1.0 DRAWING NOTES:

1.1. Contractor to verify and locate all underground and above ground utilities. All infrastructure conflicts shall be reported immediately to site engineer.
1.2. Test pit details are provided in the Geotechnical Report prepared by Pinchin dated May 2, 2022.
1.3. All dimensions are in meters or millimeters unless otherwise specified.
1.4. See details for all curb and sidewalk works.
1.5. All concrete shall be "Normal Portland Cement,. Minimum strength required is 30 Mpa at 28 days.
1.6. Proposed elevations are approximate. Modifications to proposed elevations are to be approved by the site engineer.
1.7. Install light duty silt fence, straw bales and all erosion control measures prior to construction start. Straw bale check dam installation as per OPSD 219.180. Light duty sediment fence installation as per OPSD 219.110.
1.8. All construction debris are to be kept on site unless otherwise disposed with direction of Site Engineer.
1.9. Contractor is responsible for cleaning and all costs associated with construction debris on city and site roadways.
1.10. Contractor shall reinstate all disturbed existing areas at the contractor's expense.
1.11. All public within 120m radius shall be notified 48 hours prior to any blasting operations (if required).
1.12. Heavy Duty Pavement and Gravel Structure:

HEAVY DUTY GRAVEL STRUCTURE

- 300mm Gran A, Compacted 100% SPMDD
- 600mm Granular B Type II, Compacted to 100% SPMDD

HEAVY DUTY PAVEMENT STRUCTURE

- 50mm HL1 or Superpave 12.5 FC1 Surface Course
- SS-1 Tack Coat
- 80mm HDBC or Superpave 19.0 Binder Course
- 300mm Gran A, Compacted 100% SPMDD
- 600mm Granular B Type II, Compacted to 100% SPMDD

1.13. Sodding of ditch side slopes installation as per OPSD 218.010.
1.14. If paved, accessible parking space shall be marked by an identifying marker on the pavement consisting of the international symbol of access as a 1.53x1.53m white border and symbol with a blue background field colour centered on the parking stall 0.5-0.8m from the traffic aisle. All accessible parking spaces shall be appropriately signed in accordance with provincial regulations.
1.15. See electrical drawings for utilities services details.
1.16. The site Survey has been completed by Hopkins Chitty Land Surveyors Inc. dated Dec 10, 2021.
1.17. Grades are to match adjacent property grades unless otherwise noted.
1.18. Contractor to submit, for review, a testing, disinfection and final connection plan completed by a professional engineer, prior to testing and disinfection of the watermain and large services.
1.19. Site servicing to be inspected by the Building Department.

2. WATER

2.1. Proposed well locating to be drilled by qualifies contractor.
2.2. Contractor shall provide minimum 1.7m cover over watermian at all locations. Water services shall be Type K copper and shall be installed as per OPSD 1104.20.
2.3. Watermain fittings and thrust blocks to be installed as per OPSD 1103.01 and 1103.02.
2.4. Watermain tracer wire and cathotic protection to be installed as per City of Kingston standards.
2.5. No water service joints can be in place from the property line to the building.
2.6. All mains and services shall be marked with a 50mm wide detectable metallic tape blue in colour with the wording "Buried Water Line Below,. The tape shall be SETON PRODUCT #48302 or equivalent. The tape shall be laid 300 to 450mm above the main or service.
2.7. Approved water service boxes for 38mm & 50mm diameter services Mueller Cat. No. A-753 or equal complete with cast iron lid (including centre brass nut), 1200mm stainless steel rod and stainless steel cotter pins.

3. ENVIRONMENTAL

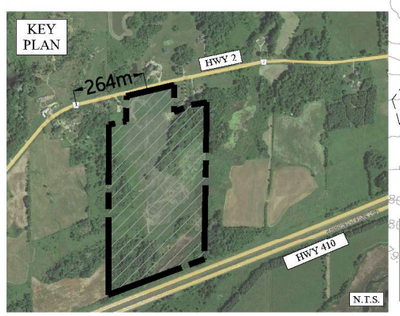
3.1. While undertaking clearing, demolition, excavation or construction the Owner and their contractors shall be vigilant for the potential presence of underground fuel tanks, contaminated soil or groundwater, buried wastes, designated substances or abandoned water wells. If any of the above are encountered or suspected, the Owner shall ensure that:
3.2. The Leeds and The Thousand Islands is advised that contaminants or wastes have been discovered or are suspected;
3.3. Any soil or groundwater contamination encountered is to be managed in accordance with all applicable regulations and standards;
3.4. Any wastes generated by site clean-ups are managed in accordance with applicable laws and standards;
3.5. Any abandoned fuel tanks encountered are decommissioned in accordance with applicable laws and standards;
3.6. Any unused water wells (drilled or dug) are properly abandoned in accordance with Ontario Regulation 903 - Wells or as revised;
3.7. If it appears likely that contamination, including the presence of designated substances, extends beyond the boundaries of the subject property, the Owner notifies the local office of the Ministry of the Environment and the Leeds and The Thousand Islands;
3.8. Construction wastes are not to be buried within the property that is the subject of this Agreement, and
3.9. 3.8. That the Owner and their contractors report all spills to the Ministry of the Environment's Spills Action Centre (1-800-268-6060) and to the Municipality (546-4291 ext. 1368) forthwith.

