1. SITE PREPARATION

- a. Site erosion and sediment control per WSP drawing ESC1.
- 2. SEDIMENT CONTROL MEASURES
- a. Protect all exposed surfaces and control all runoff during construction.
- b. Protect all catch basins, maintenance holes and pipe ends from sediment intrusion with geotextile (Terrafix 270r).
- c. Prevent wind-blown dust.
- d. Keep all sumps clean during construction.
- e. All of the above notes and any sediment and erosion control measures are at a minimum to be in accordance with the Ontario Ministry of Natural Resources quidelines on erosion and sediment control for urban construction sites.
- f. The Contractor shall construct temporary measures to control silt from entering the storm drainage system to the specifications outlined in the guidelines on erosion and sediment control for urban construction sites prepared by the Ontario Ministry of Natural Resources. These measures are to be installed prior to commencing any construction for this project, and are to remain in place until construction has been completed to the satisfaction of the City engineer.
- g. All work shall meet at a minimum, standards and specifications of the City of Peterborough.
- h. The Contractor is responsible for cleanup of mudtracking on a daily basis or on a more frequent basis if directed by the City or the Engineer. Any tracking of deleterious materials along any roads/driveways and or other properties aside from the site shall be mitigated immediately.

3. GENERAL

- a. All services shall be installed and tested to the current Ontario Building Code, City of Peterborough Standards (City Std.), Peterborough Utilities Commission Standards (PUC Std.), Ontario Provincial Standard Drawings (OPSD), and Ontario Provincial Standard Standard Specifications (OPSS), unless otherwise specified and to the satisfaction of the City of Peterborough, the Peterborough Utilities Services Incorporated (PUSI), the Engineer, and the Geotechnical Engineer.
- b. The position of existing pole lines, conduits, watermains, sewers and other underground and aboveground utilities, structures and appurtenances is not necessarily shown on the contract drawing, and where shown, the accuracy of the position of such utilities and structures is not guaran—teed. Prior to construction, the Contractor shall satisfy himself of the exact location of all such utilities and structures, shall adequately support them, and shall assume all liability for damage to them during the course of construction. Any relocation of existing utilities required by the development of subject lands is to be undertaken at the Contractor's expense
- c. The <u>Contractor</u> must notify all existing utility company officials five (5) business days prior to start of construction and have all existing utilities and services located in the field or exposed prior to the start of construction, including but not limited to Hydro, Bell, Cable TV and Gas lines
- d. All trenching to be in accordance with the latest revisions of the Occupational Health and Safety Act and Regulations for Construction Projects. Refer to geotechnical report for excavation recommendations
- e. All trenches shall be backfilled in accordance with the site geotechnical report dated March 15, 2021, reference number: 11223722, by GHD
- f. All disturbed areas outside of the proposed grading limits to be restored to original elevations and conditions unless otherwise specified. All restoration shall be completed with the geotechnical requirements for backfill, compaction and approved engineering drawings. Sodded areas to be restored with No.1 Nursery sod and 150mm of topsoil.
- g. The Contractor shall limit construction activity only to within the limits of construction shown.
- h. All dimensions and elevations in metres, pipe sizes in millimetres.
- i. Contractor shall satisfy himself of all geotechnical information and recommendations. Borehole logs and geotechnical information from Geotechnical report prepared by GHD, reference 11223722. Groundwater table is shallow. If necessary, a wellpoint dewatering system may be required during the construction of underground services. Soils are susceptible to frost damage. Contractor to provide adequate temporary frost protection for exposed soils as required. Frost damaged soils to be removed, replaced and recompacted to satisfaction of Geotechnical Engineer.
- j. Construction vehicles entering/exiting the site shall be routed along the County Road 8.
- k. Use of sewer stone (HL8 course aggregate) and clear stone are not permitted on this site, except where specifically noted on drawing.
- I. The topsoil and the organic soil will generate volatile gases under anaerobic conditions and are unsuitable for engineering application. For the environ—mental as well as the geotechnical wellbeing of the future development, they shall not be buried within the building envelope or deeper than one metre below the exterior finished grade to the satisfaction of the Geotechnical Engineer.
- m. Each and every footing base must be field reviewed and accepted in writing by the Geotechnical Engineer prior to placing concrete. This field review is required under Section 4.2.2.3 of the Ontario Building Code.
- n. Alternative materials may be acceptable, provided approval has first been obtained from the City/City Engineer, the Commissioner of the PUC, and/or Geotechnical Engineer
- o. No blasting is permitted.
- p. Contractor to expose and verify location, elevation, and size of existing pipes. Contractor to verify location, elevation, and size of all proposed building services to be constructed by others. If there are any discrepancies contractor is to notify the Engineer 48 hours prior to construction.
- q. Maintain traffic on municipal and regional roads at all times. All existing services are to remain in service at all times during construction (unless otherwise noted).
- r. At least 48 hours prior to commencing construction for services within a municipal right—of—way and/or municipal easements the contractor is to obtain a permit of approved work from the City.
- s. Contractor shall coordinate with the landscape contractor for planting bed locations and corresponding subgrade elevations.

