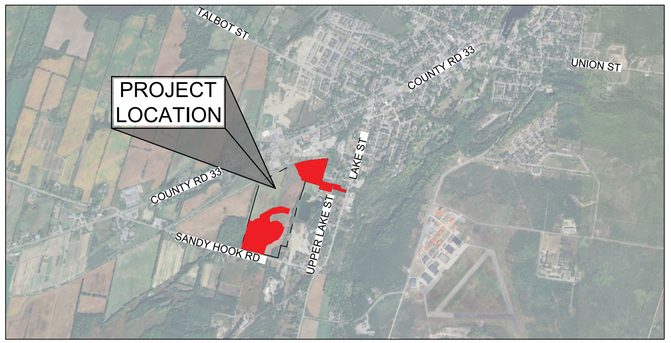
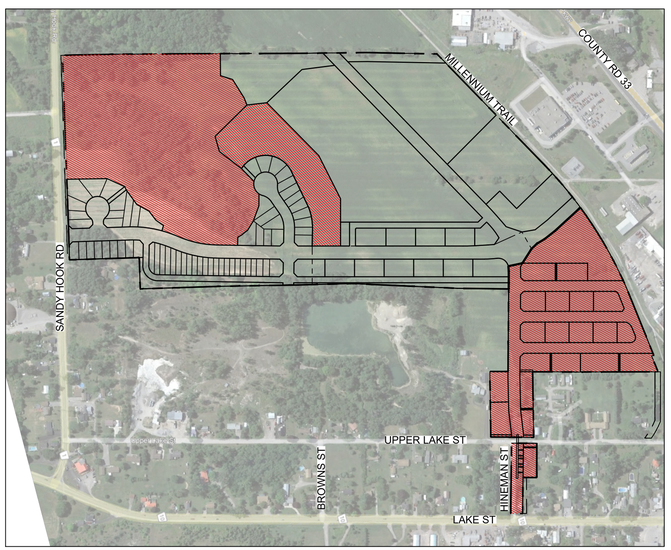
COLD CREEK SUBDIVISION
PHASE 1
PICTON, ON



VICINITY MAP
SCALE: N.T.S



PROJECT MAP
SCALE: 1:5000

DRAWING INDEX

PROJECT NUMBER: 23-108
ISSUED FOR
PRE SERVICING AGREEMENT
MAY 23, 2025

PROJECT BENCHMARK:

1. SPIKE IS LOCATED ON THE SOUTHWEST SIDE OF THE INTERSECTION BETWEEN GEORGE WRIGHT BOULEVARD EXTENSION AND LOYALIST PARKWAY IN PROXIMITY TO A MAINTENANCE HOLE. ELEVATION 100.03.
2. SPIKE IS LOCATED ON THE EAST SIDE OF COUNTY ROAD 10 AT THE INTERSECTION OF COUNTY ROAD 10 AND HINEMAN ST. ELEVATION 98.78.
3. SPIKE IS LOCATED ON THE NORTH SHOULDER OF SANDY HOOK ROAD APPROXIMATELY 40M EAST OF THE DRIVEWAY TO CIVIC ADDRESS 119. ELEVATION 94.17

PROJECT NOTES:

1. THE TOPOGRAPHIC AND PROPERTY BOUNDARY SURVEYS WERE COMPLETED BY IBW IN 2023 - 2024.
2. THE PROJECT GEOTECHNICAL REPORT WAS COMPLETED BY AINLEY GROUP DATED NOVEMBER 23, 2023.
3. THE CONTRACTOR SHALL ERECT CONSTRUCTION SIGNING IN CONFORMANCE WITH THE ONTARIO TRAFFIC MANUAL.

NOTES TO CONTRACTOR:

1. THE CONTRACTOR SHALL COMPLETE ALL WORKS IN IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT.
2. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL LOCATIONS OF EXISTING BURIED SERVICES PRIOR TO START OF CONSTRUCTION, AS THE EXISTING SERVICES SHOWN ON THE DRAWINGS IS NOT NECESSARILY ACCURATE.
3. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROLS AND ERECT CONSTRUCTION SIGNING IN CONFORMANCE WITH BOOK 7 OF THE ONTARIO HIGHWAY TRAFFIC MANUAL. EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED AT ALL TIMES.
4. NO VARIATION FROM THE APPROVED ENGINEERING DESIGN DRAWINGS AND OTHER APPROVED PLANS AND DRAWINGS SHALL BE PERMITTED UNLESS SUCH VARIATION IS AUTHORIZED IN WRITING BY THE MUNICIPAL ENGINEER (VIA THE CONTRACT ADMINISTRATOR).
5. THE CONTRACTOR SHALL PAY THE COST OF REPAIRING ANY DAMAGE TO ANY EXISTING SERVICES AND/OR ROADS CAUSED BY CONSTRUCTION ACTIVITIES AT THE CONTRACTOR'S EXPENSE. REPAIRS SHALL BE TO THE SATISFACTION OF THE MUNICIPAL ENGINEER AND/OR THE AUTHORITIES RESPONSIBLE FOR SUCH SERVICES.
6. THE CONTRACTOR SHALL, AT ALL TIMES DURING THE TERM OF HIS CONTRACT, ENSURE THAT ALL PUBLIC ROADS ABUTTING THE SUBJECT LANDS AND ALL PUBLIC ROADS USED FOR ACCESS TO THE SUBJECT LANDS, DURING ANY CONSTRUCTION ON THE SUBJECT LANDS, SHALL BE MAINTAINED IN A CONDITION EQUAL TO THAT NOW EXISTING AND TO THE APPROVAL OF THE MUNICIPAL ENGINEER. IF DAMAGED, THE CONTRACTOR AGREES TO RESTORE IMMEDIATELY, AT ITS EXPENSE, SUCH ROAD TO A CONDITION EQUAL TO THAT EXISTING AT THE TIME OF SUCH DAMAGE AND TO THE APPROVAL OF THE MUNICIPAL ENGINEER. ALL TRUCKS MAKING DELIVERY TO, OR TAKING MATERIALS FROM, THE SUBJECT LANDS SHALL BE COVERED OR LOADED SO AS NOT TO SCATTER SUCH MATERIALS ON ANY PUBLIC ROAD. IN THE EVENT THAT ANY MUD, DUST, REFUSE, RUBBISH AND/OR OTHER LITTER OF ANY TYPE RESULTING FROM THE DEVELOPMENT OF THE SUBJECT LANDS IS FOUND UPON HIGHWAYS OUTSIDE OF THE SUBJECT LANDS, THE CONTRACTOR SHALL CLEAN UP SAME TO THE SATISFACTION OF THE MUNICIPALITY WITHIN 24 HOURS OF THE GIVING OF NOTICE TO THE OWNER OR ITS AGENT BY THE MUNICIPALITY. IF THE CONTRACTOR HAS NOT CAUSED SAME TO BE CLEANED UP WITHIN 24 HOURS AS AFORESAID, IT IS AGREED THAT THE MUNICIPALITY MAY, AT ITS SOLE OPTION, CARRY OUT THE REQUIRED CLEAN-UP WORK AT THE CONTRACTOR'S EXPENSE PLUS THIRTY PER CENT (30%) OF THE TOTAL COST HEREOF FOR INCONVENIENCE CAUSED TO THE MUNICIPALITY. ALL CONSTRUCTION VEHICLES GOING TO AND FROM THE SUBJECT LANDS SHALL USE THE ACCESS ROUTES, IF ANY, DESIGNATED BY THE MUNICIPAL ENGINEER.
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL VERTICAL AND HORIZONTAL CONTROLS AND FOR LAYOUT OF WORKS.
8. ALL CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH THE APPLICABLE MUNICIPAL POLICIES AND BY-LAWS RELATED TO HOURS OF WORK, MUD TRACKING, FIRE PERMITS, ROAD CUT PERMITS, CONSTRUCTION ACCESS, ETC.

GENERAL CONSTRUCTION SPECIFICATIONS

1. UNLESS OTHERWISE NOTED, THE ONTARIO PROVINCIAL STANDARDS FOR ROADS AND PUBLIC WORKS (OPS) SHALL BE USED BY THE CONTRACTOR FOR CONSTRUCTION SPECIFICATIONS, MATERIAL SPECIFICATIONS, AS WELL AS REFERENCE TO DRAWINGS FOR ROADS, SEWERS AND WATERMAINS.
2. ALL WORKS SHOULD BE IN COMPLIANCE WITH THE MUNICIPAL GUIDELINES.
3. MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH OPSS 407 CONSTRUCTION SPECIFICATION FOR NEW MAINTENANCE HOLE, CATCH BASIN, DITCH INLET, AND VALVE CHAMBER INSTALLATION.
4. TRANSPORTATION SYSTEMS SHALL BE INSTALLED, INSPECTED AND TESTED AS PER ONTARIO PROVINCIAL STANDARDS (OPS), ONTARIO TRAFFIC MANUALS (OTMS) AND MUNICIPAL TRANSPORTATION SYSTEMS MANUAL FOR SUB-GRADE, GRANULAR MATERIAL, ASPHALT, CONCRETE, STRUCTURES, STRUCTURAL STEEL, REINFORCING STEEL, ELECTRICAL / ATMS, ENVIRONMENTAL, TRAFFIC AND ASSOCIATED INFRASTRUCTURE.

DRAWING MEASUREMENTS

1. UNLESS OTHERWISE SPECIFIED, ALL DRAWING MEASUREMENTS ARE IN METRES AND PIPE SIZES ARE IN MILLIMETERS.
2. ELEVATIONS ARE GEODETIC CGVD28
3. DRAWING COORDINATES ARE ZONE 18 UTM NAD83

CONTRACTOR SUBMISSIONS

1. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL STORM, SANITARY, WATER STRUCTURES AND MATERIAL SPECIFICATIONS TO THE CONTRACT ADMINISTRATOR FOR APPROVAL PRIOR TO MATERIAL ORDERING.
2. SHOP DRAWINGS FOR RETAINING WALLS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER.
3. THE CONTRACTOR SHALL MAINTAIN ACCURATE RECORDS OF CONSTRUCTION AND SUBMIT AS-BUILT DRAWINGS UPON CONTRACT COMPLETION.

MINIMUM SEPARATION BETWEEN SEWER AND WATERMAIN

1. WATERMAINS SHOULD CROSS ABOVE SEWERS WHEREVER POSSIBLE.
2. THE MINIMUM HORIZONTAL SEPARATION BETWEEN ANY SEWER OR SEWER MANHOLE AND WATERMAINS SHALL BE 2.5 M; THE DISTANCE SHALL BE MEASURED FROM THE NEAREST EDGES (OUTSIDE EDGE TO OUTSIDE EDGE OF PIPE).
3. WHERE IT IS NOT PRACTICAL TO MAINTAIN A SEPARATE TRENCH AND A MINIMUM HORIZONTAL SEPARATION DISTANCE, AND WHETHER THE WATERMAIN IS ABOVE OR BELOW THE SEWER, A MINIMUM VERTICAL DISTANCE OF 0.5M BETWEEN THE OUTSIDE OF THE WATERMAIN AND THE OUTSIDE OF THE SEWER SHOULD BE PROVIDED TO ALLOW FOR PROPER BEDDING AND STRUCTURAL SUPPORT OF THE WATERMAIN AND SEWER PIPES. SUFFICIENT STRUCTURAL SUPPORT FOR SEWER PIPES SHOULD BE PROVIDED TO PREVENT EXCESSIVE DEFLECTION OF THE JOINTS AND SETTLING. THE LENGTH OF WATER PIPE SHOULD BE CENTERED AT THE POINT OF CROSSING SO THAT JOINTS IN THE WATERMAIN WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER. THE CROSSING SHOULD BE PERPENDICULAR IS POSSIBLE.
4. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, ONE OF THE FOLLOWING METHODS SHALL BE SPECIFIED:

- THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER PIPE AND SHOULD BE PRESSURE TESTED AT 350 KPA AS PER OPSS701 TO ASSURE WATER TIGHTNESS; AND/OR,
- EITHER THE WATERMAIN OR THE SEWER LINE SHOULD BE ENCASED IN A WATERTIGHT CARRIER PIPE WHICH EXTENDS 3 M ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATERMAIN.

OBC 7.3.5.7. SPATIAL SEPARATION OF WATER SERVICE PIPES

(1) EXCEPT AS PERMITTED IN SENTENCES (2) AND (3), A BURIED WATER SERVICE PIPE SHALL BE SEPARATED FROM THE BUILDING DRAIN, BUILDING SEWER AND A PRIVATE SEWAGE DISPOSAL SYSTEM, BY NOT LESS THAN 2 440 MM MEASURED HORIZONTALLY, OF UNDISTURBED OR COMPACTED EARTH.

(2) THE WATER SERVICE PIPE MAY BE CLOSER THAN 2 440 MM OR BE PLACED IN THE SAME TRENCH WITH THE BUILDING DRAIN OR BUILDING SEWER IF,

(A) THE FOLLOWING CONDITIONS ARE MET:

(I) THE BOTTOM OF THE WATER SERVICE PIPE AT ALL POINTS IS AT LEAST 500 MM ABOVE THE TOP OF THE BUILDING DRAIN OR BUILDING SEWER, AND

(II) WHEN IN A COMMON TRENCH WITH THE BUILDING DRAIN OR BUILDING SEWER, THE WATER SERVICE PIPE IS PLACED ON A SHELF AT ONE SIDE OF THE COMMON TRENCH,

(B) THE WATER SERVICE PIPE IS CONSTRUCTED OF A SINGLE RUN OF PIPE WITH NO JOINTS OR FITTINGS BETWEEN THE STREET LINE OR SOURCE OF SUPPLY ON THE PROPERTY AND THE INSIDE FACE OF THE BUILDING, OR

(C) THE BUILDING DRAIN OR BUILDING SEWER IS CONSTRUCTED OF PIPING WHICH IS PRESSURE TESTED IN ACCORDANCE WITH SUBSECTION 7.3.7. AT 345 KPA.

MINIMUM SEPARATION BETWEEN SEWERS

1. THE MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PARALLEL SEWERS IN A SEPARATE TRENCH SHALL BE 2.5M; THE DISTANCE SHALL BE MEASURED FROM THE NEAREST EDGES (OUTSIDE EDGE TO OUTSIDE EDGE OF PIPE).
2. THE MINIMUM VERTICAL SEPARATION BETWEEN TWO SEWERS SHALL BE 0.5 M. STORM SEWERS SHOULD CROSS ABOVE SANITARY SEWERS WHEREVER POSSIBLE.
3. WHEN SANITARY AND STORM SEWERS ARE CONSTRUCTED IN A COMMON TRENCH, THE STORM SEWER WILL BE CONSTRUCTED PARALLEL TO THE SANITARY SEWER WITH 1 M MINIMUM SEPARATION BETWEEN THE OUTSIDE WALL OF THE TWO PIPES.

MAINTENANCE HOLES

1. ALL MAINTENANCE HOLE FRAMES AND GRATES SHALL BE SET FLUSH WITH THE FINISHED GRADE OF THE SOD SURFACE.
2. BENCHING

- FULL HEIGHT BENCHING IS REQUIRED IN MAINTENANCE HOLES FOR PIPES 300 MM OR LESS IN DIAMETER. THREE-QUARTER HEIGHT BENCHING IS REQUIRED IN MAINTENANCE HOLES FOR PIPES GREATER THAN 300 MM IN DIAMETER;
- STEPS IN MAINTENANCE HOLE BENCHING WILL BE REQUIRED WHEN THE PIPE DIAMETER IS GREATER THAN 450 MM
- FLOW CHANNELS SHALL HAVE A STEEL TROWEL FINISH WHILE BENCHING SHOULD HAVE A WOODEN FLOAT FINISH. BENCHING SHALL BE AT A SLOPE OF 8:1 TOWARDS THE CHANNEL.

3. CONNECTIONS

- FLEXIBLE PIPE JOINT SHALL BE PROVIDED WITHIN 0.3 M FROM THE OUTSIDE EDGE OF MAINTENANCE HOLES WHERE A PIPE CONNECTS TO A STRUCTURE (FLEXIBLE AND RIGID PIPE);
- JOINTS BETWEEN MAINTENANCE HOLE SECTIONS, AND INLET AND OUTLET PIPES SHALL BE SEALED WITH GASKETED FLEXIBLE WATERTIGHT CONNECTIONS;
- FOR SERVICE CONNECTIONS TO EXISTING TRUNK OR INTERCEPTOR SEWERS, THE INVERT OF THE SERVICE CONNECTION INSPECTION CHAMBER SHALL BE A MINIMUM OF 1 M ABOVE THE CROWN OF THE TRUNK OR INTERCEPTOR SEWERS. IF THE HYDRAULIC ELEVATION OF ANY POTENTIAL SURCHARGE IN THE TRUNK OR INTERCEPTOR SEWER IS KNOWN, THE INVERT OF THE INSPECTION CHAMBER ON THE SERVICE CONNECTION MUST BE ABOVE THE SURCHARGE ELEVATION.

4. FROST HEAVE PREVENTION

- FROST STRAPS (INTERNAL OR EXTERNAL) SHALL BE PROVIDED TO HOLD MAINTENANCE HOLE SECTIONS TOGETHER (AT LEAST TWO (2) BETWEEN EACH SECTION). EXTERNAL STRAPS SHALL EXTEND VERTICALLY FROM TOP TO BOTTOM AND FOR DEEP MAINTENANCE HOLES EXTENDED AT LEAST 1 M BELOW FROST DEPTH.

5. MAINTENANCE HOLE FRAME AND COVERS (PER OPSD 701 SERIES AND 704.010)

- A SELF-LEVELLING FRAME AND COVER SHALL BE USED FOR ALL NEW MAINTENANCE HOLES THAT ARE WITHIN AN ASPHALT ROADWAY.
- MAINTENANCE HOLE FRAME AND COVERS ARE REQUIRED FOR ALL MAINTENANCE HOLES AND WILL BE IN ACCORDANCE WITH OPSD 401.010 TYPE 'A' CLOSED.
- ALL MAINTENANCE HOLE CHAMBER OPENINGS WILL BE LOCATED ON THE UPSTREAM SIDE OF THE MAINTENANCE HOLE.
- WATERTIGHT MAINTENANCE HOLES AND SEALED MAINTENANCE HOLE LIDS ARE REQUIRED WHERE STRUCTURES ARE BELOW THE EXPECTED GROUNDWATER TABLE, AND IN AREAS PRONE TO PONDING AND/OR FLOODING.
- LOCKABLE MAINTENANCE HOLES COVERS SHALL BE CONSIDERED IN AREAS OF ISOLATED EASEMENT LOCATIONS OR WHERE VANDALISM MAYBE A PROBLEM.

6. MAINTENANCE HOLE DROP STRUCTURES

- DROP MAINTENANCE HOLES SHALL BE USED WHERE THE INVERT LEVELS OF THE INLET AND OUTLET SEWERS DIFFER BY 610 MM OR MORE. WHERE THE INVERT LEVELS OF THE INLET AND OUTLET SEWERS IS LESS THAN 610 MM, BENCHING IS REQUIRED TO PREVENT SOLIDS DEPOSITION.
- DROP STRUCTURES SHALL BE EXTERNAL UNLESS THE MAINTENANCE HOLE DIAMETER IS INCREASED BY ONE SIZE, IT IS SHOWN THAT ACCESS AND MAINTENANCE IS NOT COMPROMISED AND IT IS SHOWN THAT USE OF AN EXTERNAL DROP PIPE IS NOT POSSIBLE.
- THE EXTERNAL DROP PIPE WILL BE ONE SIZE SMALLER THAN THE SEWER LINE WITH A MINIMUM DIAMETER OF 200 MM.

7. MAINTENANCE HOLE SAFETY LANDINGS (PER OPSD 404.020)

- WHEN THE DEPTH FROM INVERT TO TOP OF MAINTENANCE HOLE EXCEEDS 4.5 M, A SAFETY PLATFORM SHALL BE PROVIDED. SAFETY GRATES WILL BE NOT MORE THAN 4.5 M APART. THE PLATFORM WILL BE LOCATED 2 M BELOW THE MAINTENANCE HOLE COVER AND 2.8 M ABOVE THE MAINTENANCE HOLE INVERT. INCOMING PIPES ARE TO BE BELOW LANDINGS, WHERE POSSIBLE. ACCESS HATCHES IN SAFETY GRATINGS ARE TO LINE UP TO ALLOW PROPER USE OF FALL ARREST EQUIPMENT.

SANITARY SEWERS

1. THE MINIMUM DEPTH OF THE SANITARY SEWER SHALL BE 2.5 M MEASURED FROM THE CENTRE LINE ELEVATION OF THE ROAD TO OBVERT OF THE SEWER. SHALLOW SEWERS (LESS THAN 1.6 M COVER) SHALL BE INSULATED AS PER OPSD1109.030 TO PREVENT FREEZING.
2. SANITARY MAINTENANCE HOLES INSTALLED BELOW SEASONALLY HIGH GROUNDWATER TABLE (SHGWT) SHALL BE EXTERNALLY WRAPPED WITH WATERPROOF MEMBRANE PLACED EXTERNALLY AROUND PRECAST JOINTS, INCLUDING JOINTS BELOW THE MAINTENANCE HOLE FRAME AND COVER, WITH A MINIMUM 300 MM WIDE STRIP. IF SHGWT IS UNKNOWN MAINTENANCE HOLES SHALL BE DESIGNED WITH THE ASSUMPTION THAT THEY ARE INSTALLED 0.6 M BELOW SHGWT.
3. PIPE MATERIALS

- SANITARY MAINS, PUBLIC AND PRIVATE SIDE LATERALS SEWERS SHALL BE COLOUR CODED GREEN;
- ULTRA-RIB PIPE IS NOT APPROVED FOR USE AS A SANITARY SEWER;
- THE MINIMUM PIPE CLASS FOR REINFORCED CONCRETE SANITARY PIPE SEWER SHALL BE 65-D
- BEDDING DESIGN SHALL BE COMPATIBLE WITH THE PIPE MATERIAL USED;
- ONLY PVC PIPE MATERIAL WILL BE ALLOWED FOR INDUSTRIAL AREAS;
- TRACER WIRE SHALL BE #8 AWG INSULATED UNDERGROUND APPLICATION COPPER TRACER WIRE;
- FUSED HDPE PIPE SHALL BE UTILIZED FOR INSTALLATIONS UNDER WATERCOURSE CROSSINGS.

Type of Pipe	Specification	Diameter	Approved Use
DR 35 PVC	CSA B182.2 320 kPa stiffness	200 mm and larger	Mainline
DR 28 PVC	CSA B182.2 625 kPa stiffness	100 mm to 150 mm	Service Laterals
Reinforced Concrete	CSA A257.2 Minimum Pipe Class 65-D	300 mm and larger	Mainline

SANITARY SEWER LATERALS

1. SINGLE UNIT SEWER LATERALS SHALL BE 125MM DIAMETER.
2. SERVICES SHOWN WITH BENDS SHALL BE SWEEPING BENDS, NOT ANGLED.
3. ALL CONNECTIONS TO NEW SANITARY MAINS SHALL BE APPROVED FACTORY-MADE CONNECTIONS. CONNECTIONS TO EXISTING SANITARY SEWER SHALL BE MADE WITH APPROVED FACTORY-MADE TEES OR SADDLES IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS.
4. ALL SANITARY SERVICES SHALL BE INSTALLED WITH TRACEABLE APPURTENANCES TO THE SATISFACTION OF THE MUNICIPALITY. SANITARY TRACER WIRE SHALL BE LOCATED IN A TEST BOX (25 MM CONDUIT, COLOUR CODED "GREEN"), INSTALLED AT GRADE AT THE PROPERTY LINE.
5. SANITARY SEWER CLEANOUTS AS PER PSD-007 SHALL BE PROVIDED IN THE MUNICIPAL ROW FOR ALL RESIDENTIAL DEVELOPMENTS TO FACILITATE INSPECTION. CLEANOUTS SHALL NOT BE INSTALLED IN DRIVEWAYS. CLEANOUTS SHALL BE LOCATED, WITH A MINIMUM OF 1.5 M CLEARANCE AWAY FROM ANY OTHER SERVICE. CLEANOUTS SHOULD HAVE A METAL CAP.
6. SERVICE RISERS WHEN REQUIRED SHALL BE TAKEN OFF AT AN ANGLE NOT LESS THAN 45 DEG (INSTALLED AT MAXIMUM 1:1 SLOPE WHERE FEASIBLE) FROM THE VERTICAL, MOVED TO THE VERTICAL BY AN APPROPRIATE ELBOW AND VERTICAL SECTION PROVIDED WITH A SLIDE FITTING SHALL BE UTILIZED WHEN THE INVERT DEPTH OF THE SEWER MAIN EXCEEDS 4 M. THE RISER SHALL NOT EXCEED 3 M IN HEIGHT WITHOUT APPROVAL FROM THE MUNICIPALITY. INSTALL AS PER OPSD 1006.010.
7. THE MINIMUM COVER AT THE PROPERTY LINE MEASURED FROM THE FINISHED CENTRE LINE ROAD ELEVATION SHALL BE 2.3 M. HOWEVER, IN SITUATIONS WHERE ACHIEVING 2.3 M AT PROPERTY LINE IS NOT POSSIBLE; 1.8 M COVER IS ACCEPTABLE.
8. SHALLOW SERVICE CONNECTIONS (LESS THAN 1.6 M COVER) SHALL BE INSULATED AS PER OPSD1109.030 TO PREVENT FREEZING.