4. GEOTECHNICAL

4.1. A qualified geotechnical engineer should be on-Site:
4.1.1. During the foundation preparation to ensure the subsurface conditions are the same/similar to what was observed during the investigation.
4.1.2. To observe fill placement operations and perform field density tests at random locations throughout each lift, to indicate the specified compaction is being achieved.
4.1.3. During the proof roll and foundation preparation activities to verify the recommended level of compaction is achieved and to verify the design assumptions and recommendations.
4.2. The existing organics are not considered suitable to remain below the proposed building, access roadway and parking areas and will need to be removed.
4.3. Structural fill must extend at least 1 m beyond the edges of proposed foundations, and then outward and downwards to competent soil at 1 horizontal to 1 vertical. Prior to placing any fill material at the Site, the subgrade should be inspected by a qualified geotechnical engineer and loosened/soft pockets should be sub excavated and replaced with engineered Fill.
4.4. It is recommended that any fill required to raise grades below the proposed building comprise imported Ontario Provincial Standards and Specifications (OPSS) 1010 Granular 'B' Type I or II material.
4.5. An initial thicker lift of boney sand and gravel may be needed for stability where the groundwater table is near the subgrade level.
4.6. Where workers must enter trench excavations deeper than 1.2 m, the trench excavations should be suitably sloped and/or braced in accordance with the Occupational Health and Safety Act (OHSA), Ontario Regulation 213/91, Construction Projects, July 1, 2011, Part III - Excavations, Section 226.
4.7. Prior to commencing excavations, it is critical that all existing surface water and potential surface water is controlled and diverted away from the Site to prevent infiltration and subgrade softening. At no time should excavations be left open for a period of time that will expose them to precipitation and cause subgrade softening. At no time should excavations be left open for a period of time that will expose them to precipitation and cause subgrade softening.
4.8. All collected water is to discharge a sufficient distance away from the excavation to prevent re-entry. Sediment control measures, such as a silt fence, should be installed at the discharge point of the dewatering system.
4.9. Material must be compacted to a minimum of 100% Standard Proctor Maximum Dry Density (SPMDD) prior to installing the concrete formwork. Any soft/loose areas which are not able to achieve the recommended 100% SPMDD are to be removed and replaced with a similar soil type.
4.10. Qualified geotechnical engineering consultant should be on-Site during the proof roll and foundation preparation activities to verify the recommended level of compaction is achieved and to verify the design assumptions and recommendations.
4.11. As well, it could be easily disturbed if travelled on during construction. Once it becomes disturbed it is no longer considered adequate to support the recommended design bearing pressures. it is recommended that a working slab of lean concrete (mud slab) be placed in the footing areas immediately after excavation and inspection to protect the founding soils during placement of formwork and reinforcing steel.
4.12. Prior to commencing excavations, it is critical that all existing surface water, potential surface water and perched groundwater are controlled and diverted away from the work Site to prevent infiltration and subgrade softening. At no time should excavations be left open for a period of time that will expose them to inclement weather conditions and cause subgrade softening;
4.13. The subgrade should be sloped to a sump outside the excavation to promote surface drainage and the collected water pumped out of the excavation. Any potential precipitation or seepage entering the excavations should be pumped away immediately (not allowed to pond);
4.14. The footing areas should be cleaned of all deleterious materials such as organics, fill, disturbed or caved materials; and
4.15. If the excavated subgrade soil remains open to weather conditions and groundwater seepage, sidewall stability and suitability of the subgrade soil will need to be verified prior to construction.
4.16. It is recommended the following transition precautions to mitigate/accommodate potential differential settlements: for strip footings, the transition zones should be adequately reinforced steel lap lengths or widened footings; steel reinforced poured concrete foundation walls; and control joints throughout the transition zone(s).
4.17. Where strip footings are founded at different elevations, the subgrade soil is to have a maximum slope of H to 1 V, with the concrete footing having a maximum rise of 600 mm and a minimum run of 600 mm.
4.18. Perimeter foundation drains in order to eliminate the potential for water pooling up within the foundation wall backfill. The foundation drains should consist of a minimum 150 mm diameter fabric wrapped perforated drainage tile surrounded by 19 mm diameter clear stone with a minimum cover of 150 mm on top and sides and 50 mm below the drainage tile
4.19. Clear stone gravel should be wrapped in a non woven geotextile (Terrafix 270R or equivalent
4.20. The perimeter foundation backfill should consist of a free draining granular material, such as a Granular 'B' Type I (OPSS 1010) or an approved sand fill, extending a minimum lateral distance of 600 mm beyond the foundation.
4.21. All granular material is to be placed in maximum 300 mm thick lifts compacted to a minimum of 100% SPMDD on the interior of walls and below hard landscaping areas and 95% SPMDD in soft landscaping areas.
4.22. Establish the concrete floor slab on a minimum 300 mm thick layer of Granular "A, (OPSS 1010) compacted to at least 100% SPMDD. Any required upfill should consist of an OPSS 1010 Granular "B, Type I or Type II material.
4.23. The installation of a vapour barrier may be required under the floor slab. If required, the vapour barrier should conform to the flooring manufacturers and designer,s requirements. Consideration may be given to carrying out moisture emission and/or relative humidity testing of the slab to determine the concrete condition prior to flooring installation. To minimize the potential for excess moisture in the floor slab, a concrete mixture with a low water-to-cement ratio (i.e., 0.5 to 0.55) should be used.
4.24. Fill material is required to increase the grade to the underside of the gravel surfaced structure it should consist of an OPSS 1010 Granular "B, Type I or II material. The up-fill material is to be placed in maximum 300 mm thick lifts compacted to 98% SPMDD within 4% of the optimum moisture content.
4.25. Recommended that all geotechnical aspects of the project be reviewed and confirmed under the appropriate geotechnical supervision, to routinely check such items. This includes but is not limited to inspection and confirmation of the undisturbed natural subgrade material prior to subgrade preparation, pouring any foundations or footings, backfilling, or engineered fill installation.

