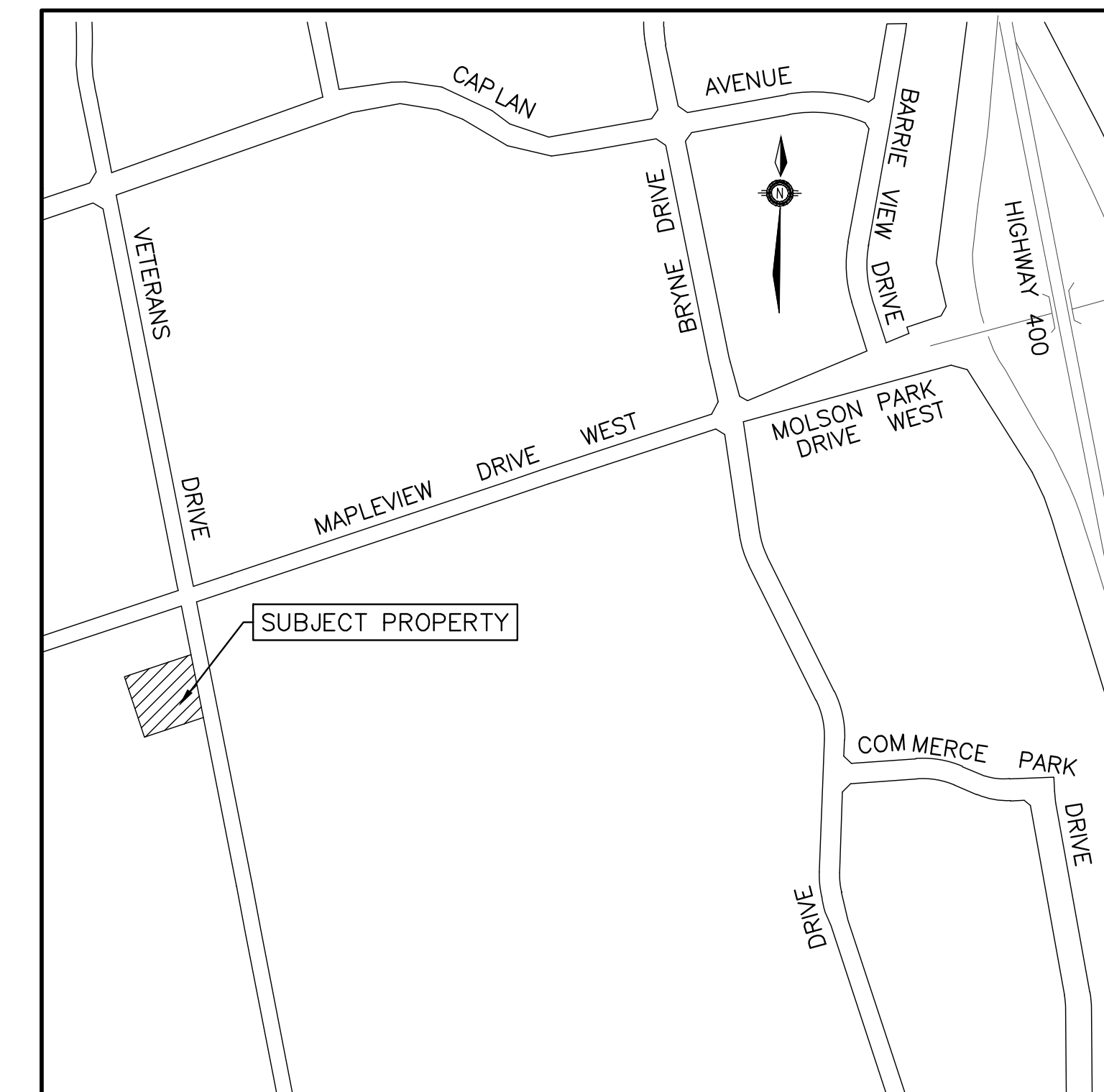


**1911882 ONTARIO INC.
ADDITION AND RENOVATIONS TO GOOD STORAGE
620 VETERANS DRIVE
CITY OF BARRIE**

DRAWING LIST

- ND-1 NOTES AND DETAILS
- SG-1 SITE GRADING
- SS-1 SITE SERVICING
- STM-1 PRE-DEVELOPMENT CATCHMENT PLAN
- STM-2 POST-DEVELOPMENT CATCHMENT PLAN
- EPR-1 EROSION PROTECTION AND REMOVALS PLAN



**CITY OF BARRIE
70 COLLIER STREET
BARRIE, ONTARIO**

**1911882 ONTARIO INC.
620 VETERANS DRIVE
BARRIE, ONTARIO**



**PEARSON
ENGINEERING**
PEARSONENG.COM PH. 705.719.4785

1. DRAWINGS

- A. THE NOTES ON THIS SHEET APPLY TO ALL WORKS UNDER THIS CONTRACT UNLESS OTHERWISE NOTED ON THE SPECIFIC DETAIL DWGS.
- B. THE STANDARD DRAWINGS OF THE CITY OF BARRIE, THE ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS, (OPSS) AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) CONSTITUTE PART OF THE PLANS OF THIS CONTRACT.
- C. ORDER OF PRECEDENCE OF STANDARD DRAWINGS IS FIRSTLY CITY OF BARRIE'S STANDARD DRAWINGS (BSD) AND SECONDLY ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).
- D. THE STANDARD DRAWINGS INCLUDED WITH THESE PLANS ARE PROVIDED FOR CONVENIENCE ONLY AND ARE NOT TO BE CONSTRUED TO BE A COMPLETE SET FOR THE PURPOSE OF THE CONTRACT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL RELEVANT STANDARD DRAWINGS AND SPECIFICATIONS AS REQUIRED FOR THIS CONTRACT.

2. MEASUREMENTS

- A. ALL DIMENSIONS ARE IN METRES, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETRES, UNLESS SPECIFIED OTHERWISE.
- B. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION, AND ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

3. GENERAL

- A. EXISTING SERVICES AND UTILITIES SHOWN ON THESE CONTRACT DRAWINGS ARE BASED ON THE BEST INFORMATION AVAILABLE AND THEIR LOCATIONS ARE NOT GUARANTEED. THE CONTRACTOR SHALL INTERPRET THIS INFORMATION AS HE WISHES WITH THE UNDERSTANDING THAT THE OWNER DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY AND/OR SUFFICIENCY. THE CONTRACTOR IS REQUIRED TO NOTIFY THE VARIOUS UTILITY COMPANIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- B. NATIVE MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- C. GRANULAR MATERIAL, USED FOR BACKFILL, SHALL BE PLACED IN LAYERS 150mm IN DEPTH MAXIMUM AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- D. ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER, AS DETERMINED BY THE ENGINEER. ALL GRASS AND VEGETATION COVERED AREAS SHALL BE RESTORED BY PLACING 200mm OF APPROVED TOPSOIL AND NURSERY SOIL UNLESS NOTED OTHERWISE.

4. PARKING LOT

- A. THE PAVEMENT STRUCTURE SHALL CONSIST OF THE FOLLOWING (TO BE VERIFIED BY GEOTECHNICAL ENGINEER):
 - HEAVY DUTY ACCESS, LIGHT DUTY CAR
 - FIRE ROUTE, BUS LANES, PARKING
 - 40mm HL 3 ASPHALT = 30mm HL 3 ASPHALT
 - 60mm HL 4 OR B ASPHALT = 50mm HL 4 OR B ASPHALT
 - 150mm GRANULAR 'A' = 150mm GRANULAR 'A'
 - 450mm GRANULAR 'B' = 300mm GRANULAR 'B'
- B. NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- C. CURBS TO COMPLY WITH OPSD 600.110.
- D. CURBS TO BE INSTALLED ON 300mm GRANULAR 'B', 30mm GRANULAR 'A', NATIVE SUBGRADE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.

5. SANITARY SEWERS

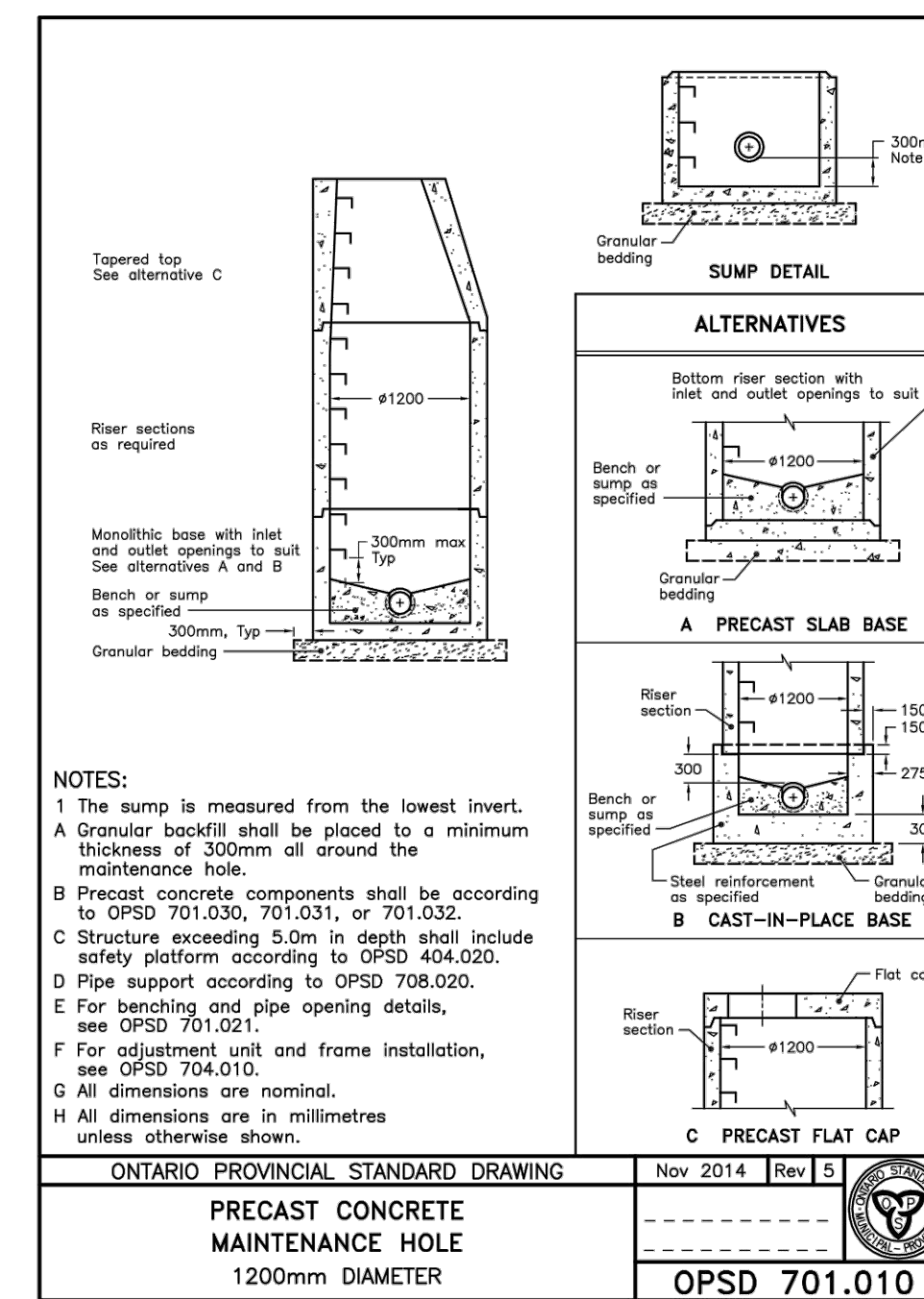
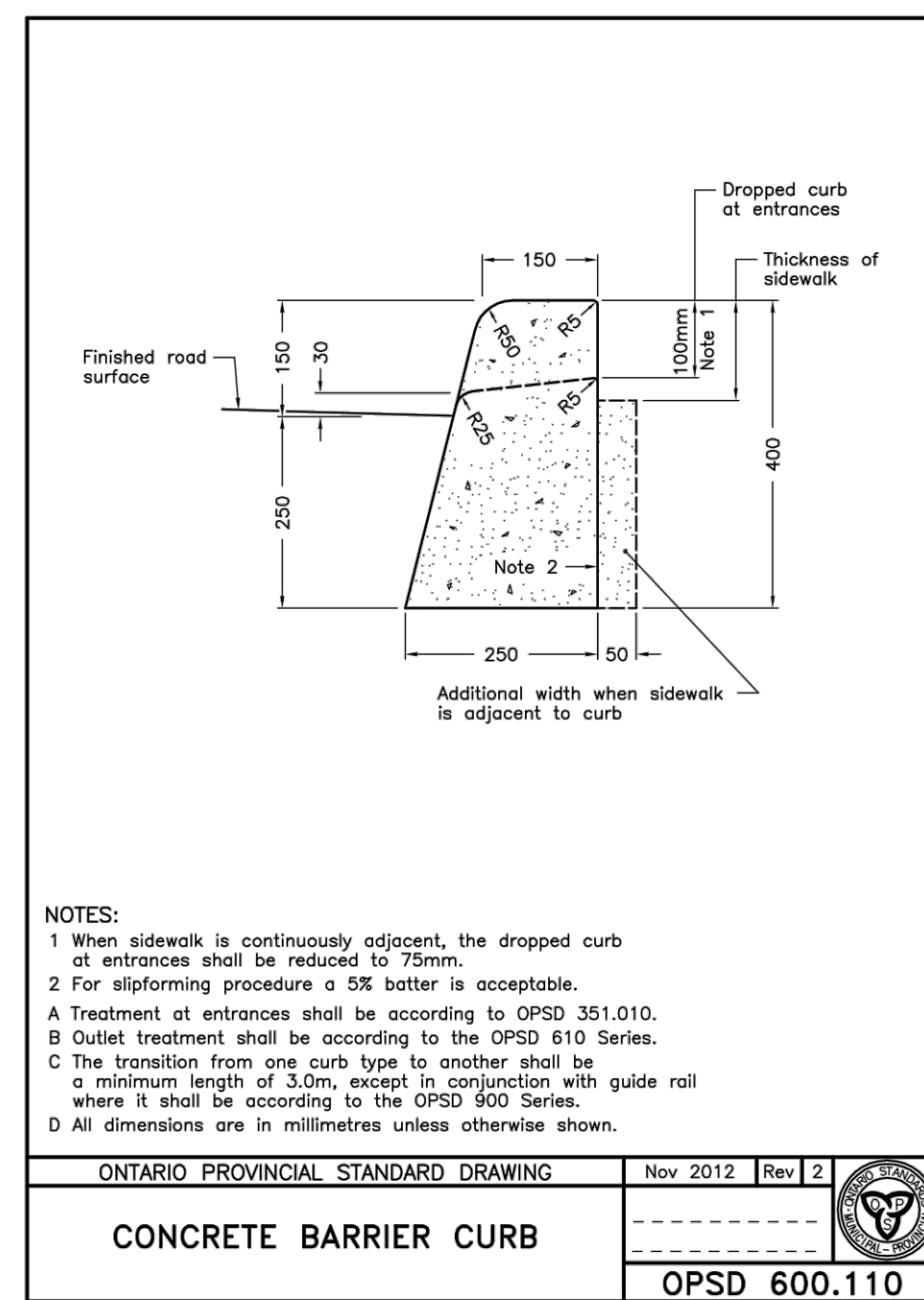
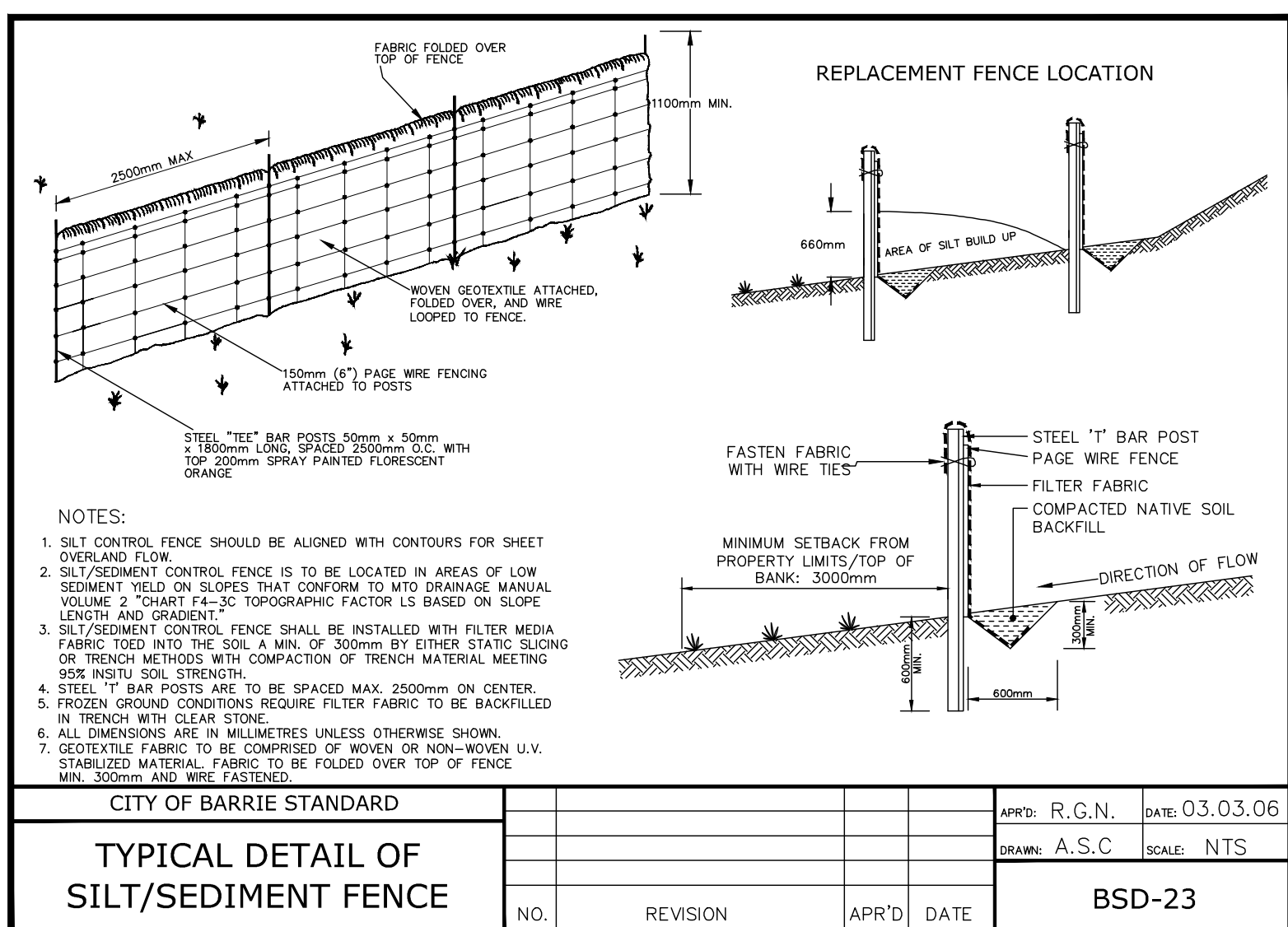
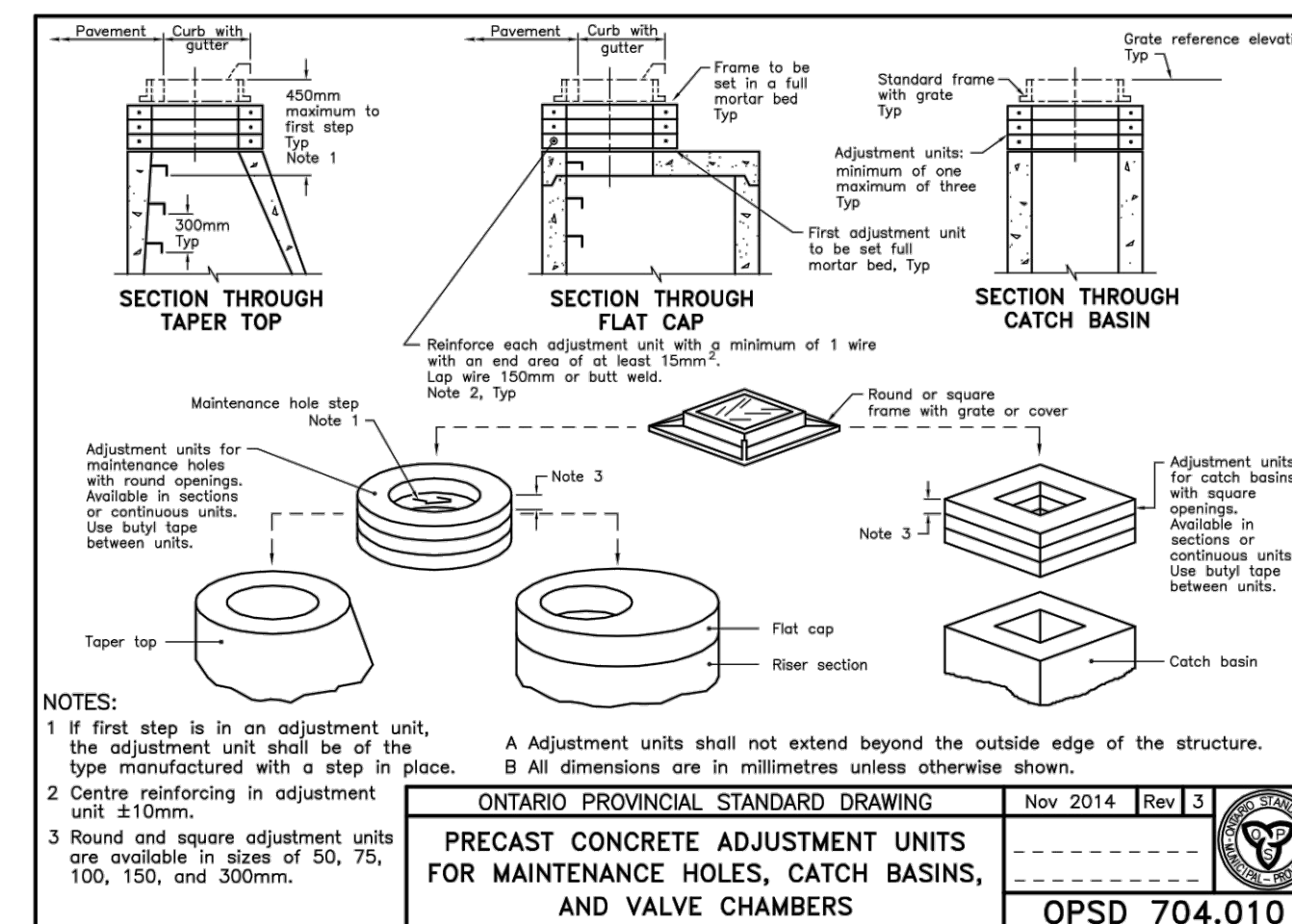
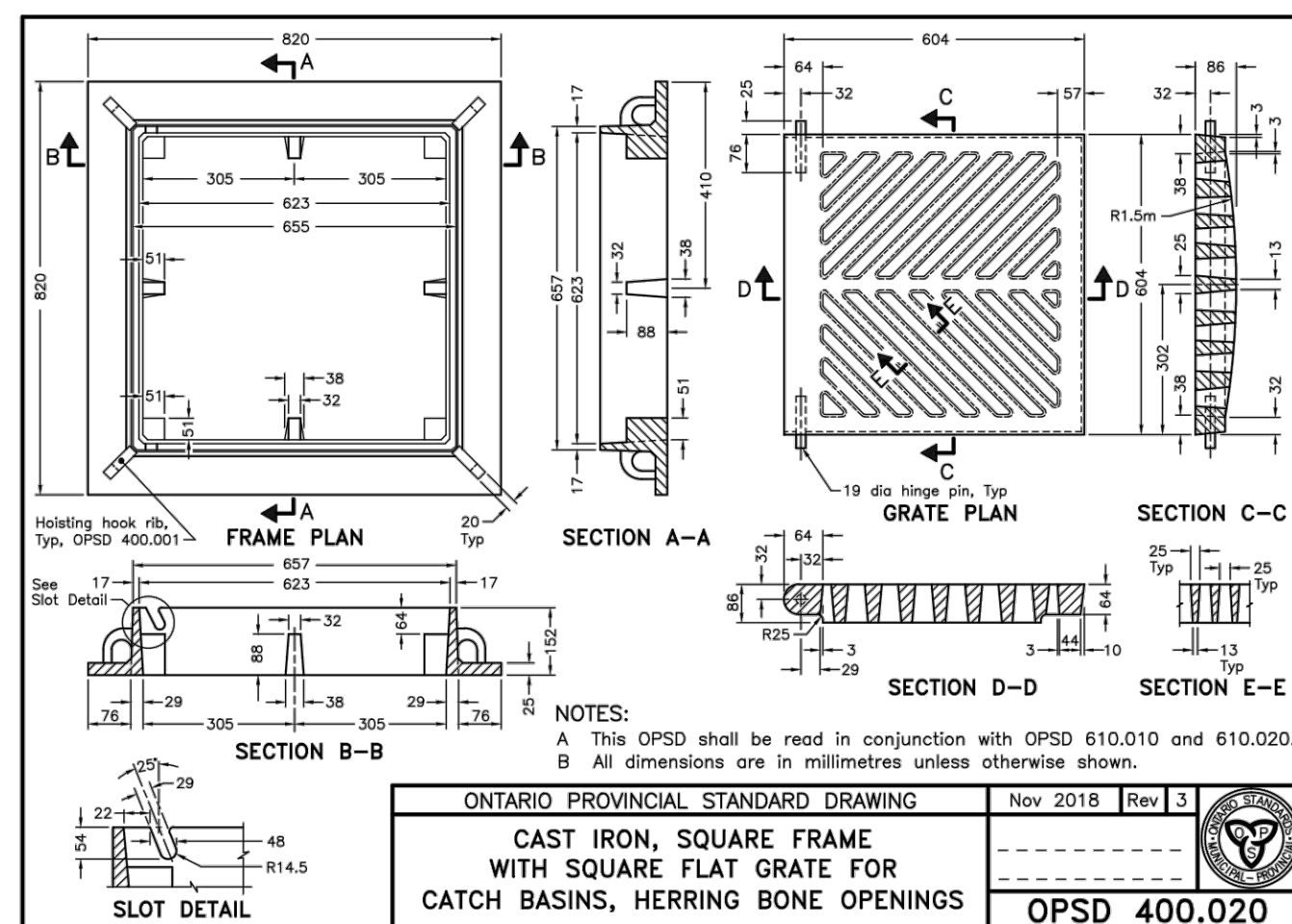
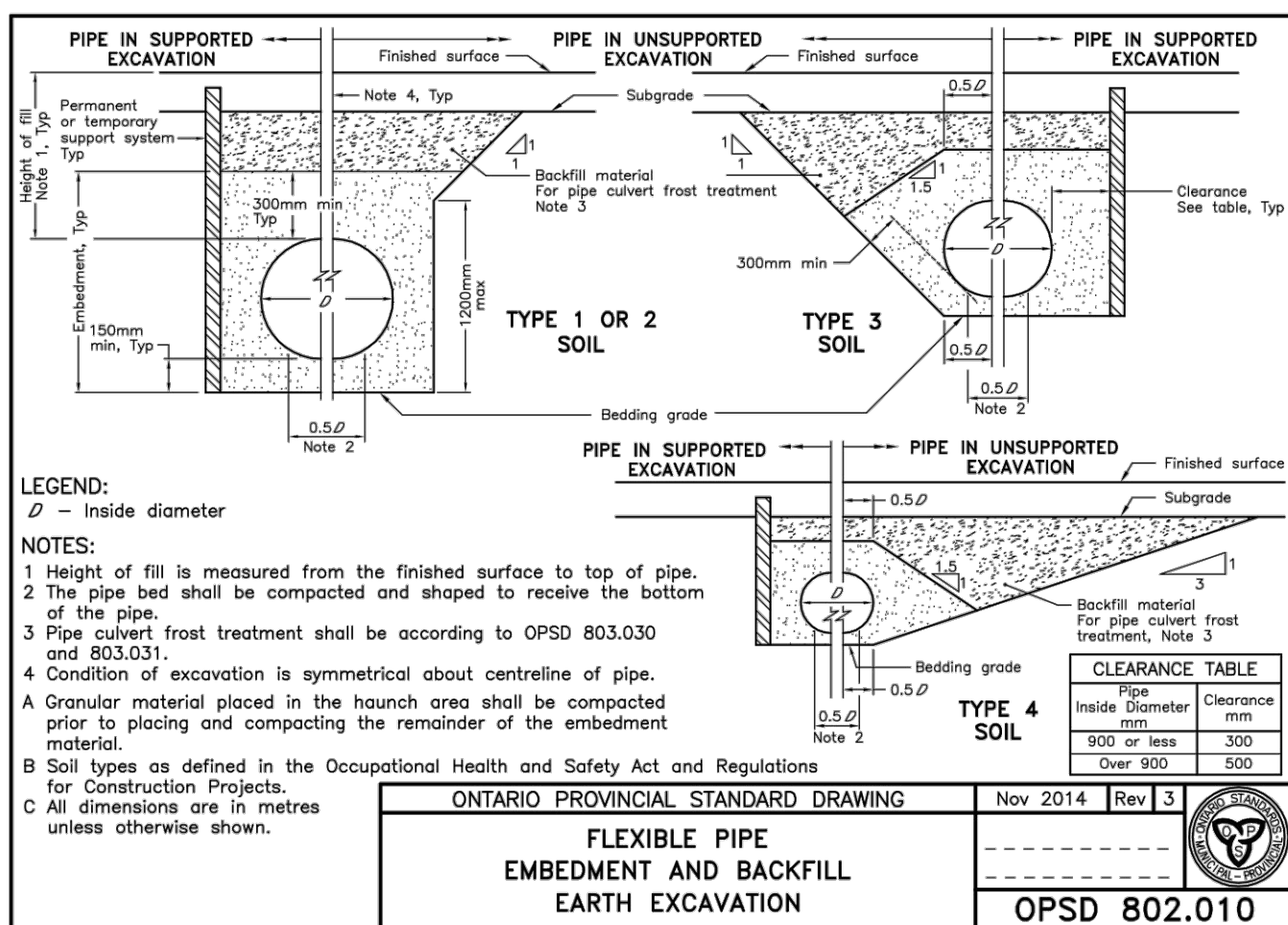
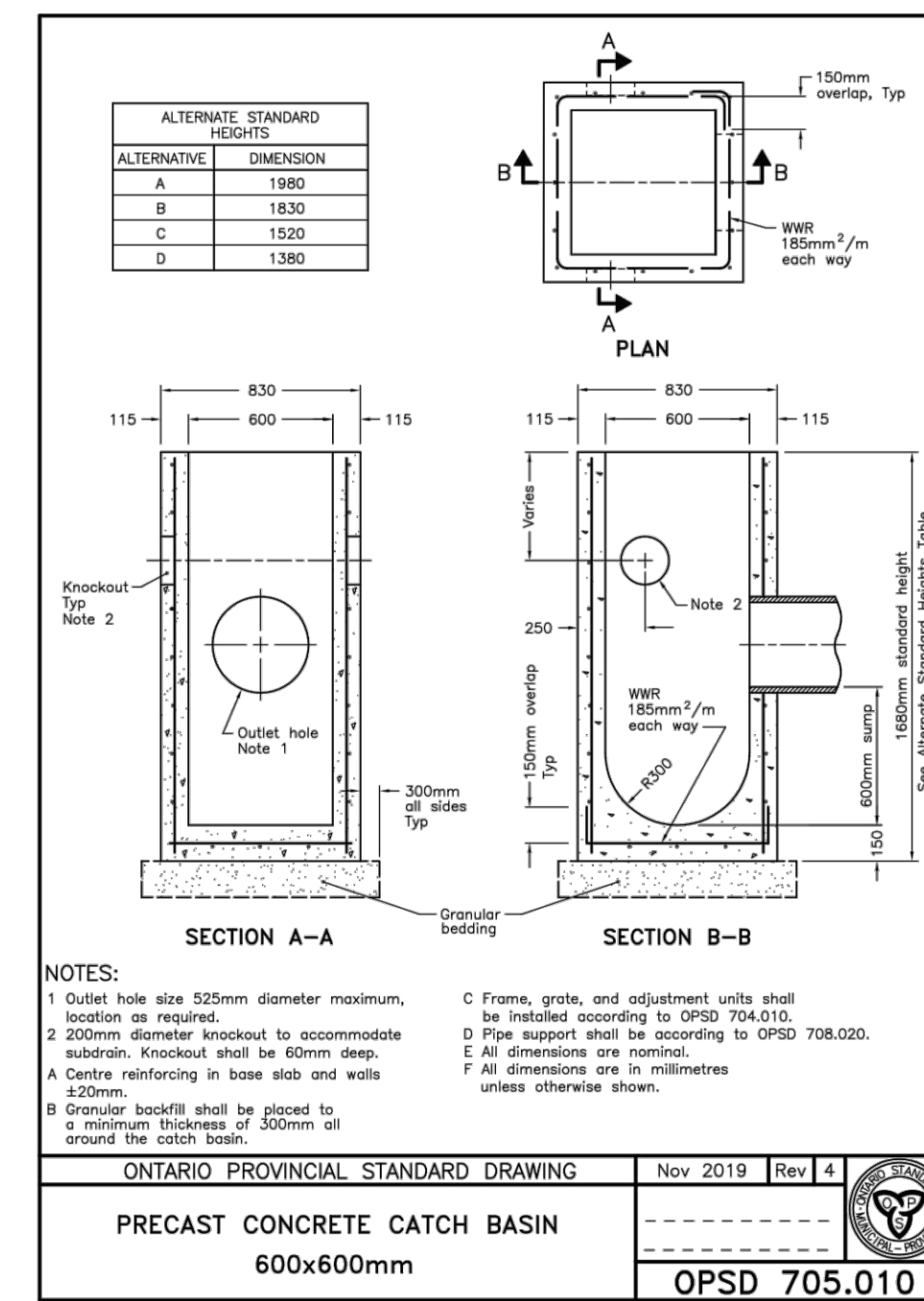
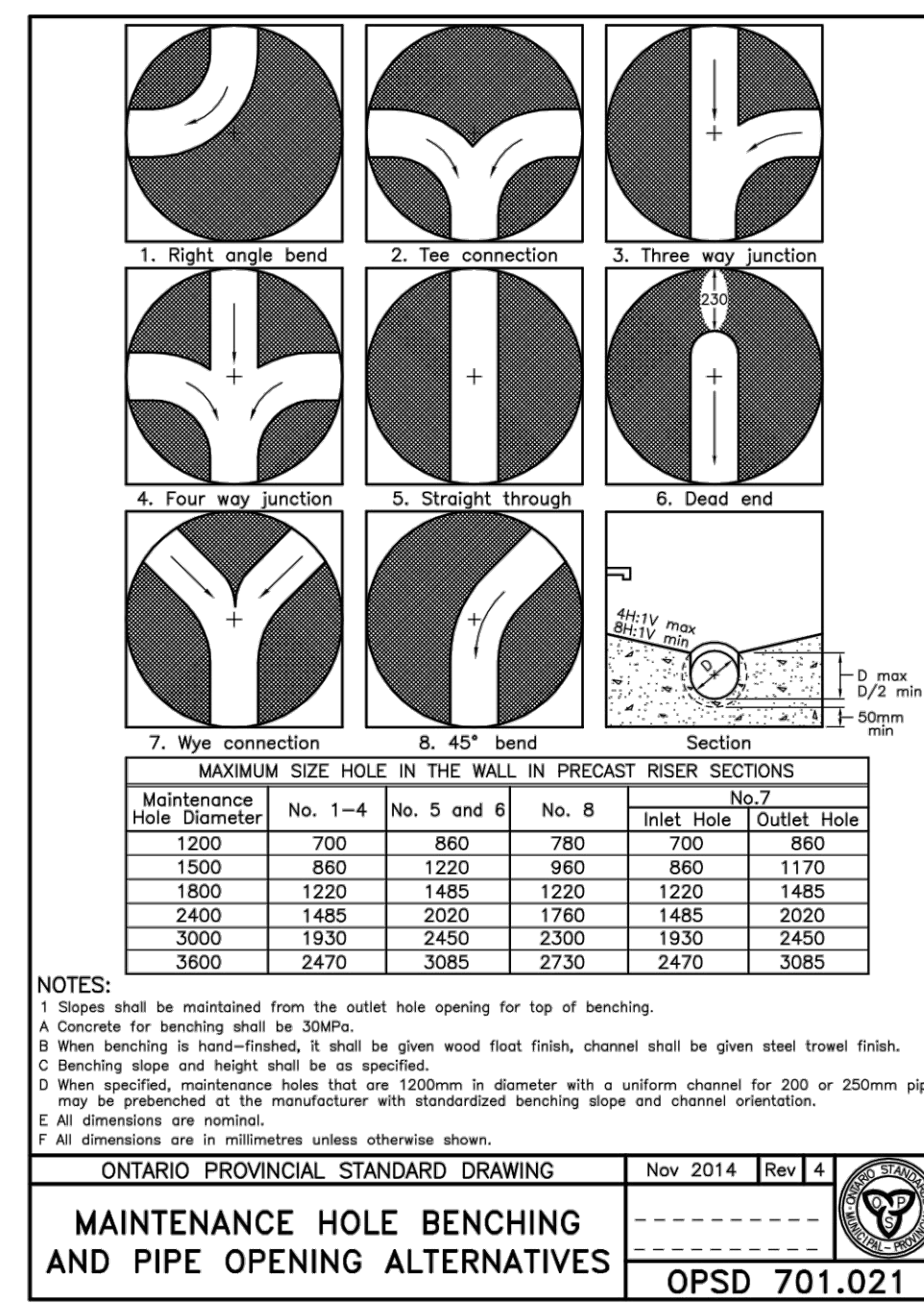
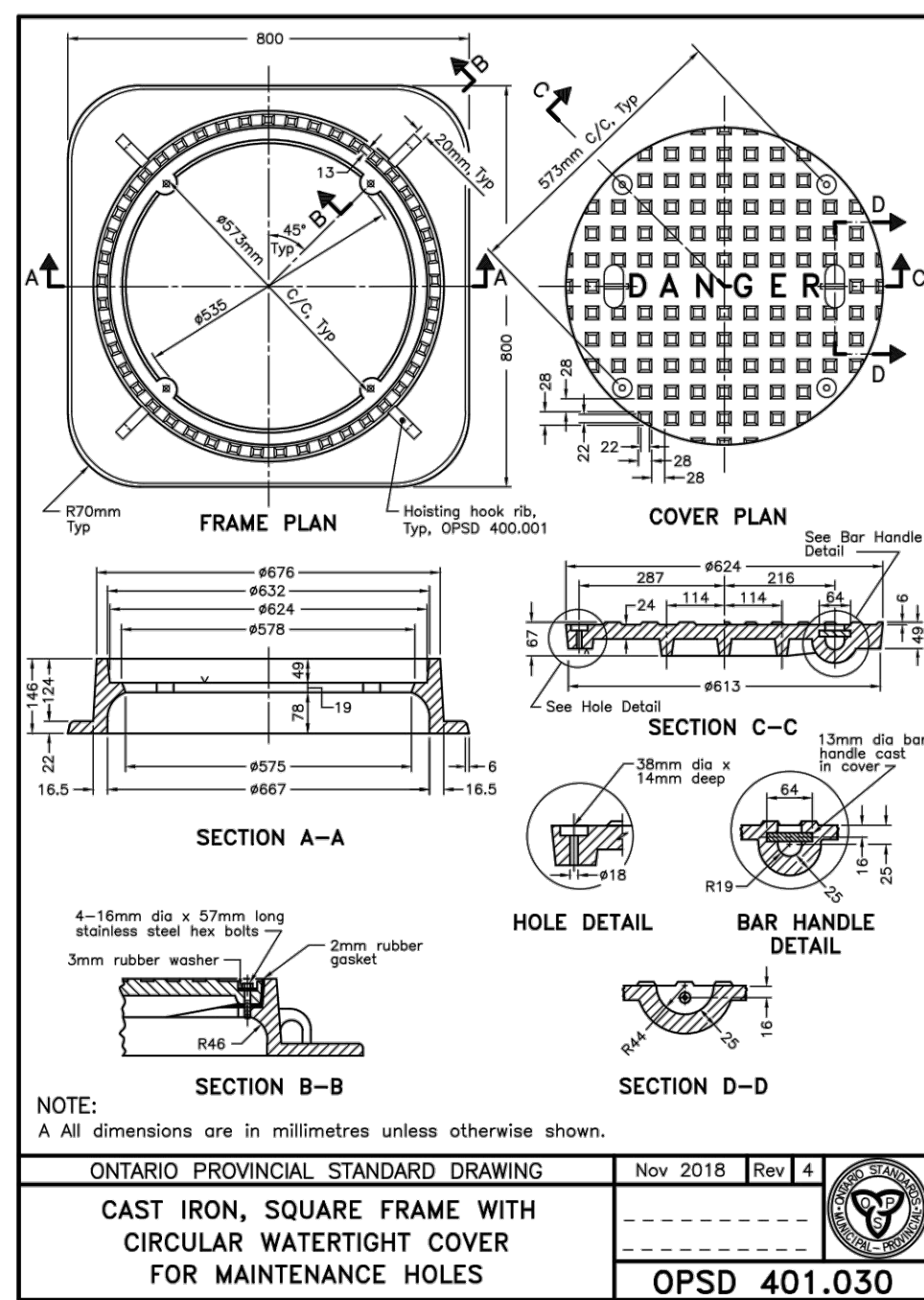
- A. INTERNAL SANITARY SEWERS AND LATERALS TO BE MINIMUM 150mm DIAMETER PVC DR 28 WITH JOINTS CONFORMING TO CSA STANDARD A257.3.
- B. SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.010 (GRANULAR 'A' EMBEDMENT MATERIAL), UNLESS APPROVED OTHERWISE BY THE ENGINEER.
- C. PRECAST MANHOLES SHALL BE 1200mm DIAMETER UNLESS OTHERWISE SPECIFIED, AND SHALL BE IN ACCORDANCE WITH OPSD 701.010. FRAME AND GRATE TO BE WATER TIGHT AND TO CONFORM TO OPSD 401.030.
- D. MANHOLE TOPS ARE TO BE SET TO BASE COURSE ASPHALT GRADE AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED. ALL ADJUSTMENT WILL BE IN ACCORDANCE WITH OPSD 704.010.
- E. INSULATE SANITARY SEWER WHERE COVER IS LESS THAN 1.60m

6. STORM SEWERS

- A. STORM SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.010, (GRAN. 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES AND OPSD 802.030 OR 802.031 CLASS B (GRAN. 'A' BEDDING MATERIAL) FOR RIGID PIPES UNLESS OTHERWISE APPROVED BY THE TOWNSHIP ENGINEER.
- B. PRECAST MANHOLES SHALL BE 1200mm DIAMETER UNLESS OTHERWISE SPECIFIED, AND SHALL BE IN ACCORDANCE WITH OPSD 701.010. FRAME AND COVER SHALL BE IN ACCORDANCE WITH OPSD 401.01.
- C. SINGLE CATCHBASINS TO BE 600mm SQUARE PRECAST CONCRETE TO OPSD 705.010 AND DOUBLE CATCHBASINS TO OPSD 705.020. (600 x 1450mm PRECAST CONCRETE). FRAME AND GRATE TO OPSD 400.02.
- D. PLACE ALL CATCHBASIN LATERALS AT 2% GRADE UNLESS OTHERWISE NOTED PIPE SIZE MINIMUM 250mm DIAMETER SINGLE, 300mm DIAMETER DOUBLE.
- E. FOR ALL PVC PIPES CONNECTING INTO CONCRETE MH'S AND CB'S USE PVC MH ADAPTER COATED WITH SAND.
- F. ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD 708.01 OR 708.03.
- G. MANHOLE BENCHING SHALL CONFORM WITH OPSD 701.021.
- H. MAINTENANCE HOLE TOPS (FRAMES) AND CATCH BASIN (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT GRADE AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED. ALL ADJUSTMENT WILL BE IN ACCORDANCE WITH OPSD 704.010.
- I. ALL PIPE HANDLING INSTALLATIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES AND THE O.C.P.A. OR UNIBELL GUIDELINES.
- J. ALL SEWERS WITH LESS THAN 1.5m OF COVER MUST BE INSULATED.
- K. ALL PE STORM PIPE TO MEET CITY OF BARRIE STANDARDS.
- L. PVC STORM PIPE MATERIAL TO BE PVC CERTIFIED TO C.S.A. STANDARDS 182.2 AND 182.4.

7. WATERMANS

- A. THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE WATERMAIN AND THE SANITARY/STORM SEWER IS TO BE 2.5 METERS.
- B. A MINIMUM OF 0.5 m VERTICAL CLEARANCE BETWEEN THE WATERMAIN AND ALL SEWERS MUST BE KEPT, WHILE STILL MAINTAINING A MINIMUM DEPTH OF COVER AT ALL TIMES. WHERE WATERMAIN CONFLICTS WITH SEWER PIPE, DEFLECT WATERMAIN HORIZONTALLY OR VERTICALLY TO OBTAIN MINIMUM COVER AND VERTICAL CLEARANCE.
- C. WATERMANS & SERVICES SHALL BE INSTALLED WITH A MINIMUM COVER OF 1.7m OVER THE MAINS.
- D. WATERMAIN SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.010 (GRANULAR 'A' EMBEDMENT MATERIAL) FOR FLEXIBLE PIPES.
- E. WATERMAIN BEDDING SHALL CONSIST OF WINTER SAND, 150mm BELOW AND 300mm ABOVE THE WATERMAIN.
- F. CONCRETE THRUST BLOCKS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER AS PER STANDARD DRAWINGS. ALL BENDS TO BE RESTRAINED.
- G. ALL JOINTS MUST BE RESTRAINED AND THRUST BLOCKED.
- H. ANY EXISTING, ON SITE, WATER WELLS MUST BE DECOMMISSIONED IN ACCORDANCE WITH MOE GUIDELINES.
- I. WHERE A COPPER SERVICE MUST BE JOINED UNDER THE FLOOR, THE COPPER SHALL BE JOINED BY SILVER SOLDER CONNECTION ONLY.
- J. ALL SERVICE PIPE MATERIAL MUST BE DUCTILE IRON FROM THE RESTRAINING FLANGE TO A MINIMUM OF 3 METERS OUTSIDE THE FOUNDATION. ALL DUCTILE SHALL BE POLY WRAPPED FOR ADDED PROTECTION.
- L. RISER PIPES ARE TO BE INSTALLED AS PER BSD-45 (REV. #1), AND REMOVED AS DIRECTED. SWABBING SCHEDULE TO BE SUPPLIED BY A CITY OF BARRIE FIELD REPRESENTATIVE.
- M. TRACING WIRE (#12 TWO STRANDED COPPER) IS TO BE INSTALLED ON THE TOTAL LENGTH OF ALL PVC WATERMANS AND BROUGHT UP AT EACH MAINLINE VALVE AND HYDRANT SECONDARY VALVE AND CONNECTED TO FLANGE BOLT. ALL TRACER WIRE ON MUNICIPAL RIGHT-OF-WAY MUST BE SOLID CORE.
- P. SERVICE TAPPINGS SHALL BE PLACED AT A MINIMUM SEPARATION OF 1.0m AND A MINIMUM OF 0.6m FROM JOINTS.
- Q. CONTRACTOR TO PROVIDE PLAN FOR REMOVING CHLORINATED WATER FROM SITE.
- R. A CHLORINATION TAIL SHALL BE INSTALLED JUST BEHIND TAPPING VALVE TO FACILITATE CHLORINATING SERVICE, TO BE REMOVED AFTER TESTING.
- S. ALL 25mmØ AND 50mmØ WATER SERVICES SHOULD BE PE SERIES 160 PIPE AS PER CITY OF BARRIE STANDARDS.

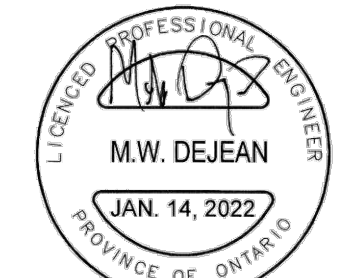


HORIZONTAL CONTROL ID# 031204035 LOCATED BEHIND SOUTH CURB LINE OF MAPLEVIEW DRIVE WEST, APPROXIMATELY 170m EAST OF VETERAN'S DR., OPPOSITE THE YOM FACTORY. NORTHING=4909839.122m, EASTING=603897.741m	COMBINED CONTROL ID# 031208060 LOCATED APPROXIMATELY 17.4m SOUTH OF CENTERLINE OF MAPLEVIEW DRIVE WEST AND APPROXIMATELY 285m EAST OF ESKA ROAD. ELEVATION=307.474 NORTHING=4909251.737m, EASTING=602722.947m
VERTICAL CONTROL ID# 031203018 CULVERT INVERT ON NORTHEAST CORNER OF MAPLEVIEW & VETERANS DRIVE. SET FLUSH IN THE EAST FACE OF CULVERT HEADWALL. TABLET IS 110mm BELOW THE TOP OF CULVERT AND 110mm NORTH OF THE SOUTH INSIDE CORNER TO HEADWALL. ELEVATION=306.589	

NO.	REVISION	DATE	BY

BENCHMARK
SITE BENCHMARK IS THE TOP OF THE SPINDLE OF THE FIRE HYDRANT AT THE WEST SIDE OF VETERAN'S DRIVE HAVING AN ELEVATION OF 310.07.

BEARING NOTE:
BEARINGS ARE UTM GRID AND ARE REFERRED TO PART OF THE WESTERLY LIMIT OF VETERAN'S DRIVE, AS SHOWN ON REGISTERED PLAN 51M-695, HAVING A BEARING OF N11°01'00\".



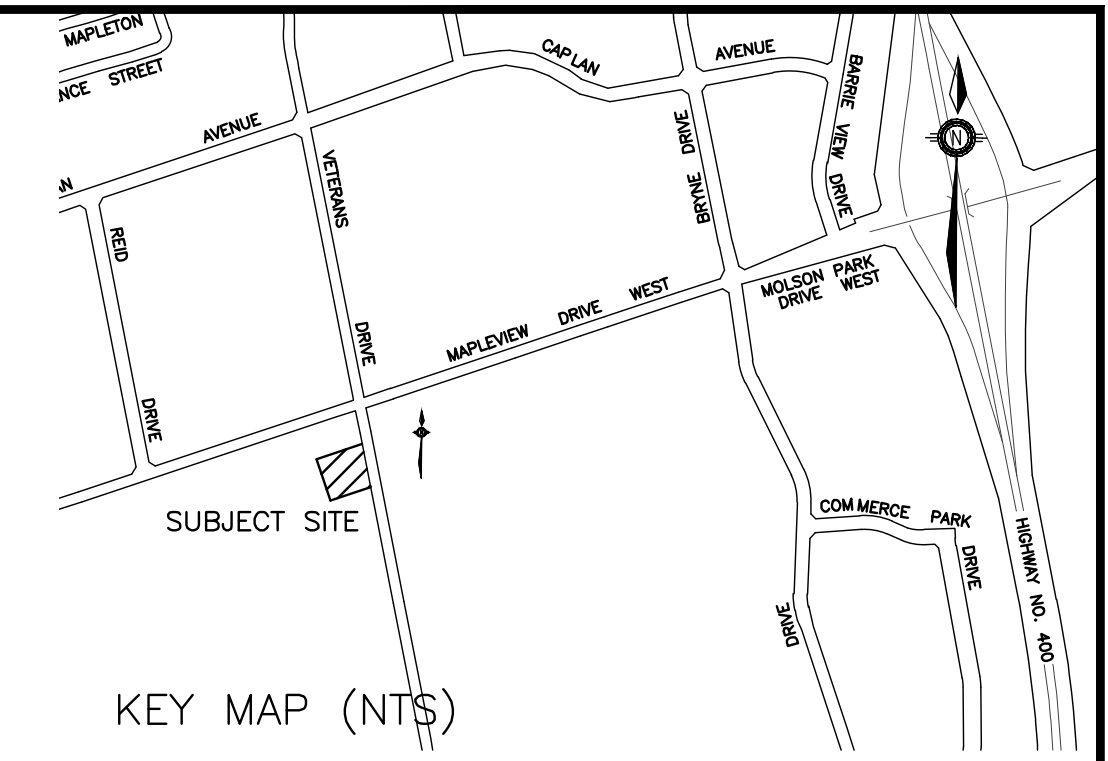
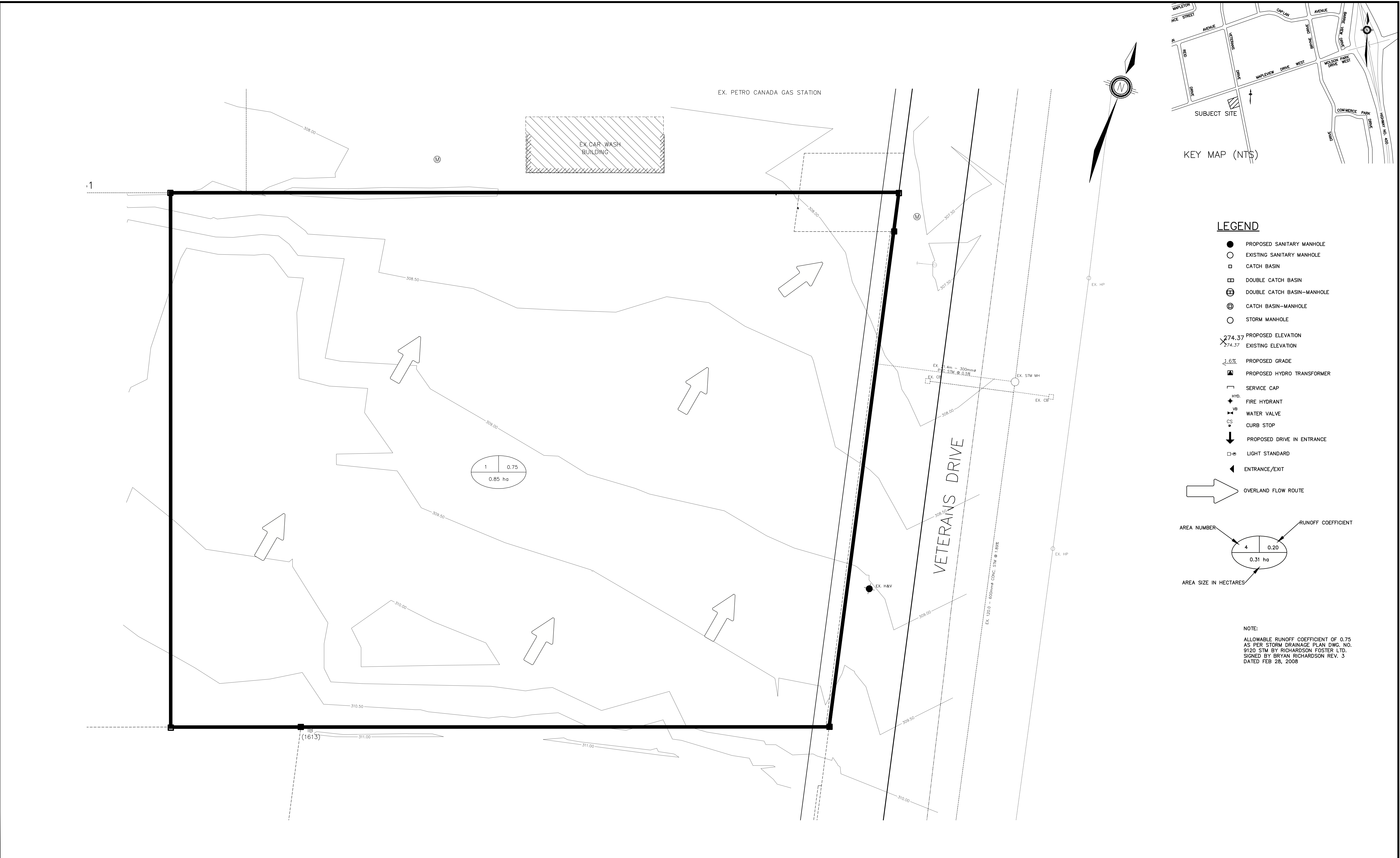
1911882 ONTARIO INC.
620 VETERANS DRIVE
CITY OF BARRIE



NOTES AND DETAILS

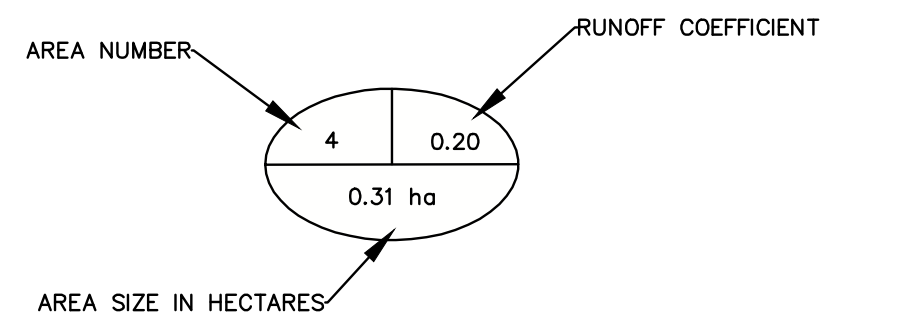
DESIGNED BY	AMC	HORIZ SCALE	HORIZ	PROJECT #	14072.01
DRAWN BY	JMP	VERT SCALE	VERT	DRAWING #	ND-1
CHECKED BY	GMP	DATE	SEPTEMBER 2021	REVISION #	0

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LEGEND

- PROPOSED SANITARY MANHOLE
- EXISTING SANITARY MANHOLE
- CATCH BASIN
- ▣ DOUBLE CATCH BASIN
- ⊕ DOUBLE CATCH BASIN-MANHOLE
- ⊗ CATCH BASIN-MANHOLE
- STORM MANHOLE
- × 274.37 PROPOSED ELEVATION
- 274.37 EXISTING ELEVATION
- ↘ 1.6% PROPOSED GRADE
- ⚡ PROPOSED HYDRO TRANSFORMER
- ▭ SERVICE CAP
- ⚡ HYD. FIRE HYDRANT
- ⚡ WB WATER VALVE
- ⚡ CS CURB STOP
- ⬇ PROPOSED DRIVE IN ENTRANCE
- ⊕ LIGHT STANDARD
- ◀ ENTRANCE/EXIT
- ➡ OVERLAND FLOW ROUTE



NOTE:
ALLOWABLE RUNOFF COEFFICIENT OF 0.75
AS PER STORM DRAINAGE PLAN DWG. NO.
9120 STM BY RICHARDSON FOSTER LTD.
SIGNED BY BRYAN RICHARDSON REV. 3
DATED FEB 28, 2008

HORIZONTAL CONTROL:
ID# 03120040235
LOCATED BEHIND SOUTH CURB LINE OF MAPLEVIEW DRIVE WEST, APPROXIMATELY 170m EAST OF VETERAN'S DR., OPPOSITE THE YOM FACTORY.
NORTHING=N4909639.122m, EASTING=E603897.741m

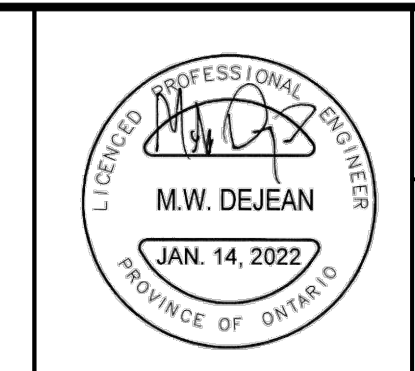
VERTICAL CONTROL:
ID# 03120035018
CULVERT INVERT ON NORTHEAST CORNER OF MAPLEVIEW & VETERANS DRIVE.
SET FLUSH IN THE EAST FACE OF CULVERT HEADWALL, TABLE IS 110mm BELOW THE TOP OF CULVERT AND 110mm NORTH OF THE SOUTH INSIDE CORNER TO HEADWALL.
ELEVATION=306.589

COMBINED CONTROL:
ID# 03120080060
LOCATED APPROXIMATELY 17.4m SOUTH OF CENTERLINE OF MAPLEVIEW DRIVE WEST AND APPROXIMATELY 265m EAST OF ESSA ROAD.
ELEVATION=307.474
NORTHING=N4909251.737m, EASTING=E602722.947m

NO.	REVISION NOTE	DATE	BY

BENCHMARK:
SITE BENCHMARK IS THE TOP OF THE SPINDLE OF THE FIRE HYDRANT AT THE WEST SIDE OF VETERAN'S DRIVE HAVING AN ELEVATION OF 310.07.

