

- BUILDING SANITARY SERVICES TO BE 125mmØ PVC SDR28 @ MINIMUM 2% SLOPE
- ELECTRICAL AND COMMUNICATIONS CONDUIT SIZING AS PER MECHANICAL DRAWINGS

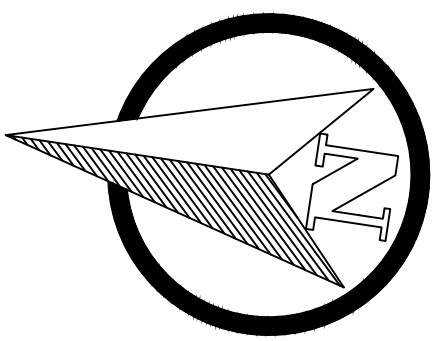
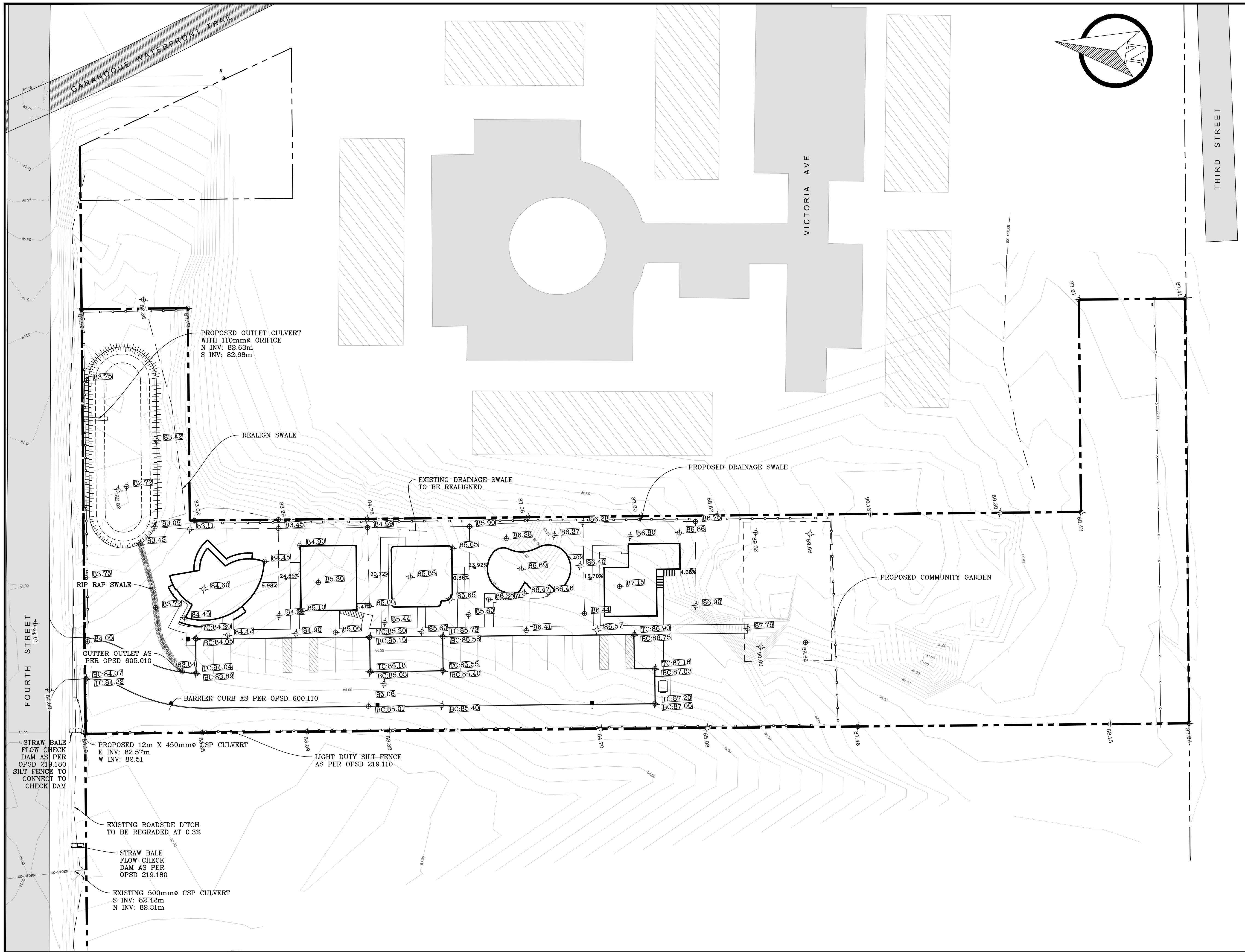
| REVISIONS | | |
|-----------|-------------------------------------|------------|
| No. | Description | Date |
| 1. | ISSUED FOR SUBMISSION | 2021/12/07 |
| 2. | REVISED AS PER TOWN COMMENTS | 2022/01/20 |
| 3. | REVISED AS PER TOWN COMMENTS | 2022/02/07 |
| 4. | REVISED AS PER CRCA COMMENTS | 2022/03/21 |
| 5. | REVISED AS PER APRIL 2022 RE-DESIGN | 2022/04/29 |

| BENCHMARK: | | |
|------------|-------------|-----------|
| No. | DESCRIPTION | ELEVATION |
| ##. | XXX | XXX.XX |



Project: **MARCO POLO 100 DESIGN CHALLENGE**
 425 FOURTH ST. GANANOQUE ONTARIO
 Drawing Title: **SITE SERVICING PLAN**

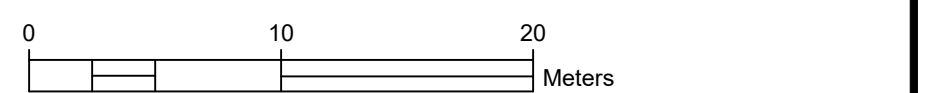
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| Drawn by: LM | Project Number: GW-21050 |
| Checked By: MB | Drawing Number: C-101 |
| Scale: 24"x36" 1:300 | Date: OCT 25, 2021 |
| Date: OCT 25, 2021 | SHEET 1 of 3 |