5. DISCLAIMER

5.1. Any unforeseen infrastructure will be dealt with during construction stages.



479 Hwy 2, Leeds and The Thousand Islands
Zoning By-Law No. 07-079

	CURRENT ZONING Rural (RU) (Other Uses)	PROPOSED	REQUIRED Special Rural (RU)-**	REQUIRED Rural Industrial (MX)	RELIEF REQUIRED
Permitted Use		Tree Care Service	Contractors Shop/Yard	Contractors Shop/Yard	No
Lot Area (min)	6000m²	22.6Ha		1.0Ha	No
Lot Frontage	45.0m	174.0m		60.0m	No
Yard Requirement					No
- Front	7.5m	83.7m		12.0m	No
- Rear	10.5m	443.9m		12.0m	No
- Exterior Side	7.5m	-		12.0m	No
- Interior Side	6.0m	12.9m		7.5m	No
Building Height (max)	12.0m	8.3m		15.0m	No
Lot Coverage (max)	10%	0.26%		20%	No
Watercourse Setback	30m	30m	30m		No
Provincially Significant Wetland	120m	195.3m			No

Parking

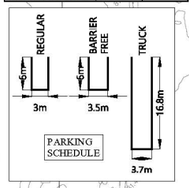
LAND USE	PARKING PROVISION	REQUIRED	PROVIDED	RELIEF REQUIRED
Business or Personal Office	1 per 20.0 sqm of floor area	10	20	No
Industrial Establishment	1 per 80.0 sqm of manufacturing floor area and office + 1 space per 100.0 sqm of warehousing or storage floor space	5	10	No
Total		15	30	No
Barrier Free		1	1	No
Dump Truck/Trailer Parking			20	

Area Coverage

	Area (Ha)	%
Asphalt/Gravel	0.569	2.52%
Building/Coverall	0.116	0.51%
Landscaping	21.915	96.97%
Total	22.6	100.00%

Building Stats

Ground Floor Area	563.27m²
Gross Floor Area	753.45m²
Height of Building	9.3m
Number of Stories	2



