

LEGEND:

- EXISTING PROPERTY LINE
- EXISTING WATERMAIN
- EXISTING V&VB
- EXISTING VALVE CHAMBER
- EXISTING SANITARY SEWER AND MAINTENANCE HOLE
- EXISTING STORM SEWER AND MAINTENANCE HOLE
- EXISTING GRADE
- EXISTING OVERHEAD HYDRO
- EXISTING GAS
- EXISTING BELL
- 4m x 10m CONSTRUCTION MUD MAT
- PROPOSED SILT FENCE AS PER OPSD 219.110
- ⊗ SILT SACK PER DETAIL D1
- ⊗ STRUCTURE TO BE REMOVED

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 OPSD 506
- 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 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 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 - OPSD 2501 AND CANCOSB-15-1) AND WATER WITH EQUIPMENT APPROVED BY THE OWNER'S REPRESENTATIVE AT RATE IN ACCORDANCE TO OPSD 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 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 APPROVED 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 SCRAPPED.
- 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 ADJACENT 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.

NOTES: REMOVALS AND DEMOLITION

1. PRE-REMOVAL, THE CONTRACTOR MUST VISIT THE PREMISES IN ORDER TO BE FULLY AWARE OF EXISTING CONDITIONS ON SITE, INCLUDING ALL ELEMENTS TO BE REMOVED AND DEMOLISHED. NO CLAIM WILL BE ACCEPTED DUE TO A POOR EVALUATION OF THE WORK TO BE COMPLETED.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND THE REQUEST FOR INTERRUPTION OF PUBLIC UTILITY SERVICES, SUCH AS GAS, TELEPHONE, POWER, CABLE, SEWERS, WATERMAIN, ETC. BEFORE PROCEEDING WITH WORK, COORDINATE WITH ALL APPLICABLE UTILITY COMPANIES.
3. FIRE HYDRANTS TO BE TAGGED AND BAGGED AND/OR PROTECTED AS INDICATED ON DRAWING.
4. CURBS, ASPHALT, SIDEWALK, AND GRANULAR BASE TO BE EXCAVATED WITHIN LIMITS OF DEMOLITION REMOVAL. THE CONTRACTOR MUST CARRY OUT NECESSARY SAW CUTS.
5. SEWER / WATERMAIN PIPES TO BE ABANDONED MUST BE CUT, FILL WITH UNSHRINKABLE CONCRETE CONFORMING TO OPSD 1359, AND CAPPED.
6. REMOVE AND DISPOSE SEWERS AS INDICATED. PLUG ANY SERVICE LATERALS TO BE ABANDONED.
7. THE CONTRACTOR MUST ENTIRELY REMOVE THE DEMOLITION WRECKAGE FROM THE CONSTRUCTION SITE OFFSITE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE (MOECC).
 - a. THE CONTRACTOR MUST DISCARD RECYCLABLE DEMOLITION MATERIALS IN COLLABORATION WITH A REGIONAL RECYCLING COMPANY.
 - b. ALL DEMOLITION MATERIALS MUST BE DISPOSED OFF-SITE AT AUTHORIZED LICENSED LANDFILLS AND IN CONFORMITY WITH THE APPLICABLE LAWS AND REGULATIONS. THE CONTRACTOR MUST BE ABLE TO PROVIDE, UPON REQUEST, COPIES OF THE DISPOSAL TICKETS TO THE OWNER'S REPRESENTATIVE.
8. SURFACES AND WORKS LOCATED OUTSIDE OF THE CONSTRUCTION WORK LIMIT MUST BE REINSTATED AS THEY WERE BEFORE BEGINNING OF WORK. CONTRACTOR IS RESPONSIBLE TO MAKE GOOD ON ANY DAMAGES TO EXISTING CURB AND ASPHALT NOT SCHEDULED FOR REMOVAL.
9. ALL MATERIALS, PRODUCTS AND OTHERS COMING FROM THE DEMOLITION BELONG TO THE CONTRACTOR, UNLESS SPECIFIED OTHERWISE.
10. THE CONTRACTOR MUST COMPLETE ALL REMOVALS AS SHOWN ON THE DRAWINGS AND AS REQUIRED TO MAKE THE WORK COMPLETE.
11. THE CONTRACTOR MUST PROTECT AND MAINTAIN IN SERVICE THE EXISTING WORKS WHICH MUST REMAIN IN PLACE. IF THEY ARE DAMAGED, THE CONTRACTOR MUST IMMEDIATELY MAKE THE REPLACEMENTS AND NECESSARY REPAIRS TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AND WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
12. THE CONTRACTOR MUST NOT PERFORM ANY TREE CUTTING DURING THE CORE MIGRATORY BIRDS NESTING PERIOD, WHICH IS APRIL 15 TO AUGUST 15.