TRACER WIRE FOR SANITARY

1. TRACER WIRE SHALL BE #8 AWG INSULATED UNDERGROUND APPLICATION COPPER TRACER WIRE;
2. TRACER WIRE SHALL BE INSTALLED ON ALL NON-METALLIC FORCEMAINS, SANITARY LATERALS /SERVICES ALONG FULL LENGTH OF PIPE TO PROVIDE A MEANS OF LOCATING THE PIPES;
3. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 3 M INTERVALS;
4. NO BREAKS OR CUTS IN THE TRACER WIRE OR TRACER WIRE INSULATION SHALL BE PERMITTED;
5. AT SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE PLACED BETWEEN THE SADDLE AND THE SEWER MAIN;
6. EXCEPT FOR APPROVED SPLICED IN CONNECTIONS, TRACER WIRE SHALL BE CONTINUOUS;
7. ALL SANITARY SERVICES SHALL BE INSTALLED WITH TRACEABLE APPURTENANCES TO THE SATISFACTION OF THE MUNICIPALITY. SANITARY TRACER WIRE SHALL BE LOCATED IN A TEST BOX (25 MM CONDUIT, COLOUR CODED "GREEN") AFFIXED TO THE SANITARY CLEANOUT, INSTALLED AT 50 MM ABOVE FINISHED GRADE AT THE PROPERTY LINE;
8. TRACER WIRE FOR NON-METALLIC FORCEMAINS SHALL BROUGHT TO THE SURFACE USING 50 MM DIAMETER VALVE BOXES WITH LIDS LABELLED "SEWER";
9. AT SANITARY SERVICE CONNECTIONS, WHERE THERE IS NO TRACER WIRE ON THE EXISTING SEWER MAIN, TRACER WIRE SHALL BE THERMITE WELDED TO THE SEWER MAIN CONNECTION AND SHALL BE CONFIGURED AS STATED ABOVE. TRACER SHALL BE LEFT WITH A MINIMUM OF 1 M OF SLACK;
10. AT THE POINT OF CONNECTION BETWEEN METALLIC AND NON-METALLIC SEWER MAIN, THE TRACER WIRE SHALL BE PROPERLY CONNECTED TO THE METALLIC PIPE WITH A THERMITE WELD OR APPROVED EQUIVALENT. PROTECTIVE COATING SHALL BE APPLIED TO ALL THERMITE WELDS;
11. ALL TRACER WIRE WELDS ONTO METALLIC PIPE SHALL BE COMPLETELY SEALED WITH THE USE OF AN APPROVED MASTIC TYPE SEALER SPECIFICALLY MANUFACTURED FOR UNDERGROUND USE. THE MASTIC SHALL BE TC MASTIC (TAPECOAT OF CANADA) OR APPROVED EQUIVALENT AND SHALL BE APPLIED IN A THICK COAT, A MINIMUM OF 12 MM THICK AND SHALL BE PROTECTED FROM CONTAMINATION BY BACKFILL MATERIAL WITH USE OF A PLASTIC MEMBRANE. AS AN ALTERNATIVE, ROYSTON HANDY CAP PREFABRICATED ASSEMBLIES USED IN CONJUNCTION WITH ROYSTON ROYBOND 747 PRIMER MAY BE USED. IN ALL CASES, THE PIPE IS TO BE PROPERLY CLEANED AND MATERIAL APPLICATIONS SHALL BE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
12. FOR DIRECTIONAL DRILLING, AUGURING OR BORING INSTALLATIONS, FOUR (4) #8 AWG TRACER WIRES SHALL BE INSTALLED WITH THE PIPE AND CONNECTED TO THE TRACER WIRE AT BOTH ENDS, OR THERMITE WELDED TO THE EXISTING METALLIC PIPE AT BOTH ENDS;
13. THE DEVELOPER SHALL CONDUCT A TRACER WIRE CONDUCTIVITY TEST AND CERTIFY THAT THE ENTIRE TRACER WIRE SYSTEM IS INSTALLED AND FUNCTIONING PROPERLY PRIOR TO ASSUMPTION. IF DEFICIENCIES ARE FOUND IN THE TRACER WIRE SYSTEM WHEN TESTED BY THE MUNICIPALITY, THE DEVELOPER SHALL BE CHARGED THE FULL COST INCURRED BY THE MUNICIPALITY FOR ALL SUBSEQUENT VISITS TO SITE TO CONFIRM FUNCTIONALITY AND ACCEPTABILITY OF THE TRACER WIRE SYSTEM.
14. REFER TO WATERMAIN SECTION FOR THE FIGURE TO ILLUSTRATES THE TRACER WIRE INSTALLATION.

STORM SEWER

1. OF 1.5 M COVER BELOW CENTRELINE OF ROAD TO OBVERT OF PIPE SHALL BE PROVIDED FOR STORM SEWERS. A MAXIMUM DEPTH FOR STORM SEWERS SHALL BE AS PER OPSD 807.010, OPSD 807.030 AND OPSD 806.040.

PIPE MATERIALS

1. STORM SEWERS SHALL BE COLOUR CODED WHITE;
2. THE MINIMUM PIPE CLASS FOR REINFORCED CONCRETE STORM PIPE SEWER SHALL BE 65-D;
3. BEDDING DESIGN SHALL BE COMPATIBLE WITH THE PIPE MATERIAL USED;
4. RIGID PIPE IS RECOMMENDED IN AREAS OF HIGH UTILITY CONGESTION, WHEN RISK OF BEDDING UNDERMINING EXISTS;
5. ULTRA-RIB PIPE IS NOT APPROVED FOR USE AS A STORM SEWER.

Type of Pipe	Specification	Diameter	Approved Use
DR 35 PVC	CSA B182.2 320 kPa stiffness	250 mm and larger	Mainline
Reinforced Concrete	CSA A257.2 Minimum Pipe Class 65-D	300 mm and larger	Mainline

CATCHBASINS

1. CATCHBASIN FRAME AND COVERS SHALL BE AS PER OPSD 400.020
2. ALL CATCHBASINS SHALL BE DESIGNED WITH A MINIMUM 0.9 M SUMP.
3. THE MINIMUM DEPTH OF COVER OVER A CATCHBASIN LEAD SHALL BE 1.5M
4. SINGLE CATCHBASIN: MINIMUM LEAD SHALL BE 300 MM DIAMETER WITH 1 % MINIMUM GRADE;
5. DOUBLE CATCHBASIN: MINIMUM LEAD SHALL BE 375 MM DIAMETER WITH 0.7 % MINIMUM GRADE;

CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP

LEGEND

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

NOTES & SPECIFICATIONS

SCALE **N/A**

SIZE ANSI D (22"X34")

DWG. NO. **C-GEN-1**

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - NOTES.DWG

WATERMAINS AND WATER SERVICES

1. ALL WATER BOXES, VALVE BOXES ETC. SHALL BE SET FLUSH WITH THE FINISHED GRADE OF THE SOD SURFACE.

2. WATERMAINS SHALL BE INSTALLED WITH A MINIMUM DEPTH OF 1.8 M MEASURED FROM TOP OF WATERMAIN TO THE CENTRE LINE OF ROAD. THE MAXIMUM DEPTH ON A WATERMAIN PIPE, UNLESS IT OCCURS AT THE CROSSING OF A WATERCOURSE OR A STRUCTURE IS 2.3 M. THE MINIMUM SLOPE FOR TRANSMISSION WATERMAIN INSTALLATION IS 0.5 %.

3. WATERMAINS WHICH CANNOT BE CONSTRUCTED WITH THE SPECIFIED MINIMUM DEPTH SHALL BE INSULATED WITH RIGID FOAM SLAB INSULATION. IN GENERAL, THE THICKNESS OF THE INSULATION SHOULD BE 50 MM FOR EVERY 300 MM REDUCTION IN THE DEPTH OF COVER. SHALLOW INSTALLATIONS OF WATERMAIN SHALL NOT BE LESS THAN 0.8 M IN DEPTH. THE INSULATION MATERIAL SHALL BE POLYSTYRENE FOAM HI 60 OR PLASTISPAN 60.

WATER MATERIALS:

- ALL WATERMAIN PIPE AND FITTINGS SHALL BE CERTIFIED TO NSF/ANSI 61. WATERMAINS, PUBLIC AND PRIVATE SIDE LATERALS SHALL BE COLOUR CODED BLUE;
- BEDDING DESIGN SHALL BE COMPATIBLE WITH THE PIPE MATERIAL USED;
- FUSED HDPE PIPE SHALL BE UTILIZED FOR INSTALLATIONS UNDER WATERCOURSE CROSSINGS.

Size/Condition	Specification
PVC	AWWA C900, DR 18, CSA B137.3
Ductile Iron with Polyethylene Encasement	Class 52 or Class 350, AWWA C150, AWWA C151 - Cement mortal interior lining (AWWA C104) with Tyton Joints
PVC	AWWA C905, DR 18, CSA B137.3
PVC	Push-on rubber gasketed Joint, AWWA C907, CSA B137.3
Ductile Iron	Push-on rubber gasketed joints, ASTM A536, AWWA C111, AWWA C153, Mechanical Joint, Ductile Iron Body and Glands cement lined seal coat to AWWA C104
PVC	ASTM F1674 and ULC standard testing procedures1,2
Ductile Iron	ASTM A536, AWWA C151 and ULC standard testing procedures
Non-Metallic Components	#8 AWG insulated underground application copper tracer wire

NOTE: 1- MECHANICAL JOINT RESTRAINING DEVICES SHALL PROVIDE 360O CIRCUMFERENTIAL CONTACT AND SUPPORT THE PIPE. DEVICES THAT EMPLOY LUG OR WEDGE ACTION AND ADD POINT LOADING TO THE PIPE OR DEVICES ARE NOT PERMITTED. 2- TIE RODS SHALL BE STAINLESS STEEL.

1. TAPPING SLEEVES AND VALVES SHALL BE IN ACCORDANCE WITH MUNICIPAL DESIGN GUIDELINES.

2. REDUCED PRESSURE BACKFLOW PREVENTORS SHALL BE AS PER CSA B64.10 AND B64.10.01.

3. BLOWOFF ASSEMBLY SHALL BE IN ACCORDANCE WITH OPSD 1104.030.

4. SAMPLE HYDRANT SHALL BE COMPLETED WITH BOSHART INDUSTRIES 304 STAINLESS STEEL PIPE, BRONZE, VALVE BODY, NSF/ANSI 372 CERTIFIED SERVICE BOX BASES (TYPE #8) TO BE USED OVER A BRONZE STOP. K-COPPER TO BE USED FOR SUPPLY LINE TO THE SAMPLE HYDRANT.

HYDRANTS:

1. HYDRANTS SHALL MAINTAIN A MINIMUM CLEARANCE OF 1.5 M FROM THE EDGE OF CURBS AND DRIVEWAYS, AND 0.5 M FROM SIDEWALK INFRASTRUCTURE OR ANY ABOVE GRADE OBSTACLES.

2. THE HYDRANT LEAD SHALL HAVE A MINIMUM DIAMETER OF 150 MM. AUXILIARY VALVES (ISOLATION VALVES) SHALL BE INSTALLED ON ALL HYDRANT LEADS. HYDRANT VALVES SHALL OPEN IN SAME DIRECTION AS THE MAINLINE WATERMAIN VALVE AND BE A MINIMUM 0.7 M AWAY FROM THE FIRE HYDRANT.

3. HYDRANT FLANGE ELEVATIONS SHALL BE SET AT A GRADE THAT WILL GIVE A FLANGE ELEVATION OF 50 MM TO 100 MM ABOVE FINAL GRADE.

4. HYDRANTS SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: CANADA VALVE - CENTURY, OR CLOW-MCAVITY - BRIGADIER M67

5. ALL HYDRANTS SHALL BE ACCORDING TO AWWA C502 AND NSF/ANSI 61 FOR DRY BARREL HYDRANTS AND OPEN COUNTER CLOCKWISE. HYDRANTS WILL HAVE TAPPED DRAIN PORTS, 150 MM MECHANICAL JOINT INLET WITH BRASS TO BRASS FITTINGS ON THE MAIN VALVE SEAT, TWO 63.5 MM HOSE NOZZLES SPREAD 180 DEGREES APART AND A 114.3 MM PUMPER NOZZLE WITH A 100 MM ULC S543 APPROVED STORZ CONNECTION. HYDRANTS WILL BE CONNECTED TO THE WATERMAIN USING A 150 MM LEAD, 150 MM GATE VALVE AND ANCHOR TEE. HYDRANTS SHALL BE SUPPLIED FOR A MINIMUM BURY DEPTH OF 1.8 M.

6. HYDRANT EXTENSIONS REQUIRED TO ADJUST THE LENGTH OF THE HYDRANT BARREL ARE TO BE OBTAINED FROM THE HYDRANT MANUFACTURER OR APPROVED SUPPLIER.

7. HYDRANT PAINT WILL BE HIGH GLOSS EXTERIOR CHROME YELLOW AND SHALL BE APPLIED OVER A QUALITY DRY RED OXIDE PRIMER. STORZ NOZZLES SHALL BE PAINTED BLACK.

VALVES:

1. VALVES SHALL BE OF THE SAME SIZE AS THE WATERMAIN. ALL VALVES SHALL OPEN IN THE COUNTER-CLOCKWISE DIRECTION.

2. GATE VALVES SHALL BE USED ON ALL WATERMAINS UP TO AND INCLUDING 500 MM IN DIAMETER.

3. ALL VALVES ON WATERMAINS UP TO AND INCLUDING 500 MM IN DIAMETER SHALL BE INSTALLED WITH VALVE BOXES. VALVE BOXES SHALL BE USED ON ALL WATER SERVICES

4. THE MINIMUM CLEARANCE FROM ABOVE GROUND OBSTRUCTIONS TO VALVE BOXES OR VALVE CHAMBERS SHALL BE 1.5 M.

5. ALL VALVES SHALL BE AS PER AWWA C509 OR C515.

6. VALVE SIZED 100 MM TO 500 MM INCLUSIVE SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: MUELLER - RESILIENT SEAT GATE VALVE A2361 OR A2362, CLOW - RESILIENT SEAT GATE VALVE F-6100, AVK - RESILIENT SEAT GATE VALVE SERIES 65 - UPTO 300 MM AND SERIES 45 - UPTO 400 MM, CLOW MCAVITY II - 20075

7. ALL VALVES WILL BE MANUFACTURED AS PER AWWA C509 OR C515. ALL VALVES ARE TO HAVE INSIDE SCREW NON-RISING SPINDLE, 50 MM SQUARE OPERATING NUT, COMPLETE WITH A FLANGED END WITH A MALE SPIGOT AND A MECHANICAL JOINT AT THE OTHER END. DIRECTION TO OPEN VALVE IS COUNTER-CLOCKWISE. ALL VALVES MUST BE INTERIOR COATED WITH FUSION BONDED EPOXY ACCORDING TO AWWA C550. ALL UNPROTECTED NUTS AND BOLTS, USED IN THE BONNET AND VALVE STEM ASSEMBLY WILL BE MADE OF STAINLESS STEEL. ALL 100 MM DIAMETER VALVES MUST BE SUPPLIED WITH STAINLESS STEEL STEM.

8. VALVE TIE-DOWNS TO BE PRE-FABRICATED, AS APPROVED BY ENGINEER. VALVE TIE-DOWNS TO BE GALVANIZED AND SUPPLIED WITH STAINLESS STEEL NUTS AND BOLTS.

9. VALVE BOX FOR SERVICE VALVES ON WATERMAINS SMALLER OR EQUAL TO 300 MM DIAMETER SHALL BE 105 MM, REGULAR STYLE, AND SLIDE TYPE WITH GUIDE PLATE AND WITH 149 MM DIAMETER COVER. VALVE BOXES SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: BIBBY-STE-CROIX - VB1200, MUELLER CANADA - MVB - BOTTOM SECTION ONLY

TRACER WIRE FOR WATER SYSTEM

1. TRACER WIRE SHALL BE #8 AWG INSULATED UNDERGROUND APPLICATION COPPER TRACER WIRE;

2. TRACER WIRE SHALL BE INSTALLED ON ALL NON-METALLIC WATERMAINS, HYDRANT LATERALS AND WATER SERVICES EXCEPT WHERE SUCH WATER SERVICE PIPE IS OF COPPER MATERIAL ALONG FULL LENGTH OF PIPE TO PROVIDE A MEANS OF LOCATING THE PIPES;

3. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 3 M INTERVALS;

4. NO BREAKS OR CUTS IN THE TRACER WIRE OR TRACER WIRE INSULATION SHALL BE PERMITTED;

5. AT SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE PLACED BETWEEN THE SADDLE AND THE WATERMAIN;

6. EXCEPT FOR APPROVED SPLICED IN CONNECTIONS, TRACER WIRE SHALL BE CONTINUOUS AND WITHOUT SPLICES FROM VALVE CHAMBER TO VALVE CHAMBER, VALVE CHAMBER TO FIRE HYDRANT OR FIRE HYDRANT TO FIRE HYDRANT;

7. AT FIRE HYDRANTS, NO SPLICED IN TRACER WIRE CONNECTIONS ARE PERMITTED REGARDLESS OF THE TYPE OF MATERIAL OF THE HYDRANT LATERAL. THE MAIN LINE TRACER SHALL FOLLOW AND BE SECURED TO THE HYDRANT LATERAL UP TO AND BACK FROM THE HYDRANT AND THEN CONTINUE ALONG THE WATERMAIN. THE TRACER WIRE SHALL BE WRAPPED NEATLY AROUND THE HYDRANT ABOVE GRADE AND ABOVE THE BREAKAWAY FLANGE WITH ATLEAST 2 M OF SLACK IN THE TRACER WIRE ABOVE GRADE;

8. AT NON-METALLIC WATER SERVICE CONNECTIONS, WHERE THERE IS NO TRACER WIRE ON THE EXISTING WATERMAIN, TRACER WIRE SHALL BE THERMITE WELDED TO THE WATERMAIN TEE OR TAPPING VALVE AND PLACED ALONG THE WATER SERVICE TO A POINT WHERE THE WATER SERVICE ENTERS EITHER INSIDE THE BUILDING OR WATER METER CHAMBER AND SHALL BE CONFIGURED AT THE VALVE BOX AS STATED BELOW. TRACER WIRE INSIDE THE WATER METER CHAMBER SHALL BE BROUGHT UP AND ATTACHED UNDER THE ACCESS COVER. TRACER WIRE BROUGHT INTO THE BUILDING SHALL BE LEFT WITH A MINIMUM OF 1 M OF SLACK;

9. IN VALVE CHAMBERS, A 12 MM DIAMETER STAINLESS STEEL EYEBOLT COMPLETE WITH STAINLESS NUT AND 50 MM DIAMETER STAINLESS STEEL FLAT WASHER SHALL BE INSTALLED BETWEEN THE LAYERS OF FRAME AND COVER ADJUSTMENT RINGS. THE EYEBOLT SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE NUT AND WASHER TO BE POSITIONED ON THE OUTSIDE OF THE ADJUSTMENT RINGS. THE TRACER WIRE IS TO BE SECURELY AFFIXED TO THE EYE OF THE BOLT WITH ENOUGH SLACK IN THE WIRE TO EXTEND A MINIMUM OF 1 M ABOVE GRADE. THE TRACER WIRE SHALL BE BROUGHT THROUGH THE WALL INTO THE CHAMBER WITH THE PIPE AND PLACED NEATLY ALONG THE INSIDE WALL OF THE CHAMBER AND BROUGHT UP THE EYEBOLT.

10. WHERE A VALVE BOX IS USED INSTEAD OF A VALVE CHAMBER, THE TRACER WIRE FROM BOTH DIRECTIONS SHALL BE SECURED EVERY 500 MM TO THE OUTSIDE OF THE VALVE BOX AND BE BROUGHT UP ON THE OUTSIDE OF THE VALVE BOX TO A POINT 100 MM BELOW GRADE AND THEN BROUGHT INTO THE VALVE BOX AND LEFT WITH AN ADDITIONAL 500 MM OF SLACK;

11. AT THE POINT OF CONNECTION BETWEEN METALLIC AND NON-METALLIC WATERMAIN, THE TRACER WIRE SHALL BE PROPERLY CONNECTED TO THE METALLIC PIPE WITH A THERMITE WELD OR APPROVED EQUIVALENT. PROTECTIVE COATING SHALL BE APPLIED TO ALL THERMITE WELDS;

12. ALL TRACER WIRE WELDS ONTO METALLIC PIPE SHALL BE COMPLETELY SEALED WITH THE USE OF AN APPROVED MASTIC TYPE SEALER SPECIFICALLY MANUFACTURED FOR UNDERGROUND USE. THE MASTIC SHALL BE TC MASTIC (TAPECOAT OF CANADA) OR APPROVED EQUIVALENT AND SHALL BE APPLIED IN A THICK COAT, A MINIMUM OF 12 MM THICK AND SHALL BE PROTECTED FROM CONTAMINATION BY BACKFILL MATERIAL WITH USE OF A PLASTIC MEMBRANE. AS AN ALTERNATIVE, ROYSTON HANDY CAP PREFABRICATED ASSEMBLIES USED IN CONJUNCTION WITH ROYSTON ROYBOND 747 PRIMER MAY BE USED. IN ALL CASES, THE PIPE IS TO BE PROPERLY CLEANED AND MATERIAL APPLICATIONS SHALL BE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

13. AT ALL WATERMAIN END CAPS, A MINIMUM OF 2 M OF TRACER WIRE SHALL BE EXTENDED BEYOND THE END OF THE PIPE, COILED AND SECURED FOR FUTURE CONNECTIONS. THE END OF THE TRACER WIRE SHALL BE SPLICED TO THE WIRE OF A 2.7 KG ZINC ANODE AND IS TO BE BURIED AT THE SAME ELEVATION AS THE WATERMAIN.

14. FOR DIRECTIONAL DRILLING, AUGURING OR BORING INSTALLATIONS, FOUR (4) #8 AWG TRACER WIRES SHALL BE INSTALLED WITH THE PIPE AND CONNECTED TO THE TRACER WIRE AT BOTH ENDS, OR THERMITE WELDED TO THE EXISTING METALLIC PIPE AT BOTH ENDS;

15. THE DEVELOPER SHALL CONDUCT A TRACER WIRE CONDUCTIVITY TEST AND CERTIFY THAT THE ENTIRE TRACER WIRE SYSTEM IS INSTALLED AND FUNCTIONING PROPERLY PRIOR TO ASSUMPTION. IF DEFFICIENCIES ARE FOUND IN THE TRACER WIRE SYSTEM WHEN TESTED BY THE MUNICIPALITY, THE DEVELOPER SHALL BE CHARGED THE FULL COST INCURRED BY THE MUNICIPALITY FOR ALL SUBSEQUENT VISITS TO SITE TO CONFIRM FUNCTIONALITY AND ACCEPTABILITY OF THE TRACER WIRE SYSTEM.

16. THE FIGURE BELOW ILLUSTRATES THE TRACER WIRE INSTALLATION:

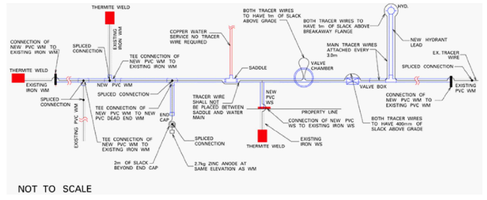


FIGURE 1: TRACER WIRE INSTALLATION

WATER SERVICE CONNECTIONS

1. CURB STOP AND BOX SHALL BE LOCATED A MINIMUM 1.5 M AWAY FROM DRIVEWAYS.

2. ALL SERVICE CONNECTIONS TO NEW MAINS SHALL BE MADE WITH MANUFACTURED TEES OR DRY TAPPING. ALL SERVICE CONNECTIONS OFF NON-METALLIC MAINS SHALL REQUIRE SERVICE SADDLES.

3. TRACER WIRE SHALL BE INSTALLED FOR EVERY NON-METALLIC WATER SERVICE PIPE OR FIRE SERVICE MAIN.

SERVICE SADDLES

1. ALL SERVICE SADDLES SHALL BE MADE OF A STAINLESS STEEL BAND FASTENED WITH MINIMUM DOUBLE BOLT MECHANISM, TAPERED RUBBER GASKETS AND SUPPLIED WITH STAINLESS STEEL NUTS, BOLTS, AND NON-CORROSIVE WASHERS.

2. FOR EXISTING METALLIC PIPES, SERVICE SADDLE IS REQUIRED FOR 19 MM, 25 MM, 32 MM, 38 MM, AND 50 MM DIAMETER MAIN STOPS - ALL AWWA TAPERED THREADS.

3. FOR PVC PIPE SERVICE SADDLES MUST BE USED FOR 19 MM, 25 MM, 32 MM, 38 MM, AND 50 MM DIAMETER MAIN STOPS - ALL AWWA TAPERED THREADS.

4. SERVICE SADDLES SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: ROMAC - 306, SMITH BLAIR - 372, MUELLER - SERVI-SEAL 521 TO 529 SERIES, FORD - FS303, CAMBRIDGE BRASS - TECK SERIES 403, ROBAR - 2616DB, ROBAR - 2706

RESIDENTIAL WATER SERVICE

1. SERVICE MARKERS PAINTED BLUE SHALL BE INSTALLED TO INDICATE CURB STOP LOCATIONS AT PROPERTY LINES.

2. THE MINIMUM SIZE OF WATER SERVICE SHALL BE 19 MM DIAMETER FOR SINGLE RESIDENTIAL CONNECTIONS. IF THE DISTANCE IS GREATER THAN 30 M TO THE EXISTING BUILDING FACE, THE WATER SERVICE SHALL BE REPLACED WITH A 25 MM DIAMETER COPPER SERVICE.

3. ALL WATER SERVICES SHALL BE INSTALLED WITH A MINIMUM COVER OF 1.8 M AND NO MORE THAN 2 M OF COVER FROM THE FINAL SURFACE GRADE.

4. ALL SERVICES 50 MM AND SMALLER IN DIAMETER, SHALL HAVE A MAIN STOP ADJACENT TO THE WATERMAIN BURIED, AND A VALVE INSTALLED AT THE PROPERTY LINE (150 MM AWAY FROM THE LOT LINE, IN THE MUNICIPAL ROW) COMPLETE WITH CURB STOP AND SERVICE BOX TO FINISHED GRADE. ALL MAIN STOPS, CURB STOPS, METER VALVES, AND SHUTOFF VALVES SHALL BE BALL VALVES.

5. NO COUPLINGS SHALL BE PERMITTED BETWEEN THE WATERMAIN AND CURB STOP FOR SERVICES 50 MM AND SMALLER IN DIAMETER.

6. THE STANDARD WATER SERVICE DIAMETERS ARE 19MM, 25MM, 32MM, 38MM, AND 50MM. COPPER WILL BE ASTM B88-03 (ASTMB88-05 FOR METRIC SIZES) TYPE 'K' SOFT COPPER. POLYETHYLENE WATER SERVICE SHALL BE MUNICIPEX, BLUE 904 (AWWA C904).