ECO TREE CARE

479 HWY 2,
GANANOQUE, ON

CLIENT:
JOHN MADDEN

ASTERISK ENGINEERING CORPORATION
1480 Bath Road
Kingston, ON.
K7M 0X6
(613) 542-2040 fax 1 613 280-1335
www.asteriskengineering.com

ISSUED FOR	REV	DATE
SPC	00	MAY 16, 2022

Do not scale drawings. Refer to Architectural drawings for dimensions. All elevations/dimensions shall be verified with Architectural drawings and any discrepancy shall be reported immediately to consultant.
Read this drawing in conjunction with ALL applicable Architectural, Mechanical, electrical and other disciplines involved.
This drawings are "design drawings" only and are not intended to be used as shop drawings.

LEGEND

- Proposed Down Spout
- Heavy Duty Gravel Surface
- Proposed Septic
- Proposed Coverall (Phase II)
- Proposed Fire Route
- Proposed Swale/Ditch
- Proposed Swale/Ditch Centerline
- Building Envelop
- Bore Hole Location and ID
- Silt Fence
- Straw Fence
- Rock Check Dam
- Phase II Boundary

LICENCED PROFESSIONAL ENGINEER THOMAS ANDREW CALDER 100074114 May 16, 2020 PROVINCE OF ONTARIO

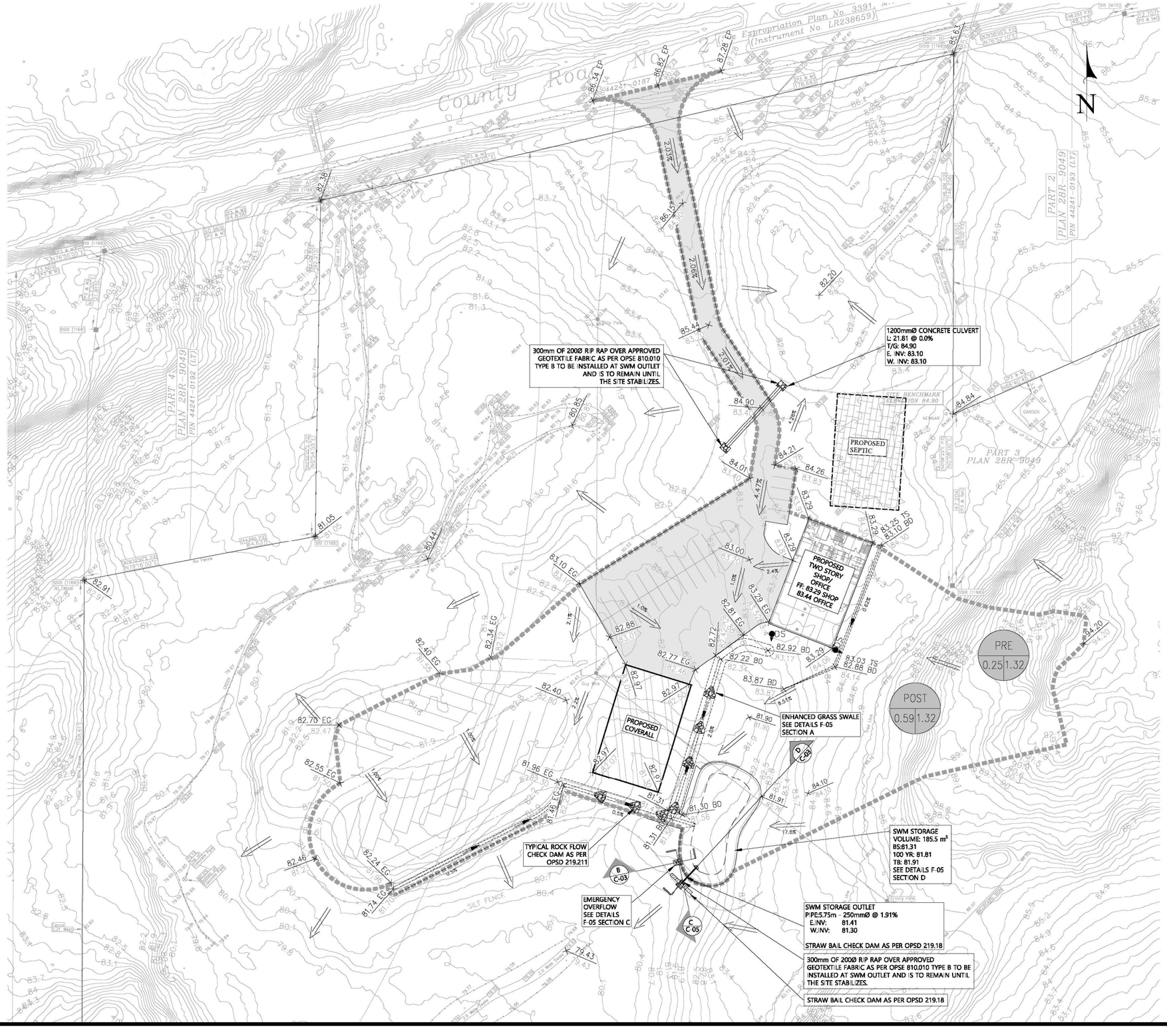
SCALE: 1:500	UNITS: m	
DESIGNED: TC	CHECKED: TC	DRAWN: MT/CR

