





## GENERAL NOTES AND CONSTRUCTION SPECIFICATIONS DRY SWALE CROSS SECTION A-A DRY HYDRANT DETAIL ACCESS HATCH PER 200mmØ TO 150mmØ REDUCER 3.4. MAINTENANCE HOLES TO BE BENCHED PER OPSD 701.021. MANUFACTURES C/W FIRE DEPARTMENT ← FIRE HYDRANT SIGN - SPECIFICATION CONNECTION (TYPE PER LOCAL 1.1. THESE PLANS ARE NOT FOR CONSTRUCTION UNTIL SIGNED AND 3.5. CATHBASIN STRUCTURES 600mmX600mm PER OPSD 705.010 (LOCATION TO BE FIRE DEPARTMENT) AND CAP DETERMINED) VENT PIPE PER REFILLING SEALED BY ENGINEER AND APPROVED BY THE TOWN OF ST. MARYS. 3.6. DITCHINLET CATCHBASIN STRUCTURES 600mmX1200mm PER OPSD STATION ON-LINE ORIFICE DETAIL 150mmØ CONCRETE MANUFACTURE 1.2. ALL CONSTRUCTION WORK TO BE COMPLETED IN ACCORDANCE WITH FILLED STEEL BOLLARD - SPECIFICATION STRAW EROSION CONTROL ALL APPLICABLE (MOST RECENT) STANDARDS. (LOCATION TO BE BLANKETS TO BE INSTALLED 3.7. DOUBLE CATCHBASIN STRUCTURES 600mmX1450mm PER OPSD 705.020 DETERMINED) HOT DIPPED 1.3. THE PLANS PREPARED BY GRIT ENGINEERING INC. ARE NOT TO BE ON ALL SLOPES UPON GALVANIZED USED FOR CONSTRUCTION UNTIL SIGNED BY THE ENGINEER AND 3.8. OIL GRIT SEPARATOR TO BE ADS MODEL FD-4HC OR APPROVED COMPLETION OF GRADING. STORAGE STEEL PLATE ACCEPTED BY THE APPROVING AGENCY. THESE PLANS ARE NOT TO BE **FQUIVALENT** BUILDING OR APPROVED REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF RAINFALL DATA: STRATFORD **EQUIVALENT** CATCHMENT AREA: ±1.36 Ha - STRUCTURE WALL CATCHMENT IMPERVIOUS PERCENTAGE: 80.0% 325.96m 325.92m LAG TO 1.4. CHANGES TO DRAWINGS ARE NOT PERMITTED UNTIL REVIEWED AND 250 YR QUALITY LEVEL: ENHANCED 100 YR STRUCTURE APPROVED BY THE ENGINEER AND ACCEPTED BY THE APPROVING FLOW RATE: ± 90 L/s WITH (4) 10mmØ x 38mm 304L SS 3.9. CATCHBASIN MAINTENANCE HOLES, CATCHBASINS AND DITCH INLET FROST LINE BOLTS FLOW 1.5. CONTRACTOR TO VERIFY THAT THE DRAWINGS BEING USED FOR THE CATCHBASINS TO HAVE A MINIMUM 600mm DEEP SUMP. CONSTRUCTION ARE THE MOST RECENT VERSION. 3.10. MAINTENANCE HOLE AND CATCHBASIN, FRAMES, GRATES, CASTINGS **OUTLET PIPE** MINIMUM 20MPa INSTALL RODENT 1.6. UTILITY LOCATES AND ALL APPLICABLE PERMITS ARE TO BE OBTAINED AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B. 200mmØ CONCRETE PRIOR TO THE START OF CONSTRUCTION AND INSPECTION BEING GRATE PER DETAIL ORIFICE -STORM MAINTENANCE HOLE LIDS TO BE PER OPSD 401.010 - TYPE 'B' THIS SHEET INVERT ELEV. OPENING CATCHBASIN AND CATCHBASIN MAINTENANCE HOLE GRATES TO BE 200mmØ SCHEDULE 80 1.7. THE CONTRACTOR IS TO VERIFY THE EXISTING CONDITION OF THE PER OPSD 400.100. GALVANIZED PIPE OR -CISTERN SITE. THE VERIFICATION INCLUDES AND NOT LIMITED TO THE SERVICE APPROVED EQUIVALENT (VOLUME AS LOCATION, SERVICE ELEVATIONS, UTILITY CONFLICTS AND STORM SEWERS AND SERVICES TO HAVE MINIMUM 1.2m COVER TO TOP SPECIFIED ON BENCHMARK ELEVATIONS. ANY DISCREPANCIES ARE TO BE REPORTED OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR PLAN) SHALL INSTALL SHALLOW BURIED SEWER PIPE PER DETAIL THIS SHEET TO THE ENGINEER IMMEDIATELY AND PRIOR TO THE CONTINUATION OF BEND OR OTHER ENGINEER-APPROVED EQUIVALENT. CONSTRUCTION RIP RAP 1.8. LEGAL INFORMATION AND EXISTING TOPOGRAPHIC INFORMATION FIRE WATER SUPPLY SERVICE SPILLWAY TAKEN FROM PLAN PREPARED BY NA GEOMATICS, RECEIVED 1. ONSITE VERIFICATION REQUIRED TO DETERMINE ADDITIONAL 4.1. DRY HYDRANTS TO BE INSTALLED IN ACCORDANCE TO NFPA 1142. **NOVEMBER 9, 2021.