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- ⊕ **XX.XX** PROPOSED ELEVATION
- ⊕ **xx.xx** EXISTING ELEVATION
- ⊕ **TC:XX.XX** TOP OF GRATE ELEVATION
- ⊕ **TC:XX.XX** TOP OF CONCRETE / CURB
- ⊕ **BC:XX.XX** BOTTOM OF CONCRETE / CURB
- **xxx.xx** EXISTING MAJOR CONTOUR (1m)
- **xxx.xx** EXISTING MINOR CONTOUR (0.25m)



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| ##. | XXX | XXX.XX |



Client / Land Owner:
HORIZON LEGACY
 Project: **MARCO POLO 100 DESIGN CHALLENGE**
 425 FOURTH ST. GANANOQUE ONTARIO
 Drawing Title: **LOT GRADING PLAN**

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|----------------------|--------------------------|
| Drawn by: LM | Project Number: GW-21050 |
| Checked By: MB | Drawing Number: C-102 |
| Scale: 24"x36" 1:300 | Date: OCT 25, 2021 |
| Date: OCT 25, 2021 | SHEET 2 of 3 |

GENERAL NOTES:

1. THE ORIGINAL TOPOGRAPHY AND GROUND ELEVATIONS, SERVICING AND SURVEY DATA SHOWN ON THIS PLAN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF ALL INFORMATION OBTAINED FROM THESE PLANS. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
2. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THE DRAWINGS. IF THERE ARE ANY DISCREPANCIES THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY. GAS, HYDRO, CABLE, TELEPHONE, OR ANY OTHER UTILITY THAT MAY EXIST ON SITE MUST BE LOCATED BY ITS OWN UTILITIES AND VERIFIED.
4. ALL UNDERGROUND SERVICES, MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE STATED (OPSS).
5. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED. ANY GRASSED AREAS DISTURBED ARE TO BE REINSTATED WITH MINIMUM 100MM TOPSOIL AND SEED.
6. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
7. TREES DESIGNATED BY THE ENGINEER MUST BE PROTECTED AND MAINTAINED DURING CONSTRUCTION.
8. CONTRACTOR TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS FROM THE COUNTY, MUNICIPALITY AND/OR CONSERVATION AUTHORITY PRIOR TO COMMENCING CONSTRUCTION.
9. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL.
10. ALL CURBS TO BE AS PER OPSD 600.110 UNLESS OTHERWISE SPECIFIED.
11. ALL SIDEWALKS SHALL BE A MIN OF 1.5M WIDE CONSTRUCTED AS PER OPSD 310.010. UNLESS OTHERWISE SPECIFIED.
12. ALL SIDEWALKS ADJACENT TO ASPHALT PAVING TO HAVE MINIMUM 150MM BURIED FACE.
13. HOT MIX, HOT LAID ASPHALT AS PER OPSS 1150. MIX DESIGNS SHALL CONTAIN A MINIMUM OF 5.4% ASPHALT CEMENT WITH A PERFORMANCE GRADE OF PG58-28 AND 3.5% AIR VOIDS.
14. PAINT LINES FOR STANDARD PARKING SPACES TO BE CANICGSB-174-2001, ALKYD TRAFFIC PAINT, PAVEMENT SURFACE TO BE DRY, FREE FROM PONDED WATER, FROST, ICE, DUST, OIL, GREASE AND OTHER FOREIGN MATERIALS PRIOR TO PAINTING. PAINT LINES TO BE UNIFORM COLOUR AND DENSITY WITH SHARP EDGES. PROTECT PAVEMENT MARKINGS UNTIL DRY.
15. GRADES TO MATCH ADJACENT PROPERTIES AT PROPERTY LINE.
16. AT PIPE CROSSING WHERE SEPARATION CANNOT BE MET, CONTRACTOR SHALL PROVIDE A MINIMUM OF 250MM NON SHRINK CONCRETE PIPE SURROUND.
17. SLOPES IN LANDSCAPED AREAS SHALL NOT EXCEED 3:1 (3 HORIZONTAL TO 1 VERTICAL).
18. ALL SIGNS ARE TO COMPLY WITH TOWN OF GANANOQUE, THE ONTARIO TRAFFIC ACT, AND THE MINISTRY OF TRANSPORTATION BOOK 5 REGULATORY SIGNS.