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TOPOGRAPHIC INFORMATION & BENCHMARK
 SURVEY COMPLETED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. ON MARCH 28, 2023. ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM, DERIVED FROM CONTROL MONUMENT NO. 019680071 HAVING AN ELEVATION OF 99.742m.

#	DATE	ISSUED FOR	DESCRIPTION	BY
1	2023-05-01	ISSUED FOR SPA		BY

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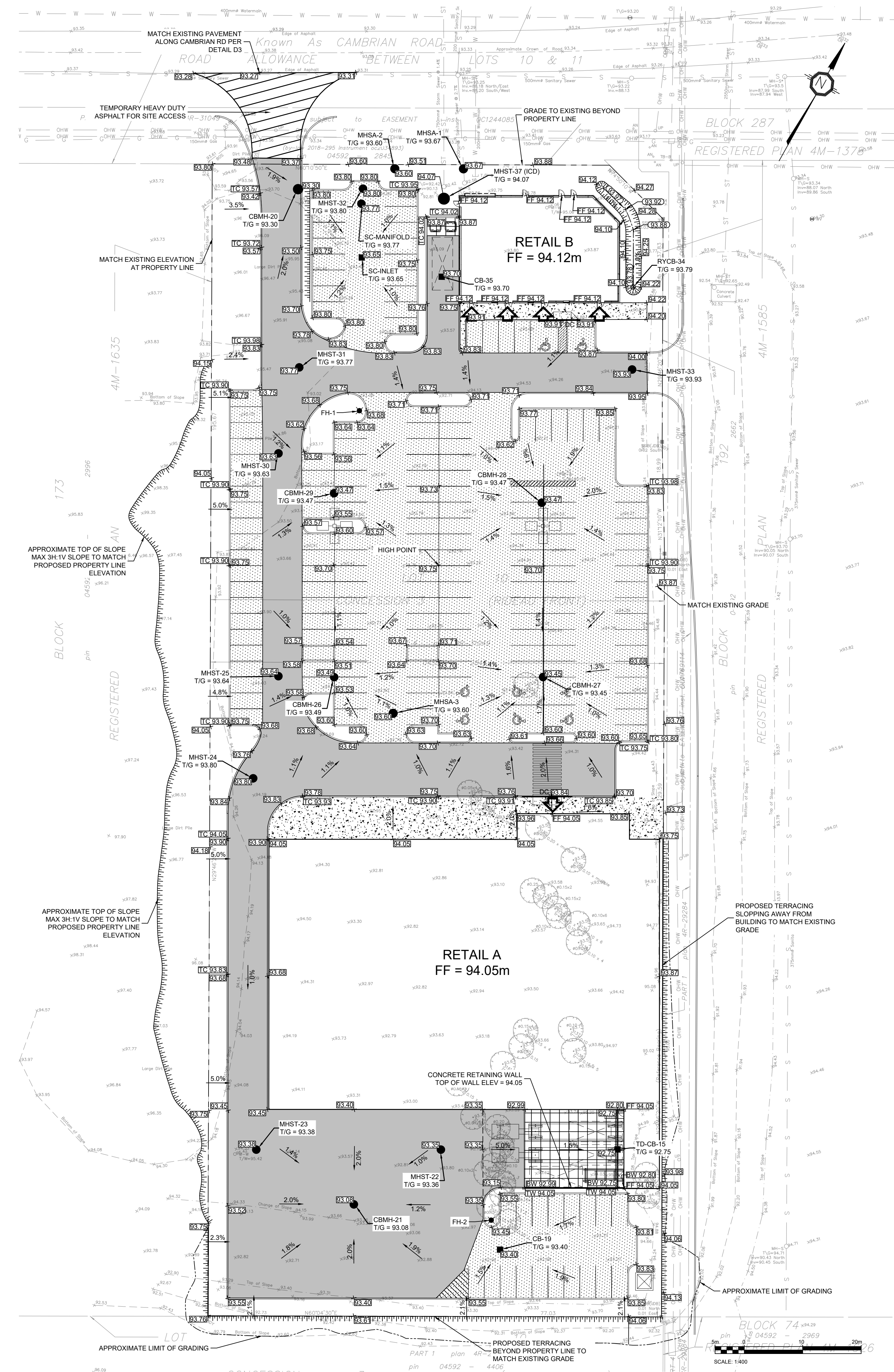
PROJECT
 3845 CAMBRIAN RD
 BARRHAVEN, ONTARIO