** 11.2m - 375mmØ PVC INSTALLATION MEASURES FOR TANK FLOATING 1.9. THE CONTRACTOR IS TO OBTAIN CONSENT FROM THE NEIGHBOR IN 4.2. FIRE MAIN IS TO BE 200mmØ GALVANIZED STEEL SCHEDULE 80 OR 2 PROVIDE FROST PROTECTION TO DRY HYDRANT IF THE FORM OF WRITTEN CORRESPONDENCE GRANTING PERMISSION TO APPROVED EQUIVALENT. PERMANENT WATER LEVEL IS ABOVE FROST LINE 4.3. FIRE MAIN PIPE BEDDING TO BE CLASS 'B' AS PER OPSD 802.030. PIPE ENTERING THE PROPERTY TO COMPLETE ANY CONSTRUCTION ACTIVITY. THE WRITTEN CONSENT IS TO BE PROVIDED TO THE BEDDING AND COVER MATERIAL TO BE GRANULAR 'A' OR APPROVED APPROVING AUTHORITY PRIOR TO THE CONTINUATION OF WORK FOR EQUIVALENT. TRENCH BACKFILL TO BE APPROVED NATIVE MATERIAL AND PLACED IN 300mm THICK LIFTS COMPACTED TO A MINIMUM OF 95% APPROVAL. THE CONTRACTOR WILL ASSUME LIABILITY FOR ALL WORKS PAVEMENT STRUCTURE IF FAILURE TO COMPLY. STANDARD PROCTOR MAXIMUM DRY DENSITY. 1.10. THIS DRAWING IS TO BE READ COMBINATION WITH THE FOLLOWING: EROSION AND SEDIMENT CONTROL TYPICAL SWALE 1.10.1. STORMWATER MANAGEMENT REPORT, MAY 13TH, 2022. 5.1. PRIOR TO THE START OF ANY CONSTRUCTION THE CONTRACTOR IS TO 1.11. DURING THE CONSTRUCTION, THE CONTRACTOR ASSUMES ALL INSTALL THE EROSION AND SEDIMENT CONTROLS IN ACCORDANCE TO SLOPED LIABILITY FOR DAMAGE TO ALL EXISTING FEATURES AND STRUCTURES. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL RESTORATION AND ASPHALT 5.2. NO ALTERNATE EROSION AND SEDIMENT CONTROLS ARE PERMITTED RESTORED TO EXISTING CONDITION OR BETTER. PAVEMENT RESTORATION: NOTE: SWALE TO BE CONSTRUCTED TO 0+000 0+010 0+017.33 WITHOUT APPROVAL FROM THE ENGINEER AND APPROVING GRANULAR "A" -40mm HL3 TOP COAT ACHIEVE POSITIVE DRAINAGE 1.12. THESE PLANS ARE TO BE USED FOR SERVICING AND GRADING ONLY; -50mm HL4 BASE COAT STATION (m) ANY OTHER INFORMATION SHOWN IS FOR ILLUSTRATION PURPOSES -150mm GRANULAR 'A' ONLY. THESE PLANS MUST NOT BE USED TO SITE THE PROPOSED ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED -225mm GRANULAR 'B' ₄GRANULAR "B" AS THE CONSTRUCTION PROGRESSES. THE CONTRACTOR TO INSTALL DRY SWALE OUTLET B-B ADDITIONAL MEASURES AS REQUIRED BY THE ENGINEER AND SCALE V = 1:30 H = 1:150 PIVOT ARM 12Ø MIN CORRUGATED STEEL PIPE SLEEVE 1.13. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR ANY DAMAGE TO APPROVING AUTHORITY - GRATE BARS 10Ø EXISTING WORKS. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY THE CONTRACTOR IS TO PERFORM REGULAR MAINTENANCE, REPAIRS AT 32 O.C. WITHIN THE MUNICIPAL RIGHT-OF-WAY TO THE APPROVING AGENCY AND REPLACEMENT ON ALL CONTROLS TO ENSURE PROPER 300mm (MIN.)