7. ALL SERVICE LINE VALVES, MAIN STOPS, CURB STOPS AND COUPLINGS SHALL BE ACCORDING TO AWWA C800.

8. ALL MAIN STOPS WILL HAVE A COMPRESSION JOINT AS FOLLOWS OR APPROVED EQUIVALENT: CAMBRIDGE BRASS - SERIES 301NL, A.Y.MCDONALD - 4701T, FORD - F-1000 AND F-600, MUELLER - H15008,

6. ALL CURB STOPS WILL HAVE A COMPRESSION JOINT AS FOLLOWS OR APPROVED EQUIVALENT: CAMBRIDGE BRASS - CENTURY BALL VALVE, FORD - BALL VALVE B-44 SERIES, MUELLER - H15209, A.Y.MCDONALD - 6100 T BALL VALVE,

7. ALL COUPLINGS WILL HAVE A COMPRESSION JOINT AS FOLLOWS OR APPROVED EQUIVALENT: CAMBRIDGE BRASS - SERIES 118, FORD - C-44, MUELLER - H15403, A.Y.MCDONALD - 4758T,

8. SERVICE BOXES WILL BE MADE OF CAST IRON AND WILL SUIT THE RESPECTIVE CURB STOP. THE BOXES WILL BE ADJUSTABLE FROM 1.8 M TO 2.1 M BURY.

9. THE RODS WILL BE 1125 MM LONG, MADE OF PASSIVATED #304 STAINLESS STEEL WITH M5 X 70 MM BRASS COTTER PINS.

10. THE PLUG MUST BE BRASS AND SCREW TYPE.

11. WHERE FURTHER EXTENSION IS REQUIRED FOR THE BOX BECAUSE OF EXTRA DEPTH, THE EXTENSION AND THE COUPLING MUST BE OF THREADED TYPE.

12. IF THE FINAL GRADE IS MORE THAN 1 M ABOVE THE TOP OF ROD, THEN ROD MUST BE REPLACED WITH ONE WHICH IS MADE OF CONTINUOUS PASSIVATED #304 STAINLESS STEEL.

13. BOX TOP TO BE STAMPED "WATER".

14. SELF-DRAINING STOP AND DRAIN SHALL BE AS FOLLOWS OR APPROVED EQUIVALENT: EMCO - SERIES 15790, MUELLER - H15219

PETROLATUM TAPE SYSTEMS

1. ANTI-CORROSION WRAP SHALL BE AS SUPPLIED BY DENSO NORTH AMERICA INC. OR TRENTON TAPE. ONLY MATERIAL FROM ONE SUPPLIER EXCLUSIVELY SHALL BE USED ON AN INSTALLATION. AT NO TIME WILL MATERIALS FROM EITHER SYSTEM BE UTILIZED WITH THE OTHER.

2. DENSO COATINGS MATERIAL WILL CONSIST OF DENSO PASTE OR DENSO PRIMING SOLUTION FOR COLD TEMPERATURE APPLICATION, DENSO PROFILING MASTIC OR DENSO MASTIC BLANKET AND DENSO LT TAPE.

3. TRENTON TAPE COATING MATERIAL WILL CONSIST OF TECTAPE PRIMER, FILL PUTTY, AND TECTAPE PETROLATUM TAPE.

MECHANICAL RESTRAINTS AND THRUST BLOCKS

1. MECHANICAL RESTRAINTS SHALL BE THE ONLY ACCEPTABLE METHOD OF RESTRAINING WATERMAIN JOINTS AND SHALL BE POSITIONED AT ALL FITTINGS, BENDS, TEES, VALVES, HYDRANTS, CROSSES, REDUCERS AND PLUGGED OR CAPPED DEAD ENDS, HORIZONTAL OR VERTICAL BENDS DEFLECTING 11.25O OR GREATER, AND CONNECTIONS GREATER THAN 50 MM IN DIAMETER.

2. ALL JOINTS WITHIN A WATERMAIN ENCASEMENT SHALL BE RESTRAINED. IN ADDITION, THE FIRST JOINT OUTSIDE OF THE WATERMAIN ENCASEMENT SHALL BE RESTRAINED.

3. ALL JOINTS ON A FIRE HYDRANT LEAD SHALL BE RESTRAINED.

4. IN AREAS OF ENGINEERED FILL, RECONSTRUCTION PROJECTS OR CONGESTED WORKS THAT WILL EXPOSE THE WATERMAIN; THE WATERMAIN SHALL BE RESTRAINED WITH MECHANICAL THRUST RESTRAINTS.

5. MECHANICAL THRUST RESTRAINTS REQUIRED AFTER A FITTING ON A WATERMAIN PIPE ARE AS FOLLOWS:

Joint Type	Restraint Required
Tee or Cross	Fitting and next pipe joint
Bend (11.25^{O} or Greater)	Fitting and next pipe joint
Increaser/Reducer	Fitting and next pipe joint
Valve	Fitting and next pipe joint
Cap /Plug	Fitting and next pipe joint

Note: 1- If pipe length less than 6.1 m, then any joint within 6.1 m of a fitting shall be restrained

6. STAINLESS STEEL STRAPS, TIE-RODS, ANGLES, NUTS, AND BOLTS USED WITH CONCRETE THRUST BLOCKS SHALL BE ACCORDING TO ASTM A276/A276M, TYPE 316 STAINLESS STEEL.

CORROSION PROTECTION

1. ALL NON-PLASTIC WATERMAIN MATERIALS AND ASSOCIATED APPURTENANCES SHALL BE PROTECTED FROM CORROSION, IN ACCORDANCE WITH MUNICIPAL DESIGN GUIDELINES.

2. SACRIFICIAL ANODE LOCATION AND TYPE FOR ALL NON-METALLIC WATERMAIN 300 MM AND SMALLER IN DIAMETER:

- FOR ALL NON-METALLIC WATERMAIN 300 MM AND SMALLER IN DIAMETER:ALL VALVES AND METALLIC FITTINGS SHALL BE PROTECTED WITH ONE (1) 5.4 KG ZINC ANODE INSTALLED ON EVERY VALVE AND METALLIC FITTING.
- FOR METALLIC AND NON-METALLIC WATERMAINS GREATER THAN 300 MM: REFER TO MUNICIPAL DESIGN GUIDELINES.

3. EACH COPPER SERVICES SHALL BE PROTECTED WITH ONE (1) 5.4 KG ZINC ANODE;

4. EACH CURB STOP SHALL BE PROTECTED WITH ONE (1) 5.4 KG ZINC ANODE;

5. TRACER WIRES SHALL BE PROTECTED WITH ONE (1) 10.8 KG ZINC ANODE SPACED NOT MORE THAN 1000 M APART;

6. EACH FIRE HYDRANT SHALL BE PROTECTED WITH ONE (1) 10.8 KG ZINC ANODE.

LOT GRADING

1. SIDE YARD AND REAR YARD SWALES SHALL HAVE A MINIMUM DEPTH OF 200 MM AND A MAXIMUM DEPTH OF 500 MM, WITH MAXIMUM SIDE SLOPES NO GREATER THAN 3:1;

2. ALL RETAINING WALLS OVER 1.0 M IN HEIGHT REQUIRE A GUARDRAIL AND MUST BE DESIGNED BY, AND THE INSTALLATION CERTIFIED BY A PROFESSIONAL STRUCTURAL ENGINEER. A BUILDING PERMIT IS REQUIRED. A MINIMUM SETBACK OF 0.5 M SHALL BE MAINTAINED FROM THE TIEBACKS OF RETAINING WALLS TO THE FOUNDATION OF ANY STRUCTURE.

ROADS

1. ROAD PAVEMENT STRUCTURE SHALL BE AS FOLLOWS:

ROAD CLASSIFICATION	FLEXIBLE PAVEMENT STRUCTURE (MINIMUM)	
	EARTH	ROCK
LOCAL	40 mm -HL 3 / SP 12.5 -Surface Course	40 mm -HL 3 / SP 12.5 -Surface Course
	50 mm -HL 8 / SP 19.0 -Base Course	50 mm -HL 8 / SP 19.0 -Base Course
	150 mm -Granular 'A'	150 mm -Granular 'A'
	300 mm -Granular 'B'	150 mm -Granular 'B'
		Over 300 mm Rock Shatter

2. CONCRETE CURB AND GUTTER SHALL BE AS PER OPSD 600.040 AND OPSS.MUNI 353.

3. ROAD SUBDRAINS SHALL BE CONSTRUCTED ALONG BOTH SIDES OF ALL ROADS WITH CURB AND GUTTER. SUBDRAINS SHALL CONSTRUCTED AS PER OPSD 216.021, PSD-026 AND OPSS.MUNI 405. SUBDRAIN PIPE SHALL BE WITH KNITTED SOCK GEOTEXTILE.

4. SIDEWALKS

- SIDEWALKS SHALL BE AS PER OPSD SERIES 310 AND OPSS.MUNI 351.
- ALL SIDEWALKS SHALL CONFORM WITH ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT (AODA).
- ALL NEW SIDEWALK RAMPS AT INTERSECTIONS SHALL INCLUDE TACTILE WARNING SURFACE INDICATORS AS PER OPSD 310.039.
- BEDDING SHALL BE GRANULAR 'A' WITH MINIMUM THICKNESS OF 150 MM.
- CONCRETE SIDEWALK RAMP LOCATIONS TAKE PRECEDENCE OVER PROPOSED DRIVEWAY LOCATIONS.

5. WALKWAYS

- ALL WALKWAYS SHALL CONFORM WITH ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT (AODA). WALKWAYS SHALL BE A MINIMUM OF 1.5 M WIDE. WALKWAYS SHALL BE RAISED 0.15 M AND HARD SURFACED WITH MATERIAL OTHER THAN ASPHALT TO ENSURE PEDESTRIANS CAN DISTINGUISH FROM PARKING AREAS.
- MINIMUM THICKNESS, BEDDING AND COMPRESSIVE STRENGTH REQUIREMENTS SHALL CONFORM WITH CONCRETE SIDEWALK STANDARD.

6. BOULEVARDS

- BOULEVARD IS THE AREA BETWEEN THE PROPERTY LINE AND BACK OF CURB. ALL BOULEVARDS SHALL BE SODDED UNLESS OTHERWISE APPROVED BY THE MUNICIPALITY. TOPSOIL AND SOD SHALL CONFORM WITH OPSS.MUNI 802 AND 803.
- BOULEVARDS SHALL BE CONSTRUCTED TO MAINTAIN POSITIVE DRAINAGE AT THE SAME SLOPE AS THE DRIVEWAY.

7. PAVEMENT MARKINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL (OTM), AND INSTALLED PER OPSS 710.

8. STREET SIGNS AND REGULATORY SIGNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUNICIPALITY'S BY-LAWS AND SPECIFICATIONS.

9. ALL DRIVEWAYS SHALL BE ASPHALT WITH THE FOLLOWING MINIMUM CONSOLIDATED DEPTH REQUIREMENTS:

- HL 3 ASPHALT - 50 MM; AND
- 150 MM OF GRANULAR 'A'

MUNICIPAL INSPECTION AND TESTING REQUIREMENTS

1. THE CONTRACTOR SHALL FACILITATE TESTING AS REQUIRED FOR PROJECT CERTIFICATIONS, INCLUDING MATERIALS TESTING FOR SUBGRADE, ASPHALT, GRANULAR AND CONCRETE TESTING.

2. WHERE TESTING OF MATERIALS OR INSTALLATIONS FAILS TO MEET PROJECT SPECIFICATIONS, THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING AND REINSTALLING COMPLIANT MATERIALS AT THEIR OWN EXPENSE.

3. ALL REQUIREMENTS AS PER SECTION 7.0: DOCUMENTATION AND SECTION 8: INSPECTION AND TESTING FOR SANITARY SEWERS, STORM SEWERS AND FORCEMAINS OF THE MOST CURRENT VERSION OF THE MECP MANUAL "DESIGN CRITERIA FOR SANITARY SEWERS, STORM SEWERS AND FORCEMAINS FOR ALTERATIONS AUTHORIZED UNDER ENVIRONMENTAL COMPLIANCE APPROVAL" ARE MET TO THE SATISFACTION OF THE MUNICIPAL ENGINEER OR DESIGNATE.

4. LOW PRESSURE AIR TEST IS NOT RECOMMENDED WHEN GROUNDWATER ELEVATION IS 600 MM OR GREATER ABOVE THE CROWN OF THE PIPE BEING TESTED AT THE TIME OF TESTING. WHERE GROUNDWATER ELEVATION IS LESS THAN OR EQUAL TO 600 MM TEST PRESSURE SHALL BE ADJUSTED TO COMPENSATE FOR GROUND WATER PRESSURE.

WATER SYSTEMS

1. PRIOR TO CONSTRUCTION OF WATERMAIN AND ASSOCIATED APPURTENANCES, THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE MUNICIPAL ENGINEER OR DESIGNATE 48 HOURS IN ADVANCE.

2. DURING CONSTRUCTION ALL WATERMAIN AND ASSOCIATED APPURTENANCES SHALL BE INSTALLED, INSPECTED AND TESTED AS PER OPSS 402, 408, 441, 442, 462, 493, 1351, 1853, 1854, MUNICIPAL WATER SYSTEMS MANUAL AND MECP "2020 WATER DISINFECTION PROCEDURE".

3. WATERMAINS AND ASSOCIATED APPURTENANCES SHALL BE COMMISSIONED AS PER THE MUNICIPAL "WATERMAIN COMMISSIONING MANUAL" (LATEST VERSION TO BE OBTAINED FROM THE MUNICIPAL ENGINEER OR DESIGNATE).

4. A TRACER WIRE CONDUCTIVITY TEST SHALL BE CONDUCTED AS STATED IN THE MUNICIPAL "WATER SYSTEMS MANUAL".

5. DEFLECTION TESTING FOR HDPE PIPE SHALL BE COMPLETED IN ACCORDANCE WITH OPSS MUNI 438.

SANITARY AND STORM SYSTEMS

1. CLEANING AND FLUSHING SHALL BE OPSS 411. LIQUID SHALL BE FILTERED AND DISCHARGED INTO STORM SEWER SYSTEM AND OUTFALL. DEBRIS SHALL BE DISPOSED AT AN APPROVED FACILITY OFF SITE.

2. CCTV AND LEAKAGE TESTING FOR SANITARY SEWERS, FORCEMAINS, MAINTENANCE HOLES AND ASSOCIATED INFRASTRUCTURE SHALL BE INSTALLED, INSPECTED AND TESTED AS PER OPSS 402, 407, 408, 410, 411, 412, 1351, 1853, 1854 AND MUNICIPAL SANITARY SYSTEMS MANUAL;

3. CATCHBASINS AND MAINTENANCE HOLES SHALL BE THOROUGHLY FLUSHED AND CLEANED TO REMOVE ALL SEDIMENTS

4. A TRACER WIRE CONDUCTIVITY TEST SHALL BE CONDUCTED AS STATED IN THE MUNICIPAL "SANITARY SYSTEMS MANUAL".

CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP

LEGEND

REFER TO C-GEN-3

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

NOTES & SPECIFICATIONS

SCALE N/A

SIZE ANS

LEGEND

LIMIT OF PROJECT
PROPOSED ASPHALT SURFACE
PROPOSED CONCRETE SURFACE
PROPOSED RETAINING WALL
PROPOSED BUILDING FOOTPRINT

GRADING:

PROPOSED SWALE
PROPOSED TOP OF BANK
PROPOSED BTM OF BANK
1.4% PROPOSED GRADE
× 106.378 PROPOSED ELEVATION
× (106.551) PROPOSED SWALE ELEVATION
EXISTING SWALE
EXISTING TOP OF BANK
EXISTING BTM OF BANK
1.4% EXISTING GRADE
106.378 EXISTING ELEVATION
(106.551) EXISTING SWALE ELEVATION
104 EXISTING CONTOUR

UTILITIES:

PROPOSED LIGHT STANDARD

GEOTECHNICAL:

BOREHOLE LOCATION

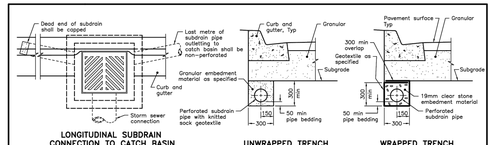
SERVICING:

WM PROPOSED WATERMAIN
PROPOSED WATER SERVICE
PROPOSED HYDRANT
PROPOSED TEE
PROPOSED GATE VALVE
PROPOSED BEND
SAN PROPOSED SANITARY SEWER
PROPOSED SANITARY SERVICE
PROPOSED SANITARY MH
STM PROPOSED STORM SEWER
PROPOSED CATCH BASIN (CB)
PROPOSED DOUBLE CATCH BASIN (DCB)
PROPOSED STORM MH
PROPOSED CBMH
PROPOSED DCBMH
WM EXISTING WATERMAIN
EXISTING HYDRANT
EXISTING TEE
EXISTING GATE VALVE
EXISTING BEND
SAN EXISTING SANITARY SEWER
EXISTING SANITARY MH
STM EXISTING STORM SEWER
EXISTING CATCH BASIN (CB)
DCB EXISTING DOUBLE CATCH BASIN (DCB)
EXISTING STORM MH
CBMH EXISTING CBMH
DCBMH EXISTING DCBMH

SIGNAGE:

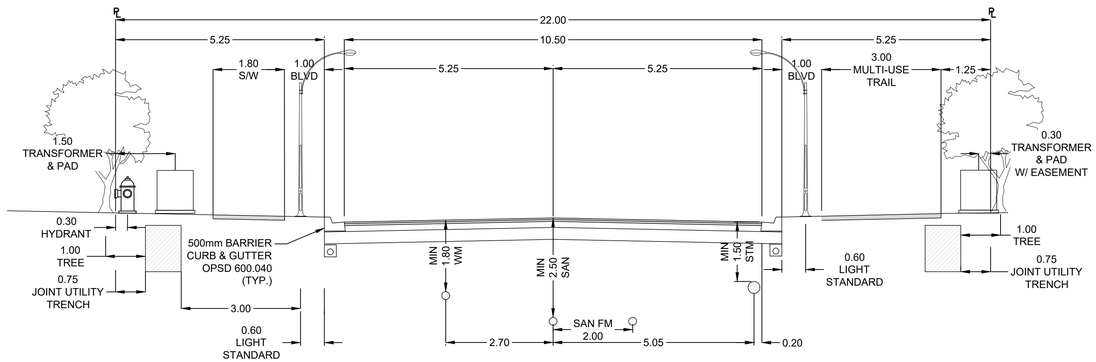
PROPOSED SIGN

1. TRAFFIC SIGNS SHALL BE IN ACCORDANCE WITH ONTARIO TRAFFIC MANUAL BOOK 5 REGULATORY SIGNS AND BOOK 6 WARNING SIGNS

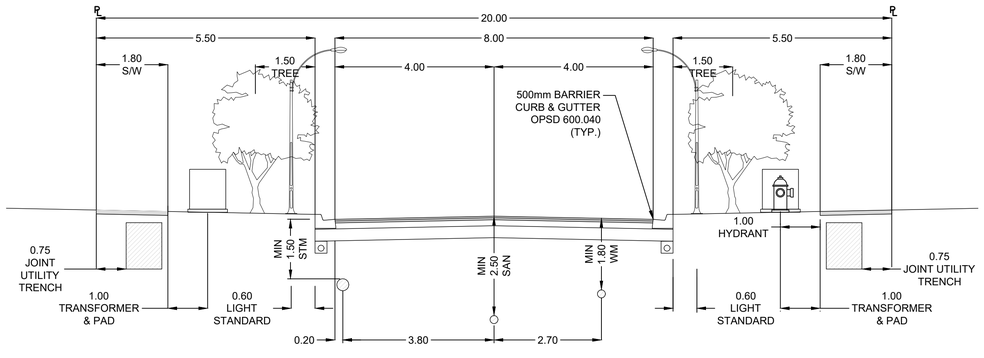


NOTES:
1 Core hole diameter to allow outlet pipe into structure.
2 Install outlet pipe flush with inside face of catch basin.
3 Annular space around pipe shall be filled with non-shrink grout.
A Use compatible manufactured fittings for all connectors, couplings, and caps.
B Trench dimensions shown to accommodate 100 or 150mm diameter subdrain pipe.
C Longitudinal subdrain pipe shall be installed parallel to the grade of the gutter.
D All dimensions are in millimetres unless otherwise shown.

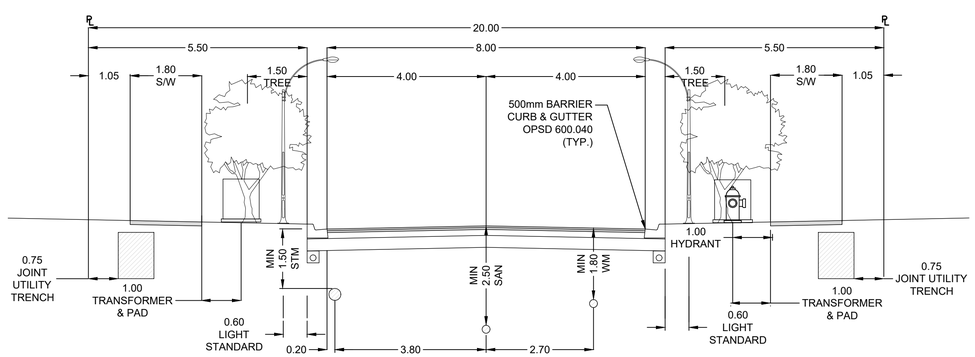
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2017	Rev 3
SUBDRAIN PIPE CONNECTION AND OUTLET URBAN SECTION		OPSD 216.021



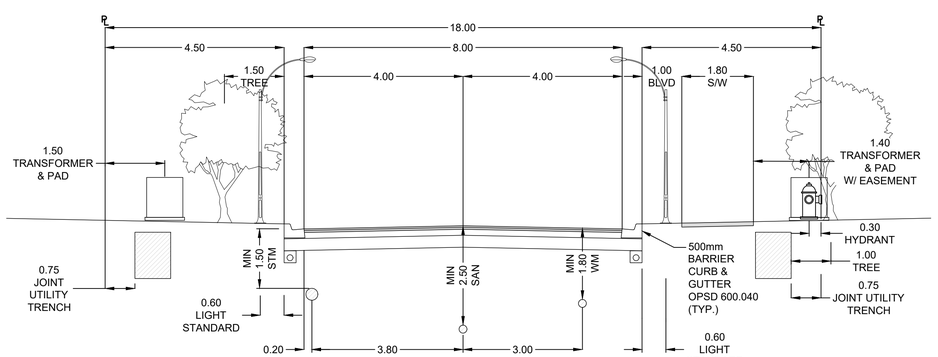
1 22m RIGHT OF WAY (STREET A)
SCALE: 1:75



2 20m RIGHT OF WAY (STREET B) STA 20+000 TO 20+665
SCALE: 1:75



3 20m RIGHT OF WAY (STREET B) STA 20+665 TO STA 20+903
SCALE: 1:75



4 18m RIGHT OF WAY
SCALE: 1:75

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - LEGEND & SECTIONS.DWG

CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP

LEGEND

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE
DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

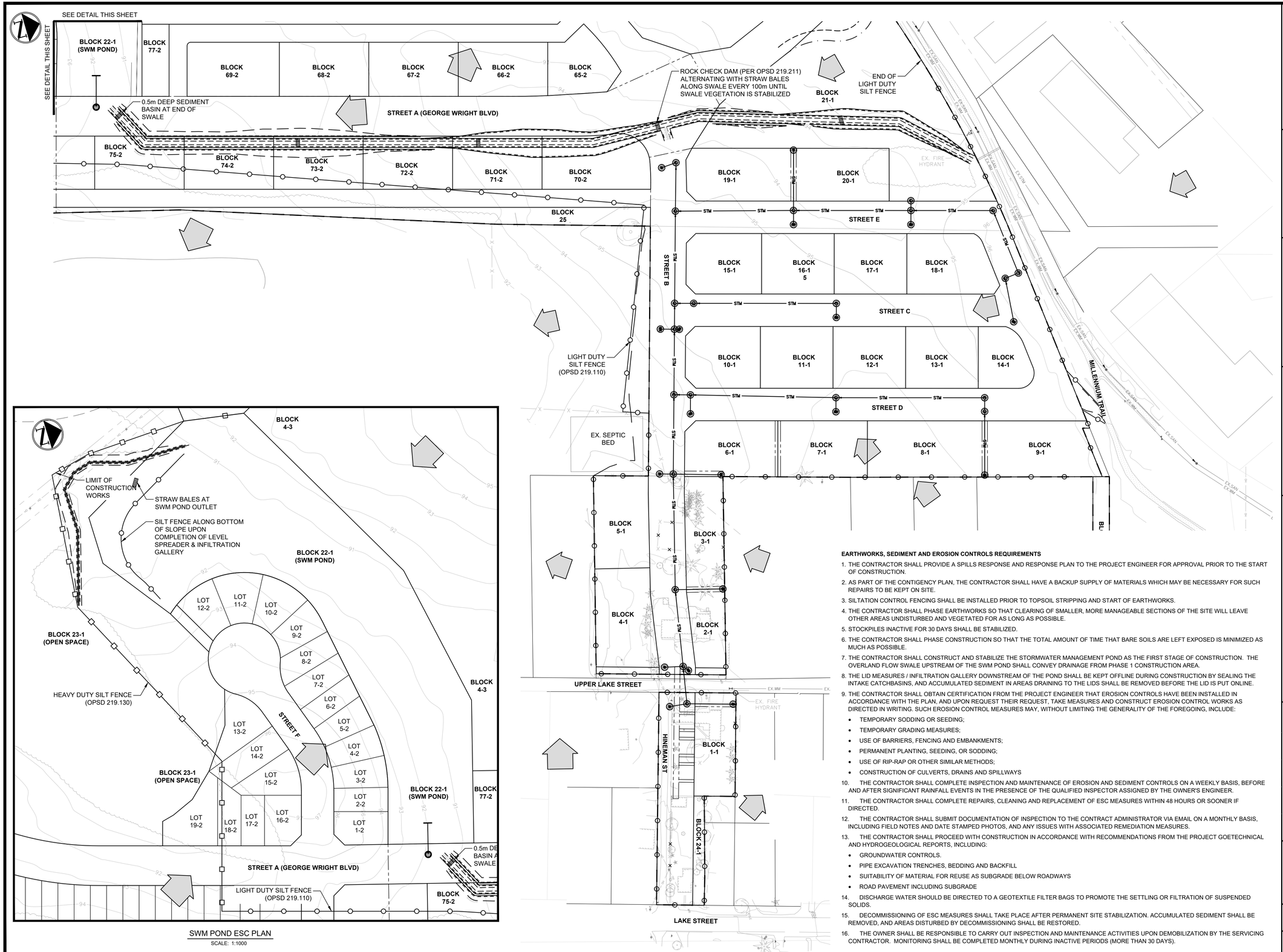
REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