EROSION/SEDIMENT CONTROL & REMOVALS PLAN

PROJECT NO. 478575
PROJECT DATE 2023-02-27
DRAWN BY BY
CHECKED BY MT
SCALE As indicated



DRAWING NO. C101	REV. 1
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LEGEND:

- EXISTING PROPERTY LINE
- PROPOSED DITCH/SWALE CENTERLINE
- ===== TERRACE (3:1 MAX)
- EXISTING GRADE
- 99.99 PROPOSED GRADE
- 99.99 PROPOSED TOP OF WALL GRADE
- 99.99 PROPOSED BOTTOM OF WALL GRADE
- 99.99 PROPOSED FINISHED FLOOR ELEVATION
- 99.99 PROPOSED TOP OF CURB ELEVATION
- 99.99 PROPOSED CENTRELINE OF DITCH/SWALE GRADE
- 9.9% PROPOSED SLOPE DIRECTION AND PERCENTAGE
- PROPOSED STORM MAINTENANCE HOLE
- PROPOSED SANITARY MAINTENANCE HOLE
- PROPOSED CATCH BASIN
- PROPOSED REAR YARD CATCH BASIN AS PER CITY STD DWG 531
- ▨ PROPOSED LIGHT DUTY PAVEMENT
- ▨ PROPOSED HEAVY DUTY PAVEMENT
- ▨ PROPOSED TEMPORARY HEAVY DUTY PAVEMENT
- ▨ PROPOSED CONCRETE SIDEWALK
- ▨ PROPOSED CONCRETE STRUCTURAL SLAB PER STRUCTURAL
- ▨ PROPOSED CONCRETE CURB
- ▨ PROPOSED DEPRESSED CONCRETE CURB WITH TWIS PER CITY STD DWG SC7.3
- ▨ PROPOSED LIGHT STANDARD
- APPROXIMATE LIMIT OF GRADING ON NEIGHBOURING PROPERTY

PAVEMENT STRUCTURES

MATERIAL	LIGHT DUTY	HEAVY DUTY	COMPACTION
SURFACE LAYER : HL3	65 mm	40 mm	≥ 96%*
BASE LAYER : HL8	--	60 mm	≥ 96%*
GRANULAR BASE : OPSS.MUNI 1010 GRANULAR A	150 mm	150 mm	100%**
GRANULAR SUB-BASE : OPSS.MUNI 1010 GRANULAR B	300 mm	450 mm	100%**

*MINIMUM PAVEMENT COMPACTION BASED ON MARSHALL DENSITY TEST
 **OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY
 SOURCE: GEOTECHNICAL INVESTIGATION, WEST OF CAMBRIAN ROAD AND GREENBANK ROAD, BARRHAVEN, ONTARIO, BY TORONTO INSPECTION LTD, DATED NOVEMBER 13, 2018