4. WATERMAINS

- a. All watermain and watermain appurtenance construction, installation and testing shall conform to the current PUSI standards and specifications, Ministry of Environment (MOE) guidelines, NFPA 24 and as noted below.
- b. All watermain 100 to 300 mm diameter (inclusive) to be Polyvinyl Chloride (PVC) Class 150 DR18 meeting AWWA specification C-900 and CSA-B137.2,3.
- c. Fittings to be Cast or Ductile Iron in conformance with AWWA/C110. or PVC in conformance with CSA B137.3.
- d. Where watermains cross over other utilities, a minimum 0.30m clearance shall be maintained; where watermains cross under other utilities, a minimum 0.50 m clearance shall be maintained, while still maintaining a minimum depth of cover at all times. Where vertical separation cannot be main—tained, the sewer shall be constructed of material and with joints that are equivalent to watermain standards of construction and shall be pressure tested to ensure water tightness.
- e. Watermains shall be installed with a minimum cover of 1.8m from final grade to obvert of pipe. If minimum cover cannot be provided, insulate per PUSI standard A2371.
- f. Lateral separation of watermains to storm or sanitary sewers to be 2.5 m (clear).
- g. Watermain bedding and cover shall conform to OPSD 802.010 Class B. Bedding and cover material to be compacted (95% SPMDD) Granular 'A' (OPSS 514). At crossings, Contractor to adequately support pipe with granular bedding or concrete as required.
- h. Watermain joints shall be restrained by concrete thust blocks and mechanical restraints. Concrete thrust blocks to be provided at all bends, tees, hydrants, plugs, etc. Thrust block installation and area per PUSI Std. 6.1.5.22, A1719 and A2200 (minimum area to be per Std. 6.1.5.22 or 1.35 times A1719/A2200). Mechanical restraints per UNI-B-13-92 where bedding consists of disturbed native material or in areas of fill/engineered fill, at all tees, bends, hydrants, ends of mains and connections 100 mm and larger, by using EBAA Iron, Uni-Flange Pipe Products Inc., or approved equal per PUC Std. 6.1.3.10. Restraint lengths as noted on chart on this drawing.
- i. Pipe joint deflection should be used wherever possible to minimize the use of bends. Wherever it is necessary to deflect from a straight line, either in the vertical or horizontal plane, the amount of deflection shall be a maximum 70% of the manufacturer's recommendations. Deflection in the barrel is not permitted.
- j. Contractor to measure and provide non-typical angle bends as required.k. Contractor to use maximum 45° bends where watermain crosses under sewers.
- I. All hydrants to be installed per PUSI Std. A1633. Accepted fire hydrant to have FM & UCL approvals and conform to AWWA C502. Hydrant size and configuration to conform to PUSI Std. 6.1.3.8. (Century Hydrant, hose nozzles at 90°) Fire hydrant caps colour coded to indicate water flow and water system per NFPA. Hydrant to be oriented so storz nozzle faces adjacent road/fire route and is unobstructed. Granular "A" (OPSS 1010) to be used in place of 20 mm crushed stone. Hydrant to open left.
- m. Hydrants to be flow tested and results submitted to the Fire Chief prior to occupancy.
- n. Hydrant flange elevations shall be set at a grade that will give a flange elevation of 75 mm to 225 mm above the final grade.

 Specified flange grades are a guide only. Install per PUSI std. A1633.
- o. Hydrants shall be located a minimum of 1.2 metres measured from the edge of hydrant to the edge of driveways, roadways, utilities, light poles, curbs, sidewalks, or other above—ground obstacles.
- p. Hydrants shall be installed such that the rod stem length shall not exceed 1.7m measured from the break—off flange. If the barrel length exceeds 1.7m then a hydrant that can be raised from the bottom without increasing rod length is to be used.
- q. 100 mm to 300 mm diameter valves shall be resilient seat gate valves manufactured to AWWA C-509-94 installed in round cast iron valve box with inside screw non-rising spindle (open right), complete with mechanical joint ends.
- r. All direct buried valves and fittings to have Anodes, in accordance with ASTM 418.1, to be installed on alternating bolts. Refer to PUSI Std. 6.4.3 for approved materials. Refer to PUSI Std. 6.4.5 for installation details.
- s. All weld connections to be coated with "TC Mastic" or approved equivalent
- t. For trench backfill refer to storm sewer notes (5 g,h,i)
- u. Valve chamber cover to be stamped "WATER" and "DANGER".
- v. Tracer wire is to be installed on all new installations of PVC watermain pipe for locating purposes. Tracer wire consisting of #14 AWG solid copper TWU with plastic coat must be installed along the pipe, strapped to the pipe at 3 m intervals. The wire shall be brought to the surface at all hydrants and valve boxes per PUSI Std. 6.1.5.14. A continuous wire shall be used between surface points.
- W. The inspector may test the tracing wire for continuity. If the tracer wire is not continuous from valve to valve, the contractor shall, at his own expense, replace or repair the wire.
- x. All water customers supplied by a watermain to be shut down shall be notified by the contractor at least 24 hours in advance of the shut down or as required by the PUSI. Notifications shall take place under the Engineer's direction.

y. All watermain shall be tested in accordance with the Ontario Building Code (OBC).

- including 7.3.7., and to the satisfaction of the PUSI.

 z. Discharge chlorinated water to sanitary sewer system per specifications
- and to the satisfaction of the City/PUS. Prior to discharge, contact City for discharge requirements and permit:

 Kent Keeling
 Chief Environmental Officer
 Environmental Protecton Division
 (705) 742—7777 x2629
 cell: (705) 740—3697

5, PAVEMENT AND SURFACE WORKS

- a. Native subgrade shall have a crossfall of 2% and the material shall be approved by the Geotechnical Engineer.
- b. Exposed subgrade approved by the Geotechnical Engineer shall be compacted to 95% MPMDD. The granular base and sub-base should be compacted to 98% and 95% of their MPMDD respectively. Unsuitable areas may require sub-excavation and re-compaction or increased thickness of granular sub-base, as directed by the Geotechnical Engineer.
- c. The suitability and compaction of all existing and fill materials shall be confirmed by a Geotechnical Engineer prior to placement of pavement base course
- d. Install subdrains at locations indicated on servicing drawing per detail on this drawing. Locations include (but are not limited to) catchbasins.

 Minimum length of subdrain section is 5m unless otherwise noted.
- e. Fabric filter encased subdrains (see detail on this drawing) to meet the City requirements.

f. Pavement structure:

For Heavy Duty use within Property

40 mm	HL3 (OPSS 1150)
50 mm	HL8 (OPSS 1150)
150 mm	Granular 'A' (OPSS 1010)
450 mm	Granular 'B' (OPSS 1010)

For Light Duty use within Property

· • · _ · g · · · · b · · · · g	<u> </u>
40 mm 50 mm 150 mm 300 mm 540 mm	HL3 (OPSS 1150) HL8 (OPSS 1150) Granular 'A' (OPSS 1010 Granular 'B' (OPSS 1010)

Based on the Geotechnical Investigation Report prepared for Peterborough Victoria, Northumberland and Clarington Catholic School Board c/o Salter Pilon Architecture Inc. by GHD Prepared on March 15,2021, reference number:

- g. All disturbed pavement on adjacent roads shall be restored to existing depths and types of materials or better upon completion of pavement works.
- h. Concrete sidewalk shall be min. 1.50m wide (or as noted on site plan) as per OPSD 310.010, OPSD 310.020 and CP351.02. Thickness of concrete shall be 125mm with compacted 150mm of Granular 'A' base course. At driveways, provide 200mm of concrete with compacted 300mm of Granular 'A' base course. Concrete to be C2 Exposure, 32Mpg
- i. Concrete sidewalk shall be depressed and ramped at all intersections as per revised OPSD 310.030
- j. Depressed curb shall be used at all walkways, sidewalk crossings and accessible parking stalls in accordance with revised OPSD 310.030.
- k. Concrete curb within the Site shall be Concrete Barrier Curb as per OPSD 600.110, unless underwise specified
- I. Driveways and curb at entrances through municipal boulevards to conform to OPSD 350.010, unless otherwise indicated on the drawings.

 Pavement markings to be applied after base asphalt if top asphalt is not scheduled to follow within 24 hours and base asphalt pavement surfaces are to be used by the public. After top asphalt, pavement markings to be applied with double coat.

6. COMPACTION REQUIREMENTS

- a. Engineered fill to be compacted to not less than 95% MPMDD under the full time supervision of the Geotechnical Engineer.
- b. Prior to constructing the pavements, all service trenches must be compacted to at least 95% Modified Proctor Maximum Dry Density (MPMDD) also refer to storm sewer notes 5g. Backfill under sidewalks and buildings to be compacted to 95% MPMDD.
- c. The subgrade should be properly shaped and crowned. Proof—rolling using static smooth drum roller to identify incompetent/unstable subgrade areas and should be sub—excavated and properly replaced with suitable approved backfill
- compacted to 95% MPMDD as directed by the Geotechnical Engineer.

 d. The granular base material shall be compacted to 98% MPMDD.