LEGEND & ROAD SECTIONS

SCALE AS SHOWN
SIZE ANSI D (22"X34")
DWG. NO. **C-GEN-3**



SWM POND ESC PLAN

SCALE: 1:1000

EARTHWORKS, SEDIMENT AND EROSION CONTROLS REQUIREMENTS

1. THE CONTRACTOR SHALL PROVIDE A SPILLS RESPONSE AND RESPONSE PLAN TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.
2. AS PART OF THE CONTIGENCY PLAN, THE CONTRACTOR SHALL HAVE A BACKUP SUPPLY OF MATERIALS WHICH MAY BE NECESSARY FOR SUCH REPAIRS TO BE KEPT ON SITE.
3. SILTATION CONTROL FENCING SHALL BE INSTALLED PRIOR TO TOPSOIL STRIPPING AND START OF EARTHWORKS.
4. THE CONTRACTOR SHALL PHASE EARTHWORKS SO THAT CLEARING OF SMALLER, MORE MANAGEABLE SECTIONS OF THE SITE WILL LEAVE OTHER AREAS UNDISTURBED AND VEGETATED FOR AS LONG AS POSSIBLE.
5. STOCKPILES INACTIVE FOR 30 DAYS SHALL BE STABILIZED.
6. THE CONTRACTOR SHALL PHASE CONSTRUCTION SO THAT THE TOTAL AMOUNT OF TIME THAT BARE SOILS ARE LEFT EXPOSED IS MINIMIZED AS MUCH AS POSSIBLE.
7. THE CONTRACTOR SHALL CONSTRUCT AND STABILIZE THE STORMWATER MANAGEMENT POND AS THE FIRST STAGE OF CONSTRUCTION. THE OVERLAND FLOW SWALE UPSTREAM OF THE SWM POND SHALL CONVEY DRAINAGE FROM PHASE 1 CONSTRUCTION AREA.
8. THE LID MEASURES / INFILTRATION GALLERY DOWNSTREAM OF THE POND SHALL BE KEPT OFFLINE DURING CONSTRUCTION BY SEALING THE INTAKE CATCHBASINS, AND ACCUMULATED SEDIMENT IN AREAS DRAINING TO THE LIDS SHALL BE REMOVED BEFORE THE LID IS PUT ONLINE.
9. THE CONTRACTOR SHALL OBTAIN CERTIFICATION FROM THE PROJECT ENGINEER THAT EROSION CONTROLS HAVE BEEN INSTALLED IN ACCORDANCE WITH THE PLAN, AND UPON REQUEST THEIR REQUEST, TAKE MEASURES AND CONSTRUCT EROSION CONTROL WORKS AS DIRECTED IN WRITING. SUCH EROSION CONTROL MEASURES MAY, WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, INCLUDE:
   - TEMPORARY SODDING OR SEEDING;
   - TEMPORARY GRADING MEASURES;
   - USE OF BARRIERS, FENCING AND EMBANKMENTS;
   - PERMANENT PLANTING, SEEDING, OR SODDING;
   - USE OF RIP-RAP OR OTHER SIMILAR METHODS;
   - CONSTRUCTION OF CULVERTS, DRAINS AND SPILLWAYS
10. THE CONTRACTOR SHALL COMPLETE INSPECTION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS ON A WEEKLY BASIS, BEFORE AND AFTER SIGNIFICANT RAINFALL EVENTS IN THE PRESENCE OF THE QUALIFIED INSPECTOR ASSIGNED BY THE OWNER'S ENGINEER.
11. THE CONTRACTOR SHALL COMPLETE REPAIRS, CLEANING AND REPLACEMENT OF ESC MEASURES WITHIN 48 HOURS OR SOONER IF DIRECTED.
12. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION OF INSPECTION TO THE CONTRACT ADMINISTRATOR VIA EMAIL ON A MONTHLY BASIS, INCLUDING FIELD NOTES AND DATE STAMPED PHOTOS, AND ANY ISSUES WITH ASSOCIATED REMEDIATION MEASURES.
13. THE CONTRACTOR SHALL PROCEED WITH CONSTRUCTION IN ACCORDANCE WITH RECOMMENDATIONS FROM THE PROJECT GOETECHNICAL AND HYDROGEOLOGICAL REPORTS, INCLUDING:
   - GROUNDWATER CONTROLS.
   - PIPE EXCAVATION TRENCHES, BEDDING AND BACKFILL
   - SUITABILITY OF MATERIAL FOR REUSE AS SUBGRADE BELOW ROADWAYS
   - ROAD PAVEMENT INCLUDING SUBGRADE
14. DISCHARGE WATER SHOULD BE DIRECTED TO A GEOTEXTILE FILTER BAGS TO PROMOTE THE SETTLING OR FILTRATION OF SUSPENDED SOLIDS.
15. DECOMMISSIONING OF ESC MEASURES SHALL TAKE PLACE AFTER PERMANENT SITE STABILIZATION. ACCUMULATED SEDIMENT SHALL BE REMOVED, AND AREAS DISTURBED BY DECOMMISSIONING SHALL BE RESTORED.
16. THE OWNER SHALL BE RESPONSIBLE TO CARRY OUT INSPECTION AND MAINTENANCE ACTIVITIES UPON DEMOBILIZATION BY THE SERVICING CONTRACTOR. MONITORING SHALL BE COMPLETED MONTHLY DURING INACTIVE PERIODS (MORE THAN 30 DAYS).

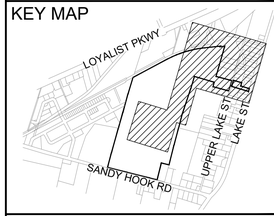
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

- LIGHT DUTY SILT FENCE (OPSD 219.110)
- HEAVY DUTY SILT FENCE (OPSD 219.130)
- CLOTH FILTER
- OVERLAND FLOW DIRECTION

INSITE PROJECT CONSULTING INC.

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DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

REVISIONS

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DRAWING TITLE

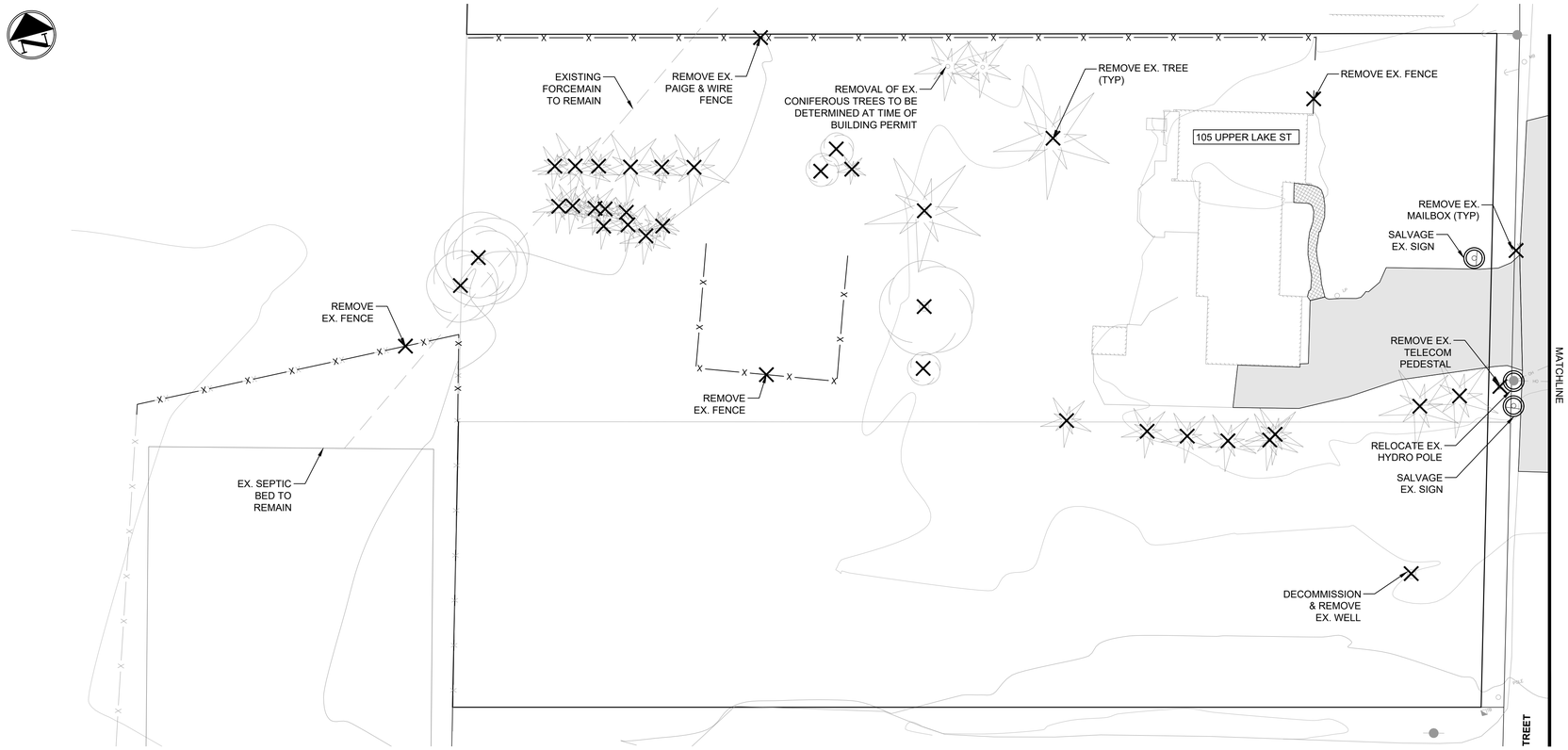
EXISTING CONDITIONS & EROSION AND SEDIMENT CONTROL

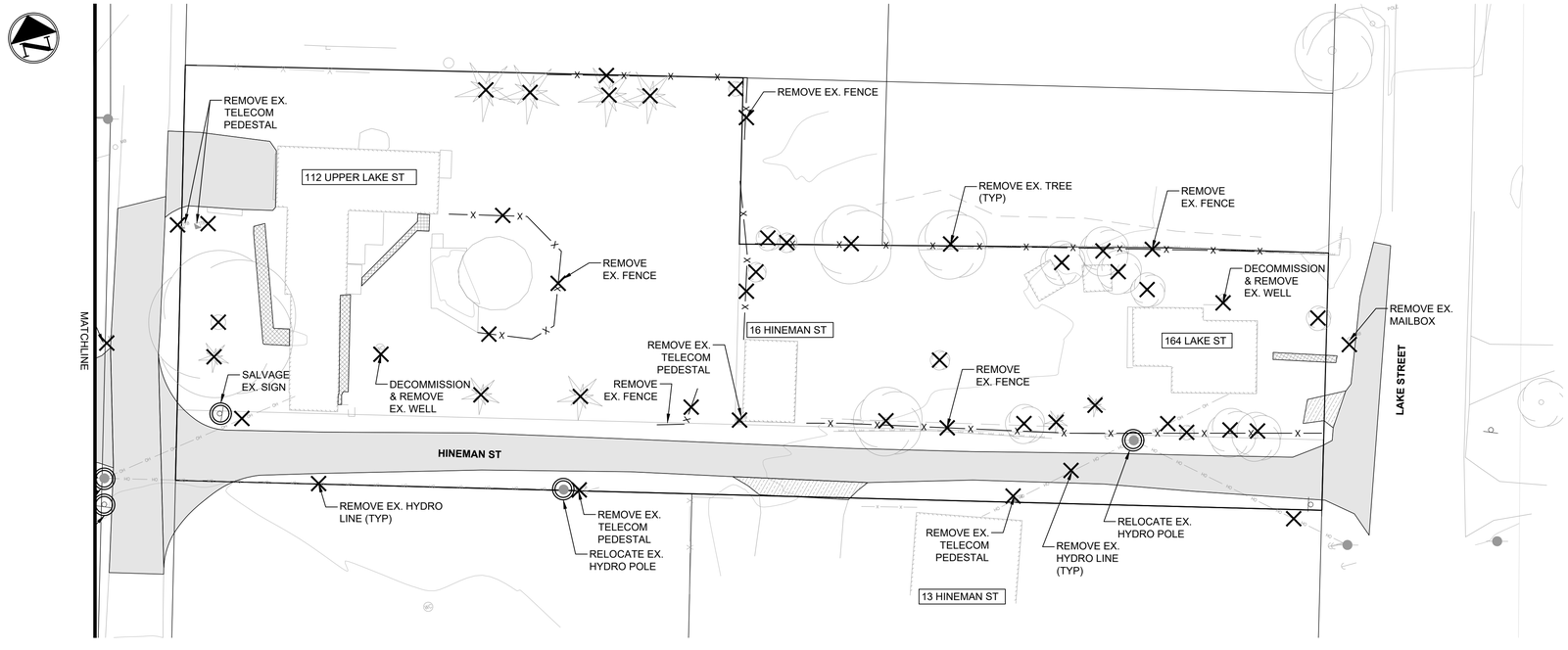
SCALE 1:1000

SIZE ANSI D (22"X34")

DWG. NO. **C-GEN-4**

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - EXISTING CONDITIONS.DWG





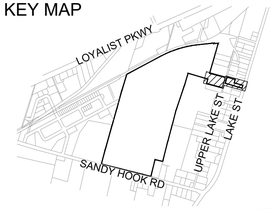
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

- REMOVAL ITEMS
- SALVAGE / RELOCATE ITEMS
- ASPHALT REMOVAL
- CONCRETE REMOVAL
- GRAVEL REMOVAL

INSITE PROJECT CONSULTING INC.

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DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

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1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

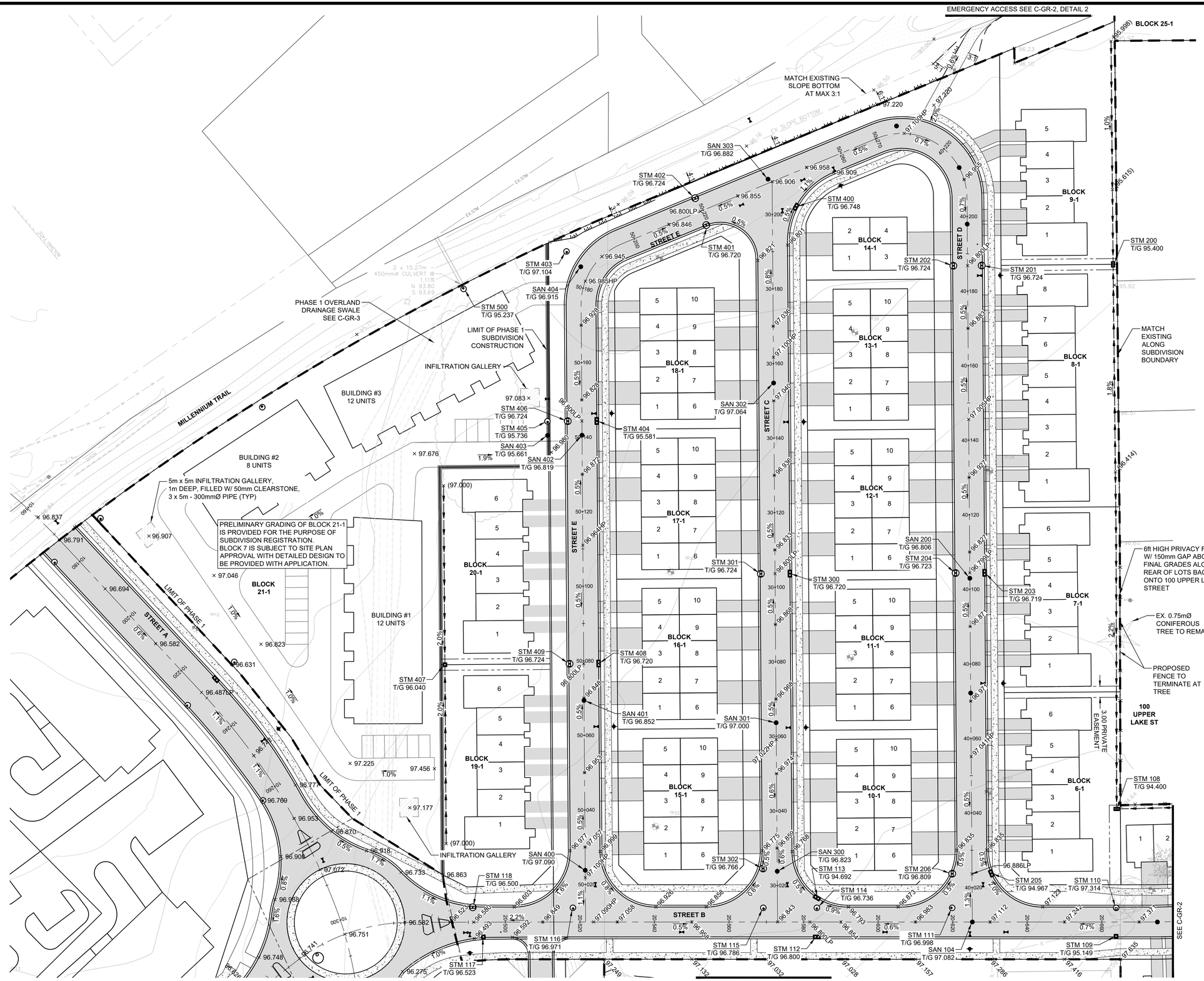
REMOVALS PLAN

SCALE 1:300

SIZE ANSI D (22"X34")

DWG. NO. C-GEN-5

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - EXISTING CONDITIONS.DWG



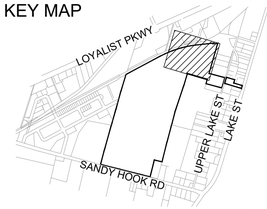
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

INSITE PROJECT CONSULTING INC.

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DESIGNED BY: N.DIONNE, P.ENG

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1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

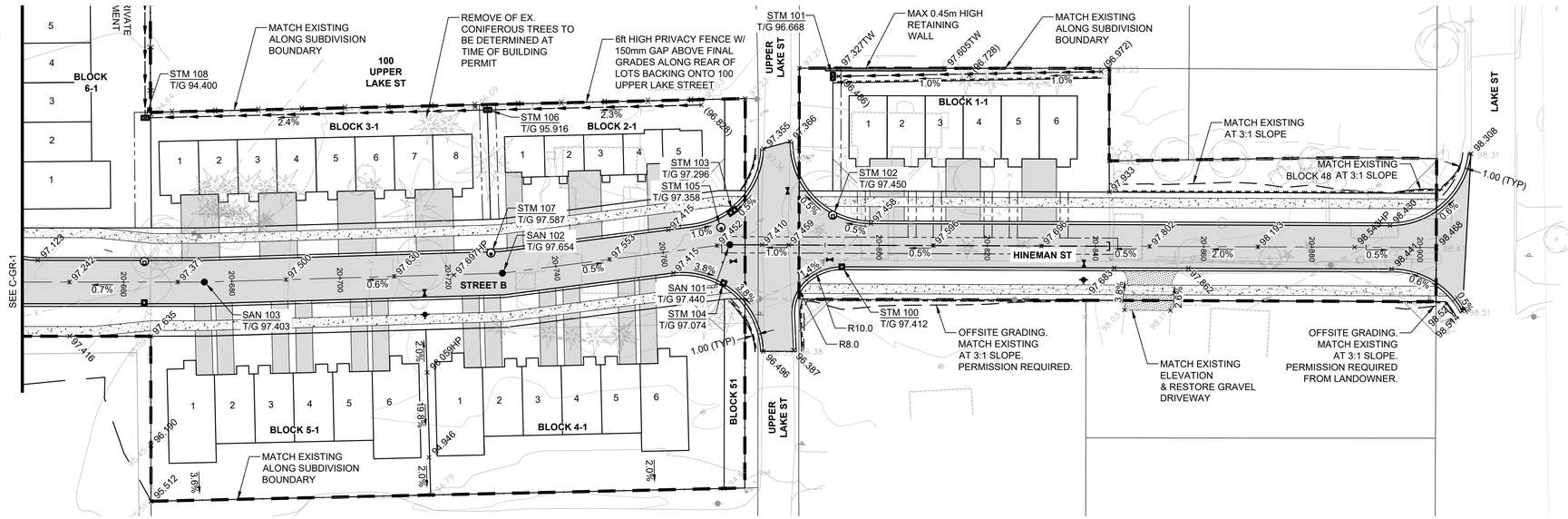
GENERAL GRADING PLAN

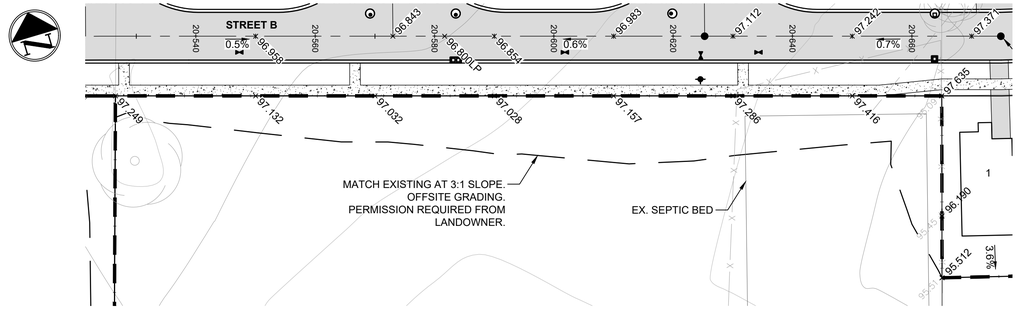
SCALE 1:500

SIZE ANSI D (22"X34")

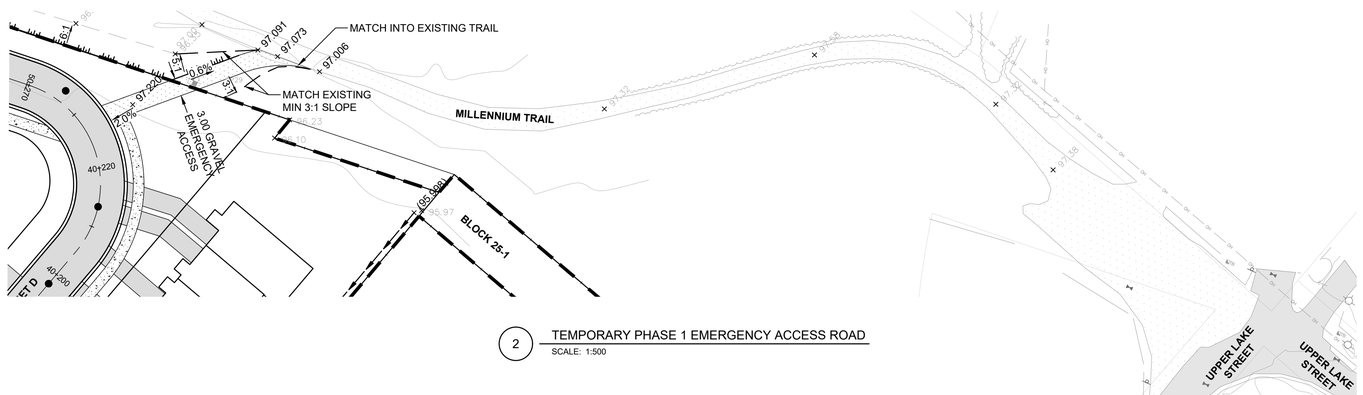
DWG. NO. C-GR-1

C:\USERS\16879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - GRADING.DWG





1 OFFSITE GRADING
SCALE: 1:500



2 TEMPORARY PHASE 1 EMERGENCY ACCESS ROAD
SCALE: 1:500

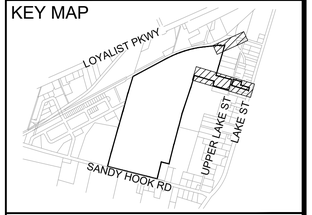
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER
N.M. DIONNE
100008108
2025-05-23
PROVINCE OF ONTARIO

REVISIONS

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DRAWING TITLE

GENERAL GRADING PLAN

SCALE 1:500

DWG. NO. C-GR-2

SIZE ANSI D (22"X34")

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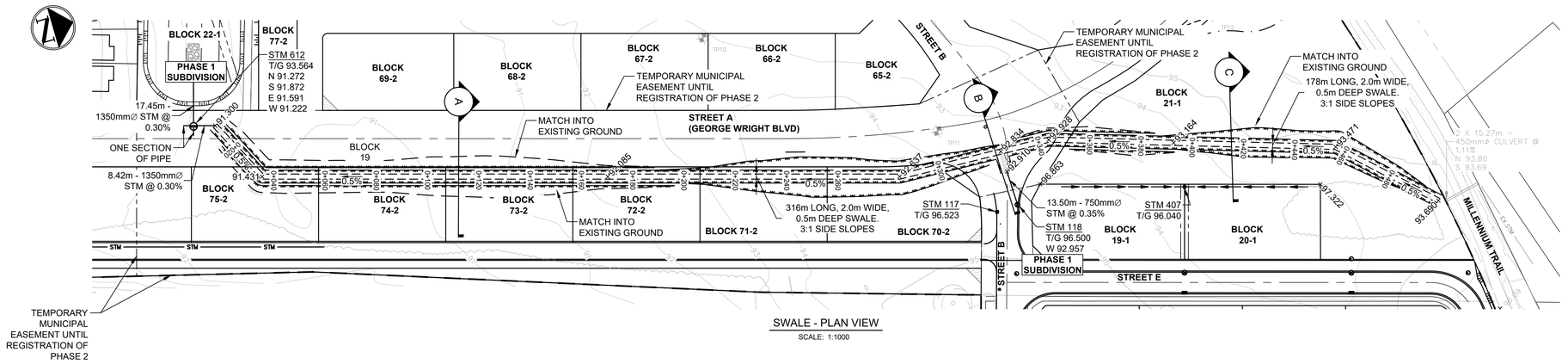
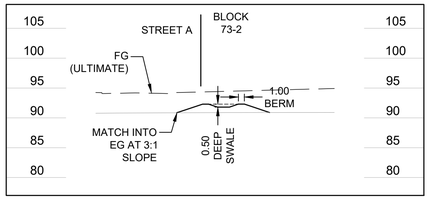