DRAWING TITLE:

SITE PLAN

DRAWING NO.: C-01

PROJECT NO.: 21-109
DATE: MAY 16, 2022



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LEGEND

- DS — Proposed Down Spout
- Proposed Overland Flow Direction
- Proposed Ditch/Swale Flow Direction
- PROPOSED / EXISTING — Proposed Grading
- Heavy Duty Gravel Surface
- Proposed Septic
- Proposed Coverall (Phase II)
- Proposed Swale/Ditch
- Proposed Swale/Ditch Centerline
- Proposed Parking Space
- Building Envelop
- Silt Fence
- Straw Fence
- Rock Check Dam
- Tributary Area: Area ID 1; Coefficient 0.59; Size Ha 1.32

SCALE: 1:500	UNITS: m	
DESIGNED: TC	CHECKED: TC	DRAWN: MT/CR

DRAWING TITLE:

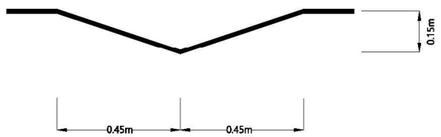
SERVICING AND GRADING

DRAWING NO.: C-02

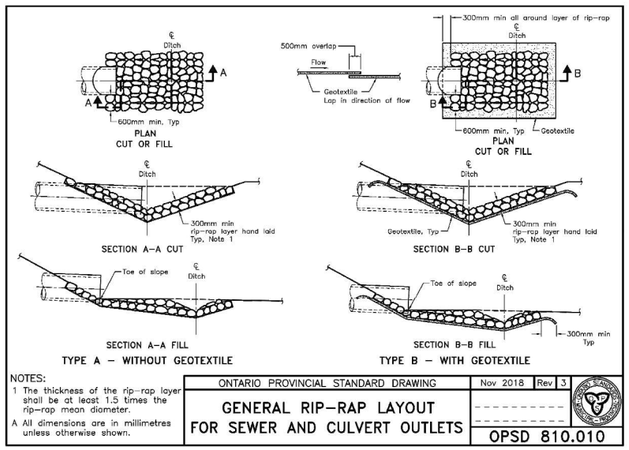
PROJECT NO.: 21-109

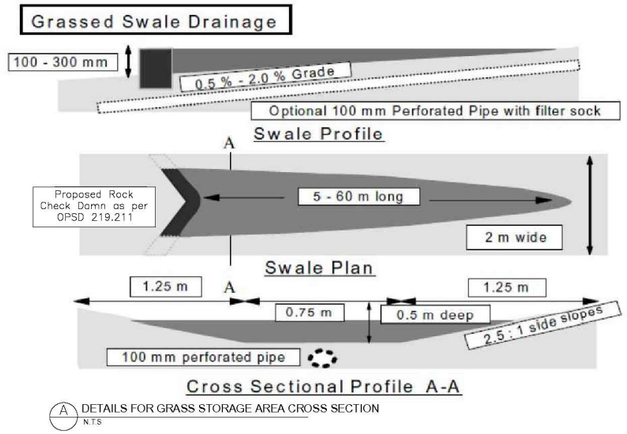
DATE: MAY 16, 2022

LICENCED PROFESSIONAL ENGINEER
T. AVELAR PEREIRA DALDAS
100074114
May 16, 2022
PROVINCE OF ONTARIO

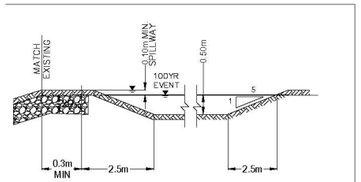


G TYPICAL SWALE CROSS SECTION