-SUBGRADE SLOPED 270R GEOTEXTILE FABIC OR FUNCTIONING UNTIL PROJECT IS COMPLETE. 1200Ø ST-OGS 12 APPROVED EQUIVALENT T/G:326.00 1.14. ALL UNDERGROUND SERVICES ARE TO BE CONSTRUCTED IN FULL 5.5. EROSION CONTROL FENCING TO BE INSTALLED AROUND BASE OF ALL 150mmØ DIAMETER BIG 'O' 1.2m LONG TURFSTON SW INV:324.78 NOTE: ROAD STRUCTURE PER TOWN OF ST.MARYS. ROAD STOCKPILES. ALL STOCKPILES TO BE KEPT 2.5m MINIMUM FROM COMPLIANCE WITH THE ONTARIO PROVINCIAL BUILDING CODE (PART 7. SUBDRAIN WRAPPED W/ WFIR PFR NW INV:324.78 STRUCTURE TO BE VERIFIED ONSITE BY A QUALIFIED PLUMBING). THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS PROPERTY LINE. FILTER SOCK DETAIL ON C500 GEOTECHNICAL ENGINEER AT TIME OF CONSTRUCTION. (OPSS) AND THE REQUIREMENTS OF THE TOWN OF ST.MARYS; WHICH \_\_\_ 326.00m CODES AND REGULATIONS SHALL SUPERSEDE ALL OTHERS. 5.6. EROSION PROTECTION TO BE PROVIDED AROUND ALL STORM AND 325.96m 250 YF 100 YR 326 19mmØ CLEARSTONE SANITARY MHs AND CBs — 325 80m 1.15. SITE SERVICING CONTRACTOR TO TERMINATE ALL SERVICES 1 METRE -CENTER OF TRENCH 5.7. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE FROM FOUNDATION WALL. 325.60m DEVELOPMENT PROGRESSES. CONTRACTOR TO PROVIDE ALL SPILLWAY **GRAVEL STRUCTURE** 1.16. FILTER FABRIC TO BE TERRAFIX 270R OR APPROVED EQUAL. ADDITIONAL EROSION CONTROL STRUCTURES. SWALE SUBDRAIN DETAIL TO BE INSTALLED AS NOTED ON DESIGN 1.17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND CONTRACTOR TO CLEAN ROADWAY AND SIDEWALKS OF SEDIMENTS RIP RAP LINED SAFETY MEASURES DURING THE CONSTRUCTION PERIOD INCLUDING RESULTING FROM CONSTRUCTION TRAFFIC FROM THE SITE EACH DAY. SPREADER SWALE 1. FOR 300mmØ PIPES AND OVER, THE SUPPLY INSTALLATION AND REMOVAL OF ALL NECESSARY 0.5% — — @ 0.80% ELEV=325.02 ADDITIONAL 12mmØ HORIZONTAL GRATE THE CONTRACTOR IS TO REMOVE ALL EROSION AND SEDIMENT SIGNALS DELINEATORS MARKERS AND BARRIERS ALL SIGNS ETC. BAR TO BE PLACED IN THIS LOCATION. SHALL CONFORM TO THE STANDARDS OF THE TOWN OF ST.MARYS AND CONTROLS UNTIL DEVELOPMENT IS COMPLETE AND VEGETATION F SLOPED THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PROPOSED FINISHED HARD SURFACE MATERIALS ARE INSTALLED AND ≤ PAVEMENT RESTORATION: INSTALL ONLINE 2. FOR PIPES LESS THAN 300mmØ, NO VEGETATION IS STABILIZED WITH MATURE GROWTH. INSTALL RODENT GRANULAR "A" -150mm GRANULAR 'A' ORFICE PER HORIZONTAL GRATE BARS REQUIRED 1.18. THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND GRATE PER DETAIL -225mm GRANULAR 'B' DETAIL ON THIS SHEET OTHER UNDERGROUND AND OVERGROUND UTILITIES AND THIS SHEET MAINTENANCE RECOMMENDATIONS 3. ALL DIMENSIONS ARE IN MILLIMETERS TEMPORARY SILTSACK STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT ₄GRANULAR "B" UNLESS OTHERWISE STATED. 