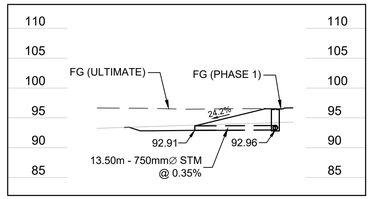
SWALE - PLAN VIEW

SCALE: 1:1000



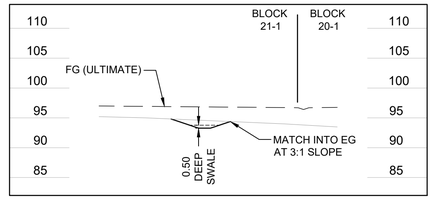
A SWALE SECTION

SCALE: 1:500



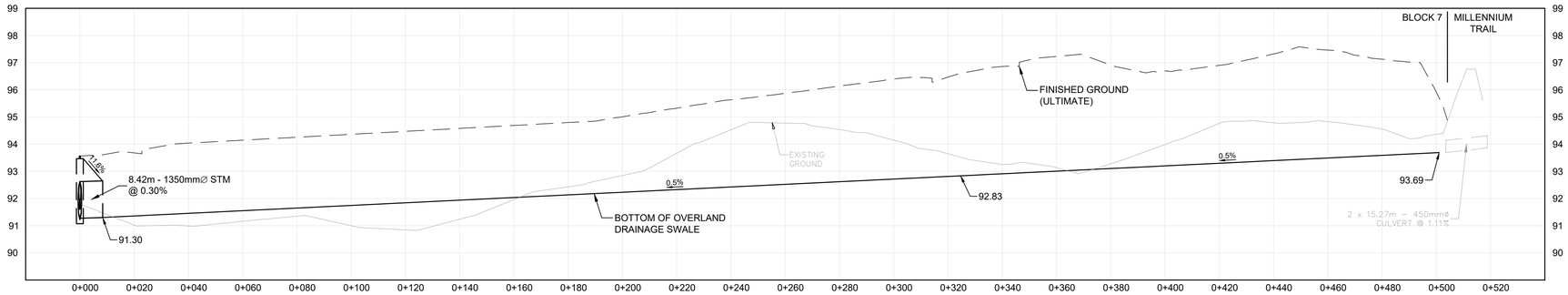
B SWALE SECTION

SCALE: 1:500



C SWALE SECTION

SCALE: 1:500



SWALE - PROFILE VIEW

SCALE: H 1:1000
V 1:100

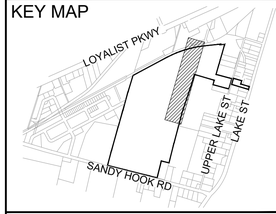
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

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LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

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DRAWING TITLE

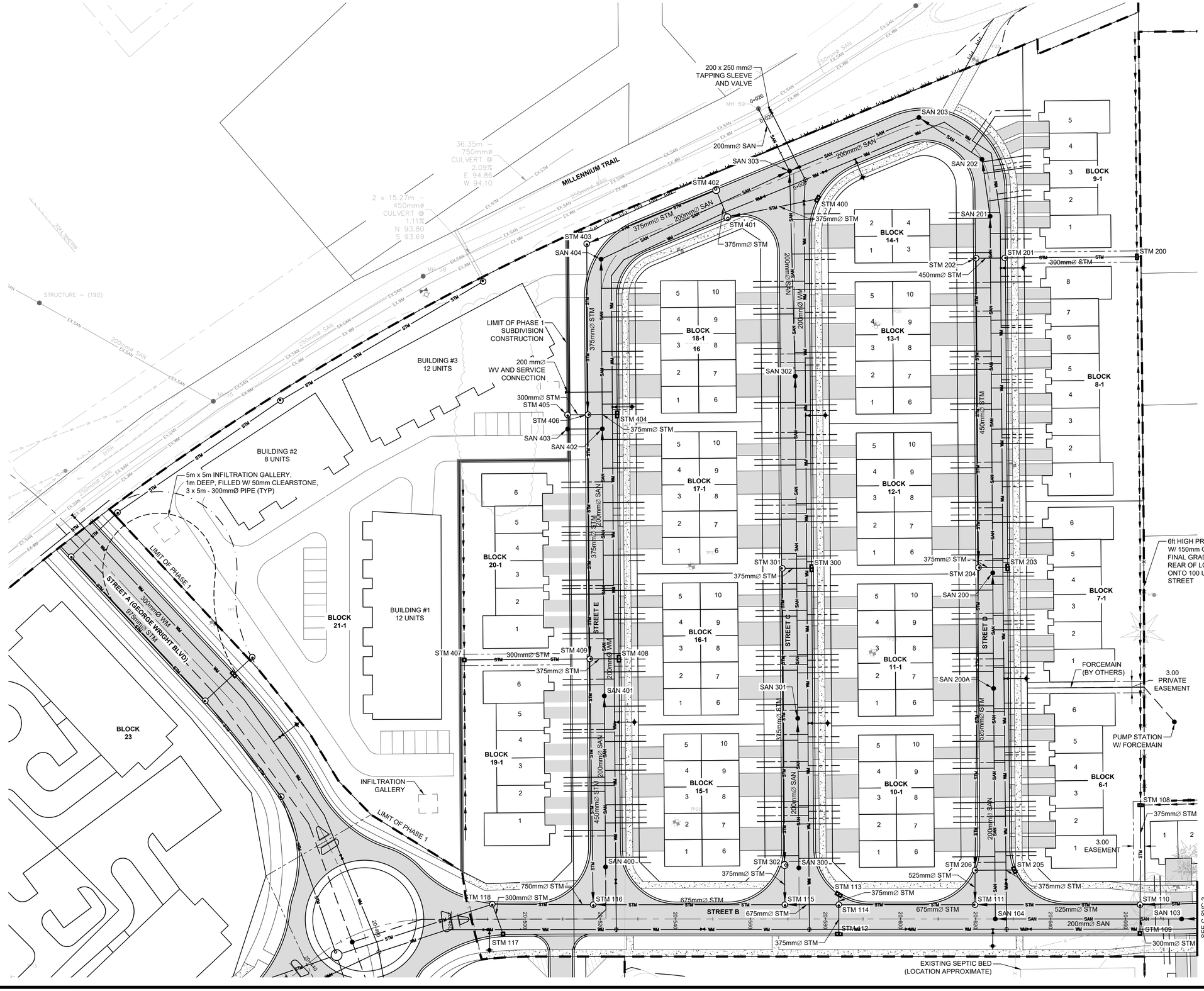
OVERLAND DRAINAGE SWALE

SCALE **AS SHOWN**

SIZE ANSI D (22"X34")

DWG. NO. **C-GR-3**

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - OVERLAND SWALE.DWG



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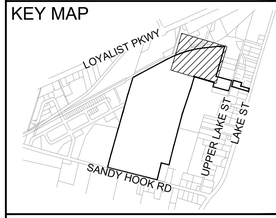
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

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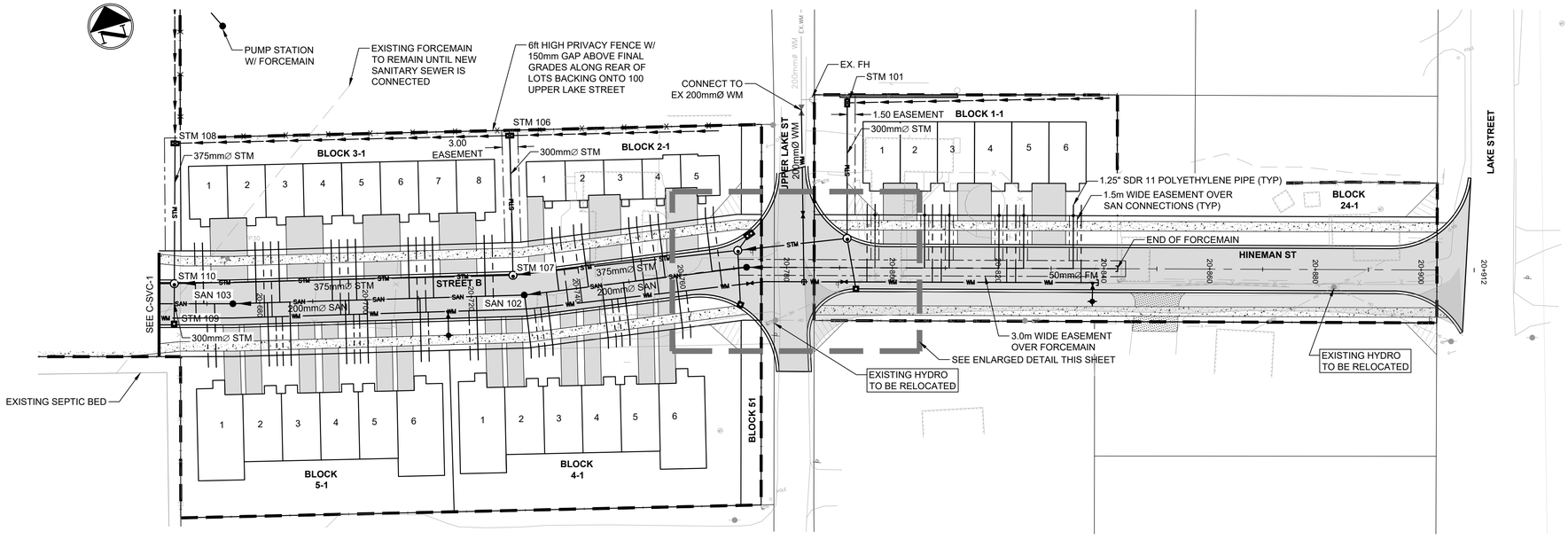
DRAWING TITLE

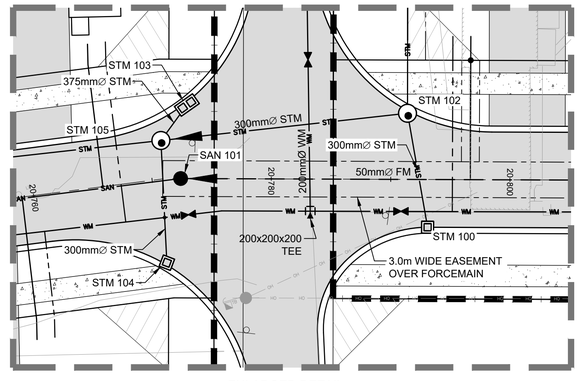
SERVICING PLAN

SCALE 1:500

SIZE ANSI D (22"X34")

DWG. NO. C-SVC-1





ENLARGED DETAIL
SCALE: 1:250

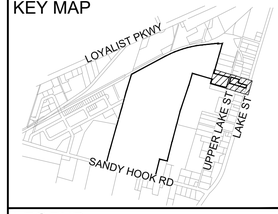
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

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LICENSED PROFESSIONAL ENGINEER
N.M. DIONNE
100009108
2025-05-23
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1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

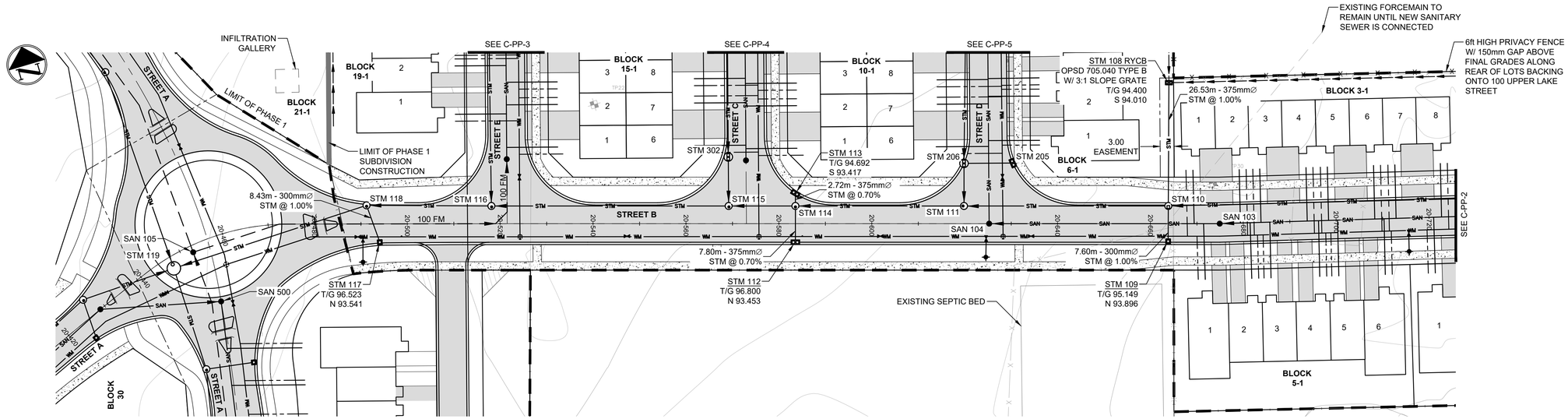
SERVICING PLAN

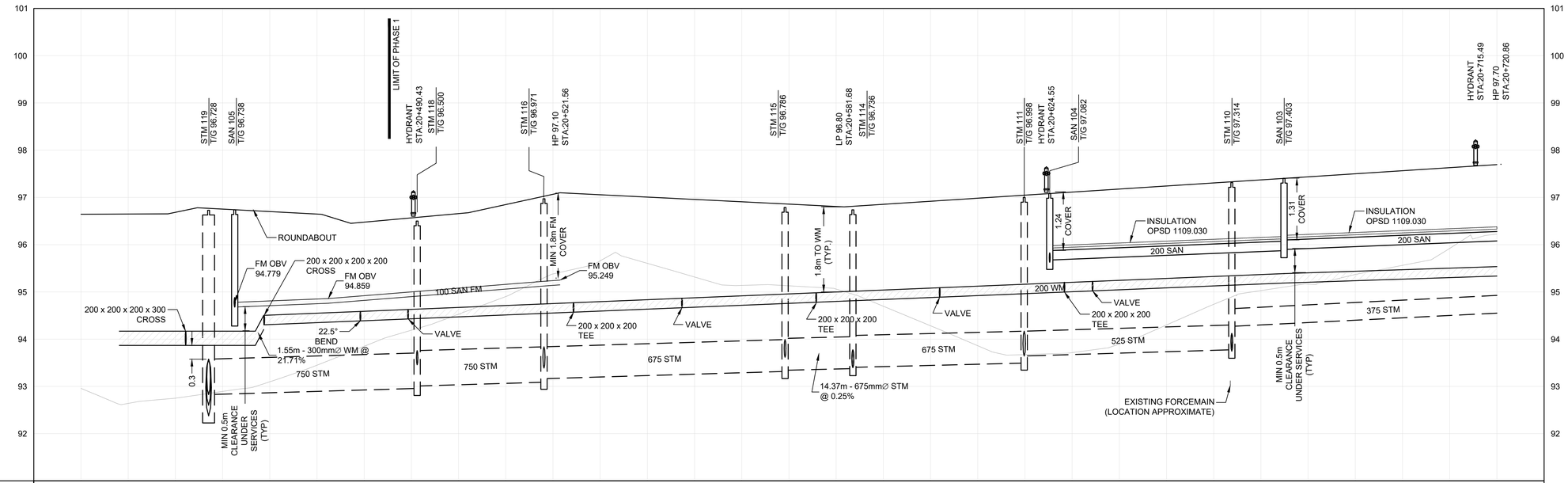
SCALE 1:500

SIZE ANSI D (22"X34")

DWG. NO. C-SVC-2

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - SERVICING.DWG





C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - PLAN & PROFILE - ROAD B.DWG

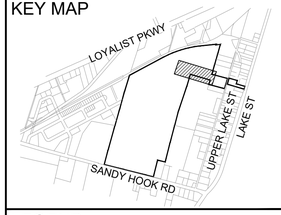
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

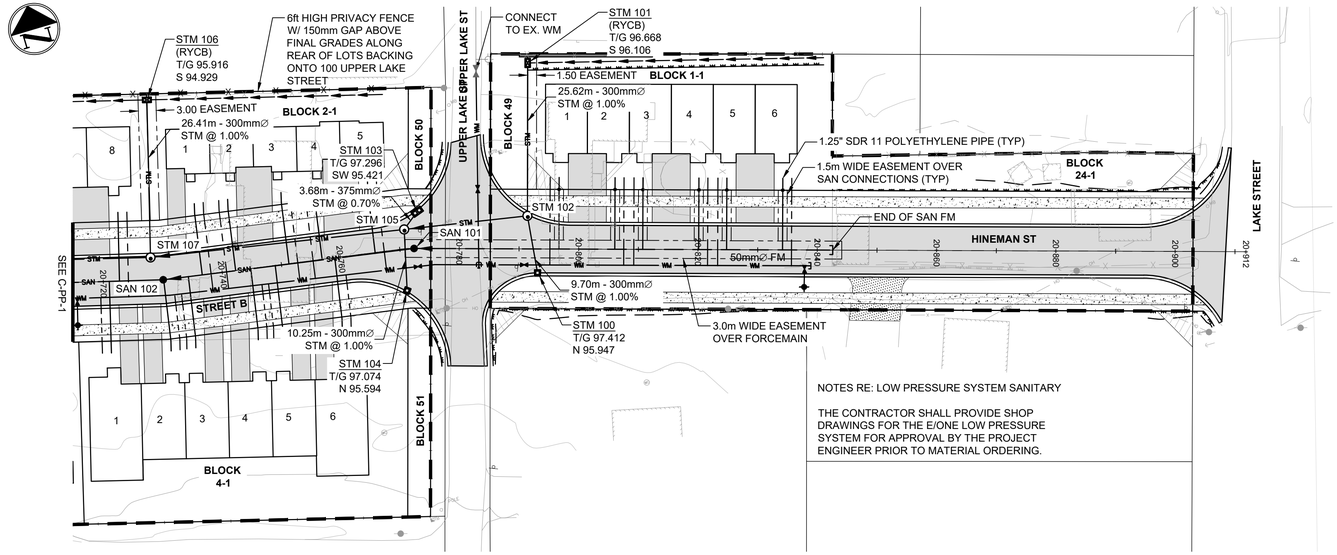
DRAWING TITLE

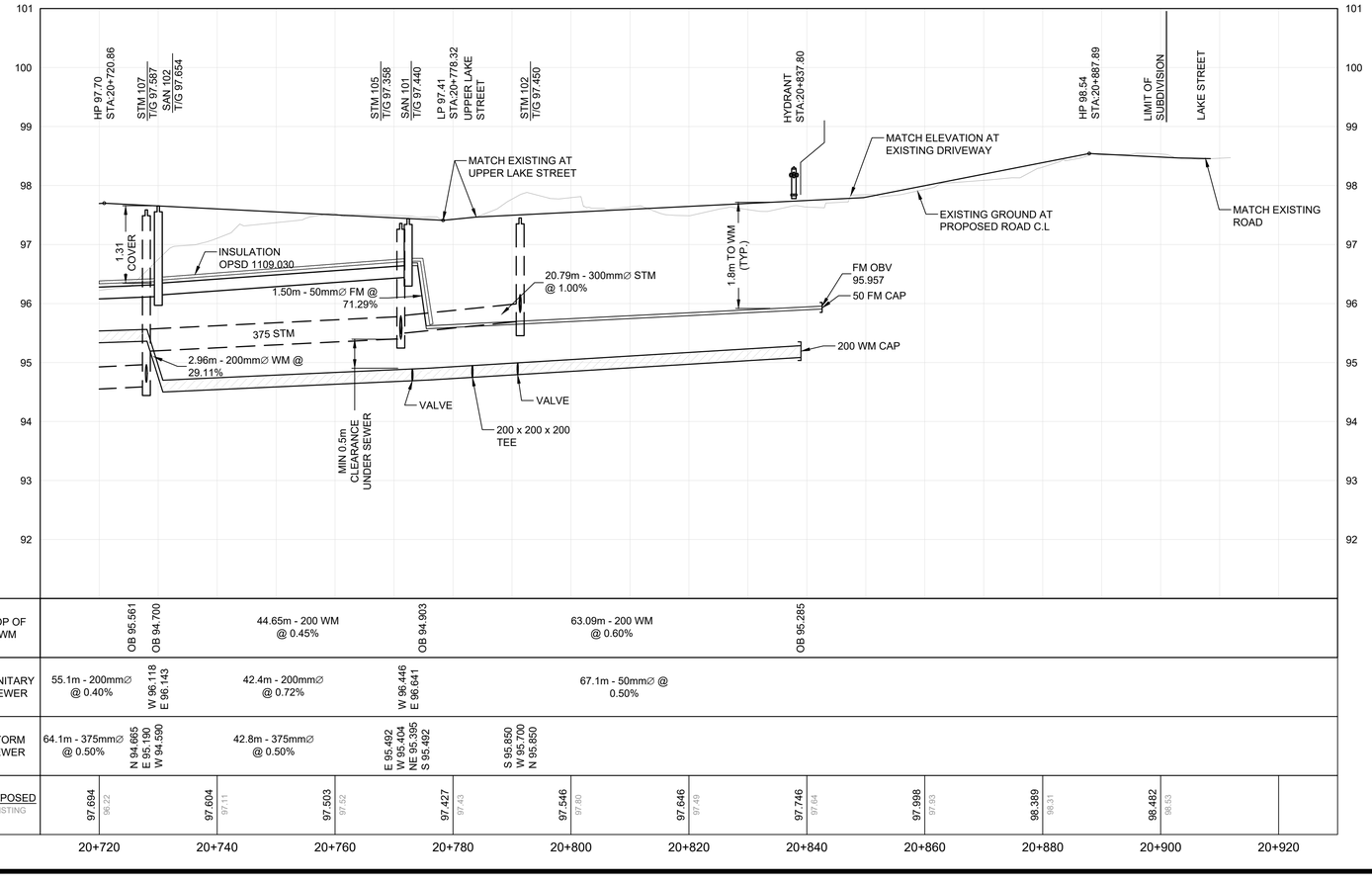
PLAN & PROFILE - STREET B

SCALE 1:500

SIZE ANSI D (22"X34")

DWG. NO. **C-PP-1**





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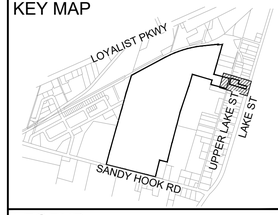
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER
N.M. DIONNE
100009108
2025-05-23
PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