A DETAILS FOR GRASS STORAGE AREA CROSS SECTION
N.T.S



B TYPICAL SPILLWAY SECTION
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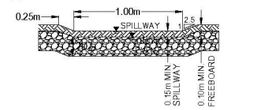
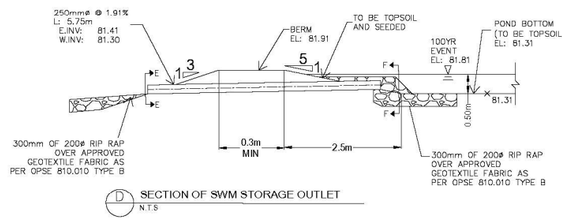
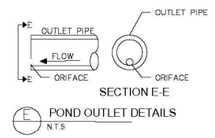


*ENHANCED SWALE TO BE LINED WITH IMPERVIOUS MEMBRANE COVERED WITH 100mm TOPSOIL AND SOD
*GRASSED AREA
MIN SLOPE = 0.50%
MAX SIDE SLOPE =40% (1:2.5)

C TYPICAL SPILLWAY SECTION
N.T.S

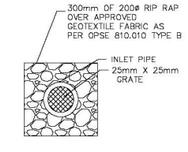


D SECTION OF SWM STORAGE OUTLET
N.T.S



SECTION E-E

E POND OUTLET DETAILS
N.T.S



F SECTION F-F
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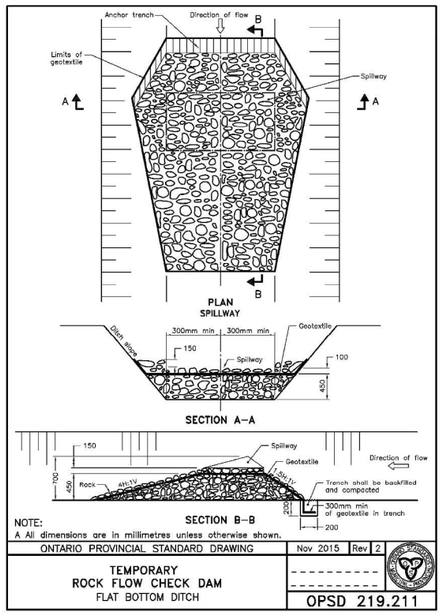

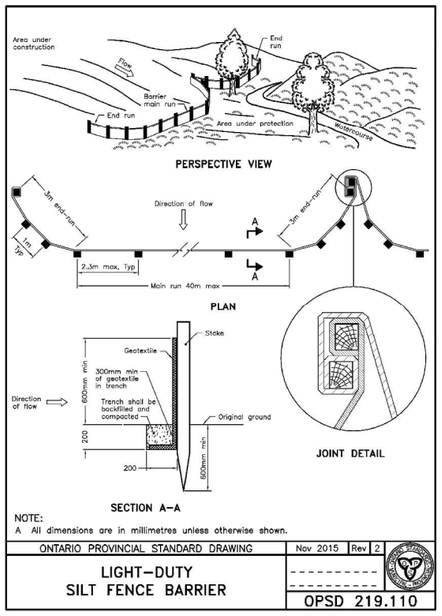

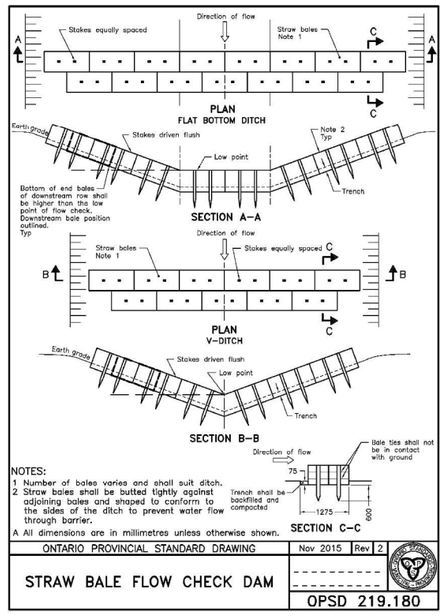

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LEGEND

LICENCED PROFESSIONAL ENGINEER
T.MELARPRENKALDAS
100074114
May 16, 2022
PROVINCE OF ONTARIO

SCALE: -	UNITS: m	
DESIGNED: TC	CHECKED: TC	DRAWN: MT/CR

DRAWING TITLE:

DETAILS

DRAWING NO.:

C-03

PROJECT NO.: 21-109

DATE: MAY 16, 2022