600x1200 ST-DICB 11 5.9m - 250 mmØ PVC 6.1. EROSION CONTROL STRUCTURES TO BE MONITORED REGULARLY AND DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SILTATION CONTROL IN CB T/G:325.30 SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE ANY DAMAGE REPAIRED IMMEDIATELY. SEDIMENTS TO BE REMOVED 4. ALL MATERIALS TO BE DOUBLE HO STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE WHEN ACCUMULATIONS REACH A MAXIMUM OF 1/3 THE HEIGHT OF THE S INV:324.80 DIPPED GALVANIZED. NE INV:324.80 EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM. RODENT GRATE DETAIL OWNER'S REPRESENTATIVE TO MONITOR EROSION CONTROL C.B. FRAME & GRATE HOLDS SUBGRADE SLOPED STRUCTURES TO ENSURE FENCING IS INSTALLED AND MAINTENANCE IS SILTSACK IN PLACE 1.19. FOLLOWING COMPLETION OF PROPOSED WORKS AND PRIOR TO C/W CSP SLEEVE OCCUPANCY INSPECTION, ALL STORM SEWERS ARE TO BE FLUSHED, PERFORMED TO MUNICIPALITY REQUIREMENTS. REMOVAL STRAPS AND AND ALL CATCHBASIN AND CATCHBASIN MANHOLE SUMPS ARE TO BE DUMPING STRAPS NOTE: ROAD STRUCTURE PER TOWN OF ST. MARYS. ROAD CLEANED OF DEBRIS AND SILT. **BOLLARD DETAIL** RUNOFF \_\_\_\_\_ STRUCTURE. TO BE VERIFIED ONSITE BY A QUALIFIED - RUNOFF GEOTECHNICAL ENGINEER AT TIME OF CONSTRUCTION INSPECTION AND CERTIFICATION FINISHED GRADE ADJUSTMENT GRIT ENGINEERING INC. REQUIRES A MINIMUM OF 24 HOURS NOTICE 0.05m ROUNDING UNITS PRIOR TO THE REQUIRED INSPECTION BE REQUESTED. INSPECTIONS **SEWER PIPE INSULATION DETAIL** ARE REQUIRED TO VERIFY, PIPE INSTALLATION (MATERIALS, SIZE, 0.20mØ SCHEDULE 40 STEEL PIPE LOCATION AND ELEVATION), STRUCTURE PLACEMENT, SURFACE EXPANSION RESTRAINT MATERIAL AND FINISHED GRADING. CASING FILLED WITH 15 MPa CONCRETE c/w YELLOW HDPE BOLLARD COVER w/ TWO RED -2.1.1. CONSTRUCTION WORKS WITHIN THE PUBLIC RIGHT-OF-WAY NOTE: FOR STORM SEWERS HAVING LESS THAN 1500mm COVER 0+000 0+020 0+023.40 REFLECTIVE STRIPES BY POST REQUIRE FULL TIME INSPECTION. AND MINIMUM 680mm COVER GUARD (OR APPROVED MINIMUM 2400mm INSULATION WIDTH STATION (m) PAVEMENT STRUCTURE (ASPHALT AND/OR GRANULAR). OR SELECT NATIVE 2.1.2. CONSTRUCTION WORKS WITHIN PRIVATE LANDS ARE REQUIRED ON EQUIVALENT) SILTSACK OR APPROVED EQUIVALENT MATERIAL AND TOPSOIL, AS SPECIFIED ON DRAWINGS WOVEN POLYPROPELENE FILTER FABRIC FAILURE TO COMPLY WITH GRIT ENGINEERING INC. INSPECTION **OVERFLOW WEIR DETAIL** GRANULAR `A' BEDDING & BACK FILL BELOW AND ABOVE PIPE AND INSULATION REQUIREMENTS WILL RESULT IN ADDITIONAL CONSTRUCTION PRECAST CB BOARD, COMPACTED TO MINIMUM 95% SPMDD INSPECTION AND VERIFICATION AT THE EXPENSE OF THE OR CBMH RIGID EPS-INSULATION BOARD PER SPECIFICATION NOTES (MINIMUM 150-300mm FROST 3. STORM SEWERS AND SERVICING R20-THICKNESS, TYPICALLY 100-130mm. MINIMUM 2 LAYERS INSULATION BOERD OVERLAPPED MINIMUM 300mm AT ALL JOINTS) PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030, 802.031. OR 802.032. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER TOP OF WEIR NOTE: TRENCH SIDE-SLOPES IN AREAS OF PIPE INSULATION TO BE MAXIMUM 1:1 -1.2m WIDE WEIR-OPSD 802.010. BEDDING MATERIAL AND COVER MATERIAL TO BE ELEVATION = 326.00m 150mm MIN SLOPE, NO VERTICAL SECTIONS ALLOWED UNLESS INDICATED IN DETAIL OUTLET PIPE FROST GRANULAR ``A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR NATIVE SOILS - WHERE NATIVE SOIL IS SOFT AND/OR OF ORGANIC CONTENT, REMOVE TO MAXIMUM DRY DENSITY. DEPTH OF SUITABLE SOILS AND REPLACE WITH GRANULAR-B2 MATERIAL COMPACTED TO 95% 15 MPa CONCRETE SPMDD, OR CONSTRUCT IN ACCORDANCE WITH WRITTEN DIRECTION FROM GEOTECHNICAL STORM SEWERS 200mmØ TO 450mmØ SHALL BE POLYVINYL CHLORIDE 6% AIR ENTRAINED ELEVATION = 325.80m MINIMUM RECOMMENDED COVER BASED ON (PVC) PIPE DR35 ASTM-D3034 OR RIBBED PVC SEWER PIPE CSA VEHICLE LOADING CONDITIONS\*\* B182.4-M90 ASTM-F794 WITH INTEGRAL BELL AND SPIGOT UTILIZING SURFACE LIVE LOADING CONDITIONS FLEXIBLE ELASTOMERIC SEALS. RIBBED PVC NOT TO BE USED FROST DEPTH - PROTECT SOIL ZONE UNDER PIPE FROM FREEZING REFER TO TURFSTONE OR APPROVED **EQUIVALENT** OPSD 3400.011 FOR SPECIFIC LOCAL FROST DEPTH MAINTENANCE SCHEDULE H-25 HEAVY CONSTRUCTION 50mm BEDDING SAND 3.3. MAINTENANCE HOLES AND MAINTENANCE HOLE CATCHBASINS TO BE (75T AXLE LOAD)\* -INSPECT AFTER EVERY MAJOR RAIN EVENT DRIVEN IN TURFSTONE AND 1200mmØ PRECAST WITH ALUMINIUM STEPS AT 300mm CENTRES AS 300mm-1200mm 270R GEOTEXTILE FABIC OR -INSPECT EVERY 3 WEEKS MINIMUM. EXTEND 0.3m BELOW (TYP.) PER OPSD 701.010 UNLESS OTHERWISE SPECIFIED. APPROVED EQUIVALENT 610mm -SILTSACK SHOULD NEVER BE OVER HALF FULL. -FULL BAG CAN BE REMOVED, DUMPED, CLEANED AND REUSED FOR VEHICLE LOADING APPLICATIONS LESS THAN 1.22m OF COVER SUBGRADE MATERIAL (TO REMOVE INSERT 25mm REBAR INTO REMOVAL FLAP POCKETS) CLASS I OR CLASS II BACKFILL REQUIRED FOR PIPE EMBEDMENT COMPACTED TO A MINIMUM -0.45m--(TO DUMP INSERT 25mm REBAR INTO BOTH DUMPING STRAPS) 95% STANDARD PROCTOR \*VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER MAXIMUM DRY DENSITY \*\*REFER TO ADS DRAWING NUMBER STD-101A FOR ADDITIONAL INFORMATION **KEY PLAN TOWN OF CONTRACTOR NOTES** ISSUED DESCRIPTION DATE DRAWING NAME: ST. MARYS N.T.S CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY ROAD 120 2021-11-12 ISSUED FOR CLIENT REVIEW ERRORS TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK. NOTES AND DETAILS ALL DRAWINGS SHALL REMAIN THE PROPERTY OF THE ENGINEER AND SHALL NOT ISSUED FOR SITE PLAN APPROVAL 2021-11-16 BE REUSED WITHOUT THE ENGINEER'S WRITTEN PERMISSION. SELF STORAGE UNITS DRAWING SHOULD NOT BE SCALED FOR DIMENSIONS PURPOSES. THIS IS NOT A REVISED PER MUNICIPAL COMMENTS 2021-12-20 PLAN OF SURVEY AND SHALL NOT BE USE EXCEPT FOR THE PURPOSES INDICATED. ISSUED FOR SITE PLAN AMMENDMENT 2022-05-13 PROJECT INFORMATION: 60 ROAD 120, ST, MARYS, ONTARIO LOCATION DRAWING No: GE22-0021-2 C & C MANAGEMENT TOWNSHIP OF PERTH SOUTH BENCHMARK SCALE: ELEVATIONS ARE RELATED TO TOP SPINDLE OF FIRE HYDRANT ON THE NORTH SIDE OF QUEEN STREET AT THE CORNER OF QUEEN AND 120 ROAD. **AS SHOWN** ELEVATION: 235.88m **CLIENT INFORMATION:** 4 of 4 SHEET SET No: