

#### **EROSION AND SEDIMENT CONTROL MEASURES:**

- CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL
  EROSION AND SEDIMENT CONTROL FEATURES. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT
  PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING
  WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE
  TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURE MAY BE SUBJECT TO
  PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- SEDIMENT AND EROSION CONTROL PLAN OBJECTIVES:
   PREVENT SOIL EROSION. THIS CAN RESULT FROM STREAMING RAIN WATER OR WIND EROSION DURING
- CONSTRUCTION,

  PREVENT SEDIMENT DEPOSITS IN THE SEWER PIPES AND NEARBY COLLECTING STREAMS (AS APPLICABLE),

  PREVENT AIR POLLUTION FROM PARTICULATE MATTER AND DUST.

#### 1. PRIOR TO START OF CONSTRUCTION:

- PRIOR TO THE REMOVAL OF ANY VEGETATIVE COVER, MOVING OF SOIL AND CONSTRUCTION:

   INSTALL SILT FENCE (AS PER OPSD 219.110) ALONG DITCHES IMMEDIATELY DOWNSTREAM FROM AREAS TO
- BE DISTURBED (SEE PLAN FOR LOCATION).
- INSTALL FILTER CLOTH ON DOWNSTREAM MANHOLE COVERS.
   INSTALL SILTSACK FILTERS IN ALL CONCRETE CATCH BASINS STRUCTURES.
   INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
- THE CONTRACTOR MUST SET UP THE MEASURES INDICATED ON THE PLAN, INSPECT THEM FREQUENTLY
  AND CLEAN AND REPAIR OR REPLACE THE DETERIORATED STRUCTURES. AT THE END OF THE
  CONSTRUCTION PERIOD, THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE TEMPORARY
  STRUCTURES AND RECONDITIONING THE AFFECTED AREAS

### 2. DURING CONSTRUCTION:

- SEDIMENT AND EROSION CONTROL MEASURES TO BE CONSTRUCTED AS PER OPSS 805.
   WHEN SEDIMENT AND EROSION CONTROL MEASURES MUST BE REMOVED TO COMPLETE A PORTION OF THE WORK, THE SAME MEASURES MUST BE REINSTATED UPON THE WORK'S COMPLETION.
   WORK TO BE DONE IN THE VICINITY OF MAJOR WATERWAYS TO BE CARRIED OUT FROM JULY AND
- SEPTEMBER ONLY.

  MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE.

  PROTECT DISTURBED AREAS FROM RUNGET.
- PROTECT DISTURBED AREAS FROM RUNOFF.
   PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED SHORTLY.
- INSPECT STRAW BALE FLOW CHECK DAMS, SILT FENCES, SILT SACKS, AND CATCH BASIN SUMPS REGULARLY AND AFTER EVERY MAJOR STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
- PLAN TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION.
   EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
   DO NOT LOCATE TOPSOIL BUES AND EXCAVATION MATERIAL CLOSER THAN 2.5m EROM AND EXCAVATION MATERIAL.
- DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDED IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS). WHEN STORING SOIL ON SITE IN PILES THE CONTRACTOR MUST COVER EACH PILE WITH TARPS, STRAW OR A GEOTEXTILE FABRIC TO AVOID FINE PARTICLE TRANSPORT BY WIND AND/OR STREAMING RAIN WATER.
- CONTROL WIND-BLOWN DUST OFF SITE TO ACCEPTABLE LEVELS BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED). FOR DUST CONTROL, CONTRACTOR TO APPLY CALCIUM CHLORIDE (TYPE I OPSS 2501 AND CAN/CGSB-15-1) AND WATER WITH EQUIPMENT APPROVED BY THE OWNER'S REPRESENTATIVE AT RATE IN ACCORDANCE TO OPSS 506 WHEN DIRECTED BY OWNER'S REPRESENTATIVE.
- ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE
  BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER. SEDIMENT

  ON THE PROPERTY OF THE PR
- CAPTURE SILT SACKS MUST BE MAINTAINED AND CANNOT BE REMOVED UNTIL ALL LANDSCAPING AREAS ARE COMPLETED.
- NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVES BY THIS CONSULTING ENGINEER AND THE TOWN DEPARTMENT OF PUBLIC WORKS.

   CONTRACTOR RESPONSIBLE FOR MUNICIPAL ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT.
- FROM VEHICULAR TRACKING ETC. AT THE END OF EACH WORK DAY.

   DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPED.
- ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
   TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING
- SPILLED OR TRACKED ONTO ABUTTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.

   PROVIDE GRAVEL ENTRANCE WHEREVER EQUIPMENT LEAVES THE SITE TO PROVIDE MUD TRACKING ONTO
- PAVED SURFACES. GRAVEL BED SHALL BE A MINIMUM OF 10m LONG, 4m WIDE, AND 0.15m DEEP AND SHALL CONSIST OF COARSE MATERIAL. MAINTAIN GRAVEL ENTRANCE IN CLEAN CONDITION.

## 3. AFTER CONSTRUCTION:

- PROVIDE PERMANENT COVER CONSISTING OF TOPSOIL AND SEED TO DISTURBED AREAS.
   ALL SEDIMENT AND EROSION CONTROL MEASURES TO BE REMOVED BY THE CONTRACTOR FOLLOWING THE COMPLETION OF WORK AND AFTER DISTURBED AREAS HAVE BEEN REHABILITATED AND STABILIZED,
- THIS INCLUDES REMOVE STRAW BALE FLOW CHECK DAMS, SILT FENCES AND FILTER CLOTHS ON CATCH BASINS AND MANHOLE COVERS.

   INSPECT AND CLEAN CATCH BASIN SUMPS AND STORM SEWERS.

# TURNER FLEISCHER

67 Lesmill Road Toronto, ON, M3B 2T8 T 416 425 2222

turnerfleischer.com

This drawing, as an instrument of service, is provided by and is the property of Turner Fleischer Architects Inc. The contractor must verify and accept responsibility for all dimensions and conditions on site and must notify Turner Fleischer Architects Inc. of any variations from the supplied information. This drawing is not to be scaled. The architect is not responsible for the accuracy of survey, structural, mechanical, electrical, etc., information shown on this drawing. Refer to the appropriate consultant's drawings before proceeding with the work. Construction must conform to al applicable codes and requirements of authorities having jurisdiction. The contractor working from drawings not specifically marked 'For Construction' must assume full responsibility and bear costs for any corrections or damages resulting from his work.



1223 MICHAEL STREET, SUITE 100, OTTAWA, ONTARIO K1J 7T2 Tel: 613-738-4160 Fax: 613-739-7105

TOPOGRAPHIC INFORMATION & BENCHMARK

SURVEY COMPLETED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. ON OCTOBER 21, 2022. ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM, DERIVED FROM CONTROL MONUMENT NO. 019680071 HAVING AN ELEVATION OF 99.742m.

2023-04-26 ISSUED FOR SPA
DATE DESCRIPTION



3850 CAMBRIAN RD

BARRHAVEN, ONTARIO

EROSION/SEDIMENT CONTROL & EXISTING CONDITIONS PLAN

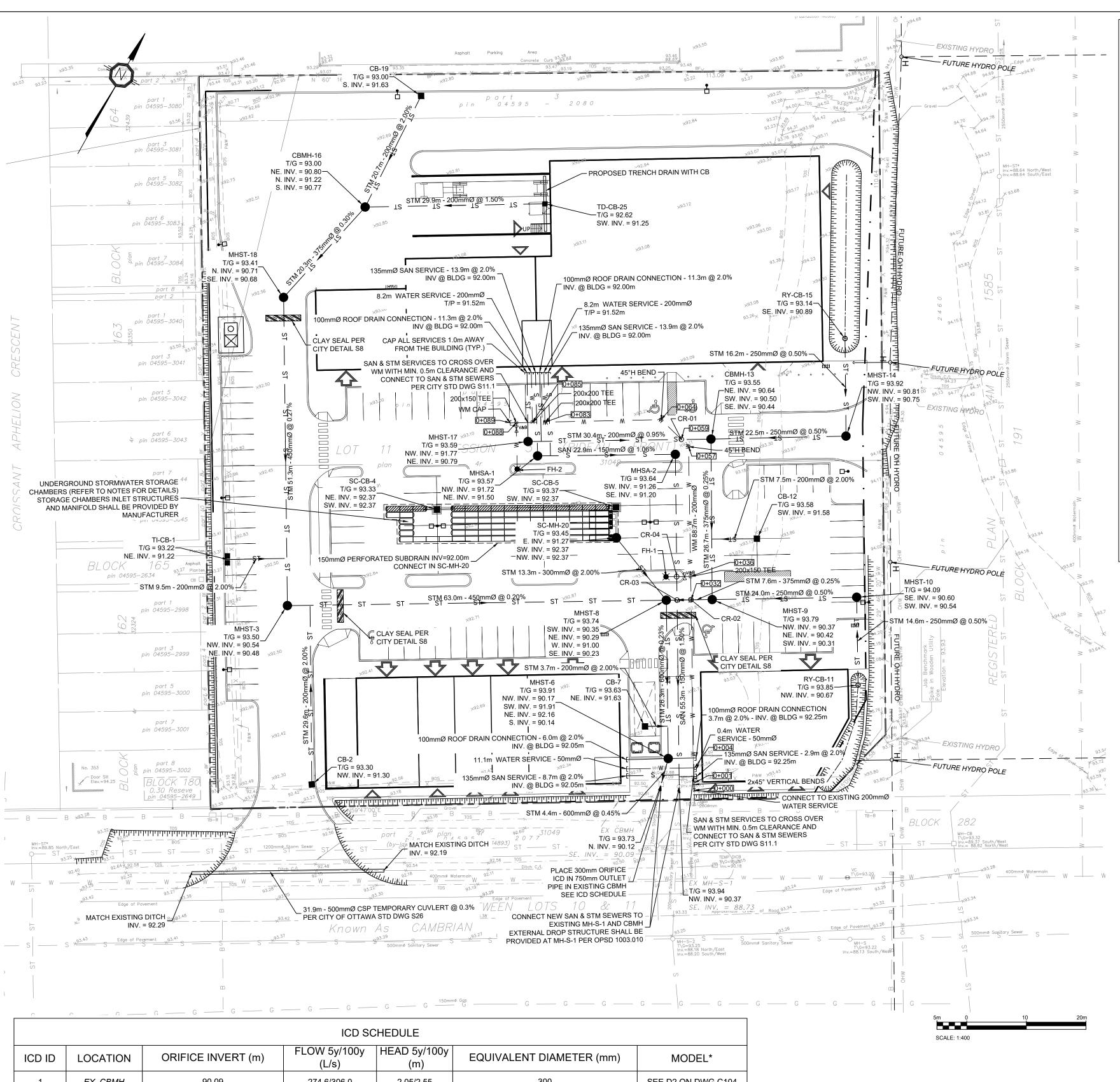
PROJECT NO.
478356
PROJECT DATE
2022-08-19
DRAWN BY
BV
CHECKED BY
MT

As indicated



C101

1



ICD SCHEDULE									
ICD ID	LOCATION	ORIFICE INVERT (m)	FLOW 5y/100y (L/s)	HEAD 5y/100y (m)	EQUIVALENT DIAMETER (mm)	MODEL*			
1	ЕХ. СВМН	90.09	274.6/306.0	2.05/2.55	300	SEE D2 ON DWG C104			

## \* ICD SHOP DRAWINGS SHALL BE SUBMITTED TO PARSONS BEFORE COMMENCING ANY WORK

## NOTES: UNDERGROUND STORMWATER STORAGE

- 1. UNDERGROUND STORMWATER STORAGE SYSTEM CHAMBER TYPE OR EQUIVALENT
- STORAGE REQUIREMENT: 112.2m<sup>3</sup>. CHAMBER TYPE: STORMTECH SC-310 OR EQUIVALENT
- BOTTOM GRANULAR PAD ELEVATION & PERFORATED SUBDRAIN INVERT: 92.00m. **BOTTOM OF CHAMBER ELEVATION: 92.37**
- 5. TOP OF CHAMBER ELEVATION: 92.78m.
- 6. TOP OF SYSTEM TO BE A MINIMUM OF 450mm BELOW PARKING LOT PAVEMENT

CROSSING TABLE								
CROSSING No.	PIPE ELEV. AT CROSSING	PIPE ELEV. AT CROSSING	CLEARANCE					
CR-01	STM, TOP. 90.75	WM, INV. 91.00	0.25m					
CR-02	STM, TOP. 90.68	WM, INV. 91.20	0.52m					
CR-03	STM, TOP. 90.68	SAN, INV. 90.84	0.16m					
CR-04	SAN, TOP. 91.05	FH LAT., INV. 91.30	0.25m					

WATERMAIN TABLE								
STATION	SURFACE ELEVATION	W/M DEPTH	TOP OF W/M ELEV.	INV. OF W/M ELEV.	NOTES			
0+000	94.10	3.79m	90.31	90.11	CONNECTION TO EXISTING WATERMAIN			
0+001	94.10	2.40m	91.70	91.50	2 x 45° VERTICAL BENDS			
0+004	94.05	2.40m	91.65	91.45	2 x 50mm WATER SERVICE CONNECTIONS			
0+032	93.80	2.40m	91.40	91.20	CR-02 REFER TO CROSSING TABLE			
0+036	93.70	2.40m	91.30	91.10	200x150 TEE FOR FIRE HYDRANT LATERAL, CR-04 REFER TO CROSSING TABLE			
0+057	93.60	2.40m	91.20	91.00	45° HORIZONTAL BEND			
0+059	93.60	2.40m	91.20	91.00	CR-01 REFER TO CROSSING TABLE			
0+064	93.60	2.40m	91.20	91.00	45° HORIZONTAL BEND			
0+083	93.60	2.40m	91.20	91.00	200x200 TEE, 200mmWATER SERVICE CONNECTION			
0+085	93.60	2.40m	91.20	91.00	200x200 TEE, 200mmWATER SERVICE CONNECTION			
0+088	93.60	2.40m	91.20	91.00	200x150 TEE FOR FIRE HYDRANT LATERAL			
0+089	93.60	2.40m	91.20	91.00	WATER CAP WITH CONCRETE THRUST BLOCK			

#### NOTES: WATERMAIN

LEGEND:

— W —— W —— W ——

— w — w — w —

— s —— s —— s —

— ST — ST — ST —

**EXISTING PROPERTY LINE** 

**EXISTING WATERMAIN** 

EXISTING VALVE CHAMBER

PROPOSED WATERMAIN

PROPOSED V&VB

EXISTING V&VB

PROPOSED PROPERTY LINE AS PART OF THE

PROPOSED FIRE HYDRANT PER CITY STD DWG W19

EXISTING SANITARY SEWER AND MAINTENANCE HOLE

PROPOSED SANITARY SEWER AND MAINTENANCE HOLE

EXISTING STORM SEWER AND MAINTENANCE HOLE

PROPOSED STORM SEWER AND MAINTENANCE HOLE

PROPOSED REAR YARD CATCH BASIN

PROPOSED TWIN INLET CATCH BASIN

PROPOSED CENTERLINE SWALE

CLAY SEAL PER CITY STD DETAIL S8

PROPOSED LIGHT STANDARD

AS PER CITY STD DWG S31

PROPOSED CATCH BASIN

AS PER OPSD 705.020

TERRACE (3:1 MAX)

GREENBANK RD RE-ALIGNMENT PROJECT

- 1. ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE THE MINIMUM COVER OF 2.4m IS NOT REACHED, THERMAL INSULATION IS REQUIRED AS PER CITY OF OTTAWA DETAIL W22.
- WATERMAIN PIPE MATERIALS TO BE CLASS PVC DR-18, OR APPROVED EQUIVALENT UNLESS INDICATED OTHERWISE.
- WATERMAIN TO BE CONSTRUCTED AS PER OPSS 441 AND OPSD 802.010. WATERMAIN
- BEDDING AND COVER MATERIAL TO BE OPSS 1010 GRANULAR 'A' CRUSHER-RUN LIMESTONE COMPACTED TO 95% SPMDD.
- 4. A CONTINUOUS 12 GAUGE COPPER TRACER WIRE MUST BE INSTALLED OVER ALL WATERMAINS. TRACER WIRE SHALL BE TIED TO ALL FIRE HYDRANTS. INSTALLATION OF A WATERMAIN PIPE CROSSING A SEWER PIPE SHALL BE AS PER
- CITY OF OTTAWA DETAILS W25 AND W25.2. IF WATERMAIN PIPE MUST BE DEFLECTED TO MEET ALIGNMENT. ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE
- CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER OPSD 1109.011.
- THRUST BLOCKS AND RESTRAINING AS PER OPSD 1103.010 AND OPSD 1103.020. HYDRANT INSTALLATION AS PER OPSD 1105.010 AND OPSS 441. HYDRANT TO COMPLY WITH AWWA C502.
- OF STAINLESS STEEL) WITHOUT DRAIN. FIRE HYDRANTS MUST BE INSTALLED SUCH THAT THE 'STORZ' EXIT POINTS TOWARDS THE BUILDING IT WILL SERVICE. THE CONTRACTOR MUST ENSURE THAT THE BREAKAWAY FLANGE IS LOCATED ABOVE THE FINISHED GROUND (APPROXIMATELY 150 mm). FIRE FLOW TESTS FOLLOWED BY COLOUR CODING OF HYDRANTS (AS PER
- NFPA-291) SHALL BE CARRIED OUT PRIOR TO SUBSTANTIAL COMPLETION OF

HYDRANTS MUST HAVE THREE EXITS (TWO 65.5 mm AND ONE 100.0 mm 'STORZ'

- 10. WATERMAIN AND HYDRANT CONTROL VALVES IN THE 100 300 mm RANGE WILL BE RESILIENT SEATING GATE VALVES (AWWA C509) WITH MECHANICAL JOINT CONNECTIONS, VALVES WILL OPERATE COUNTER-CLOCKWISE TO OPEN WITH A NON-RISING STEM. VALVES WILL BE COMPLETE WITH THE STANDARD AWWA 50 mm OPERATING NUT. VALVES TO BE INSTALLED AS PER OPSS 441 11. PIPE FITTINGS (BENDS, TEES, CROSSES, REDUCERS, ETC.) WILL BE MECHANICAL
- JOINT (AWWA C-111) WITH CEMENT MORTAR LINING (AWWA C-104). 12. COUPLERS MUST BE COMPRESSION TYPE WITH MINIMUM PRESSURE RATING OF 1035 kPa. COUPLERS MUST BE MUELLER 11-12940.
- 13. VALVE BOXES MUST BE COMPLETE (FULLY METALLIC) 3 PIECE SLIDING TYPE WITH
- 14. WATERMAINS MUST BE THOROUGHLY FLUSHED AND CLEANED TO REMOVE ALL DIRT AND DEBRIS PRIOR TO THE DISINFECTION PROCESS.
- 15. ALL WATERMAINS SHALL BE HYDROSTATICALLY AND BACTERIOLOGICALLY TESTED AS PER PROVINCIAL AND MUNICIPAL REGULATIONS, IT IS THE CONTRACTOR'S
- RESPONSIBILITY TO ENSURE THAT ALL REQUIREMENTS ARE FOLLOWED 16. THE DISINFECTION PROCEDURE WHICH FOLLOWS INITIAL FLUSHING AND CLEANING CONSISTS OF CHLORINATION, FINAL FLUSHING AND BACTERIOLOGICAL TESTING. DISINFECTION MUST BE PERFORMED BY THE CONTRACTOR USING METHODS APPROVED BY THE CITY AND IN ACCORDANCE WITH MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE GUIDELINES DOSAGE MUST BE 100 ppm WITH A MINIMUM RESIDUAL OF 25 ppm AFTER 24 HOURS. DISINFECTANT MUST BE SUPPLIED BY THE CONTRACTOR AND MUST BE ANSI APPROVED. TESTING AND TEST RESULTS MUST BE
- WITNESSED BY CITY PERSONNEL 17. ALL DISINFECTANT WATER IS TO BE REMOVED FROM THE NEW WATERMAINS AND REPLACED WITH DISTRIBUTION SYSTEM WATER PRIOR TO PRESSURE TESTING OF
- 18. PRESSURE TESTING OF ALL WATERMAINS AND APPURTENANCES INSTALLED BY THE CONTRACTOR MUST BE PERFORMED BY THE CONTRACTOR USING METHODS MEETING THE APPROVAL OF THE CITY. TESTING AND RESULTS MUST BE WITNESSED BY CITY PERSONNEL 19. MAINS AND SERVICES MUST BE PRESSURE TESTED AT 1035 kPa (150 psi) IN
- ACCORDANCE WITH AWWA C-600-82 (MINIMUM REQUIREMENT). 20. LEAKAGE TESTS MUST BE CONDUCTED AS PER AWWA C-600-82 (MINIMUM
- 21. ONCE THE DISINFECTION AND PRESSURE TESTING RESULTS HAVE BEEN APPROVED, THE CONTRACTOR MUST ENSURE THAT ALL WATERMAIN PIPES ARE FLUSHED UNTIL THE CHLORINE LEVEL IN THE WATER IS SIMILAR TO THE LEVEL OF CHLORINE IN THE MUNICIPAL WATERMAIN NETWORK IN THE AREA.
- 22. BACTERIOLOGICAL TESTING MUST CONSIST OF TWO SAMPLINGS TWENTY FOUR HOURS APART. IF BACTERIOLOGICAL SAMPLES ARE SATISFACTORY THE
- WATERMAIN MAY BE PLACED ON LINE. 23. ALL WATERMAIN VALVES TO BE OPERATED BY THE CITY OF OTTAWA ONLY.

## **NOTES: SEWER**

THE WATERMAIN

- 1. CONTRACTOR TO CONFIRM ELEVATION OF EXISTING STORM AND SANITARY SEWERS AT PROPOSED CONNECTION POINTS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE COMMENCING ANY WORK.
- ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407. 408 AND 410.
- 3. ALL STORM AND SANITARY SEWERS INSTALLED BELOW THE GROUNDWATER TABLE ELEVATION (±92.0m) SHALL BE WATERTIGHT AND INFILTRATION TESTS SHALL BE CARRIED OUT ACCORDING TO OPSS.MUNI 410. 4. CLAY SEALS SHALL BE ACCORDING CITY OF OTTAWA STD DETAIL S8 AND
- EXTENDED AT LEAST 1.0m ABOVE THE GROUNDWATER TABLE ELEVATION. PIPE MATERIAL TO BE PVC SDR-35 AND CONFORMING TO OPSS 1841, UNLESS INDICATED OTHERWISE. PVC SEWERS TO BE INSTALLED PER OPSD 802.010 (MODIFIED). BEDDING AND COVER MATERIALS TO BE OPSS 1010 GRANULAR 'A'
- CRUSHER-RUN LIMESTONE BEDDING COMPACTED TO 95% SPMDD. 6. ALL SEWERS WITH LESS THAN 1.5 METERS OF COVER ARE SUBJECTED TO
- INSULATION PER CITY OF OTTAWA STD DETAIL S35 PIPE BACKFILL MATERIAL TO BE APPROVED NATIVE MATERIAL OR SELECT
- SUBGRADE MATERIAL IN CONFORMANCE WITH OPSS 212. 8. ALL MAINTENANCE HOLES AND CATCH BASIN MAINTENANCE HOLES TO BE 1200mmØ AS PER OPSD 701.010, UNLESS INDICATED OTHERWISE. MAINTENANCE HOLES AND
- CATCH BASIN MAINTENANCE HOLES TO BE INSTALLED PER OPSS 407. ALL CATCH BASINS TO BE 600x600mm AS PER OPSD 705.010, UNLESS INDICATED OTHERWISE. CATCH BASINS TO BE INSTALLED PER OPSS 407.
- 10. EXCAVATING, BACKFILLING, AND COMPACTING REQUIRED FOR MAINTENANCE HOLES, CATCH BASIN MAINTENANCE HOLES, AND CATCH BASINS TO BE COMPLETED AS PER OPSS 402. THEY ARE TO BE BACKFILLED WITH OPSS GRANULAR 'B' COMPACTED TO 98% SPMDD. JOINTS BETWEEN SECTIONS TO BE WRAPPED WITH NON-WOVEN GEOTEXTII E
- 11. FOR SANITARY STRUCTURES: CAST IRON MAINTENANCE HOLE COVER AS PER OPSD 401.010 TYPE 'A'. FOR STORM STRUCTURES: CAST IRON CATCH BASIN MAINTENANCE HOLE COVER AS PER OPSD 401.010 TYPE 'B' AND CAST IRON CATCH BASIN COVER AS PER OPSD
- 13. SANITARY MAINTENANCE HOLES REQUIRE BENCHING AS PER OPSD 701.021. 14. THE CONTRACTOR IS RESPONSIBLE FOR MAKING OR ARRANGING ALL CONNECTIONS TO THE EXISTING SEWERS AS PER MUNICIPAL REQUIREMENTS. PRIOR TO CONNECTION. THE CONTRACTOR MUST PROVIDE. TO THE CONSULTANT / ENGINEER AND THE CITY FOR APPROVAL, ALL TEST RESULTS PERFORMED ON THE INTERNAL
- 15. ADVISE THE CITY PUBLIC WORKS AT LEAST 72 HOURS IN ADVANCE BEFORE ANY
- CONNECTION TO THE CITY SERVICES. CO-ORDINATE WITH CITY AS REQUIRED. TERMINATE AND PLUG ALL SERVICE CONNECTIONS AT 1.0 m FROM EDGE OF THE
- BUILDING. 17. ALL SEWERS TO BE C.C.T.V. INSPECTED BY THE CONTRACTOR AS PER OPSS 409. TWO COPIES OF THE INSPECTION REPORT MUST BE PROVIDED TO THE CONSULTANT AND THE C.C.T.V. INSPECTION IN DVD FORMAT ONLY.

## **TURNER FLEISCHER**

Toronto, ON, M3B 2T8 T 416 425 2222 turnerfleischer.com

67 Lesmill Road

This drawing, as an instrument of service, is provided by and is the property of Turner Fleischer Architects Inc. The contractor must verify and accept responsibility for all dimensions and condition on site and must notify Turner Fleischer Architects Inc. of any variations from the supplied information. This drawing is not to be scaled. The architect is not responsible for the accuracy of survey, structural, mechanical, electrical, etc., information shown on this drawing. Refer to the appropriate consultant's drawings before proceeding with the work. Construction must conform to a applicable codes and requirements of authorities having jurisdiction. The contractor working from drawings not specifically marked 'For Construction' must assume full responsibility and bear costs for any corrections or damages resulting from his work.



1223 MICHAEL STREET, SUITE 100, OTTAWA, ONTARIO K1J 7T2 Tel: 613-738-4160 Fax: 613-739-7105

TOPOGRAPHIC INFORMATION & BENCHMARK

SURVEY COMPLETED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. ON OCTOBER 21, 2022, ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM, DERIVED FROM CONTROL MONUMENT NO. 019680071 HAVING AN ELEVATION OF 99.742m.

DESCRIPTION

2023-04-26 ISSUED FOR SPA

3850 CAMBRIAN RD

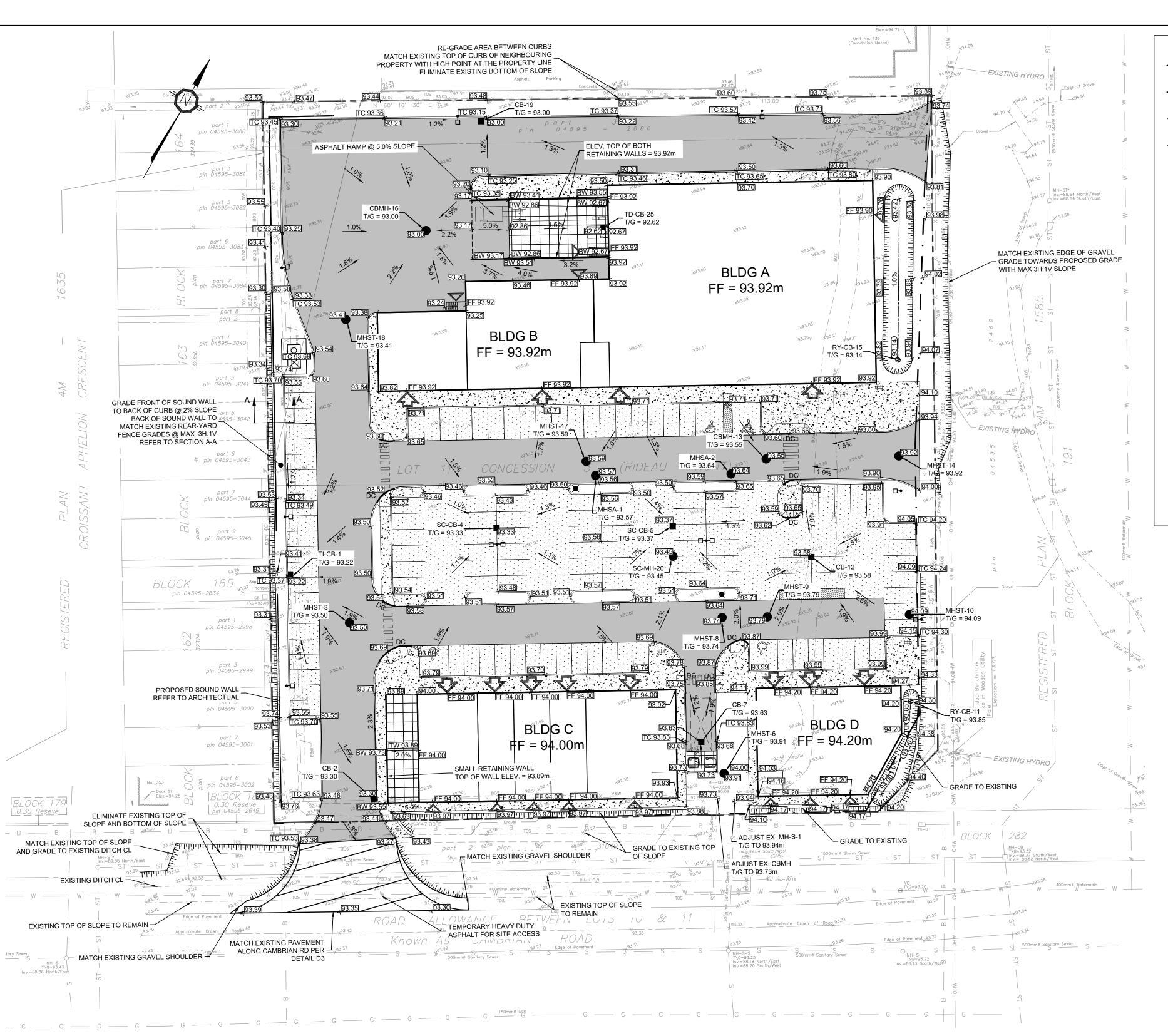
BARRHAVEN, ONTARIO

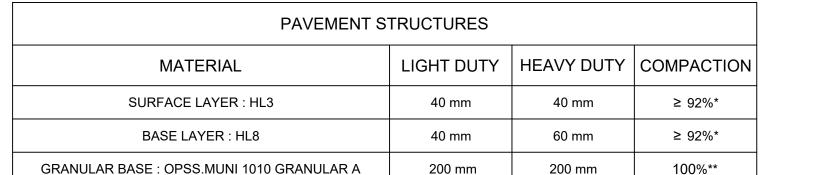
SITE SERVICING PLAN

478356 2022-08-19 CHECKED BY

As indicated

B. VILLENEUVE 100553987 2023-04-26





min. 350 mm

100%\*\*

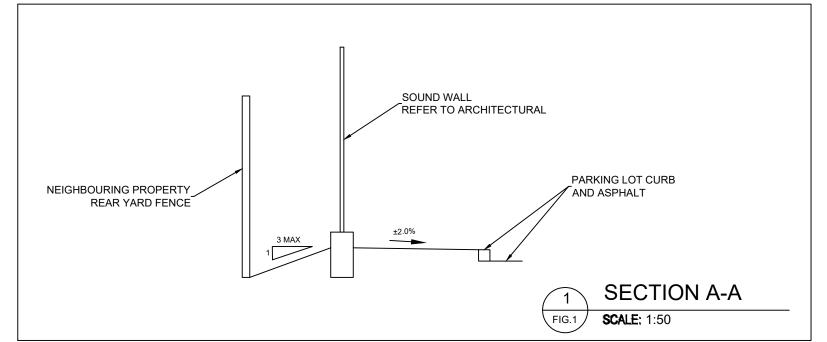
min. 350 mm

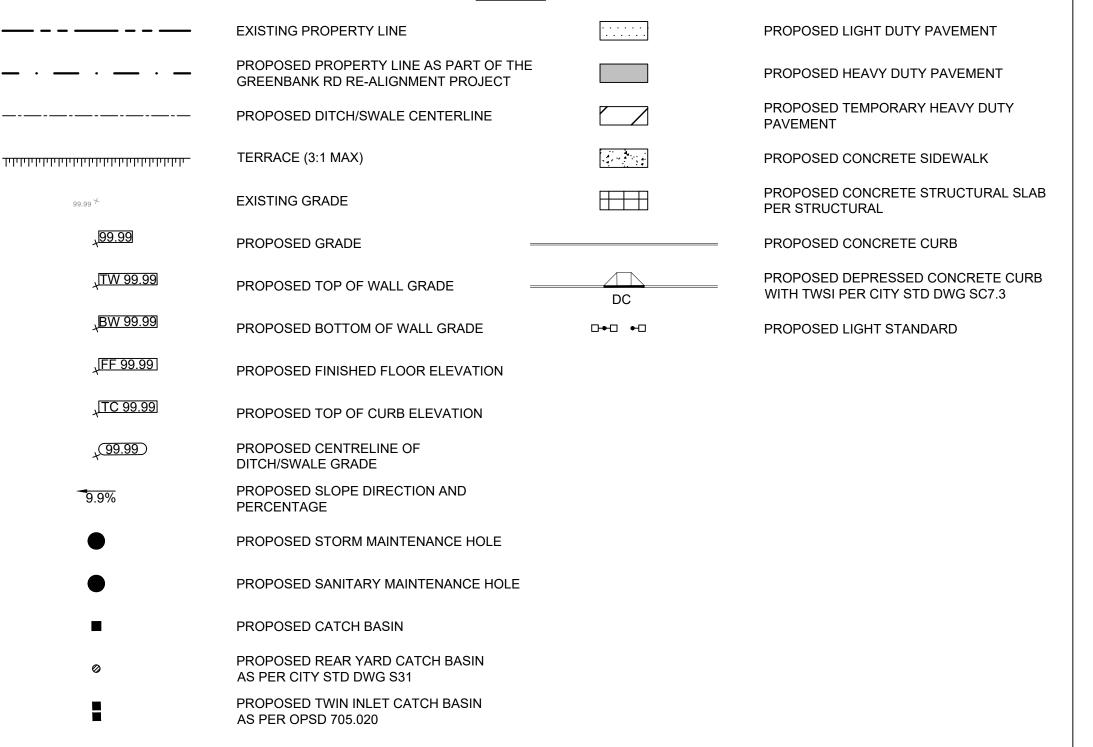
BASE PLACED DURING INITIAL SITE GRADING \*MINIMUM PAVEMENT COMPACTION BASED ON MAXIMUM RELATIVE DENSITY, PER OPSS.MUNI 310

\*\*OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY SOURCE: GEOTECHNICAL INVESTIGATION REPORT, PROPOSED COMMERCIAL DEVELOPMENT, 3850 CAMBRIAN RD,

NEPEAN, OTTAWA, ONTARIO, BY GEOTERRE LIMITED, DATED APRIL 6, 2023

GRANULAR SUB-BASE: EXISTING GRANULAR





LEGEND:

#### NOTES: GENERAL

- THE CONTRACTOR MUST CONFORM TO ALL LAWS, CODES, ORDINANCES, AND REGULATIONS ADOPTED BY FEDERAL, PROVINCIAL OR MUNICIPAL GOVERNMENT COUNCILS AND GOVERNMENT AGENCIES, APPLYING TO WORK TO BE CARRIED OUT. WHEREVER STANDARDS, LAWS AND/OR REGULATIONS ARE MENTIONED THEY
- REFER TO THEIR CURRENT VERSIONS, MODIFICATIONS INCLUDED. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS (OPSS AND OPSD), THE ONTARIO MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE, THE ONTARIO MINISTRY OF NATURAL RESOURCES, APPLICABLE CONSERVATION AUTHORITIES. THE MUNICIPAL STANDARD SPECIFICATIONS AND DRAWINGS, AND ALL OTHER GOVERNING AUTHORITIES AS THEY APPLY, UNLESS
- 3. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001 1003 & 1010
- THE LOCATION OF EXISTING UNDERGROUND MUNICIPAL SERVICES AND PUBLIC UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION SIZE MATERIAL AND ELEVATION OF ALL EXISTING ANY EXISTING SERVICES AND/OR EXISTING UTILITIES DURING CONSTRUCTION, WHETHER OR NOT SHOWN ON THE DRAWINGS MUST BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- 5. THE CONTRACTOR SHALL DETERMINE THE EXACT INVERT (GEODETIC ELEVATION), DIAMETER AND CONSTRUCTION MATERIAL OF THE EXISTING CONDUITS AT THE PROPOSED CONNECTIONS. THEY SHALL ALSO CARRY OUT, IF NECESSARY, EXPLORATORY DIGS IN ORDER TO DETERMINE THE EXACT LOCATION AND INVERTS

  29. DEWATERING OF PIPELINE, UTILITY AND ASSOCIATED STRUCTURE EXCAVATIONS TO OF EXISTING DUCK BANKS. THIS INFORMATION SHALL IMMEDIATELY BE PROVIDED TO THE CONSULTANT PRIOR TO START UNDERTAKING ANY MUNICIPAL SERVICES WORK AND A 48 HOUR PERIOD MUST BE ALLOCATED TO THE CONSULTANT FOR
- DESIGN REVIEW. 6. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY
- DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK AND
- ACTIVITIES WITH OTHERS TRADES AND CONTRACTORS. 9. THE CONTRACTOR IS THE ONLY PERSON IN CHARGE OF SAFETY ON THE BUILDING SITE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE PROTECTION OF THE WORKERS, OTHER PERSONNEL AND THE GENERAL PUBLIC, PROTECTION OF MATERIALS, AS WELL AS MAINTAINING IN GOOD CONDITION THE COMPLETED WORKS AND WORKS TO BE COMPLETED. THE CONTRACTOR MUST PROVIDE AT ANY TIME:
- a. A SUFFICIENT NUMBER OF FENCES, BARRIERS, POSTERS, GUARDS AND OTHERS TO ENSURE SAFETY; NECESSARY CONVENIENCES FOR THE COMPLETION OF WORK SUCH AS
- HEATING, LIGHTING, VENTILATION ETC. 10. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE VARIOUS PERMITS/APPROVALS
- SAME, SUCH AS BUT NOT LIMITED TO; ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC. AND THEIR ASSOCIATED COSTS. 11. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
- 12. JOB BENCH MARK CONFIRM WITH PARSONS PRIOR TO UTILIZATION. THE CONTRACTOR MUST MAINTAIN BENCHMARKS AND LANDMARK REFERENCES AS IS. OTHERWISE THESE REFERENCES WILL BE REPOSITIONED BY A CERTIFIED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- 13. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE 14. IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION, DEWATERING OF
- EXCAVATIONS COULD BE REQUIRED. IT IS ASSUMED THAT GROUNDWATER MAY BE CONTROLLED BY SUMP AND PUMPING METHODS. THE CONTRACTOR SHALL OBTAIN A PERMIT TO TAKE WATER IF SITE CONDITIONS REQUIRE TAKING MORE THAN A TOTAL OF 400 000 L/DAY.
- 15. STRIP AND REMOVE ALL TOPSOIL FROM IMPROVED AREAS. SITE PREPARATION INCLUDES CLEARING, GRUBBING, STRIPPING OF TOPSOIL, DEMOLITION, REMOVAL OF UNSUITABLE MATERIALS, CUT, FILL AND ROUGH GRADING OF ALL AREAS TO RECEIVE FINISHED SURFACES.
- 16. ABUTTING PROPERTY GRADE TO BE MATCHED. 17. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 300mm WIDTH MINIMUM.
- 18. CURBS TO BE BARRIER, CONSTRUCTED AS PER OPSD 600.110, EXCEPT WHERE INDICATED OTHERWISE. ELEVATION AT TOP OF CONCRETE CURBS TO BE 150 mm ABOVE THE ASPHALT, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- 19. DEPRESSED CURBS TO BE MOUNTABLE, CONSTRUCTED AS PER OPSD 600.100. 20. LIGHT DUTY AND HEAVY DUTY ASPHALT PAVEMENTS TO BE CONSTRUCTED AS PER TABLE ON DRAWING C103.
- 21. TRANSITION BETWEEN EXISTING AND PROPOSED PAVEMENT SHALL BE CONSTRUCTED AS PER DETAIL D3 ON DRAWING C104.
- 22. RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.

- 23. CLEANLINESS ON THE SITE, INCLUDES THE CONTRACTOR SHALL CLEAN ROADWAYS AT HIS OWN COST AS DIRECTED BY THE OWNER'S REPRESENTATIVE, MATERIALS AND EQUIPMENT MUST BE LAID OUT IN AN ORGANIZED AND SAFE MANNER, AND ALL MATERIAL FOUIPMENT AND TEMPORARY STRUCTURES WHICH ARE NO LONGER NECESSARY FOR THE EXECUTION OF THE CONTRACT MUST BE REMOVED FROM THE
- THE RISK OF GROUND CONTAMINATION FROM PETROLEUM PRODUCTS. THE CONTRACTOR MUST ENSURE THE FOLLOWING MEASURES ARE IMPLEMENTE REGARDING THE HANDLING OF CONCRETE

24. CONTRACTOR TO ENSURE MITIGATION MEASURES ARE IMPLEMENTED TO REDUCED

- CONCRETE SHOULD EITHER BE MIXED AWAY FROM THE SITE OR SHOULD BE PREPARED ON PAVED SURFACES IF ONLY SMALL QUANTITIES ARE REQUIRED (I.E. MINOR REPAIRS):
- EXCESS CONCRETE MUST BE DISPOSED OFF-SITE AT A LOCATION THAT MEETS ALL REGULATORY REQUIREMENTS; THE WASHING OF CONCRETE TRUCKS AND OTHER FOUIPMENT USED FOR MIXING CONCRETE SHOULD NOT BE CARRIED OUT WITHIN 30 METERS OF A
- WATERCOURSE OR WETLAND AND SHOULD TAKE PLACE OUTSIDE OF THE ALL CONCRETE TRUCKS SHOULD COLLECT THEIR WASH WATER AND RECYCLE IT BACK INTO THEIR TRUCKS FOR DISPOSAL OFF-SITE AT A LOCATION MEETING
- 26. THE CONTRACTOR SHALL ENSURE THAT ALL EXCAVATED SURPLUS MATERIALS THAT WILL BE REQUIRED TO BE DISPOSED OFFSITE BE STOCKPILED TEMPORALLY FOR
- SAMPLING PRIOR BEING LOADED OFFSITE. 27. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL
- 28. TRENCHING, BACKFILLING AND COMPACTING MUST CONFORM TO OPSS 401.
- BE COMPLETED AS PER OPSS 517. . THE CONTRACTOR MUST CONTROL SURFACE RUNOFF FROM PRECIPITATION DURING CONSTRUCTION.
- 31. FOR ALL GEOTECHNICAL WORK, CONTRACTOR TO REFER TO "GEOTECHNICAL INVESTIGATION REPORT, PROPOSED COMMERCIAL DEVELOPMENT, 3850 CAMBRIAN RD, NEPEAN, OTTAWA, ONTARIO, BY GEOTERRE LIMITED. DATED APRIL 6, 2023." REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
- 33. THE CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, BACKFILL AND REINSTATEMENT OFF ALL AREAS DISTURBED DURING CONSTRUCTION TO EXISTING CONDITIONS OR BETTER AND ALL ASSOCIATED WORKS TO THE SATISFACTION OF THE CONSULTANT AND MUNICIPAL AUTHORITIES. ASPHALT REINSTATEMENT MUST BE IN ACCORDANCE WITH OPSS 310. LANDSCAPE AREAS TO BE REINSTATED WITH 150 mm OF TOPSOIL AND SOD IN ACCORDANCE WITH OPSS 802 AND OPSS 803.
- 34. DURING THE CONSTRUCTION PERIOD THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING TEMPORARY TRAFFIC SIGNAGE, INCLUDING TRAFFIC SIGNS, TRAFFIC MARKINGS AND TEMPORARY TRAFFIC LIGHTS, AND FLAGMEN, AS REQUIRED BY THE OWNER, THE CONSULTANT, THE MUNICIPALITY, THE MTO, AND OTHER GOVERNING AUTHORITIES.
- REQUIRED TO COMPLETE ALL THE WORKS AND ACTIVITIES AND BEAR COST OF THE

  35. CONSTRUCT SIDEWALK EXPANSION JOINTS & CONTROL JOINTS AS PER OPSD CONSTRUCT CONCRETE SIDEWALK AS PER OPSD 310.020 AND OPSS 351. TACTILE
  - WALKING SURFACE INDICATORS PER OPSS 351. DISPOSE OF CONTAMINATED MATERIALS AT APPROPRIATE OFF-SITE FACILITY THAT MEETS ALL REGULATORY REQUIREMENTS. BE PREPARED TO INTERCEPT, CLEAN UP, AND DISPOSE OF SPILLS OR RELEASES
  - THAT MAY OCCUR WHETHER ON LAND OR WATER. MAINTAIN MATERIALS AND EQUIPMENT REQUIRED FOR CLEANUP OF SPILLS OR RELEASES READILY ACCESSIBLE ON SITE. 39. PROMPTLY REPORT SPILLS AND RELEASES POTENTIALLY CAUSING DAMAGE TO
  - ENVIRONMENT TO: AUTHORITY HAVING JURISDICTION OR INTEREST IN SPILL OR RELEASE INCLUDING CONSERVATION AUTHORITY. WATER SUPPLY AUTHORITIES. DRAINAGE AUTHORITY, ROAD AUTHORITY, AND FIRE DEPARTMENT. 40. DECONTAMINATE EQUIPMENT AFTER WORKING IN POTENTIALLY CONTAMINATED WORK AREAS AND PRIOR TO SUBSEQUENT WORK OR TRAVEL ON CLEAN AREAS. DO NOT DISCHARGE DECONTAMINATED WATER, OR SURFACE WATER RUNOFF, OR GROUNDWATER WHICH MAY HAVE COME IN CONTACT WITH POTENTIALLY
  - CONTAMINATED MATERIAL, OFF SITE OR TO MUNICIPAL SEWERS. 42. CONTRACTOR IS TO SUBMIT A TRAFFIC MANAGEMENT PLAN FOR APPROVAL ONE (1) WEEK PRIOR TO ANY WORK WITHIN THE ROW LIMITS TO MEET THE REQUIREMENTS OF MTO BOOK 7. THE CONTRACTOR WILL BE REQUIRED TO IMPLEMENT ALL REQUIREMENTS OF THE MTO BOOK 7.
  - 43. CITY PUBLIC WORKS DEPARTMENT TO BE CONTACTED MINIMUM 7 DAYS PRIOR TO PLANNED DATE FOR CONNECTION TO EXISTING STORM SEWERS, SANITARY SEWERS, AND WATERMAIN. CONNECTION TO EXISTING TO TAKE PLACE IN THE PRESENCE OF APPROPRIATE CITY OF OTTAWA STAFF.

# **TURNER FLEISCHER**

67 Lesmill Road Toronto, ON, M3B 2T8 T 416 425 2222

turnerfleischer.com



1223 MICHAEL STREET, SUITE 100, OTTAWA, ONTARIO K1J 7T2 Tel: 613-738-4160 Fax: 613-739-7105

TOPOGRAPHIC INFORMATION & BENCHMARK

SURVEY COMPLETED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. ON OCTOBER 21, 2022, ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM, DERIVED FROM CONTROL MONUMENT NO. 019680071 HAVING AN ELEVATION OF 99.742m.

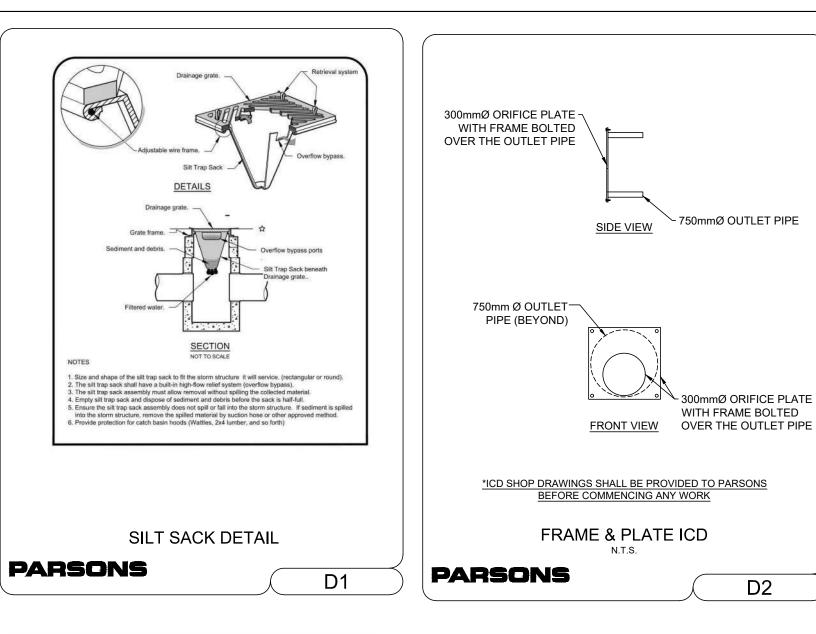
2023-04-26 ISSUED FOR SPA
DATE

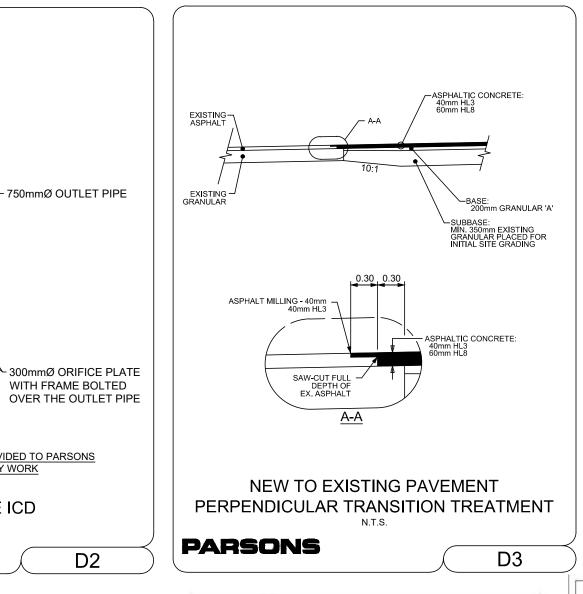
3850 CAMBRIAN RD

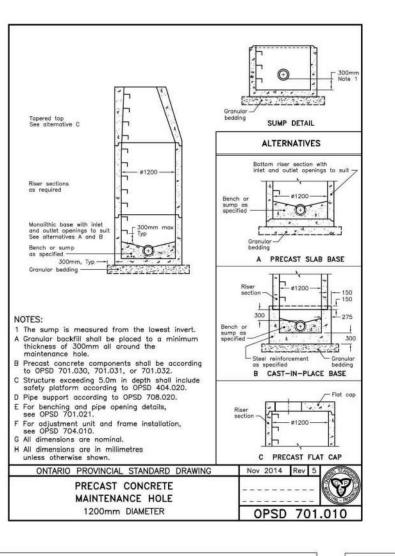
BARRHAVEN, ONTARIO

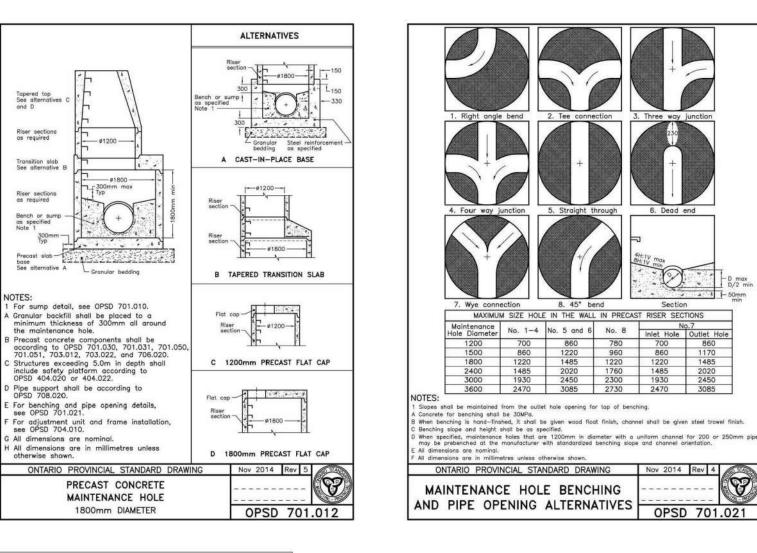
**GRADING PLAN** 

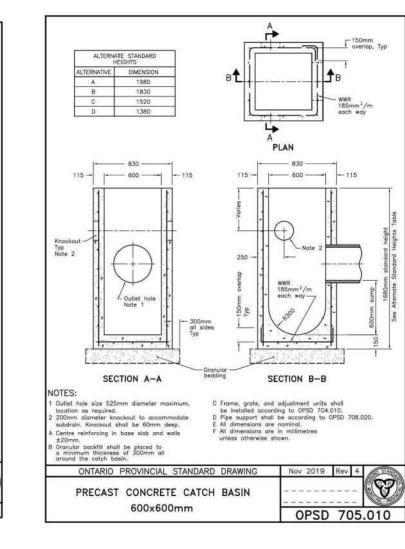
478356 2022-08-19 B. VILLENEUVE CHECKED BY 100553987 2023-04-26 As indicated

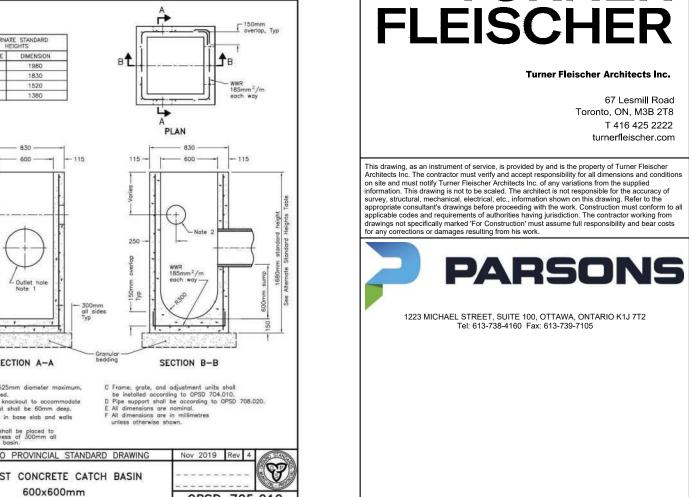












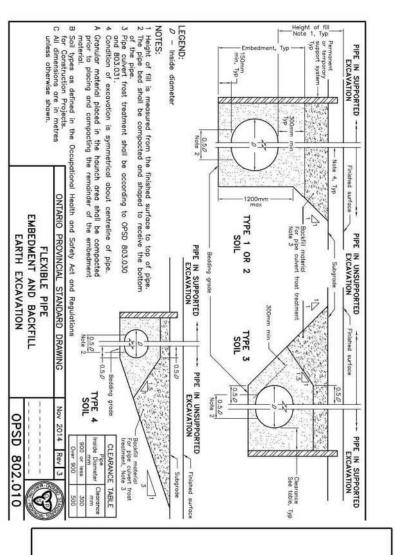
**TURNER** 

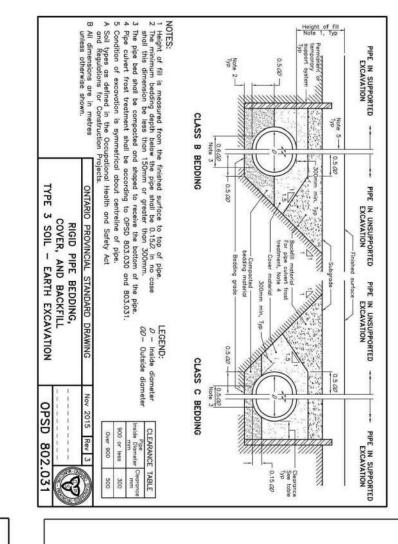
67 Lesmill Road

T 416 425 2222

turnerfleischer.com

Toronto, ON, M3B 2T8





PLAN: SIDEWALK 2.5m WIDE AND OVER

PLAN: SIDEWALK LESS THAN 2.5m WIDE

1/4 OF FULL DEPTH

DUMMY JOINT PROFILE

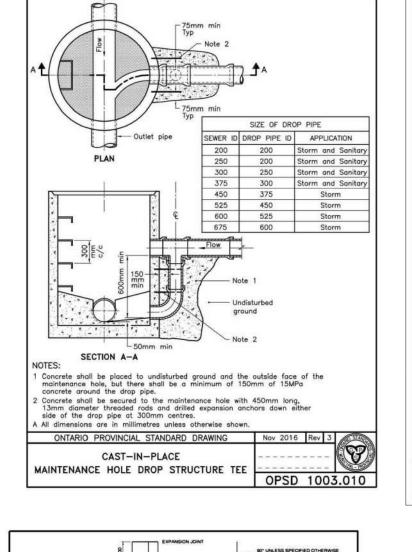
TYPICAL DUMNY JOINT

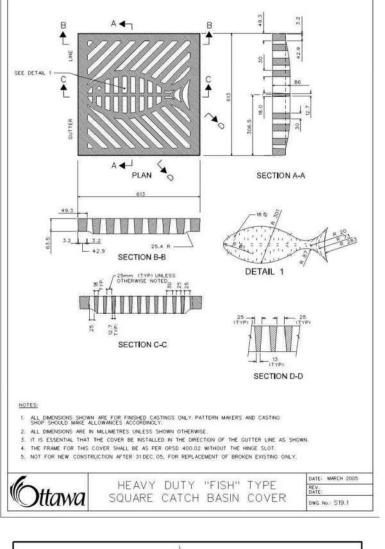
EXPANSION JOINT PROFILE

EXPANSION JOINTS IN SIDEWALK SHALL BE IN LINE WITH EXPANSION JOINTS IN CURB.

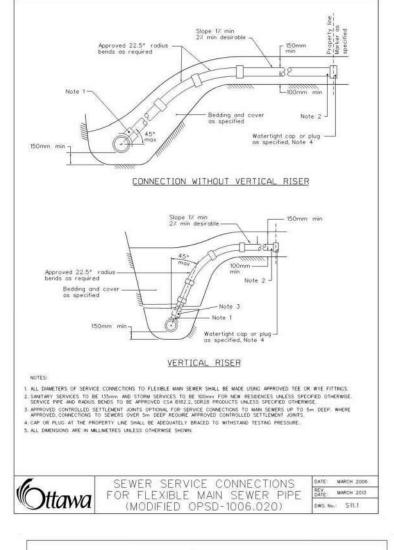
2. TRANSVERSE EXPANSION JOINTS ARE REQUIRED AT THE ENDS, THE MIDPOINT, AT INTERVALS OF 4m MAXIMUM, AND ALSO TO ISOLATE OBSTRUCTIONS FROM SIDEWALK, HYDRANTS, POLES, BUILDINGS, ETC.

D2





SECTION A-A



Ottawa ...

TOP VIEW

145 -- 145 -- 145 -- 145 -- 1

Tapered top See alternatives and D

Riser sections as required

Transition slab See alternative I

Riser sections as required

Bench or sump as specified

Granular bedding

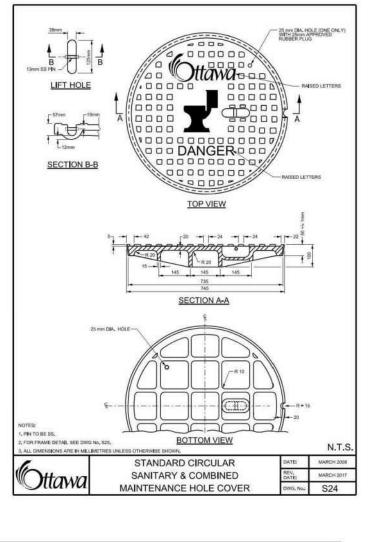
1 For sump detail, see OPSD 701.010.

Pipe support shall be according to OPSD 708.020.

All dimensions are in millimetres unless otherwise shown.

1800mm DIAMETER

All dimensions are nominal.



115- 600- -115

BEAM DETAIL

- 115

Outlet hole /

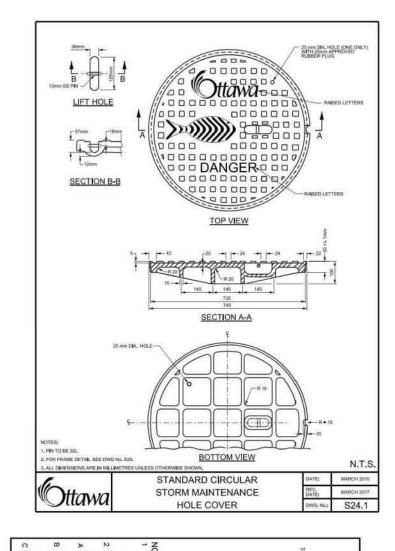
— WWR 185mm<sup>2</sup>/m, each way 300mm oll sides

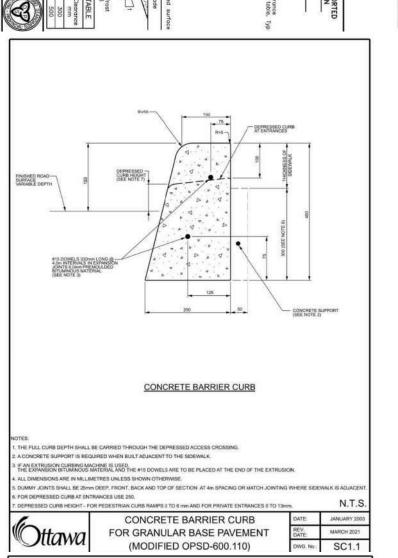
Outlet hole size 525mm diameter maximum, location as required.

200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm
Minimum clearance between bearn recess and hole for pipe shall be 300mm or
minimum clearance can be 150mm with addition of two 15M size rebor on
45 degree diagonal.

ntre reinforcing in base slab and walls ±20mm.

Smular backfill shall be placed to a minimum thickness of 300mm all around





TYPICAL SIDEWALK SECTION

#15 DOWELS 300mm LONG (84.0m INTERVALS IN EXPANSION JOINTS (6.0mm PREMOULDED BITUMINOUS MATERIAL

SECTION AT PRIVATE ENTRANCE AND PEDESTRIAN RAMPS

CONCRETE BARRIER CURB

WITH SIDEWALK

REINFORCING MESH 150x150mm MW9 1xMW9.

N.T.S

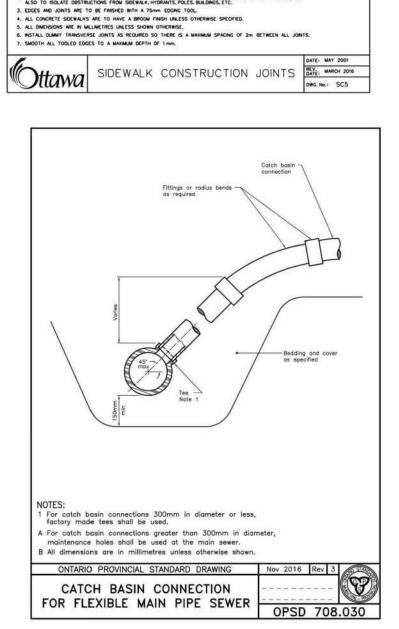
75 75 50 - EXPANSION JOINT

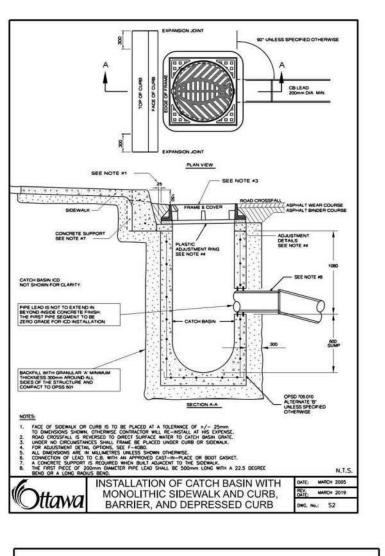
125

THE MAXIMUM SLOPE IS NOT TO EXCEED 2%.

FOR CURB RAMPS, SLOPE OF 2% TO 5%, MAXIMUM 8%.
 EXPANSION AND DUMMY JOINTS AS PER SC5.

DEPRESSED CURB HEIGHT - FOR PEDESTRIAN CUR

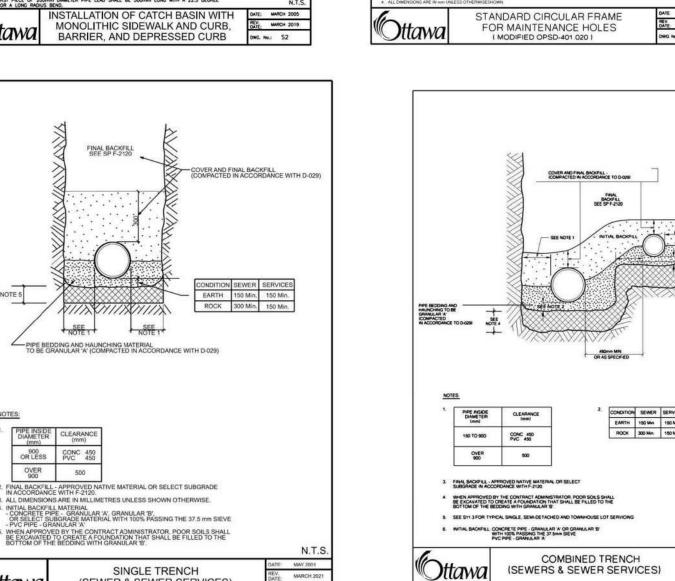


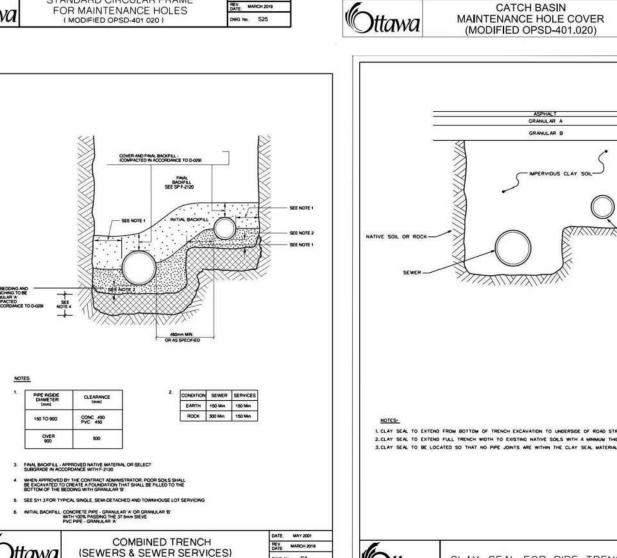


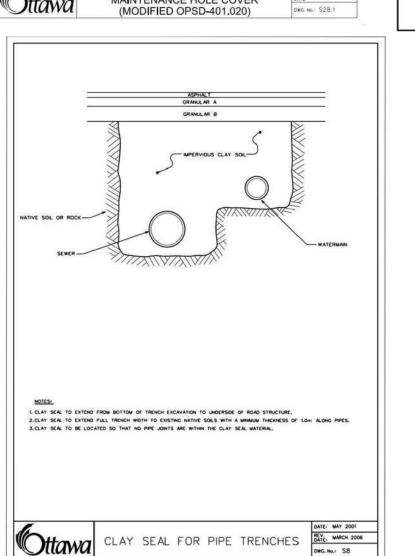
SEE NOTE 1

(SEWER & SEWER SERVICES)

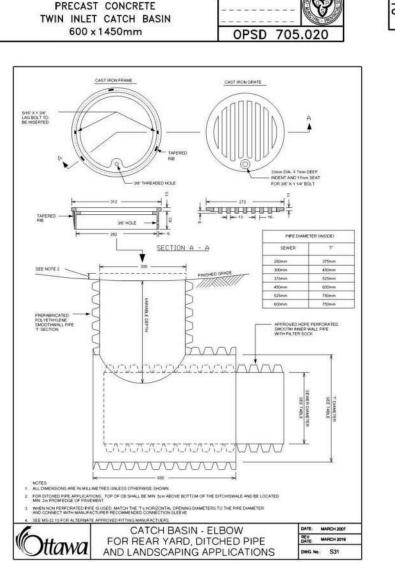
NOTES:

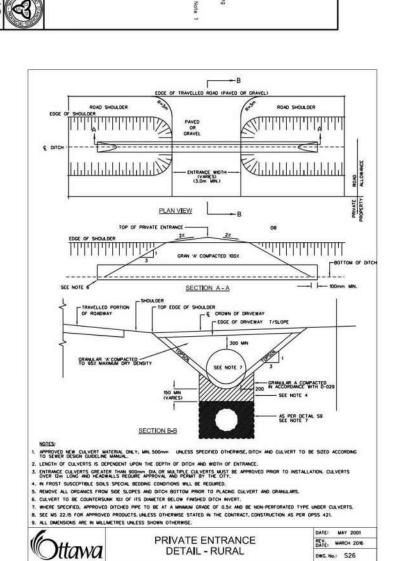


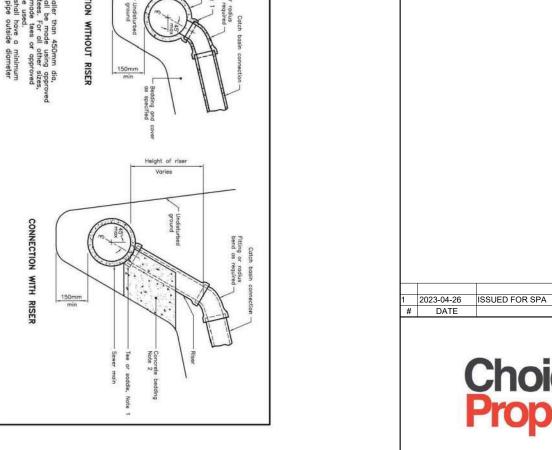


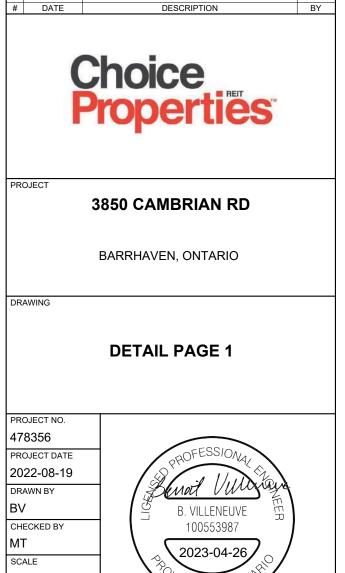


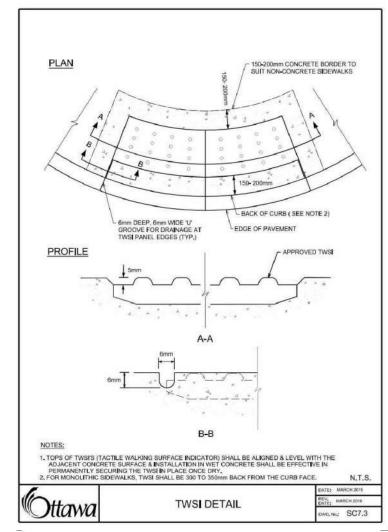
1. MATERIAL - OREY IRON. 2. FOR FRAME DETAIL SEE DETAIL DWG No. S25. 3. TOLERANCE +/-15mm. 4. FOR CATCHBASIN MAINTENANCE HOLE APPLICATIONS ONL

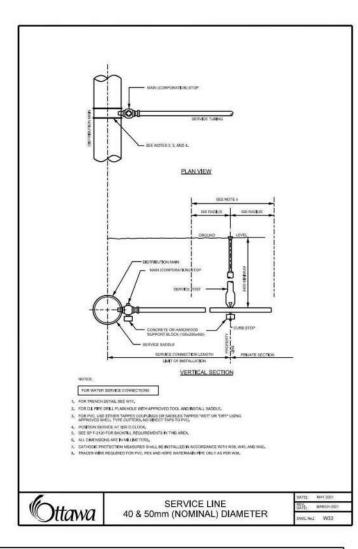


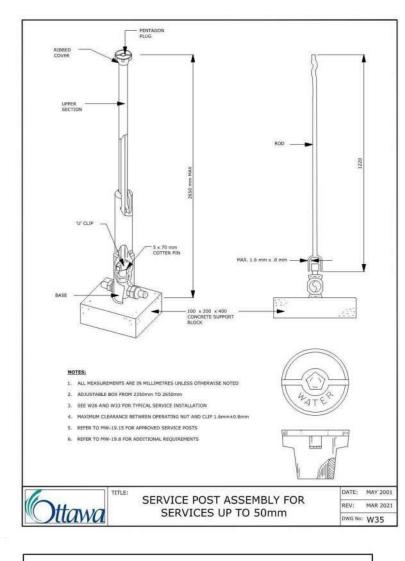


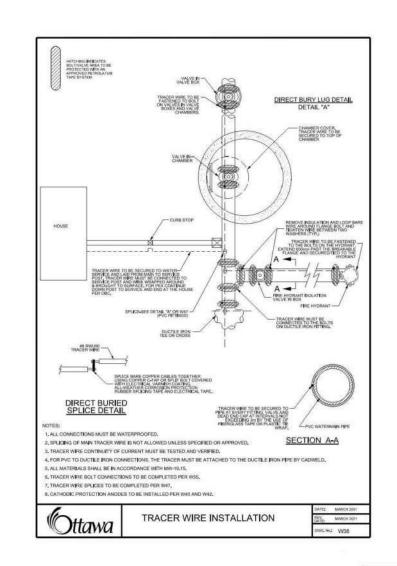


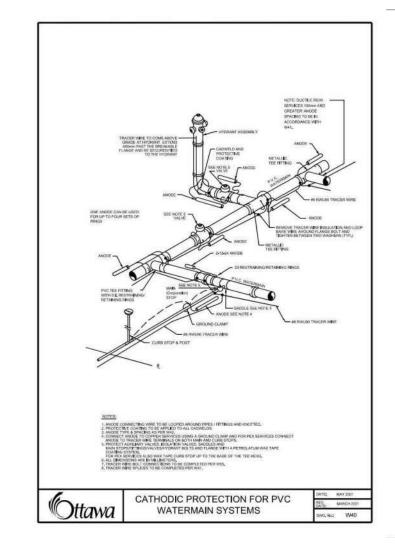


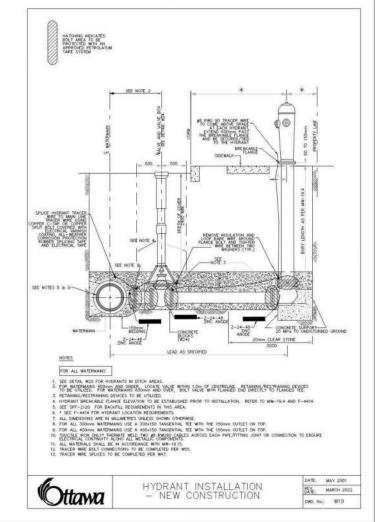


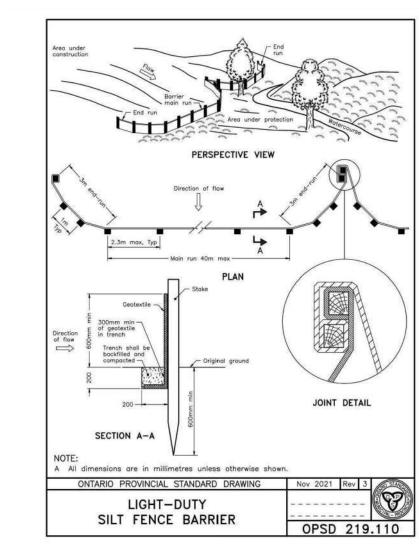


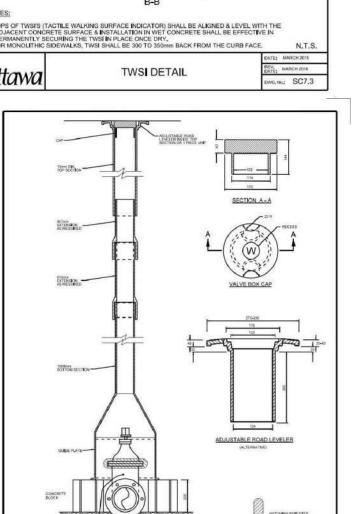












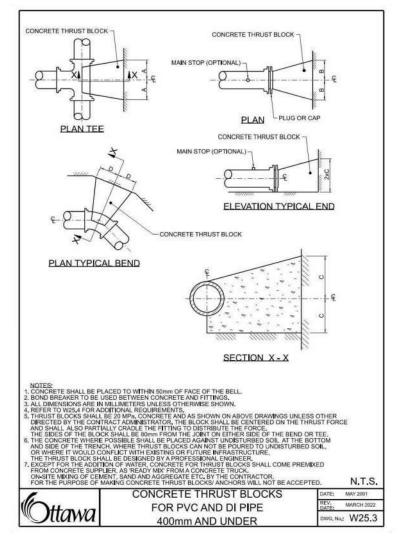
VALVE BOX ASSEMBLY

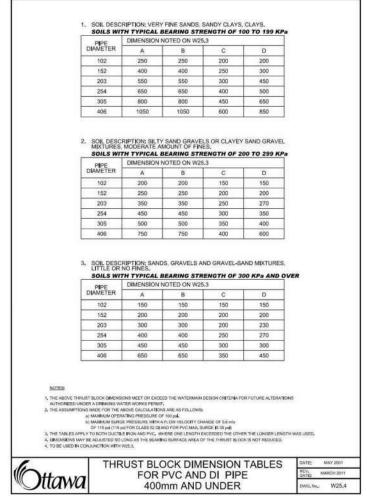
VALVE BOX

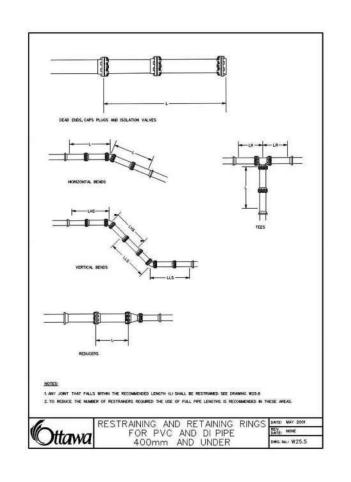
HOTES:
FOR ALUXEDARY SERVICES AND BOLATION VALVES.

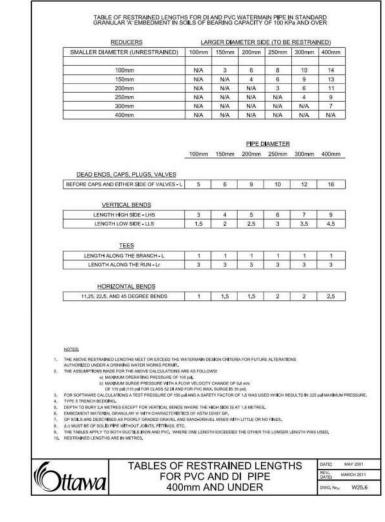
. ALL DIVERSIONS AND IN MILITARES UNLESS SHOWN OTHER. FOR 303 AND 250 NN VAVES, ADD SECOND SELOW THE CONTROL OF THE VALUE SOMETH.

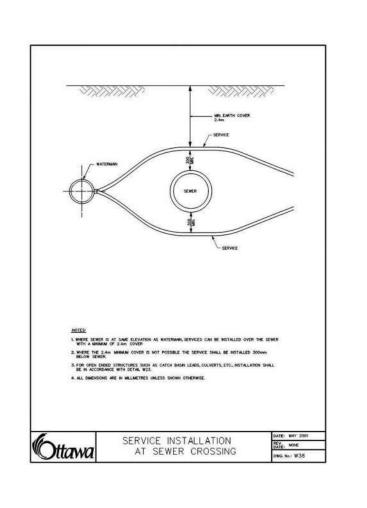
**Ottawa** 

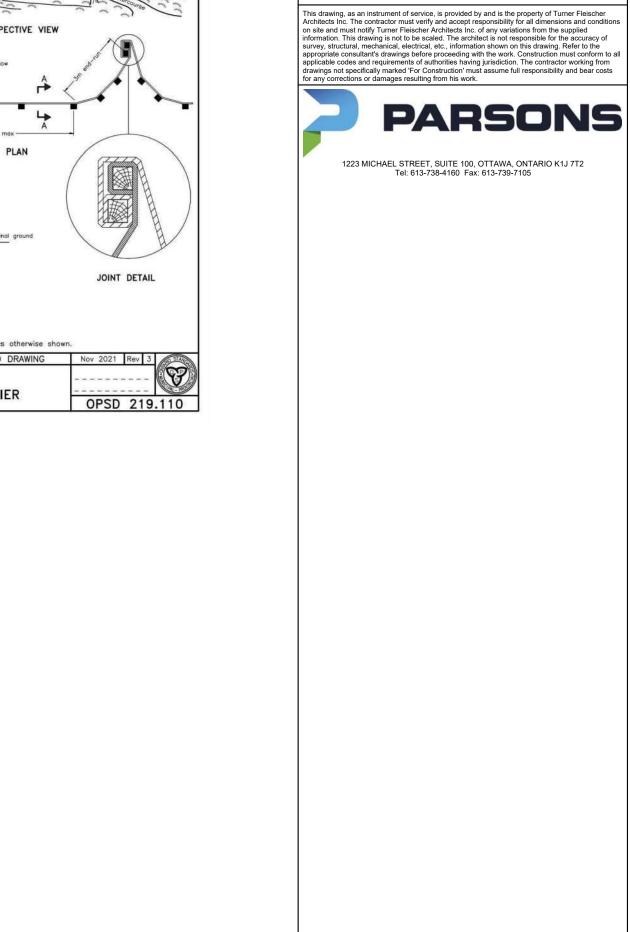










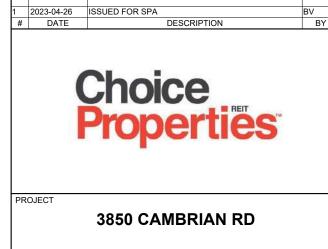


TURNER FLEISCHER

67 Lesmill Road

turnerfleischer.com

Toronto, ON, M3B 2T8 T 416 425 2222



BARRHAVEN, ONTARIO

VING

DETAIL PAGE 2

PROJECT NO.

478356

PROJECT DATE

2022-08-19

DRAWN BY

BV

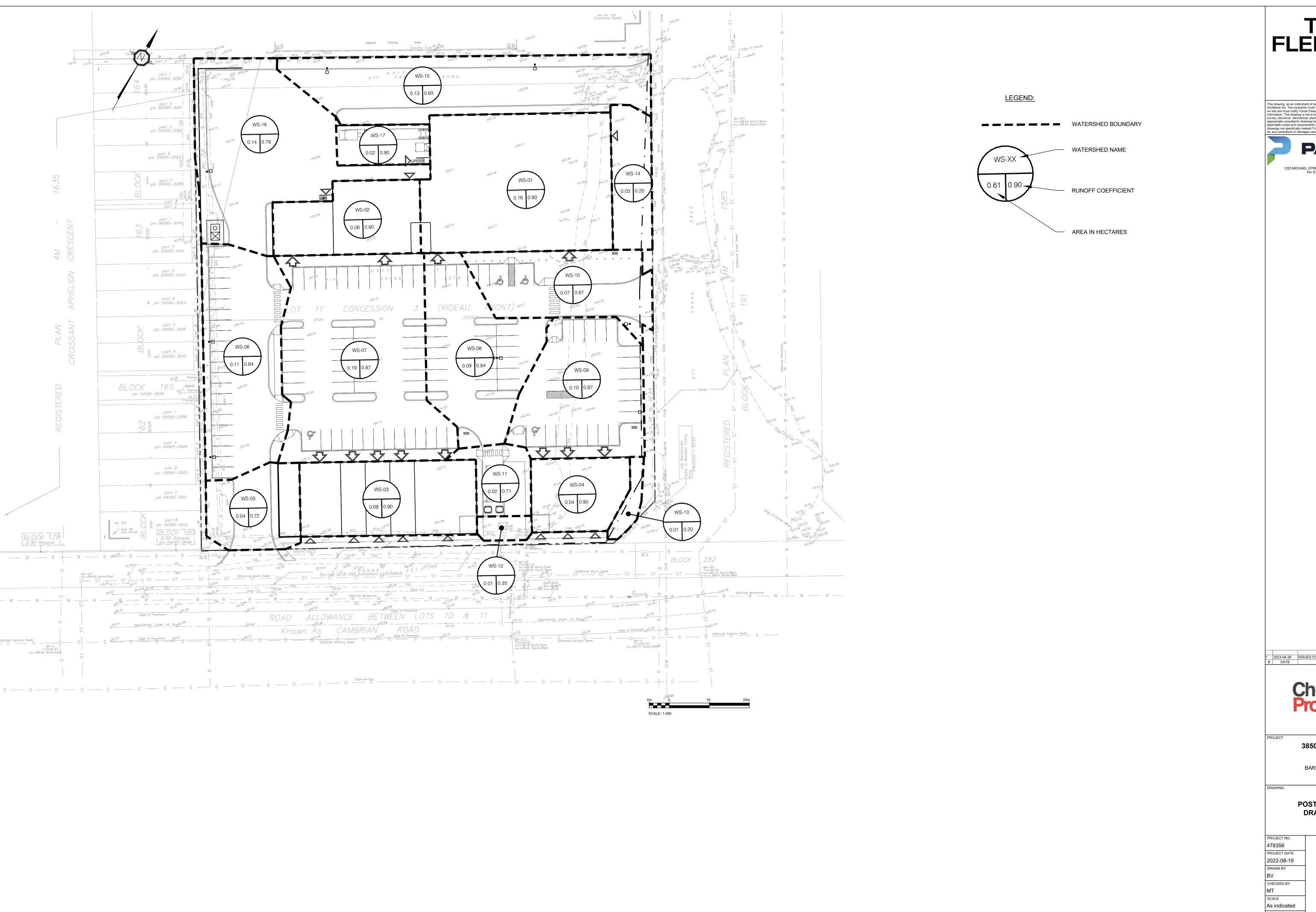
CHECKED BY

MT

SCALE

NTS

C105



TURNER FLEISCHER

67 Lesmill Road Toronto, ON, M3B 2T8 T 416 425 2222 turnerfleischer.com



1223 MICHAEL STREET, SUITE 100, OTTAWA, ONTARIO K1J 7T2 Tel: 613-738-4160 Fax: 613-739-7105

2023-04-26 ISSUED FOR SPA # DATE DESCRIPTION



3850 CAMBRIAN RD

BARRHAVEN, ONTARIO

POST-DEVELOPMENT **DRAINAGE AREAS** 



C106