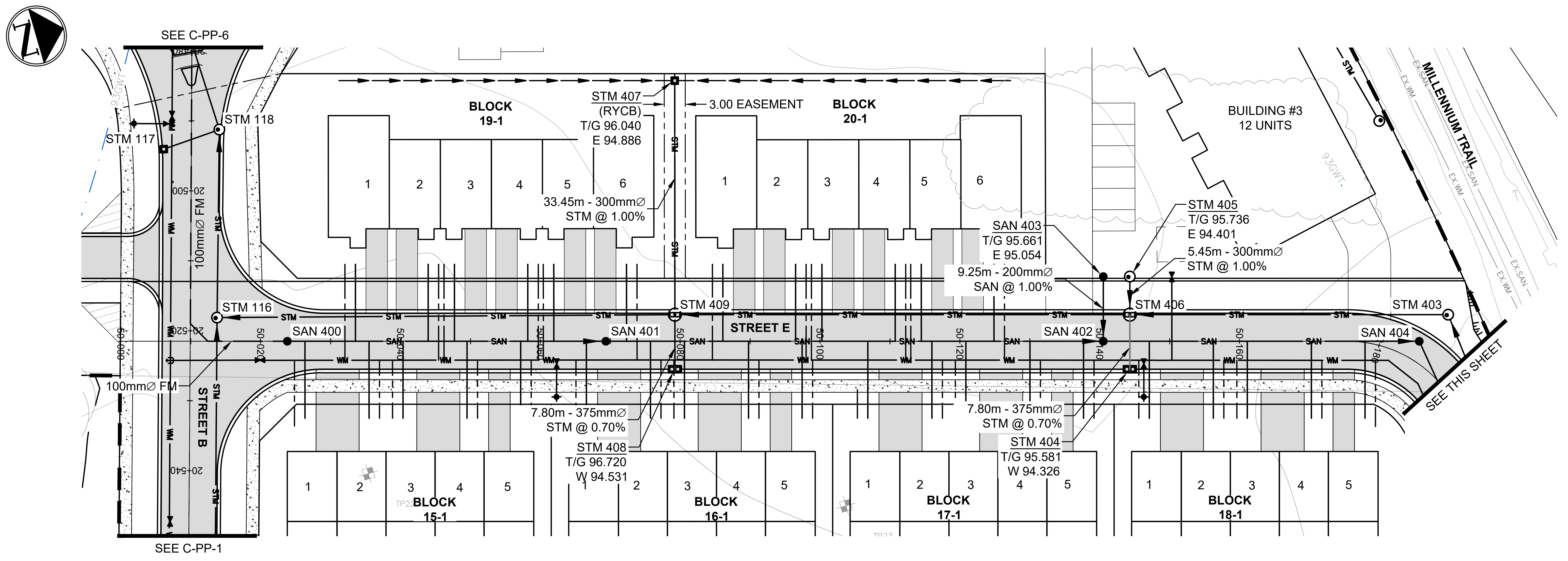
DRAWING TITLE

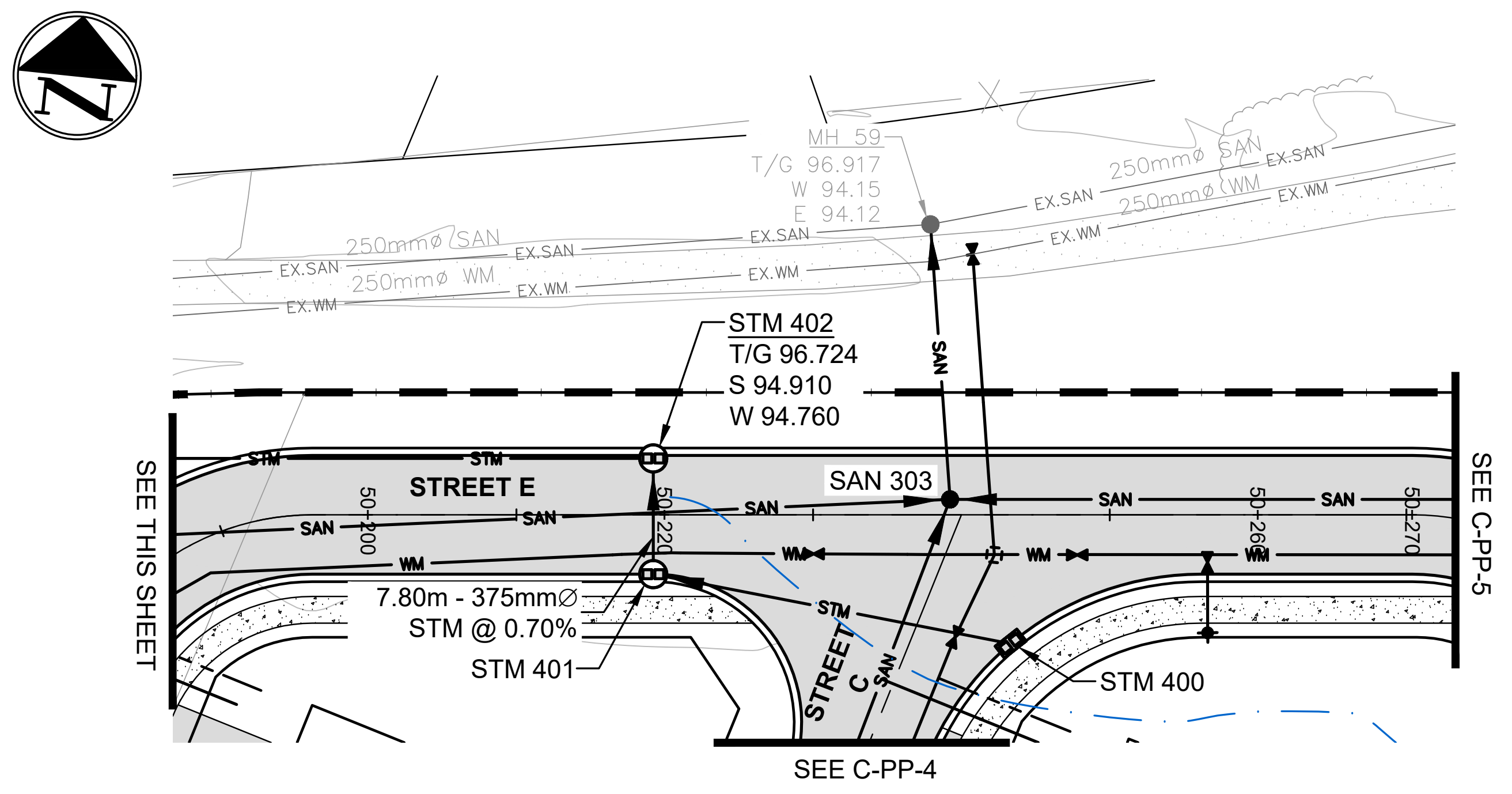
PLAN & PROFILE - HINEMAN STREET

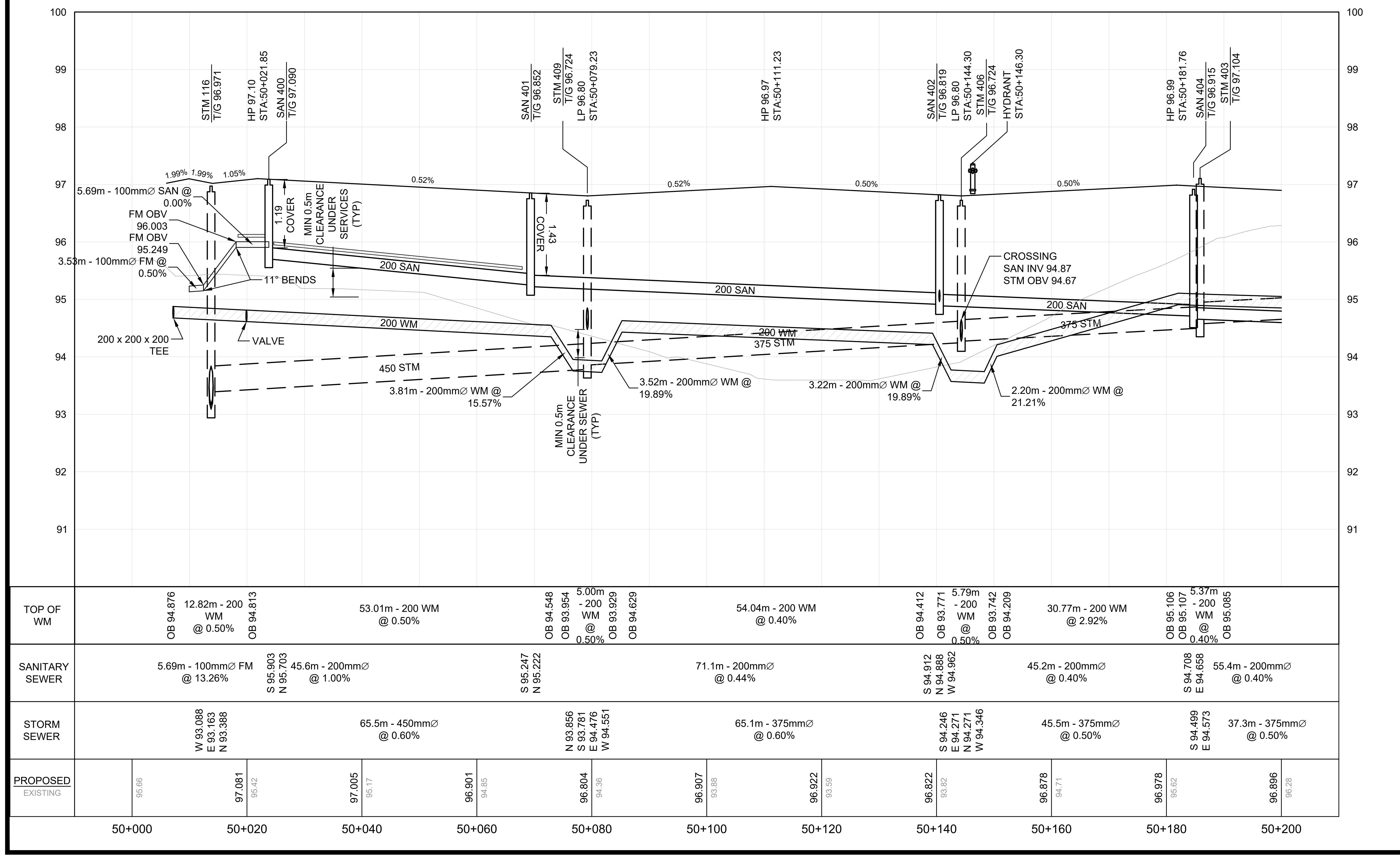
SCALE **1:500**

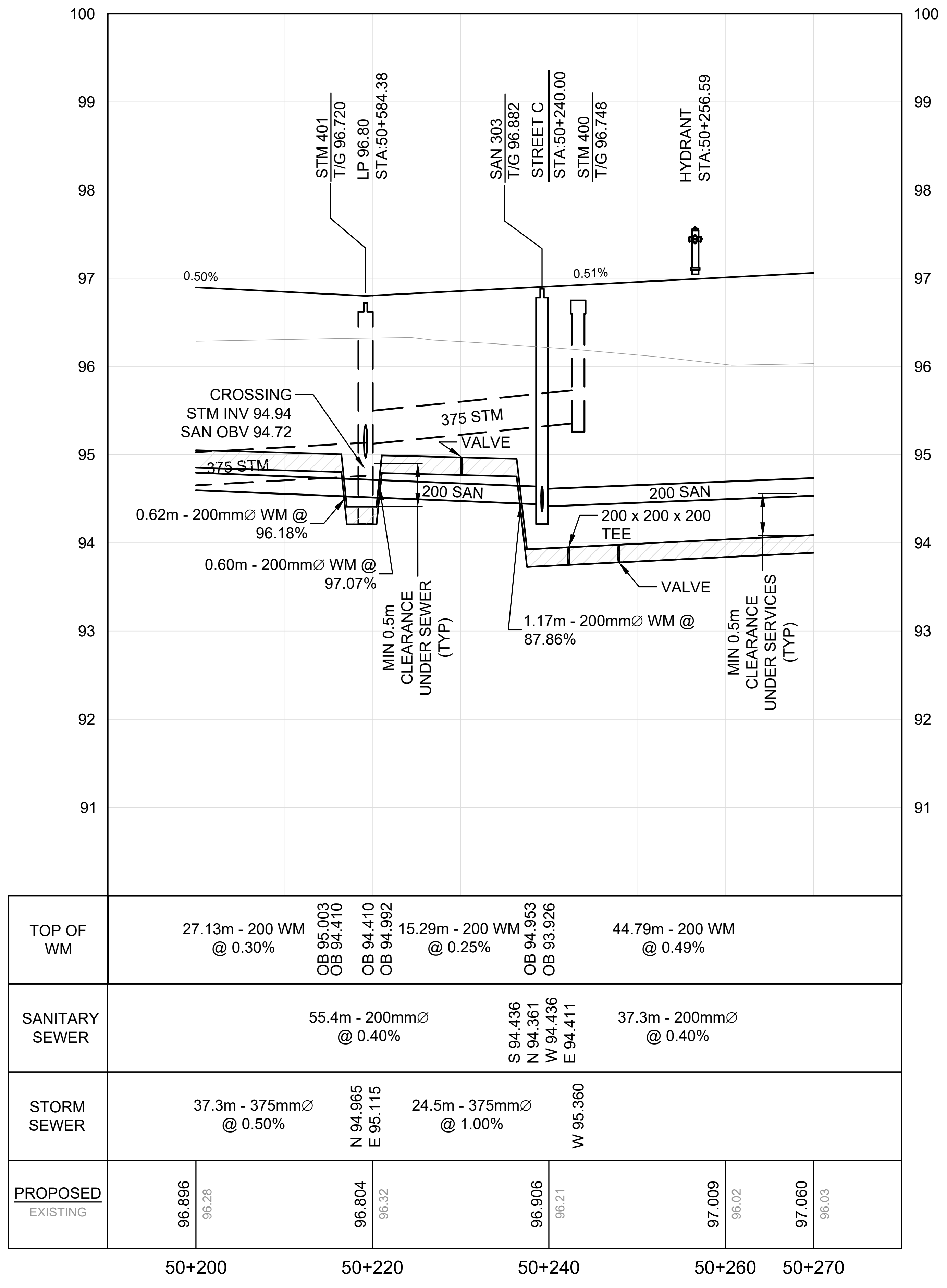
SIZE ANSI D (22"X34")

DWG. NO. **C-PP-2**









CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP

LEGEND
REFER TO C-GEN-3

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE
DESIGNED BY: N.DIONNE, P.ENG

N.M. DIONNE
100009108
2025-05-23

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

PLAN & PROFILE - STREET E

SCALE 1:500
DWG. NO. C-PP-3
SIZE ANSI D (22"X34")

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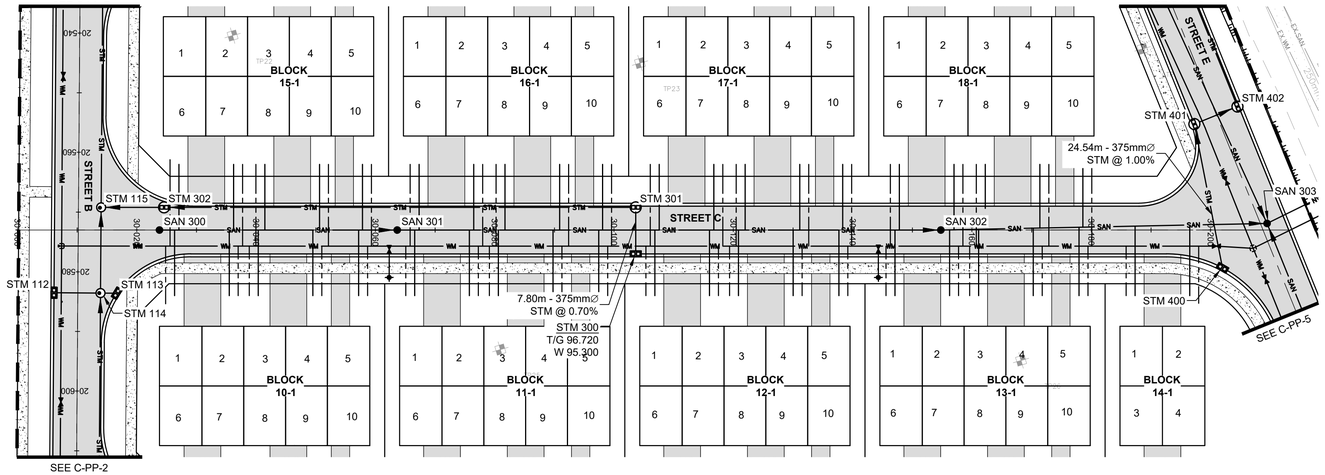

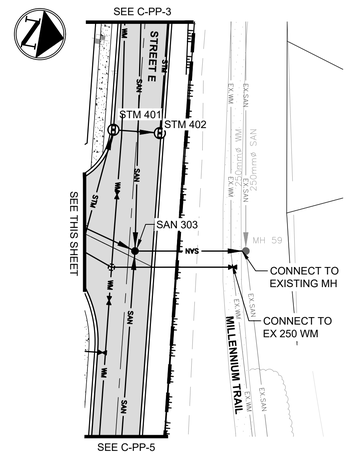

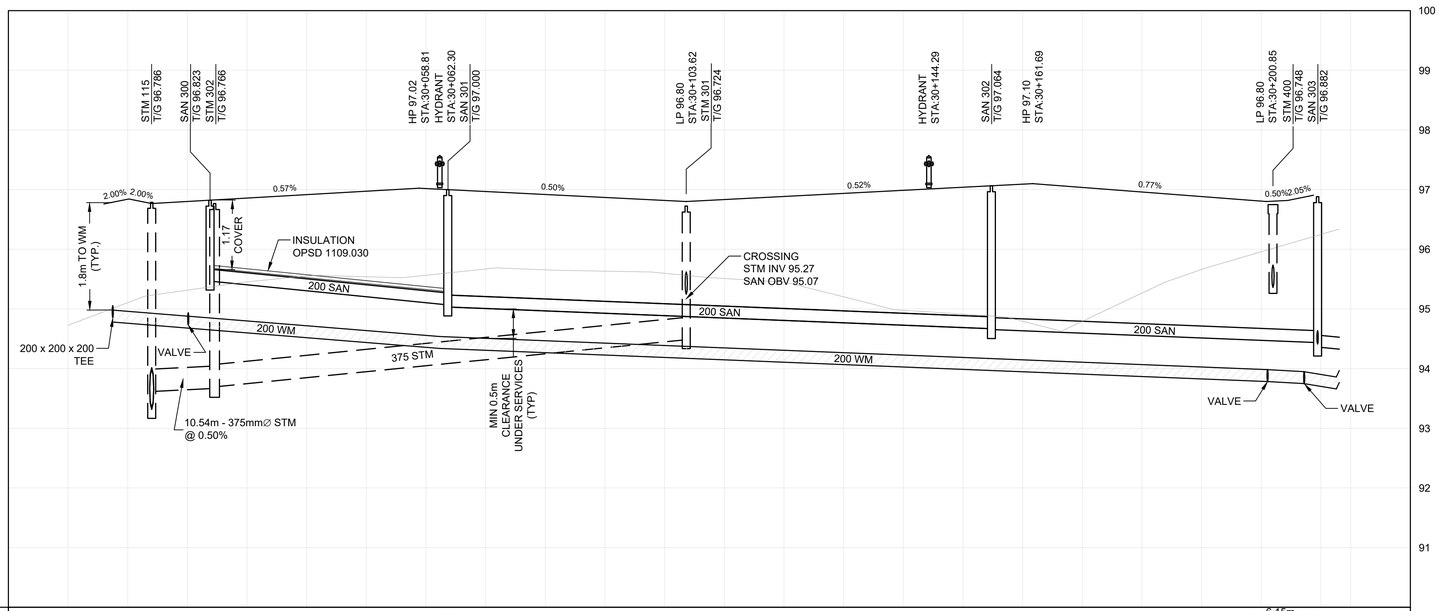

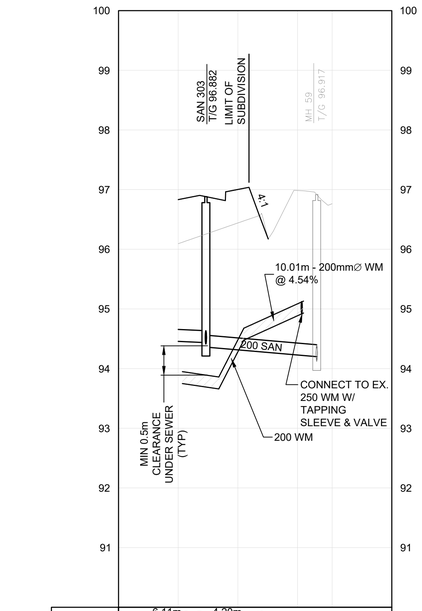

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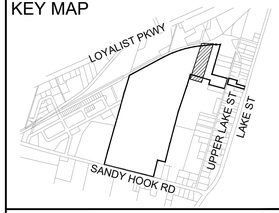
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

REFER TO C-GEN-3

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100091108 2025-05-23 PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

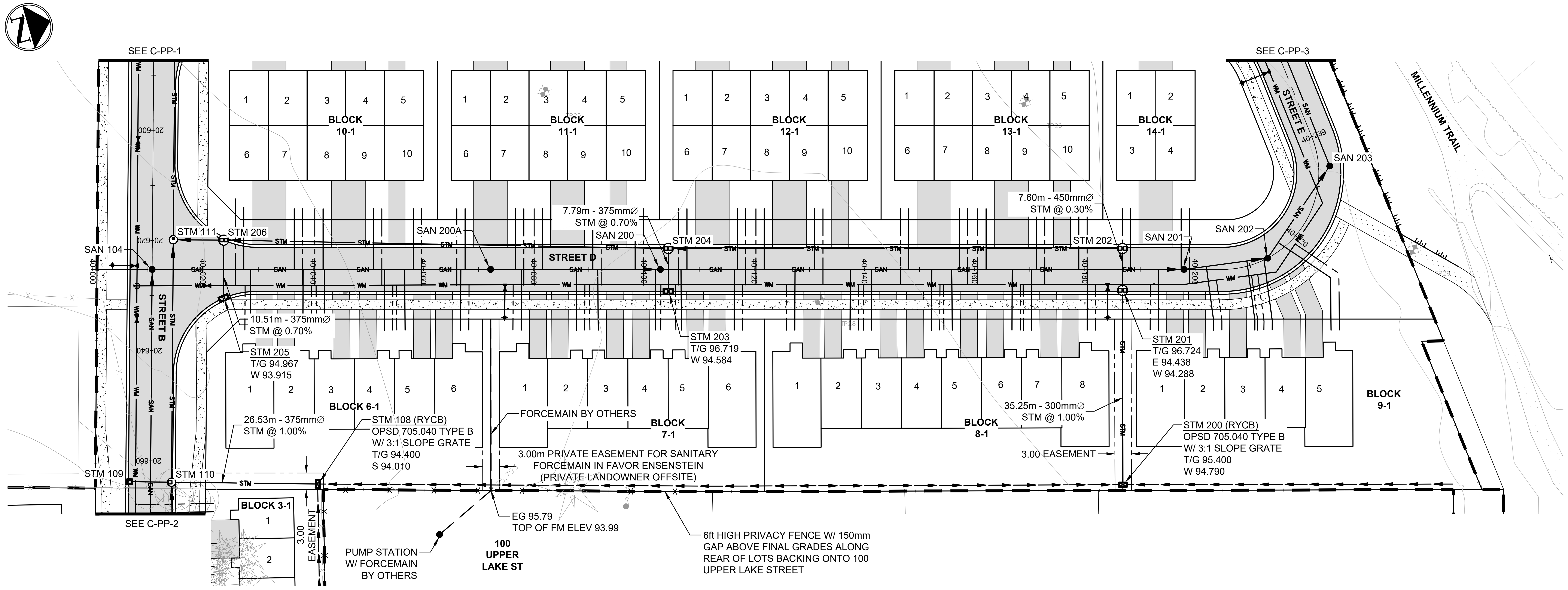
DRAWING TITLE

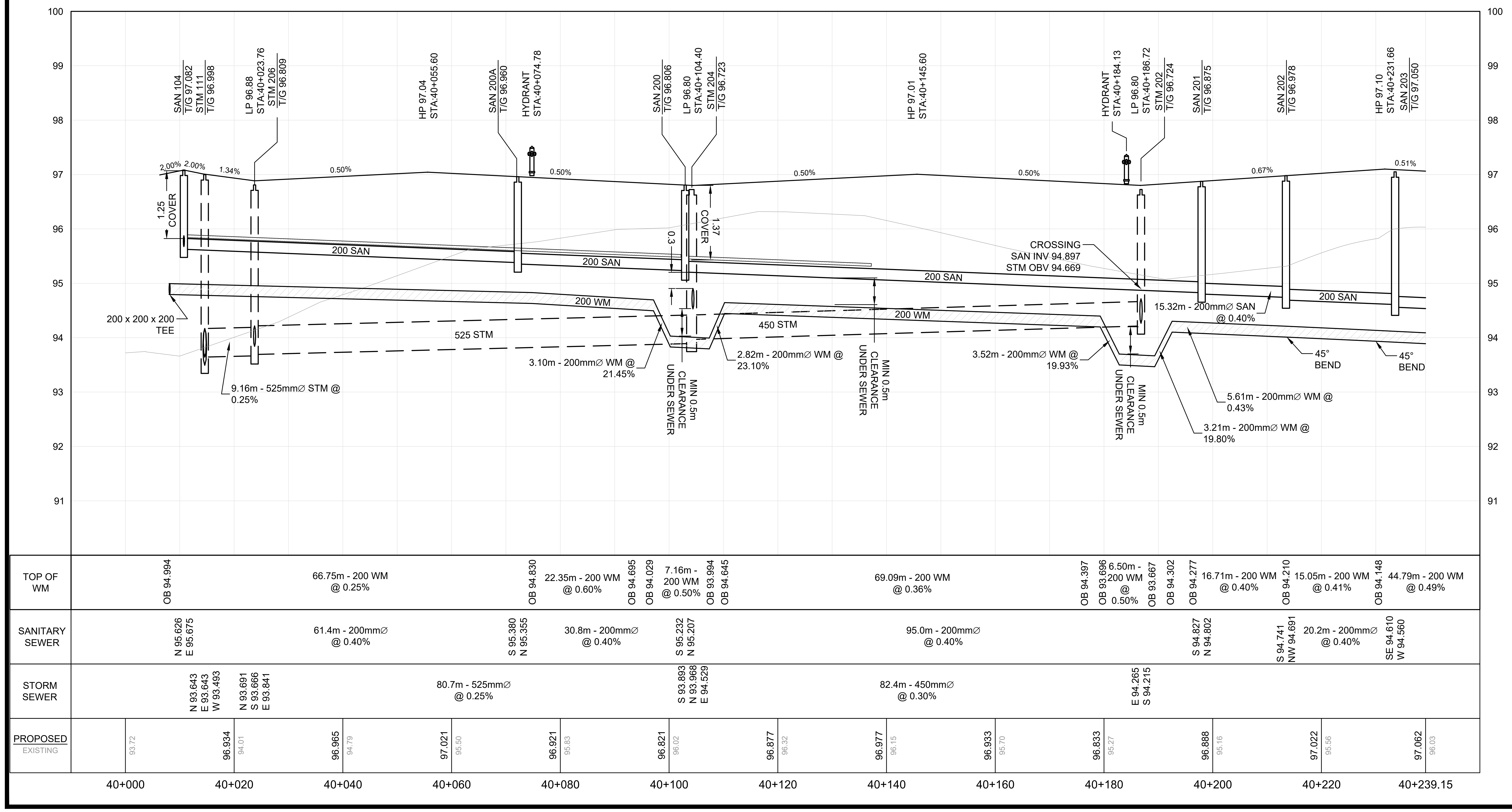
PLAN & PROFILE - STREET C

SCALE 1:500

SIZE ANSI D (22"X34")

DWG. NO. C-PP-4





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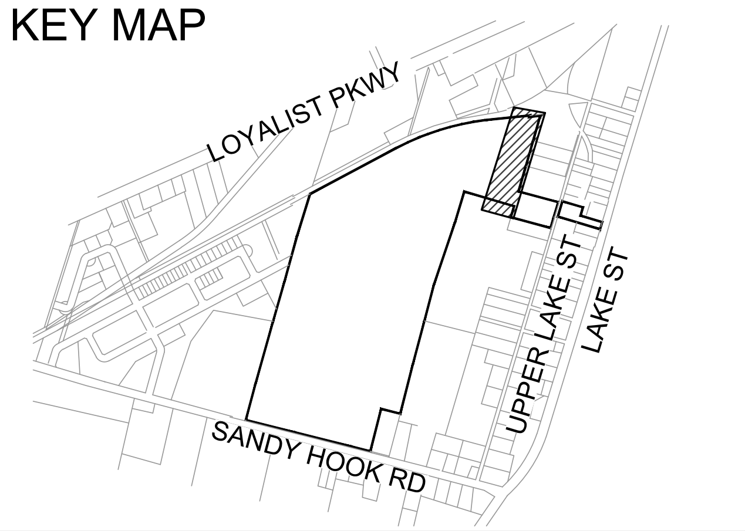
CLIENT

Port Picton
HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND
REFER TO C-GEN-3

INSITE
PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE
DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER
N.M. DIONNE
100009108
2025-05-23
PROVINCE OF ONTARIO

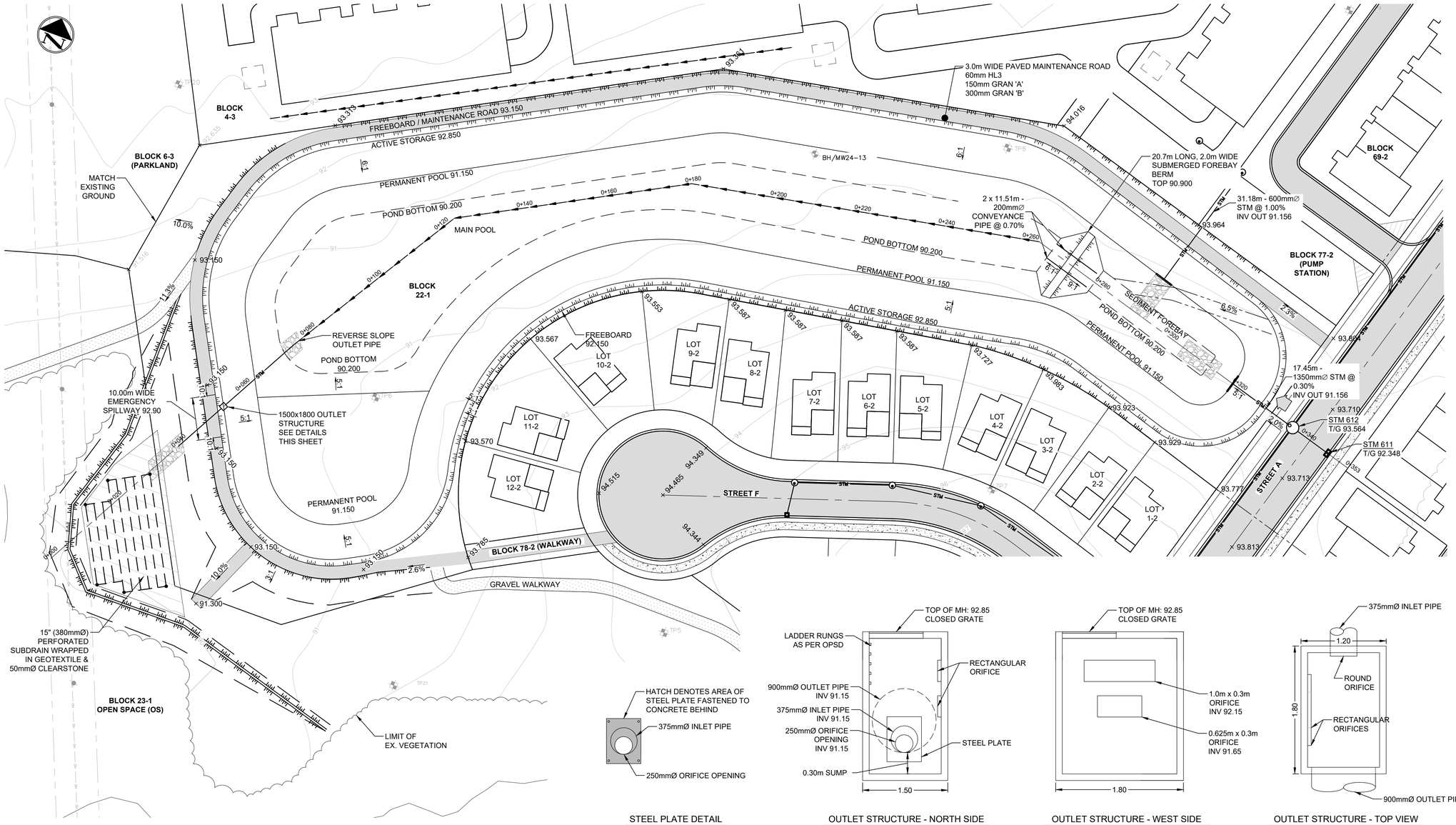
REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

PLAN & PROFILE - STREET D

SCALE 1:500
SIZE ANSI D (22"X34")
DWG. NO. C-PP-5

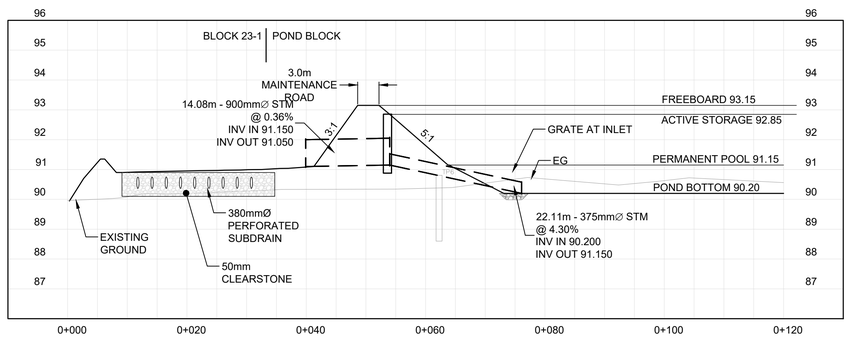


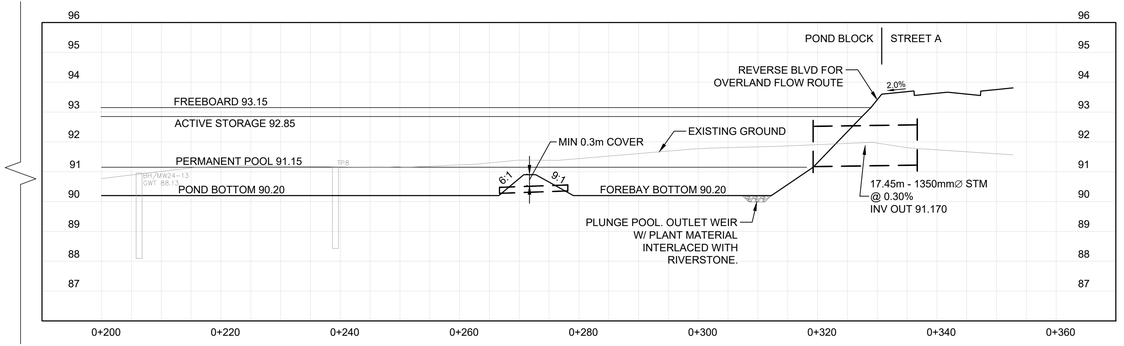
STEEL PLATE DETAIL
SCALE: N.T.S

OUTLET STRUCTURE - NORTH SIDE
SCALE: N.T.S

OUTLET STRUCTURE - WEST SIDE
SCALE: N.T.S

OUTLET STRUCTURE - TOP VIEW
SCALE: N.T.S





1 POND SECTION
SCALE: H1:500 V:100

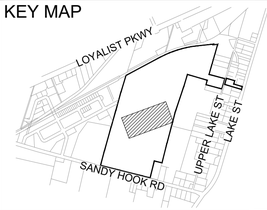
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

OVERLAND FLOW ROUTE

90GW GROUNDWATER TABLE CONTOUR

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

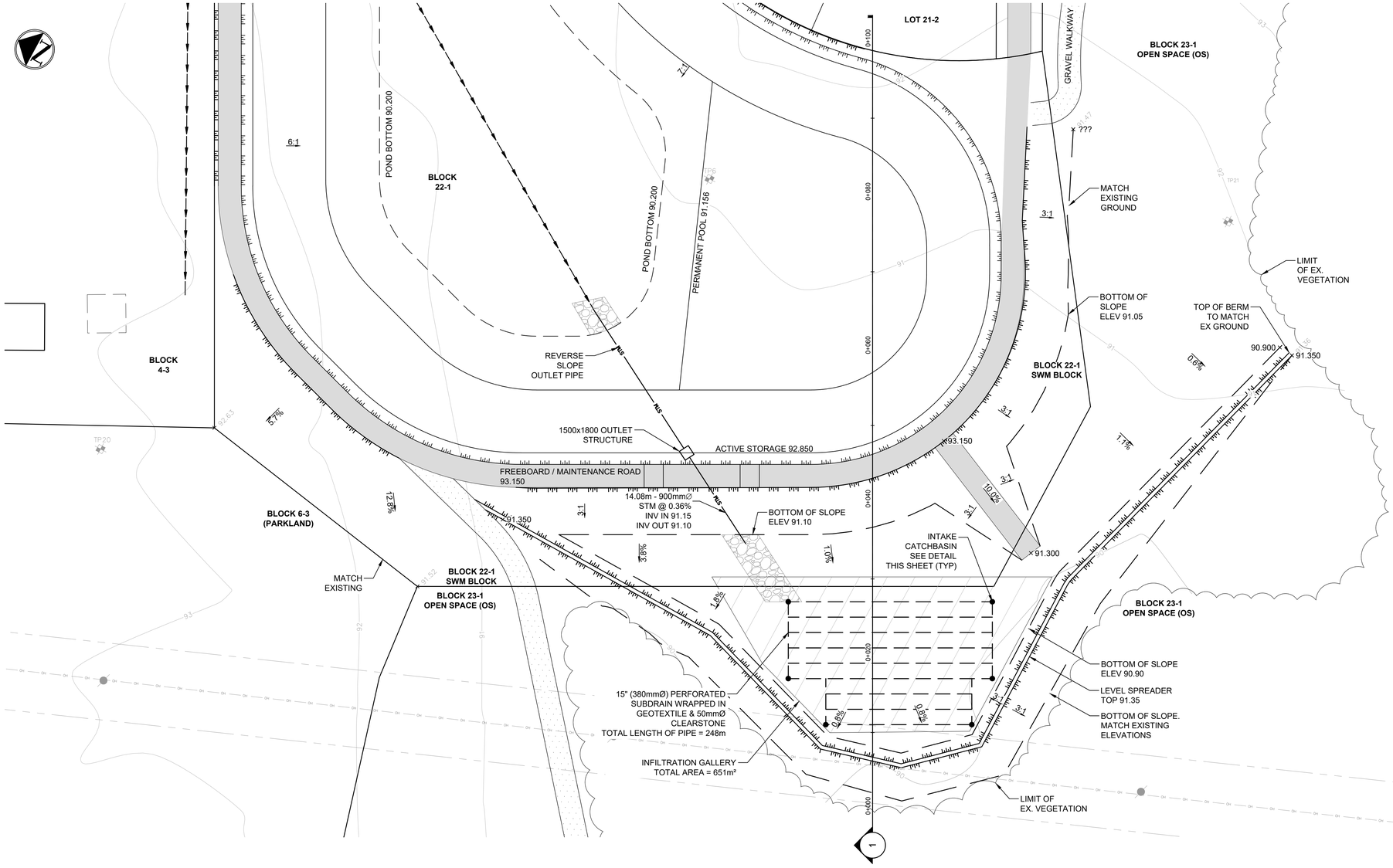
STORMWATER MANAGMENT POND

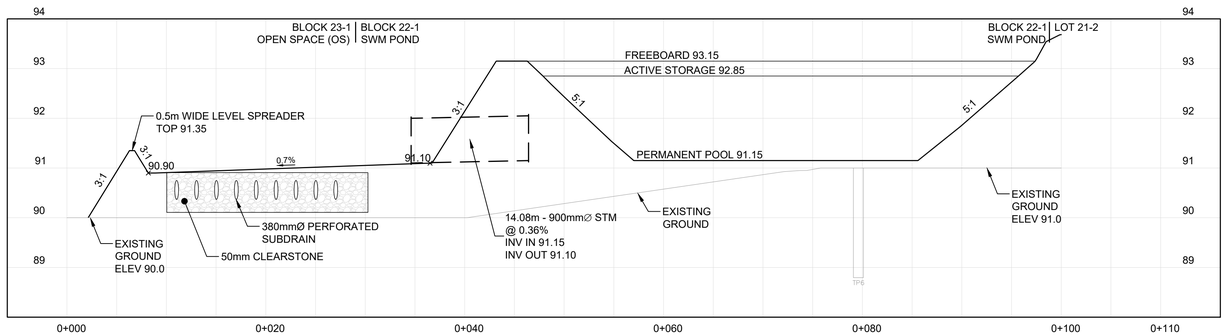
SCALE 1:500

SIZE ANSI D (22"X34")

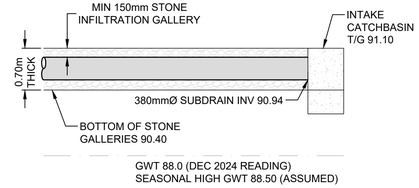
DWG. NO. C-SWM-1

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - POND.DWG





1 SECTION VIEW
SCALE: H1:300 V:60



TYPICAL INFILTRATION GALLERY
SCALE: N.T.S

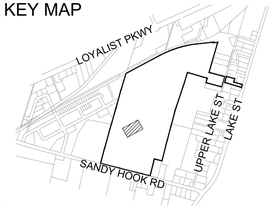
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

- OVERLAND FLOW ROUTE
- 90GWT — GROUNDWATER TABLE CONTOUR
- INFILTRATION GALLERY

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER
N.M. DIONNE
100008108
2025-05-23
PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
1	05/23/25	N.D	PRE-SERVICING AGREEMENT

DRAWING TITLE

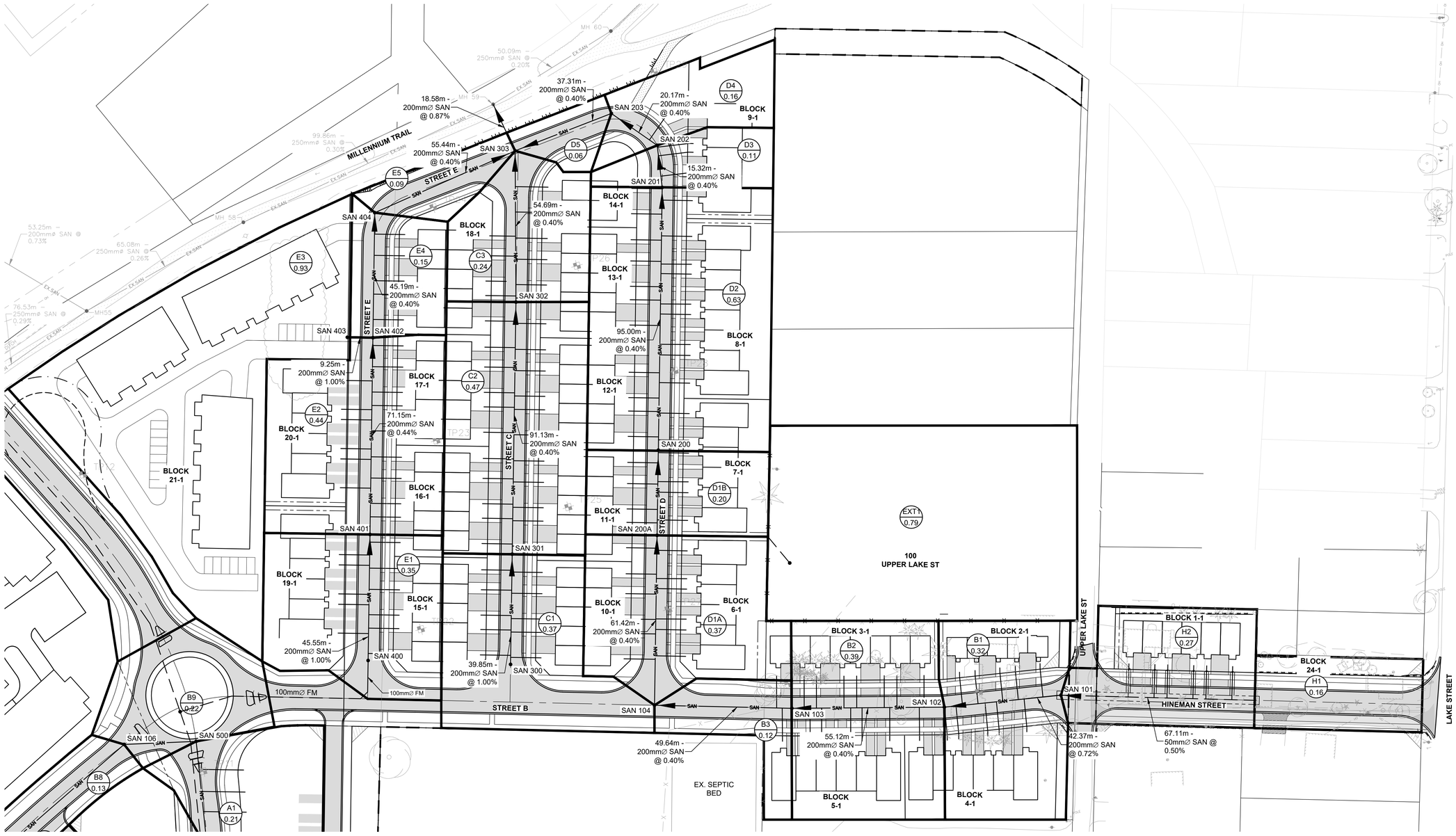
POND INFILTRATION GALLERY

SCALE 1:300

SIZE ANSI D (22"X34")

DWG. NO. C-SWM-2

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - INFILTRATION GALLERY - POND.DWG



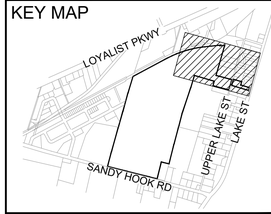
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

DRAINAGE ID (A1 / 0.50 AREA (Ha))

SANITARY DRAINAGE BOUNDARY

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

REVISIONS

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2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

SANITARY DRAINAGE PLAN

SCALE 1:750

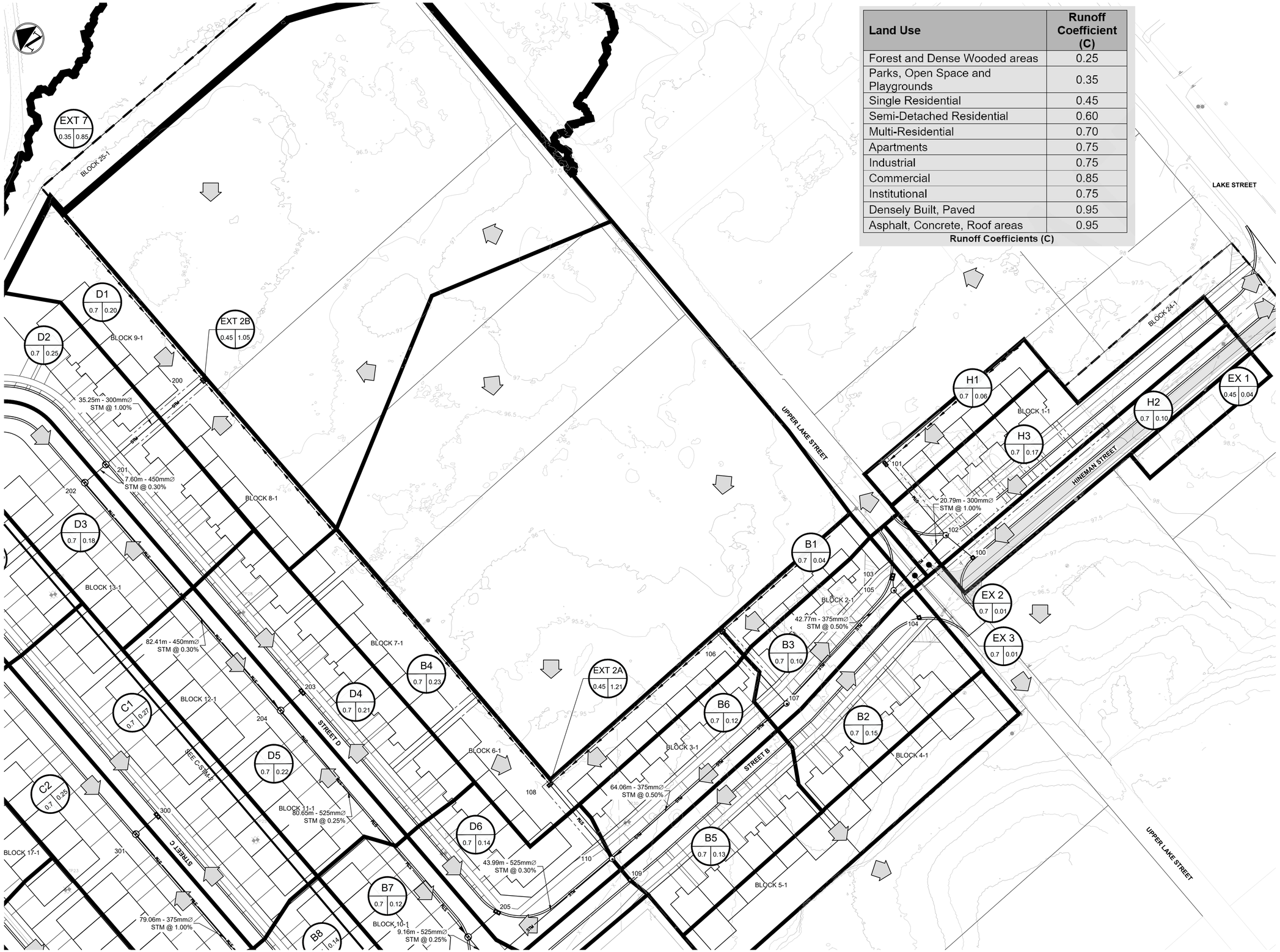
SIZE ANSI D (22"X34")

DWG. NO. C-SAN-1

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - SANITARY DRAINAGE.DWG

Land Use	Runoff Coefficient (C)
Forest and Dense Wooded areas	0.25
Parks, Open Space and Playgrounds	0.35
Single Residential	0.45
Semi-Detached Residential	0.60
Multi-Residential	0.70
Apartments	0.75
Industrial	0.75
Commercial	0.85
Institutional	0.75
Densely Built, Paved	0.95
Asphalt, Concrete, Roof areas	0.95

Runoff Coefficients (C)



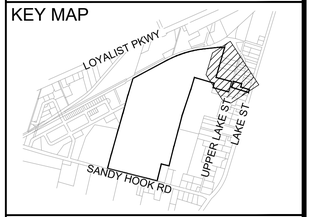
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



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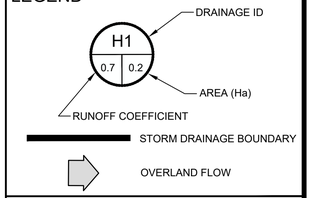

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER
N.M. DIONNE
100009108
2025-05-23
PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

STORM DRAINAGE PLAN

SCALE 1:500

SIZE ANSI D (22"X34")

DWG. NO. C-STM-1

C:\USERS\158790\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - STORM DRAINAGE.DWG

Land Use	Runoff Coefficient (C)
Forest and Dense Wooded areas	0.25
Parks, Open Space and Playgrounds	0.35
Single Residential	0.45
Semi-Detached Residential	0.60
Multi-Residential	0.70
Apartments	0.75
Industrial	0.75
Commercial	0.85
Institutional	0.75
Densely Built, Paved	0.95
Asphalt, Concrete, Roof areas	0.95

Runoff Coefficients (C)

EXT 6 (0.35 | 0.21)
EXT 4B (0.85 | 0.25)
EXT 4 (0.85 | 0.35)
EXT 1, 4 TO 7 1.121m³/s (100 YEAR FLOW) FROM EX CULVERT
2 X 15.27m - 450mmø CULVERT @ 1.11% N 93.80 S 93.69
36.35m - 750mmø STM @ 2.09%
37.35m - 375mmø STM @ 0.50%
24.54m - 375mmø STM @ 1.00%
45.53m - 375mmø STM @ 0.50%
62.63m - 900mmø STM @ 0.45%
52.65m - 900mmø STM @ 0.45%
17.04m - 900mmø STM @ 0.45%
STM 406
STM 405
5.45m - 300mmø STM @ 1.00%
65.07m - 375mmø STM @ 0.60%
STM 503
52.47m - 975mmø STM @ 0.35%
32.58m - 975mmø STM @ 0.35%
44.72m - 975mmø STM @ 0.35%
20.68m - 750mmø STM @ 0.50%
43.65m - 750mmø STM @ 0.30%
65.48m - 450mmø STM @ 0.60%
79.06m - 375mmø STM @ 1.00%
26.87m - 750mmø STM @ 0.30%
51.09m - 675mmø STM @ 0.30%
10.54m - 375mmø STM @ 0.50%
14.37m - 675mmø STM @ 0.25%
36.30m - 675mmø STM @ 0.25%
82.41m - 450mmø STM @ 0.30%
9.16m - 525mmø STM @ 0.25%
80.65m - 525mmø STM @ 0.25%
35.25m - 300mmø STM @ 1.00%
7.60m - 450mmø STM @ 0.30%
43.99m - 525mmø STM @ 0.30%
E1 (0.7 | 0.15)
E2 (0.7 | 0.14)
E3 (0.7 | 0.09)
E4 (0.7 | 0.17)
E5 (0.7 | 0.27)
E6 (0.7 | 0.15)
E7 (0.7 | 0.22)
E8 (0.7 | 0.19)
A1 (0.7 | 0.73)
A2 (0.75 | 1.12)
B4 (0.7 | 0.23)
B7 (0.7 | 0.12)
B8 (0.7 | 0.14)
B9 (0.7 | 0.14)
B10 (0.7 | 0.18)
B11 (0.7 | 0.03)
B12 (0.7 | 0.14)
C1 (0.7 | 0.27)
C2 (0.7 | 0.25)
D1 (0.7 | 0.20)
D2 (0.7 | 0.25)
D3 (0.7 | 0.18)
D4 (0.7 | 0.21)
D5 (0.7 | 0.22)
D6 (0.7 | 0.14)
BLOCK 9-1
BLOCK 14-1
BLOCK 18-1
BLOCK 13-1
BLOCK 8-1
BLOCK 17-1
BLOCK 12-1
BLOCK 20-1
BLOCK 21-1
BLOCK 16-1
BLOCK 19-1
BLOCK 15-1
BLOCK 11-1
BLOCK 10-1
BLOCK 7-1
BLOCK 6-1
STREET A
STREET B
STREET C
STREET D
STREET E
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SEE C-STM-3
SEE C-STM-1

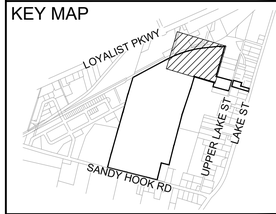
CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND

H1 (0.7 | 0.2)
DRAINAGE ID
AREA (Ha)
RUNOFF COEFFICIENT
STORM DRAINAGE BOUNDARY
OVERLAND FLOW

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE
DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100008108 2025-05-23 PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

STORM DRAINAGE PLAN

SCALE 1:500
SIZE ANSI D (22"X34")
DWG. NO. **C-STM-2**

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - STORM DRAINAGE.DWG

Land Use	Runoff Coefficient (C)
Forest and Dense Wooded areas	0.25
Parks, Open Space and Playgrounds	0.35
Single Residential	0.45
Semi-Detached Residential	0.60
Multi-Residential	0.70
Apartments	0.75
Industrial	0.75
Commercial	0.85
Institutional	0.75
Densely Built, Paved	0.95
Asphalt, Concrete, Roof areas	0.95

Runoff Coefficients (C)

BLOCK 5-3
BLOCK 6-3
BLOCK 3-3
BLOCK 4-3
BLOCK 22-1
BLOCK 2-80
BLOCK 77-2
BLOCK 76-2
BLOCK 75-2
BLOCK 74-2
BLOCK 73-2
BLOCK 72-2
BLOCK 71-2
BLOCK 70-2
BLOCK 69-2
BLOCK 68-2
BLOCK 67-2
BLOCK 66-2
BLOCK 65-2
BLOCK 82-2
BLOCK 19
STREET A (GEORGE WRIGHT BLVD)
STREET B
STREET F
LOT 10-2
LOT 11-2
LOT 12-2
LOT 9-2
LOT 8-2
LOT 7-2
LOT 6-2
LOT 5-2
LOT 4-2
LOT 3-2
LOT 2-2
LOT 1-2
LOT 13-2
LOT 14-2
LOT 15-2
LOT 16-2
LOT 17-2
LOT 18-2
LOT 19-2
STM 124
STM 123
STM 122
STM 125
STM 120
STM 700
STM 503
90.00m - 750mmØ STM @ 1.00%
90.00m - 750mmØ STM @ 0.50%
90.00m - 750mmØ STM @ 0.50%
31.18m - 600mmØ STM @ 1.00%
61.90m - 750mmØ STM @ 0.50%
52.47m - 975mmØ STM @ 0.35%
32.58m - 975mmØ STM @ 0.35%
44.72m - 975mmØ STM @ 0.35%
22.94m - 1500mmØ STM @ 1.04%
21.33m - 1500mmØ STM @ 0.39%
33.50m - 1500mmØ STM @ 0.25%
14.76m - 750mmØ STM @ 0.48%
22.80m - 750mmØ STM @ 0.40%
17.45m - 1350mmØ STM @ 0.30%
101.56m - 1350mmØ STM @ 0.20%
90.00m - 1350mmØ STM @ 0.20%
55.14m - 1200mmØ STM @ 0.40%
22.80m - 1200mmØ STM @ 0.40%
39.81m - 1200mmØ STM @ 0.40%
43.65m - 750mmØ STM @ 0.30%
97.94m - 750mmØ STM @ 0.40%
57.51m - 750mmØ STM @ 0.40%
47.19m - 750mmØ STM @ 0.50%
83.74m - 1500mmØ STM @ 1.00%
15.94m - 1500mmØ STM @ 0.40%
5.66m - 1500mmØ STM @ 0.77%
103.52m - 1500mmØ STM @ 0.43%
82.93m - 1500mmØ STM @ 0.54%
83.55m - 1500mmØ STM @ 1.08%
26.87m - 750mmØ STM @ 0.30%
65.48m - 450mmØ STM @ 0.60%
STRUCTURE - (283)
SEE C-STM-4
SEE C-STM-2

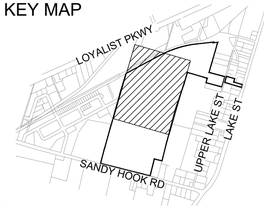
CLIENT

Port Picton HOMES

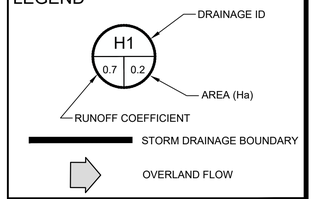
PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND



INSITE PROJECT CONSULTING INC.

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DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER
N.M. DIONNE
100009108
2025-05-23
PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

STORM DRAINAGE PLAN

SCALE 1:500

SIZE ANSI D (22"X34")

DWG. NO. C-STM-3

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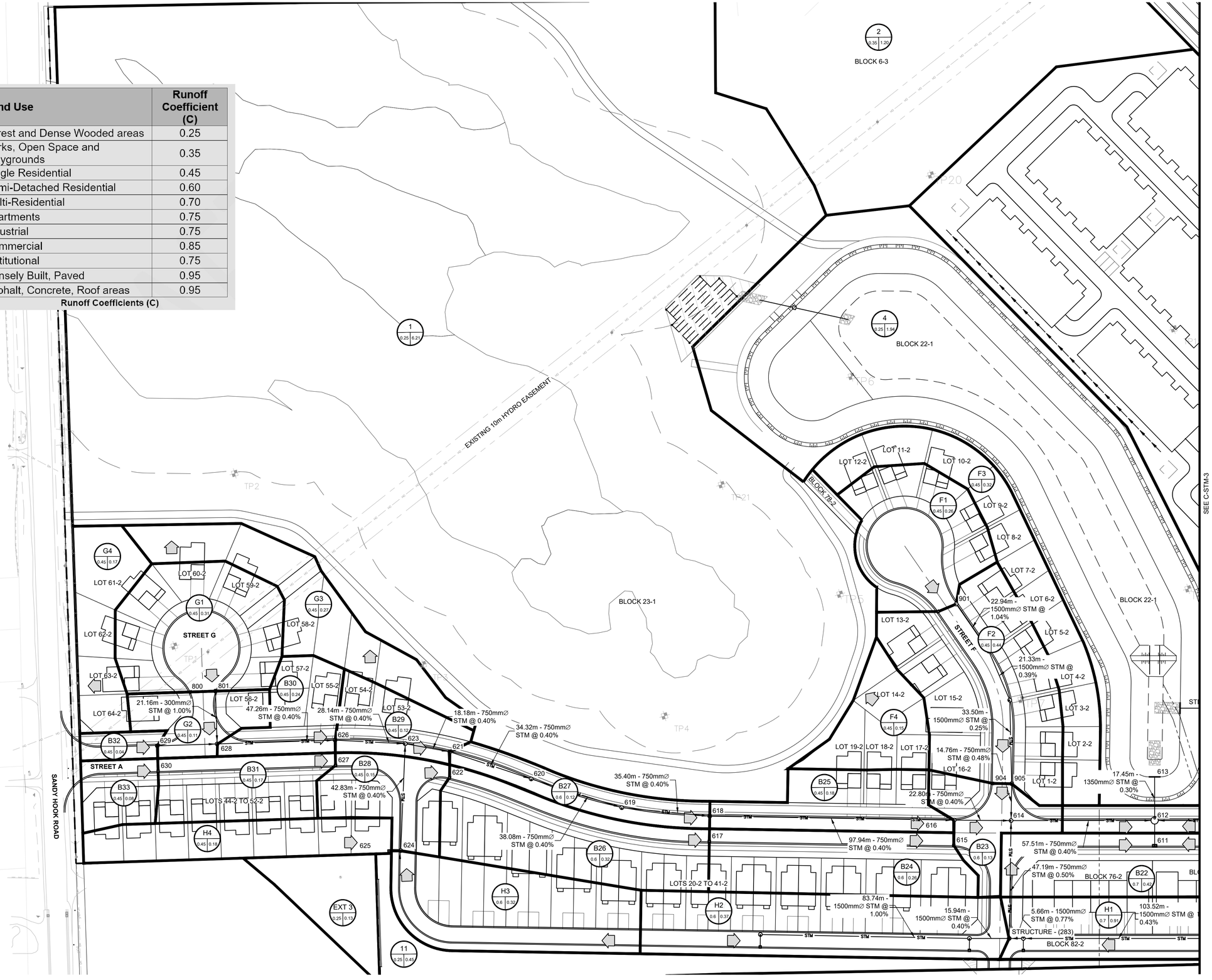
Land Use	Runoff Coefficient (C)
Forest and Dense Wooded areas	0.25
Parks, Open Space and Playgrounds	0.35
Single Residential	0.45
Semi-Detached Residential	0.60
Multi-Residential	0.70
Apartments	0.75
Industrial	0.75
Commercial	0.85
Institutional	0.75
Densely Built, Paved	0.95
Asphalt, Concrete, Roof areas	0.95

Runoff Coefficients (C)



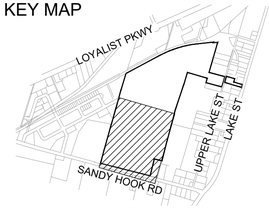
CLIENT

Port Picton HOMES

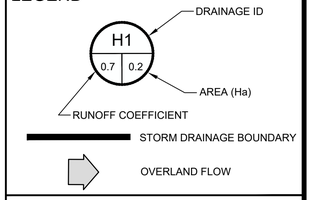
PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP



LEGEND



INSITE PROJECT CONSULTING INC.

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LICENSED PROFESSIONAL ENGINEER N.M. DIONNE 100009108 2025-05-23 PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	09/27/24	N.D	TENDER OF PHASE 1

DRAWING TITLE

STORM DRAINAGE PLAN

SCALE 1:500

SIZE ANSI D (22"X34")

DWG. NO. C-STM-4

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - STORM DRAINAGE.DWG

STORM SEWER DESIGN SHEET: 5-YEAR

Cold Creek Subdivision Phase 1

Municipal Criteria: The Corporation of the County of Prince Edward

Prepared by: Noah Dionne, Engineering Associate
Reviewed by: Nancy Dionne, P.Eng
Insite Project Consulting Inc.
Date: May 23rd 2025

For drainage areas 40 Ha. or less:

RATIONAL METHOD: Q = 2.78 C I A
Q = flow in litres per second (L/s)
C = runoff coefficient
A = Drainage area in hectares (ha)
I = rainfall intensity in millimetres per hour (mm/hr)

RAINFALL INTENSITY:
City of Belleville IDF Curve
I = "A" * (Tc (hrs) ^"B")

Return period	"A"	"B"
5-yr	26	-0.677
100-yr	47	-0.699

The maximum inlet time for the first pipe of a storm sewer system is 10 minutes.

Runoff Coefficients

Land Use	C
Forest and Dense Wooded area	0.25
Parks, Open Space and Playgrc	0.35
Single Residential	0.45
Semi-Detached Residential	0.6
Multi-Residential	0.7
Apartments	0.75
Industrial	0.75
Commercial	0.85
Institutional	0.75
Densely Built, Paved	0.95
Asphalt, Concrete, Roof areas	0.95

Pipe Capacity:

Chezy-Manning Formula: Q = (1/n) x A x R2/3 x S1/2
Where, Q = Flow Capacity of sewer (m3/s)
R = Hydraulic radius of pipe (m) A = Cross-sectional area (m2)
S = Sewer slope (m/m) n = Manning roughness coeff
* Min slope shall be 0.5%, and first leg shall be 1%

Pipe Material	Value of 'n'
Concrete	0.013
Polyvinyl Chloride (PVC)	0.013
High Density Polyethylene (HDPE)	0.013
Corrugated Steel Pipe (CSP)	
- Plain Pipe	0.024
- Paved Invert	0.02
Velocity Criteria:	Min: 1.0 m/s, Max 6.0 m/s

* Pipes w. velocities over 4m/s should be designed to protect against pipe displacement, scouring, erosion and hydraulic jumps

LOCATION			RATIONAL METHOD FLOWS												SEWER CHARACTERISTICS						
			DRAINAGE AREAS																		
AREA ID	FROM MH	TO MH	AREA ha	C	AREA ha	C	AREA ha	C	AREA ha	C	INDIVID AC	ACCUM AC	INLET Tc (min)	RAINFALL INTENSITY I	PEAK FLOW Q (L/s)	DIA. (mm)	SLOPE (%)	LENGTH (m)	VELOCITY (m/s)	CAPACITY (l/s)	TIME OF FLOW (min)	Q/Qcap
Street B																						
H1, 2, 3, Ex1, Ex2	102	105	0.34	0.7	0.04	0.5					0.26	0.26	10.00	88.80	63.2	300	1.00%	20.79	1.4	96.69	0.25	0.65
Ex 3, B2, B3	105	107	0.26	0.7							0.18	0.44	10.25	87.31	106.3	375	0.50%	42.77	1.1	123.97	0.64	0.86
B1	107	110	0.04	0.7							0.03	0.47	10.89	83.83	108.6	375	0.50%	64.06	1.1	123.97	0.95	0.88
Ext2A	108	110	1.21	0.5							0.54	0.54	22.85	50.76	76.8	300	1.00%	65.06	1.4	96.69	0.79	0.79
B4, 5, 6	110	111	0.48	0.7							0.34	0.80	23.64	49.60	110.6	525	0.30%	43.99	1.1	235.54	0.67	0.47
Street D																						
Ext2B, D1	200	201	0.2	0.7	1.05	0.5					0.61	0.61	23.65	49.58	84.4	300	1.00%	35.25	1.4	96.69	0.43	0.87
D2	201	202	0.45	0.7	1.05	0.5					0.79	0.79	24.08	48.98	107.2	450	0.30%	7.60	1.0	156.15	0.13	0.69
D3	202	204	0.18	0.7							0.13	0.91	24.21	48.80	123.9	450	0.30%	82.41	1.0	156.15	1.40	0.79
D4, 5	204	206	0.43	0.7							0.30	1.21	25.61	46.98	158.6	525	0.25%	80.65	1.0	215.02	1.35	0.74
D6, B7	206	111	0.26	0.7							0.18	1.40	26.96	45.37	176.1	525	0.23%	9.16	1.0	206.24	0.16	0.85
Street B																						
	111	114									0.00	2.20	27.12	45.19	276.2	675	0.25%	36.30	1.2	420.27	0.52	0.66
B8, 9	114	115	0.28	0.7							0.20	2.39	27.64	44.62	297.0	675	0.25%	14.37	1.2	420.27	0.20	0.71
Street C																						
C1, 2	301	302	0.52	0.7							0.36	0.36	10.00	88.80	89.9	375	1.00%	79.06	1.6	175.32	0.83	0.51
B10	302	115	0.18	0.7							0.13	0.49	10.83	84.13	114.6	375	0.50%	10.54	1.1	123.97	0.16	0.92
Street B																						
	115	116									0.00	2.88	27.64	44.62	357.8	675	0.30%	51.09	1.3	460.38	0.66	0.78
Street E																						
E1	400	402	0.15	0.7							0.11	0.11	10.00	88.80	25.9	375	1.00%	24.54	1.6	175.32	0.26	0.15
E2, 3, Ex 7, Ex 6	402	403	0.23	0.7							0.16	0.27	10.26	87.28	64.5	375	0.50%	37.35	1.1	123.97	0.55	0.52
	403	406									0.00	0.27	10.81	84.23	62.3	375	0.50%	45.53	1.1	123.97	0.68	0.50
E4, 5	406	409	0.44	0.7							0.31	0.57	11.49	80.84	129.0	375	0.60%	65.07	1.2	135.80	0.88	0.95
E6, 7, 8	409	116	0.56	0.7							0.39	0.97	12.37	76.89	206.5	450	0.60%	65.48	1.4	220.83	0.79	0.94
Street B																						
	116	118									0.00	3.85	28.30	43.91	470.0	750	0.30%	26.87	1.4	609.73	0.32	0.77
B11, 12	118	119	0.17	0.7							0.12	3.85	28.62	43.57	466.4	750	0.30%	43.65	1.4	609.73	0.53	0.76
Street A																						
Add Ext 1, 4 to 7 (100-yr flows)															1121.0	900	0.50%	60.00	2.0	1280.02	0.50	0.88
A1	602	603	0.73	0.7							0.51	0.51	20.00	55.54	1199.9	975	0.50%	134.65	2.1	1584.59	1.06	0.76
	603	119									0.00	0.51	21.06	53.64	1197.2	975	0.50%	44.72	2.1	1584.59	0.35	0.76
Street B																						
A3	124	120	5.38	0.7							3.77	3.77	20.00	55.54	581.5	750	0.50%	372.07	1.8	787.16	3.48	0.74
A2	120	119			1.12	0.8					0.84	4.61	23.48	49.82	638.0	750	0.50%	20.68	1.8	787.16	0.19	0.81
Street A																						
	119	605									0.00	8.97	29.15	43.04	2193.9	1200	0.40%	22.80	2.2	2465.67	0.17	0.89
B13, 15	605	606	0.24	0.7							0.17	9.14	29.33	42.86	2209.6	1200	0.40%	39.81	2.2	2465.67	0.30	0.90
B14, 16	606	608	0.3	0.7							0.21	9.35	29.63	42.57	2226.9	1200	0.40%	55.14	2.2	2465.67	0.42	0.90
B17, 18	608	610	0.36	0.7							0.25	9.60	30.05	42.16	2245.9	1350	0.20%	90.00	1.7	2386.87	0.90	0.94
B19, 20	610	612	0.6	0.7							0.42	10.02	30.95	41.33	2271.9	1350	0.20%	101.56	1.7	2386.87	1.02	0.95
H1-4, F1-2, 11 B23-32, G1-2, Ext 3	614	612	2.28	0.45	1.52	0.6	0.91	0.7	0.58	0.25	2.72	2.72	10.00	88.80	671.5	750	0.40%	311.46	1.6	704.06	3.26	0.95
B21, 22	612	Pond outlet	0.8	0.7							0.56	13.30	31.97	40.43	2615.7	1350	0.30%	21.95	2.0	2923.31	0.18	0.89
Block 14																						
A4		700	4.71	0.7							3.30	3.30	22.59	51.15	468.8	600	1.00%	31.18	2.2	613.97	0.24	0.76
Pond outfall		700													1206.0	900	0.50%	34.05	2.0	1280.02	0.28	0.94

CLIENT

Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP

LEGEND

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE

DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER
N.M. DIONNE
100009108
2025-05-23
PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	05/31/24	N.D	PRE-SERVICING OF PHASE 1

DRAWING TITLE

STORM DESIGN SHEET

SCALE **N/A**

SIZE ANSI D (22"X34")

DWG. NO. **C-DES-1**

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - SEWER SHEETS.DWG

SANITARY SEWER DESIGN SHEET
Cold Creek Subdivision Phase 1
Municipal Criteria: The Corporation of the County of Prince Edward

Prepared by: Noah Dionne, B.Eng
Reviewed by: Nancy Dionne, P.Eng
Insite Project Consulting Inc.
Date: May 21st 2025

RATIONAL METHOD: Qd = Qp + Qi
Q(p) = peak population flow (L/s)
Q(i) = peak extraneous flow (L/s)
Q(d) = peak design flow (L/s)

Q(p) = P * q * M / 86.4 (L/s)
Q(i) = i * A (L/s)

P = Population in thousands = POP/1000
q = average daily per capita flow (L/day/person)
i = Unit of peak extraneous flow (L/s/ha)
A = Gross Tributary Area (Ha)

M = Harmon's Peaking Factor Formula:
M = 1 + 14 / (4 + (POP/1000) ^ 0.5)
Min M Permissible per MECP: 2
M = 2.75 for maximum flow and 4.0 for minimum flow

MUNICIPAL GUIDELINES
Residential (q) : 350 (225 to 450 L/cap.d)
Extraneous (i) : 0.28 (0.1 to 0.28 L.s.ha)

DESIGN DENSITIES (POP)
Low Density: Singles, semis / duplex PPU : 3.0
Med Density: Triplex, Fourplex, THs PPU : 2.5
High Density: Apartments (54 to 300 units/Ha) PPU :
1 bdrm: 1.4 3 bdrm: 2.4
2 bdrm: 2.1 4 bdrm: 3
Commerical and Industrial: Per municipal Guidelines
Per MECP Sewage Works Guidelines

Velocity: Min: 0.6 m/s (for pipe flow above pipe depth of 0.3 of pipe dia.)
Max 3.0 m/s
Min Slope: 1% min for first leg of sewer
Max full flow capacity: 80%

MANNING EQUATION FOR FULL PIPE FLOW:

Qcap (cum/s) = 1/n * A * R^2/3 *S^1/2
= 1/n * ((π D^2)/4) * (D/4)^2/3 *S^1/2
Mean Velocity (m/s) = Q / A

D = Pipe Diameter (m)
R = Hydraulic radius (m) = A / Pw = D / 4
A (sqm) = Cross sectional flow area = (π D^{x2})/4
Pw = Wetted Perimeter = π * D
S = slope (grade) of pipe (m/m)

n = Manning's roughness coefficient
Concrete, PVC and HDPE:
n = 0.013

LOCATION			RATIONAL METHOD FLOWS														SEWER CHARACTERISTICS					
			INDIVIDUAL						ACCUMULATIVE		PEAKING	FLOWS				PEAKING	PEAK FLOWS				
AREA ID	FROM MH	TO MH	Type of UNIT	Total Single Lots, semis and B2B	Total TH and Stacked Units	Total 1-bedrm apart	POP (persons)	AREA (ha)	POP (persons)	AREA (ha)	FACTOR (M)	POP Qp (L/s)	EXTRAN Qi (L/s)	DESIGN Qd (L/s)	DIA (m)	SLOPE (m/m)	LENGTH (m)	VELOCITY Vcap (m/s)	CAPACITY Qcap (L/s)	CAPACITY
				3 PPU	2.5 PPU	1.4 PPU														
Hineman ST																				
H1,H2	**LPS**	**101**			6		15.0	0.43	15.00	0.43	4.40	0.27	0.12	0.39						
Street B																				
B1	**101**	**102**	RES		10		25.0	0.32	40.00	0.75	4.33	0.70	0.21	0.91	**0.2**	**0.0072**	**42.37**	0.89	27.8	3%
B2	**102**	**103**	RES		13		32.5	0.39	72.50	1.14	4.28	1.26	0.32	1.58	**0.2**	**0.004**	**55.12**	0.66	20.7	8%
B3	**103**	**104**	RES		2		5.0	0.12	77.50	1.26	4.27	1.34	0.35	1.69	**0.2**	**0.004**	**49.64**	0.66	20.7	8%
Street D																				
D1A	**104**	**200A**	RES	6	6		33.0	0.37	110.50	1.63	4.23	1.89	0.46	2.35	**0.2**	**0.004**	**61.42**	0.66	20.7	11%
100 Upper Lake	**200B**	**200A**	RES	15			45.0	0.79	45.00	0.79	4.32	0.79	0.22	1.01	**0.2**	**0.01**	**10**	1.04	32.8	3%
D1B	**200A**	**200**	RES	4	4		22.0	0.20	177.50	2.62	4.17	3.00	0.73	3.73	**0.2**	**0.004**	**30.78**	0.66	20.7	18%
D2	**200**	**201**	RES	12	11		63.5	0.63	241.00	3.25	4.12	4.02	0.91	4.93	**0.2**	**0.004**	**95**	0.66	20.7	24%
D3	**201**	**202**	RES		3		7.5	0.11	248.50	3.36	4.11	4.14	0.94	5.08	**0.2**	**0.004**	**15.32**	0.66	20.7	24%
D4	**202**	**203**	RES		1		2.5	0.16	251.00	3.52	4.11	4.18	0.99	5.16	**0.2**	**0.004**	**20.17**	0.66	20.7	25%
D5	**203**	**303**	RES				0.0	0.06	251.00	3.58	4.11	4.18	1.00	5.18	**0.2**	**0.004**	**37.31**	0.66	20.7	25%
Street C																				
C1	**300**	**301**	RES	10			30.0	0.37	30.00	0.37	4.35	0.53	0.10	0.63	**0.2**	**0.01**	**39.85**	1.04	32.8	2%
C2	**301**	**302**	RES	22.0			66.0	0.47	96.00	0.84	4.25	1.65	0.24	1.89	**0.2**	**0.004**	**91.1**	0.66	20.7	9%
C3	**302**	**303**	RES	10.0			30.0	0.24	126.00	1.08	4.21	2.15	0.30	2.45	**0.2**	**0.004**	**54.7**	0.66	20.7	12%
Street E																				
E1	**400**	**401**	RES	6.0	5.0		30.5	0.35	30.50	0.35	4.35	0.54	0.10	0.64	**0.2**	**0.01**	**45.6**	1.04	32.8	2%
E2	**401**	**402**	RES	9.0	7.0		44.5	0.44	75.00	0.79	4.28	1.30	0.22	1.52	**0.2**	**0.0044**	**71.2**	0.69	21.8	7%
E3	**403**	**402**	RES		32.0		80.0	0.93	155.00	1.72	4.19	2.63	0.48	3.11	**0.2**	**0.01**	**9.3**	1.04	32.8	9%
E4	**403**	**404**	RES	5.0			15.0	0.15	170.00	1.87	4.17	2.87	0.52	3.40	**0.2**	**0.004**	**45.2**	0.66	20.7	16%
E5	**404**	**303**	RES				0.0	0.09	170.00	1.96	4.17	2.87	0.55	3.42	**0.2**	**0.004**	**55.4**	0.66	20.7	16%
To Existing	**303**	**Ex.MH 59**	RES						547.00	6.62	3.95	8.76	1.85	10.61	**0.2**	**0.009**	18.6	0.97	30.5	35%

CLIENT
Port Picton HOMES

PROJECT 23-108

COLD CREEK SUBDIVISION - PHASE 1

KEY MAP

LEGEND

INSITE PROJECT CONSULTING INC.

DRAWN BY: D.YIN, N.P.DIONNE
DESIGNED BY: N.DIONNE, P.ENG

LICENSED PROFESSIONAL ENGINEER
N.M. DIONNE
100009108
2025-05-23
PROVINCE OF ONTARIO

REVISIONS

#	M/D/Y	BY	ISSUED FOR
2	05/23/25	N.D	PRE-SERVICING AGREEMENT
1	05/31/24	N.D	PRE-SERVICING OF PHASE 1

DRAWING TITLE
SANITARY DESIGN SHEET

SCALE **N/A**
SIZE ANSI D (22"X34")
DWG. NO. **C-DES-2**

C:\USERS\15879\ONEDRIVE - INSITE PROJECT CONSULTING INC\PROJECTS\23-108 COLD CREEK SUBD\DRAWING FOLDER\02 LAYOUTS\23-108 - SEWER SHEETS.DWG