ENVIRONMENTAL

19. EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MONITORED AND MAINTAINED BY THE CONTRACTOR UNTIL COMPLETION. THE TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE REMOVED ONCE THE SITE HAS BEEN STABILIZED AND SITE WORKS COMPLETED.
20. ALL TREE PROTECTION SHALL BE IN PLACE PRIOR TO ANY SITE ALTERATION AND REMAIN UNDISTURBED FOR THE REMAINDER OF THE PROJECT.
21. REGARDLESS OF SITE SPECIFIC ITEMS DETAILED ON THE PLANS, THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES TO SUIT THE PROPOSED WORK METHODS TO CONTROL SEDIMENT FROM RUNNING OFF THE SITE OR INTO WATER BEARING FEATURES PRIOR TO ANY DISTURBANCE. FOLLOWING CONSTRUCTION, DISTURBED AREAS, AS WELL AS PROPOSED GRASSED AND VEGETATED SURFACES SHALL BE REINSTATED.
22. IN THE EVENT THAT HUMAN REMAINS ARE ENCOUNTERED DURING CONSTRUCTION, THE MINISTRY OF CITIZENSHIP, CULTURE AND RECREATION SHALL BE NOTIFIED IMMEDIATELY AND THE REGISTRAR OR DEPUTY REGISTRAR OF THE CEMETERIES REGULATION UNIT OF THE MINISTRY OF CONSUMER AND COMMERCIAL RELATIONS (416) 362-8392, SHALL BE NOTIFIED IMMEDIATELY.
23. IN THE EVENT THAT BURIED ARCHAEOLOGICAL REMAINS ARE FOUND DURING CONSTRUCTION ACTIVITIES, THE MINISTRY OF CITIZENSHIP, CULTURE AND RECREATION SHALL BE NOTIFIED IMMEDIATELY.
24. 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 WASTE OR ABANDONED WATER WELLS. IF ANY OF THE ABOVE ARE ENCOUNTERED OR SUSPECTED, THE OWNER SHALL ENSURE THAT:
 - 24.A. THE TOWN OF GANANOQUE'S ENVIRONMENT DEPARTMENT IS ADVISED THAT CONTAMINANTS OR WASTES HAVE BEEN DISCOVERED OR ARE SUSPECTED.
 - 24.B. ANY SOIL OR GROUNDWATER CONTAMINATION ENCOUNTERED IS REMEDIATED TO APPLICABLE STANDARDS AS DEFINED WITHIN O REG OR AS REVISED.
 - 24.C. ANY WASTES GENERATED BY SITE CLEAN-UPS ARE MANAGED IN ACCORDANCE WITH APPLICABLE LAWS AND STANDARDS;
 - 24.D. ANY ABANDONED FUEL TANKS ENCOUNTERED ARE DECOMMISSIONED IN ACCORDANCE WITH APPLICABLE LAWS AND STANDARDS;
 - 24.E. ANY UNUSED WATER WELLS (DRILLED OR DUG) ARE PROPERLY ABANDONED IN ACCORDANCE WITH ONTARIO REGULATIONS 903 - WELLS OR AS ADVISED.
 - 24.F. IF IT APPEARS LIKELY THAT CONTAMINATION EXTENDS BEYOND THE BOUNDARIES OF THE SUBJECT PROPERTY, THE OWNER NOTIFIES THE LOCAL OFFICE OF THE MINISTRY OF ENVIRONMENT AND THE TOWN OF GANANOQUE'S ENVIRONMENT DEPARTMENT.
 - 24.G. CONSTRUCTION WASTES ARE NOT TO BE BURIED WITHIN THE PROPERTY THAT IS THE SUBJECT OF THIS AGREEMENT, AND
 - 24.H. 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 FORTHWITH.

STORM

25. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION. CONTRACTOR TO MAINTAIN SILT FENCE AND STRAW BALE FLOW CHECK DAMS.
26. RIP RAP TO BE AS PER OPSD 810.010. RIP RAP TO BE PLACED ON GEOTEXTILE. GEOTEXTILE TO BE TERRAFIX 270R OR EQUIVALENT.

SANITARY

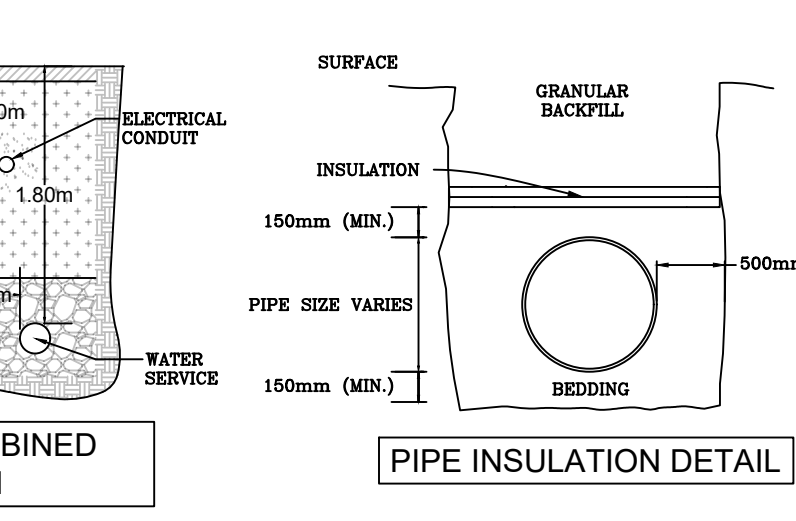
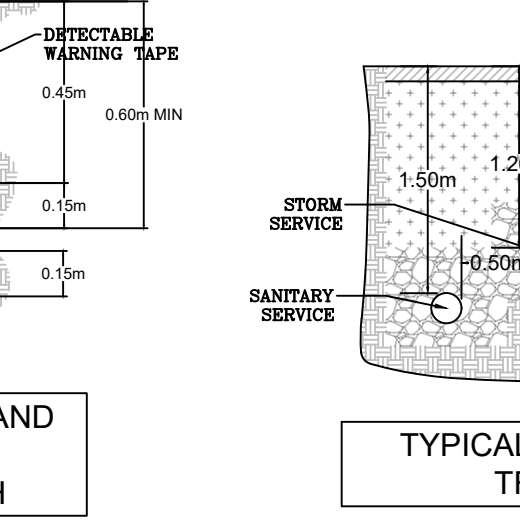
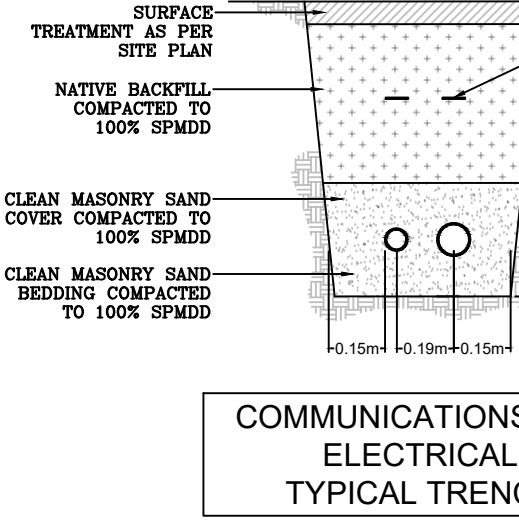
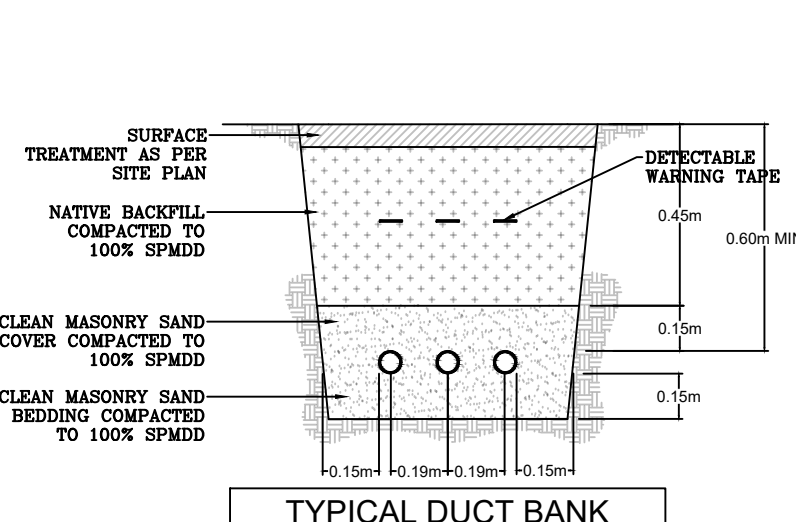
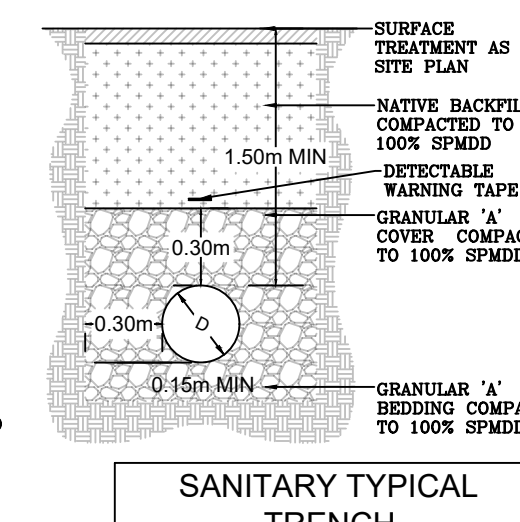
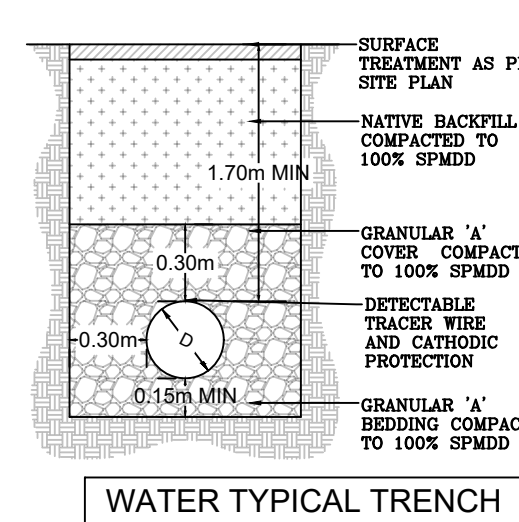
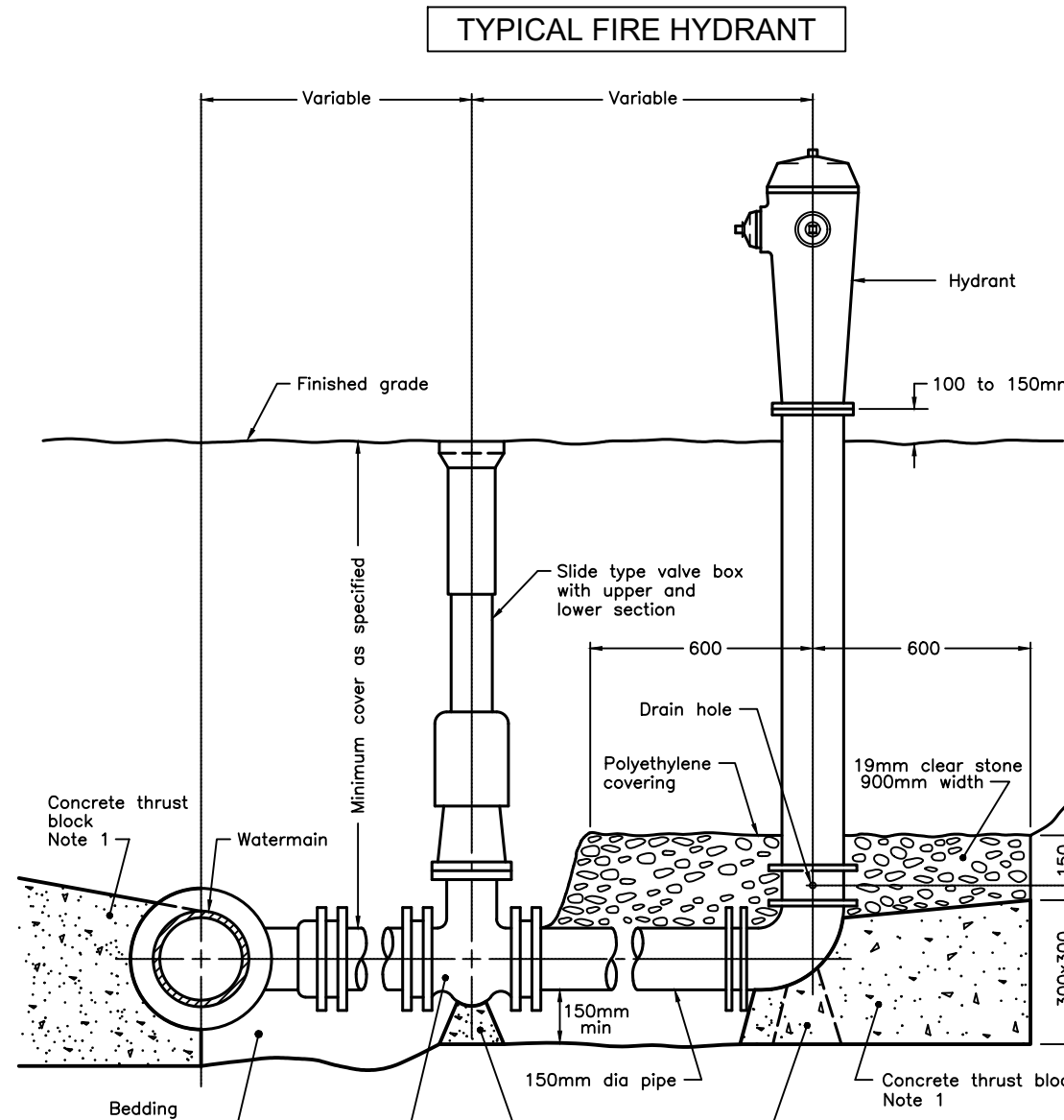
27. CONSTRUCT ALL SEWER AND APPURTENANCES TO ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS, AS WELL AS THE TOWN OF GANANOQUE STANDARDS AS INDICATED.
28. SEWER TRENCHING AND BEDDING SHALL CONFORM TO OPSD 802.010 AND 802.013 UNLESS NOTED OTHERWISE.
29. SEWERS AND CONNECTIONS 150MM DIAMETER AND SMALLER TO BE PVC SDR 28 OR APPROVED EQUIVALENT.
30. INSULATE ALL SEWERS/SERVICES THAT HAVE LESS THAN 1.5M OF COVER WITH THERMAL INSULATION.
31. ALL SANITARY MAN HOLES SHALL HAVE FRAME AND GRATE AS PER OPSD 401.010 TYPE A.
32. SANITARY SEWERS TO BE PRESSURE TESTED AS PER OPSS AND TOWN OF GANANOQUE STANDARDS.
33. ALL MAN HOLES TO BE LEAK TESTED AS PER OPSS AND TOWN OF GANANOQUE STANDARDS.
34. MANHOLES TO BE 1200mmØ AND CONSTRUCTED AS PER OPSD 701.010, 701.011, 701.012, AS INDICATED.
35. CONTRACTOR TO VERIFY INVERT ELEVATION OF SANITARY STUB.

TRENCHING

36. BEDDING SHALL BE A MINIMUM 150MM OF GRANULAR "A", COMPACTED TO MINIMUM 98% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.
37. SUB-BEDDING, IF REQUIRED SHALL BE AS PER THE DIRECTION GEOTECHNICAL ENGINEER.
38. BACKFILL TO AT LEAST 300MM ABOVE TOP OF PIPE WITH GRANULAR "A".
39. TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL (FROM PAVEMENT SUBGRADE TO 2 METRES BELOW FINISHED GRADE) SHALL MATCH EXISTING SOIL CONDITIONS.
40. ALL ELECTRICAL AND COMMUNICATIONS DUCTS TO HAVE A MINIMUM OF 150MM SAND BEDDING AND COVER AS PER DETAIL.
41. MINIMUM OF 600MM COVER MUST BE PROVIDED ON ALL ELECTRICAL AND COMMS SERVICES.

WATERMAIN

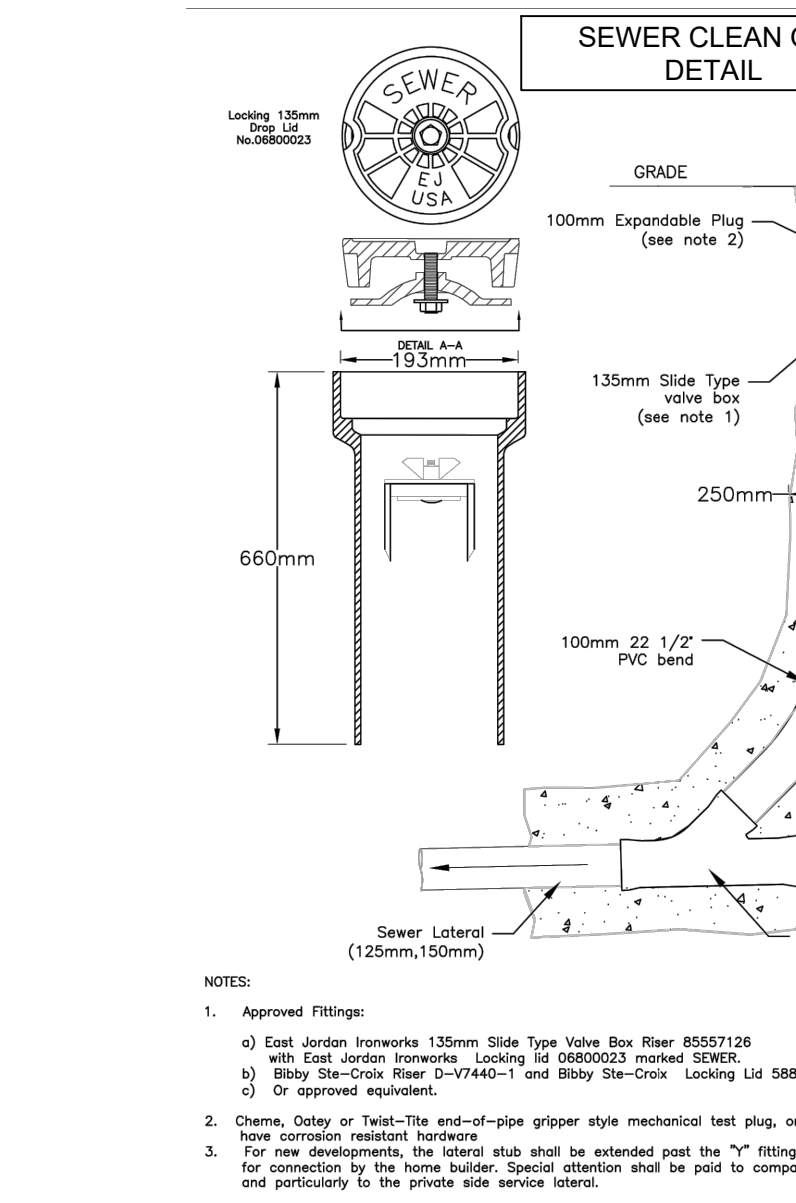
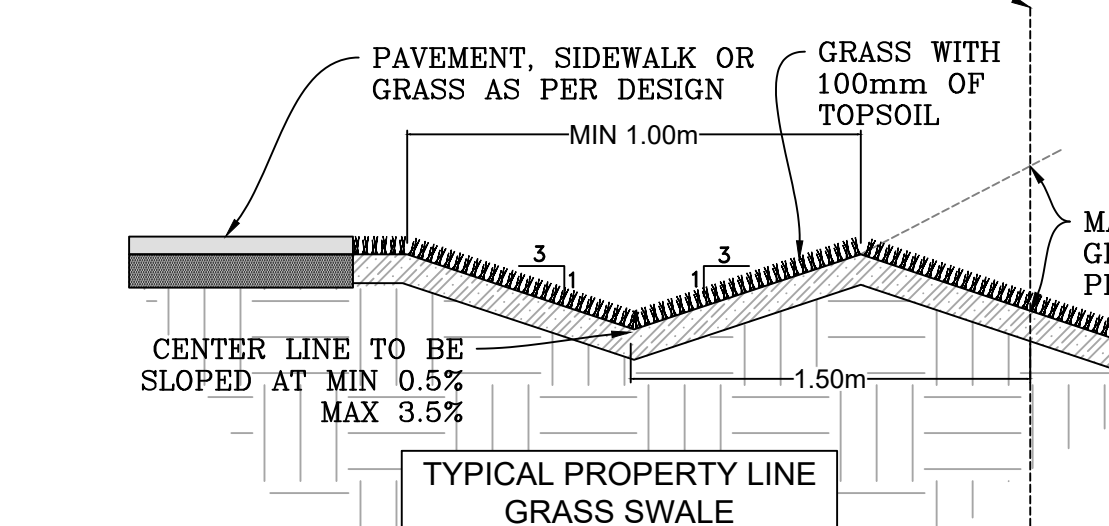
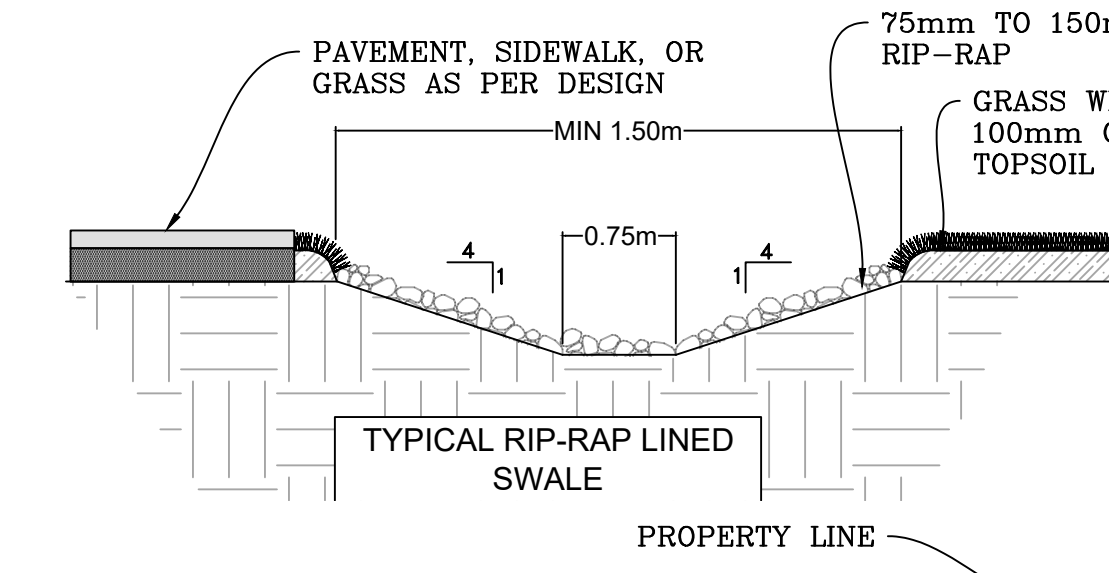
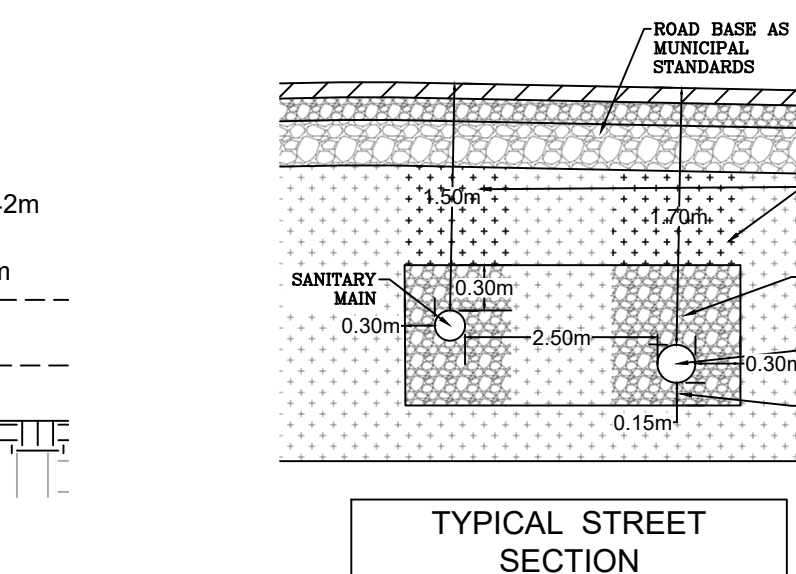
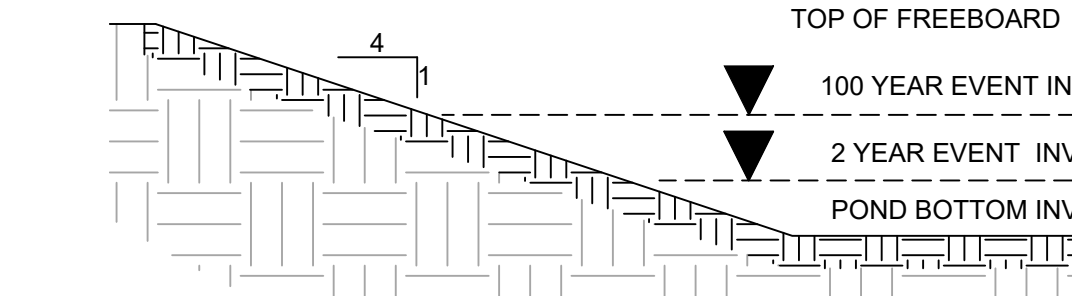
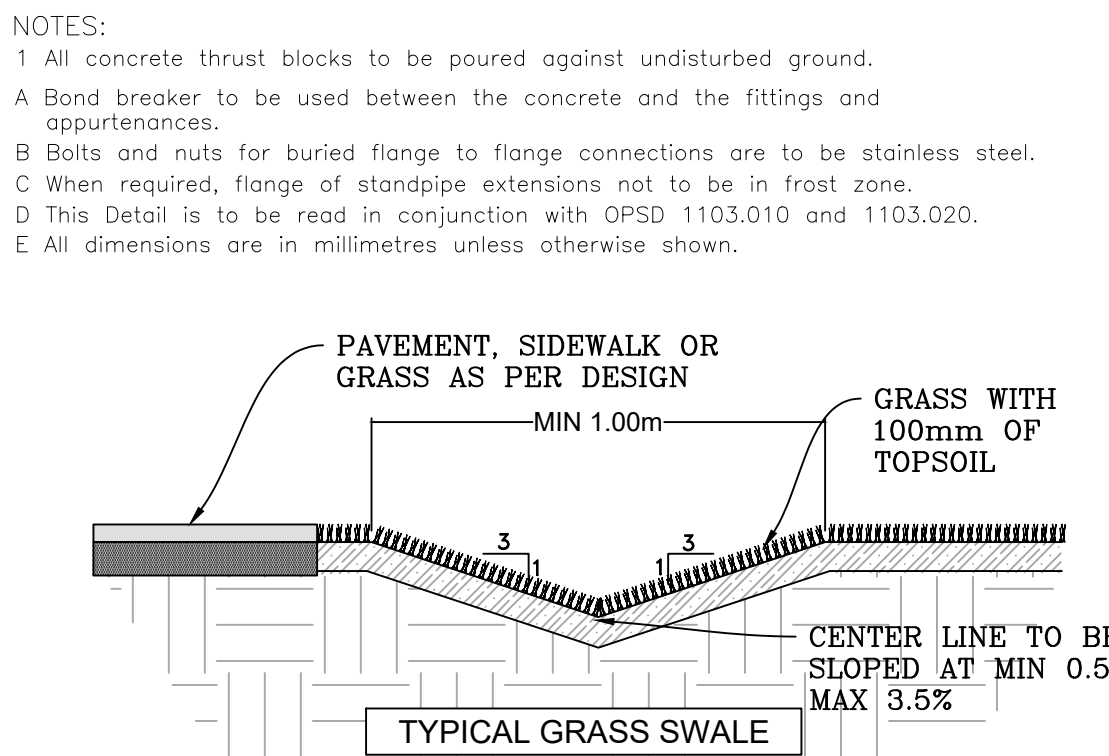
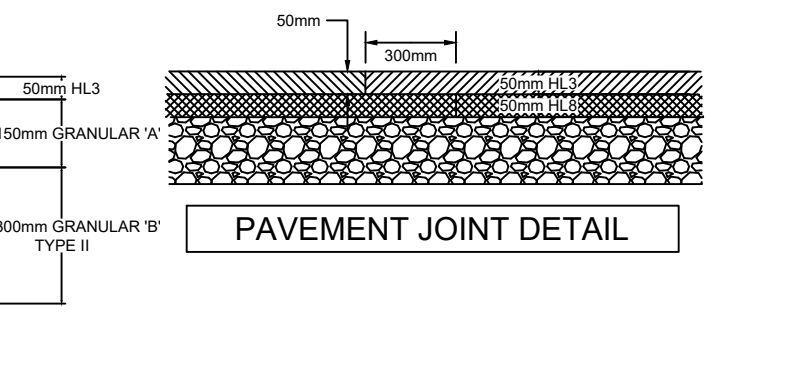
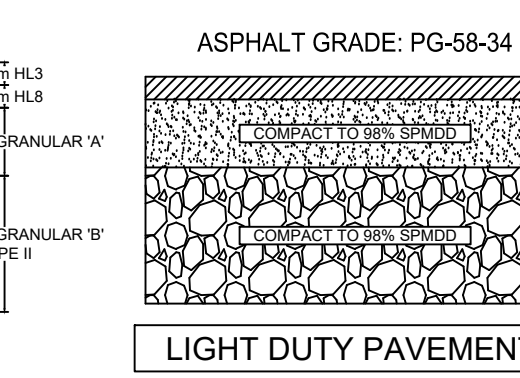
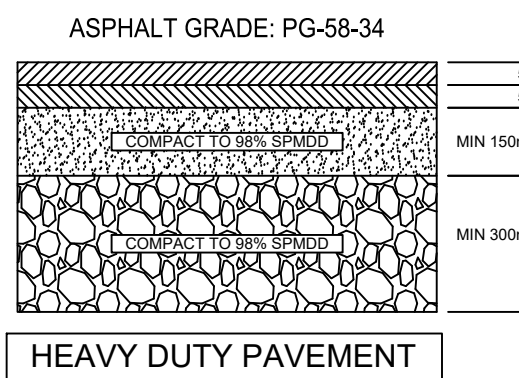
42. WATERMAIN TO BE BLUE BRUTE CLASS 150 PVC DR18 OR APPROVED EQUIVALENT.
43. CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH OPSS STANDARDS AND SPECIFICATIONS AS WELL AS TOWN OF GANANOQUE STANDARDS.
44. WATERMAIN AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 1.8M. OTHERWISE INSULATION IS REQUIRED AS PER DETAIL.
45. IF THE WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS EQUAL TO OR LESS THAN THAT WHICH IS RECOMMENDED BY THE MANUFACTURER.
46. COORDINATE WATERMAIN CONNECTION WITH TOWN OF GANANOQUE. CONNECTION TO BE DONE BY COMPETENT CONTRACTOR. EXCAVATION, BACKFILLING AND REINSTATEMENT ALSO TO BE DONE BY CONTRACTOR.