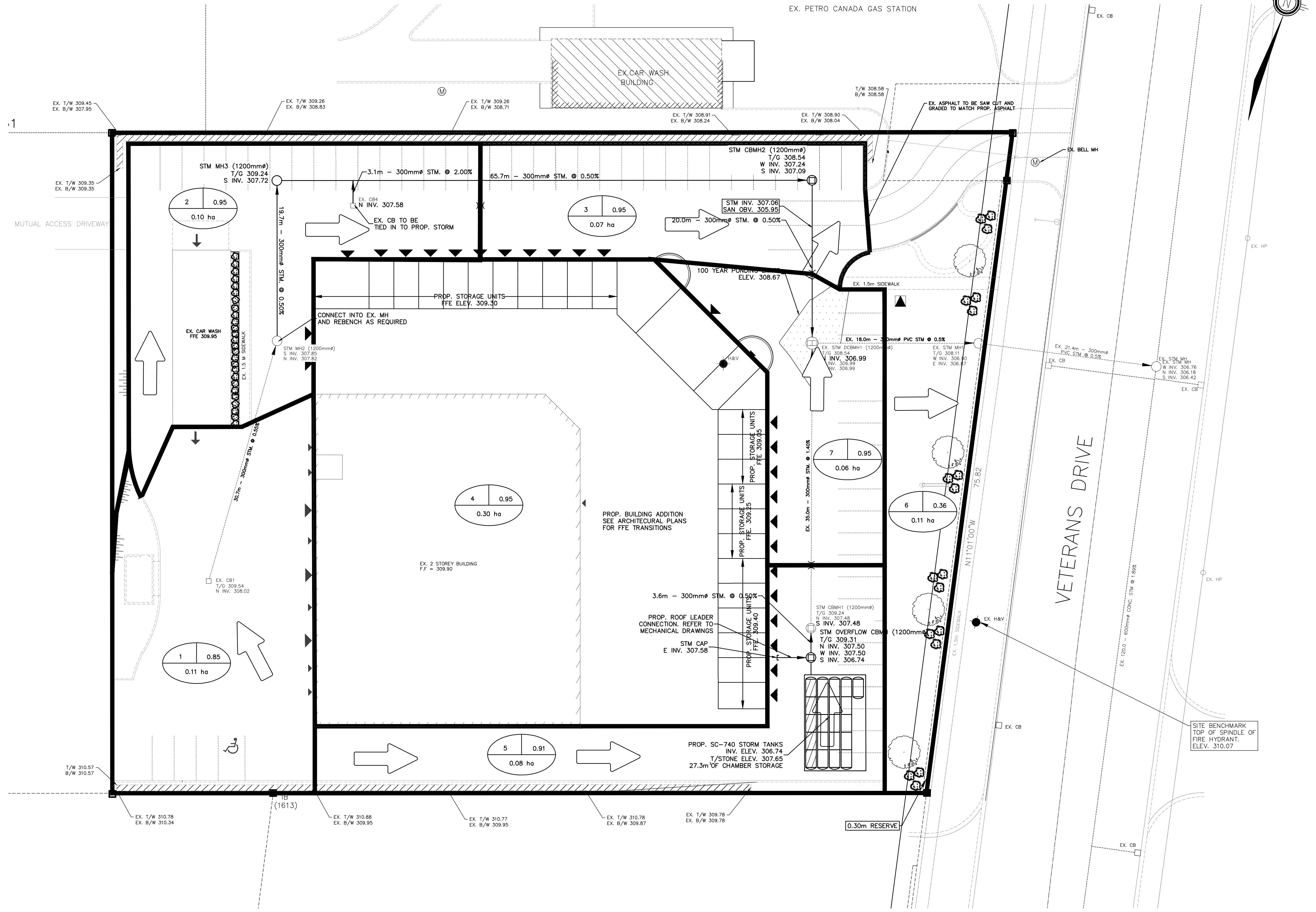
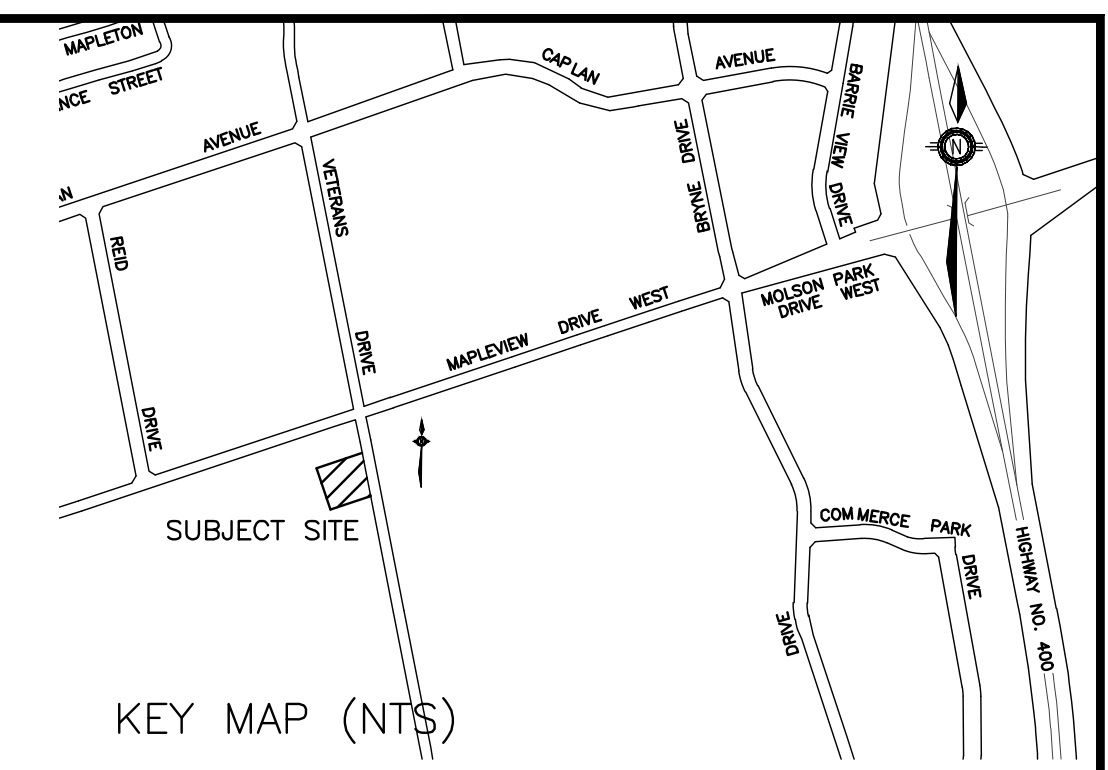
BEARING NOTE:
BEARINGS ARE UTM GRID AND ARE REFERRED TO PART OF THE WESTERLY LIMIT OF VETERAN'S DRIVE AS SHOWN ON REGISTERED PLAN 51M-695, HAVING A BEARING OF N11°01'00"W.



1911882 ONTARIO INC.
620 VETERANS DRIVE
CITY OF BARRIE

PRE-DEVELOPMENT STORM
CATCHMENT PLAN

DESIGNED BY	AMC	HORIZ SCALE	HORIZ	PROJECT #	14072.01
DRAWN BY	JP	VERT SCALE	VERT	DRAWING #	STM-1
CHECKED BY	GMP	DATE	SEPTEMBER 2021	REVISION #	0



- LEGEND**
- PROPOSED SANITARY MANHOLE
 - EXISTING SANITARY MANHOLE
 - CATCH BASIN
 - DOUBLE CATCH BASIN
 - ⊕ DOUBLE CATCH BASIN-MANHOLE
 - ⊗ CATCH BASIN-MANHOLE
 - STORM MANHOLE
 - 274.37 PROPOSED ELEVATION
 - 274.37 EXISTING ELEVATION
 - 1.6% PROPOSED GRADE
 - ▲ PROPOSED HYDRO TRANSFORMER
 - SERVICE CAP
 - HYD. FIRE HYDRANT
 - W.V. WATER VALVE
 - CS CURB STOP
 - ↓ PROPOSED DRIVE IN ENTRANCE
 - LIGHT STANDARD
 - ▲ ENTRANCE/EXIT
 - ➔ OVERLAND FLOW ROUTE
- CATCHMENT NUMBER
- AREA SIZE IN HECTARES
- RUNOFF COEFFICIENT

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HORIZONTAL CONTROL: ID# 03120040335 LOCATED BEHIND SOUTH CURB LINE OF MAPLEVIEW DRIVE WEST, APPROXIMATELY 170m EAST OF VETERAN'S DR., OPPOSITE THE YOM FACTORY. NORTHING=N4909639.122m, EASTING=E603897.741m		COMBINED CONTROL: ID# 03120080060 LOCATED APPROXIMATELY 17.4m SOUTH OF CENTERLINE OF MAPLEVIEW DRIVE WEST AND APPROXIMATELY 265m EAST OF ESSA ROAD. ELEVATION=307.474 NORTHING=N4909251.737m, EASTING=E602722.947m	
VERTICAL CONTROL: ID# 03120030018 CULVERT INVERT ON NORTHEAST CORNER OF MAPLEVIEW & VETERANS DRIVE. SET FLUSH IN THE EAST FACE OF CULVERT HEADWALL. TABLE IS 110mm BELOW THE TOP OF CULVERT AND 110mm NORTH OF THE SOUTH INSIDE CORNER TO HEADWALL. ELEVATION=306.589			
NO.	REVISION NOTE	DATE	BY

BENCHMARK: SITE BENCHMARK IS THE TOP OF THE SPINDLE OF THE FIRE HYDRANT AT THE WEST SIDE OF VETERAN'S DRIVE HAVING AN ELEVATION OF 310.07.			
BEARING NOTE: BEARINGS ARE UTM GRID AND ARE REFERRED TO PART OF THE WESTERLY LIMIT OF VETERAN'S DRIVE AS SHOWN ON REGISTERED PLAN 51M-695, HAVING A BEARING OF N11°01'00"W.			

1911882 ONTARIO INC.
620 VETERANS DRIVE
CITY OF BARRIE

POST-DEVELOPMENT STORM CATCHMENT PLAN

DESIGNED BY: AMC
DRAWN BY: JP
CHECKED BY: GMP

HORIZ SCALE: 1:250
VERT SCALE: N/A
DATE: SEPTEMBER 2021

PROJECT # 14072.01
DRAWING # STM-2
REVISION # 0

PROFESSIONAL ENGINEER
M.W. DEJEAN
JAN. 14, 2022
PROVINCE OF ONTARIO