 Sub-base material shall be compacted to 95% MPMDD.
- e. The asphalt concrete must be compacted per OPSS 310.

7. REINSTATEMENT

- a. All surface features not designated as to be removed including but not limited to curbs, landscaping, pavement, pavement marking and sidewalks but are disturbed, damaged or removed during the contractor's activities shall be reinstated to its original conditions at no extra cost.
- b. All existing features that are to remain, i.e. manhole lids, catchbasins, valve chamber lids, valve boxes, etc. shall be adjusted to suit the finished elevations as required.

8. PERMITS AND APPROVALS

The following approvals are required prior to commencing construction. Owner has applied for the following permits/approvals:

Site Plan Approval (or Clearance Letter from City)

ORCA Fill Permit (if applicable)

Building Permit

MOE Permit to take water

Contractor shall be responsible for securing all other necessary permits.

The Contractor shall not commence work in any area requiring a permit until the Contractor possesses a copy of a permit, together with any and all conditions, drawings and sketches attached to the permit.

The Contractor shall keep a copy of all permits and attachments on site at all times and shall produce them on demand by the Municipality, Consultant, Owner or approving authority.

9. BENCHMARK

ELEVATIONS ARE GEODETIC AND REFERRED TO COSINE BENCHMARK 00820040002 AND HAVING A GEODETIC ELEVATION OF 231.110 METRES.

LIST OF DRAWINGS

FOR CIVIL SITE PREPARATION, GRADING AND SERVICING REFER TO THE FOLLOWING. THESE DRAWINGS ARE TO BE USED IN CONJUCTION WITH EACH OTHER AND THE CONTRACT SPECIFICATIONS.

NT1 NOTES AND DETAILS

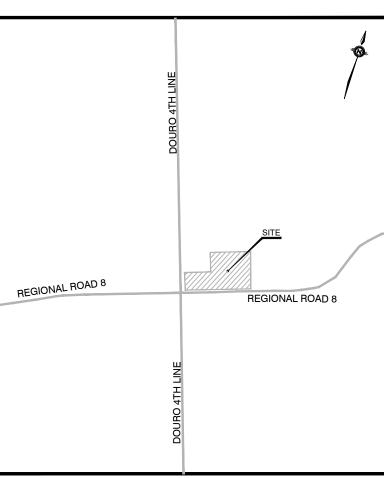
SS1 SITE SERVICING PLAN
SG1 SITE GRADING PLAN

C1 EROSION AND SEDIMENT CONTROL PLAN

WATERMAIN RESTRAINT LENGTHS (CONTINUATION OF SECTION H OF WATERMAIN NOTES ON THIS DRAWING): All bends, reducers, tees, plugs and valves to be restrained to minimum pipe lengths (on all sides of the fitting unless otherwise noted) in accordance to the chart below. Note

that when any fitting is within the influence of another fitting, the total restraint lengths should be accumulative and add the overlapping restraint lengths each way

Fitting	45° Vertical Bend		Horizontal Bends				
	Up Thrust	Down Thrust	45° or Less	90.	Reducer	Tee	Plug and Valves
300ø Pipe	5m	2m		6m	20m on 150ø	2m	13.5m
150ø, 100ø Pipe	5m	2m	1.5m	3m	5.5m on 100ø	2m	6.5m



NTS

KEY PLAN

<u>LEGEND</u>

ISSUED FOR TENDER - ADDENDUM No. 2 GW 2021-11-12 DRAFT FOR COORDINATION GW 2021-11-08 ISSUED FOR PERMIT & TENDER GW 2021-09-27 DRAFT FOR COORDINATION GW 2021-08-25 DATE APP REVISIONS TO DRAWING ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED SALTER PILON ARCHITECTURE INC. MUNICIPALIT TOWNSHIP OF DOURO-DUMMER PROJECT TITLE ST. JOSEPH C.E.S **ADDITION** SHEET TITLE NOTES AND DETAILS 100 Commerce Valley Dr. West, Thornhill, ON Canada L3T 0A1 t: 905.882.1100 f: 905.882.0055 Aller A. G. KERR 100229329 G.W CAD 10/12 A.K 1:200 **NOVEMBER 2020** DWG. NUMBER SHEET NUMBER

20M-01337

ISSUED FOR SITE PLAN APPLICATION

GW 2022-03-07

NT1