47. WATER QUALITY TESTING AND DISINFECTION FOLLOWING CONSTRUCTION TO MEET TOWN OF GANANOQUE, AWWA, MECP, AND BUILDING CODE STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETING ALL REQUIRED TESTING.
48. WATERMANS TO BE PRESSURE TESTED AS PER OPSS AND TOWN OF GANANOQUE STANDARDS.
49. WATERMAIN THRUST BLOCKS TO BE CONSTRUCTED AS PER OPSD 1103.010.
50. CORROSION PROTECTION AS PER OPSS MUNI 442.
51. CONTRACTOR TO SUPPLY AND INSTALL WATERMAIN PIPE RESTRAINTS AT ALL ELBOWS AND TEES, BEFORE AND AFTER FITTINGS.
52. WATER SERVICE TO BE BLUE BRUTE 904 SDR9 OR APPROVED EQUIVALENT.
53. CURB STOP VALVES TO BE MUELLER ROTO-SEAL OR APPROVED EQUIVALENT. INVERTED KEY TYPE NOT ACCEPTABLE.
54. VALVES TO BE NO DEEPER THAN 1.7m BELOW FINISHED GRADE.
55. TRACER WIRE TO BE INSTALLED ON ALL WATERMANS AND WATER SERVICES AS PER OPSS AND TOWN OF GANANOQUE STANDARDS.
56. GATE VALVES TO BE MUELLER RWGV OR EQUIVALENT



PIPE INSULATION TABLE

| GROUND COVER | INSULATION THICKNESS (mm) |
|-----------------|---------------------------|
| 500 OR LESS | 150 |
| 500 to 1500mm | 100 |
| 1500mm and over | 50 |

NOTES:
 1. INCREMENTS OF THICKNESS SHALL BE 50MM.
 2. INSULATION TO BE STYROFOAM SM HI-40 OR EQUIVALENT.
 3. TO BE USED WHEN GROUND COVER IS LESS THAN 1.5m FOR STORM SEWER, 1.5m FOR SANITARY SEWER, AND 1.5m FOR WATERMAIN.



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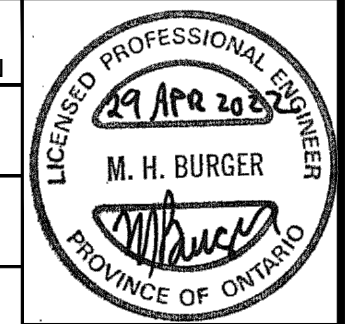


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| ##. | XXX | XXX.XX |



Client / Land Owner:

Project:
MARCO POLO 100 DESIGN CHALLENGE
 425 FOURTH ST. GANANOQUE ONTARIO
 Drawing Title:
NOTES & DETAILS

Drawn by: DF
 Checked by: MB
 Scale: 24"x36"
 Date: OCT 25, 2021

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GW-21050
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 SHEET 3 of 3