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 OTHERWISE INDICATED.
- 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 UTILITIES (ON-SITE AND OFF-SITE) PRIOR TO ANY EXCAVATION WORK. DAMAGE TO 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.
- 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 OF EXISTING CONDUITS. 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.
- 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. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
- THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK AND ACTIVITIES WITH OTHER TRADES AND CONTRACTORS.
- THE CONTRACTOR IS THE ONLY PERSON IN CHARGE OF SAFETY ON THE BUILDING SITE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE 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 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.
- CONTRACTOR IS RESPONSIBLE TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE ALL THE WORKS AND ACTIVITIES AND BEAR COST OF THE SAME, SUCH AS BUT NOT LIMITED TO: ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC. AND THEIR ASSOCIATED COSTS.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
- 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.
- ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
- IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION, DEWATERING OF EXCAVATIONS WILL BE REQUIRED. IT IS ASSUMED THAT GROUNDWATER SHALL 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.
- 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.
- ABUTTING PROPERTY GRADE TO BE MATCHED.
- 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.
- CURBS TO BE BARRIER, CONSTRUCTED AS PER OPSS 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.
- DEPRESSED CURBS TO BE MOUNTABLE, CONSTRUCTED AS PER OPSS 600.100.
- LIGHT DUTY AND HEAVY DUTY ASPHALT PAVEMENTS TO BE CONSTRUCTED AS PER TABLE ON DRAWING C10.
- TRANSITION BETWEEN EXISTING AND PROPOSED PAVEMENT SHALL BE CONSTRUCTED AS PER DETAIL D3 ON DRAWING C104.
- RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.
- 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, EQUIPMENT AND TEMPORARY STRUCTURES WHICH ARE NO LONGER NECESSARY FOR THE EXECUTION OF THE CONTRACT MUST BE REMOVED FROM THE SITE.
- CONTRACTOR TO ENSURE MITIGATION MEASURES ARE IMPLEMENTED TO REDUCE THE RISK OF GROUND CONTAMINATION FROM PETROLEUM PRODUCTS.
- THE CONTRACTOR MUST ENSURE THE FOLLOWING MEASURES ARE IMPLEMENTED REGARDING THE HANDLING OF CONCRETE:
 - 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 EQUIPMENT USED FOR MIXING CONCRETE SHOULD NOT BE CARRIED OUT WITHIN 30 METERS OF A WATERCOURSE OR WETLAND AND SHOULD TAKE PLACE OUTSIDE OF THE WORK SITE;
 - ALL CONCRETE TRUCKS SHOULD COLLECT THEIR WASH WATER AND RECYCLE IT BACK INTO THEIR TRUCKS FOR DISPOSAL OFF-SITE AT A LOCATION MEETING ALL REGULATORY REQUIREMENTS.
- THE CONTRACTOR SHALL ENSURE THAT ALL EXCAVATED SURPLUS MATERIALS THAT WILL BE REQUIRED TO BE DISPOSED OFFSITE BE STOCKPILED TEMPORARILY FOR SAMPLING PRIOR BEING LOADED OFFSITE.
- MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
- TRENCHING, BACKFILLING AND COMPACTING MUST CONFORM TO OPSS 401.
- DEWATERING OF PIPELINE, UTILITY AND ASSOCIATED STRUCTURE EXCAVATIONS TO BE COMPLETED AS PER OPSS 517.
- THE CONTRACTOR MUST CONTROL SURFACE RUNOFF FROM PRECIPITATION DURING CONSTRUCTION.
- FOR ALL GEOTECHNICAL WORK, CONTRACTOR TO REFER TO "GEOTECHNICAL INVESTIGATION WEST OF CAMBRIAN ROAD AND GREENBANK ROAD, BARRHAVEN, ONTARIO, BY TORONTO INSPECTION LTD, DATED NOVEMBER 13, 2018"
- 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.
- 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.
- 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.
- CONSTRUCT SIDEWALK EXPANSION JOINTS & CONTROL JOINTS AS PER OPSS 310.020.
- CONSTRUCT CONCRETE SIDEWALK AS PER OPSS 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.
- 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.
- 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 SEWER.
- 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.
- 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.

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1	2023-05-01	ISSUED FOR SPA		BY

Loblaw Companies Limited

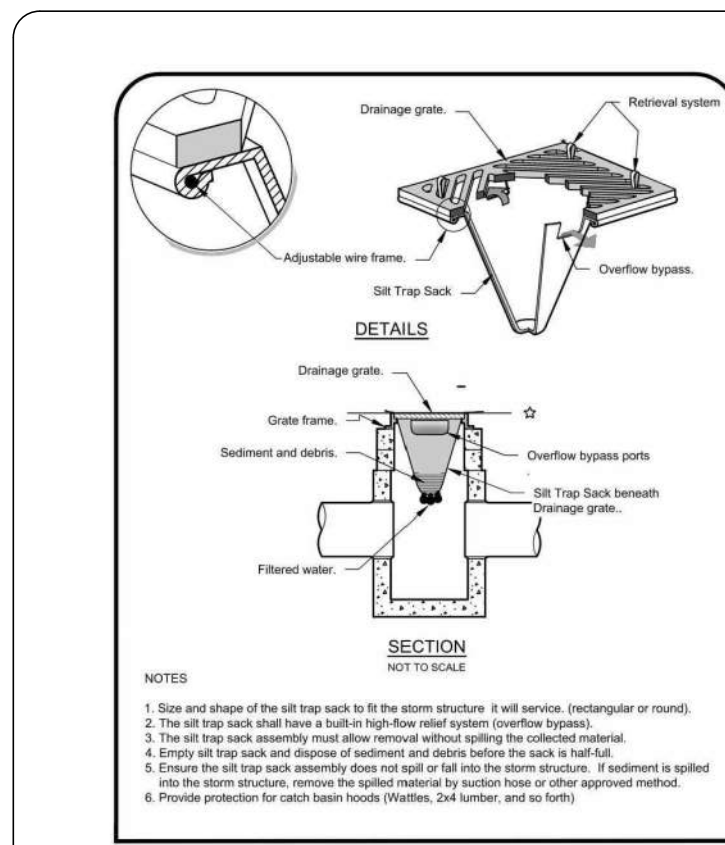
PROJECT: **3845 CAMBRIAN RD**
 BARRHAVEN, ONTARIO

DRAWING: **GRADING PLAN**

PROJECT NO: **478575**
 PROJECT DATE: **2023-02-27**
 DRAWN BY: **BY**
 CHECKED BY: **MT**
 SCALE: **As indicated**



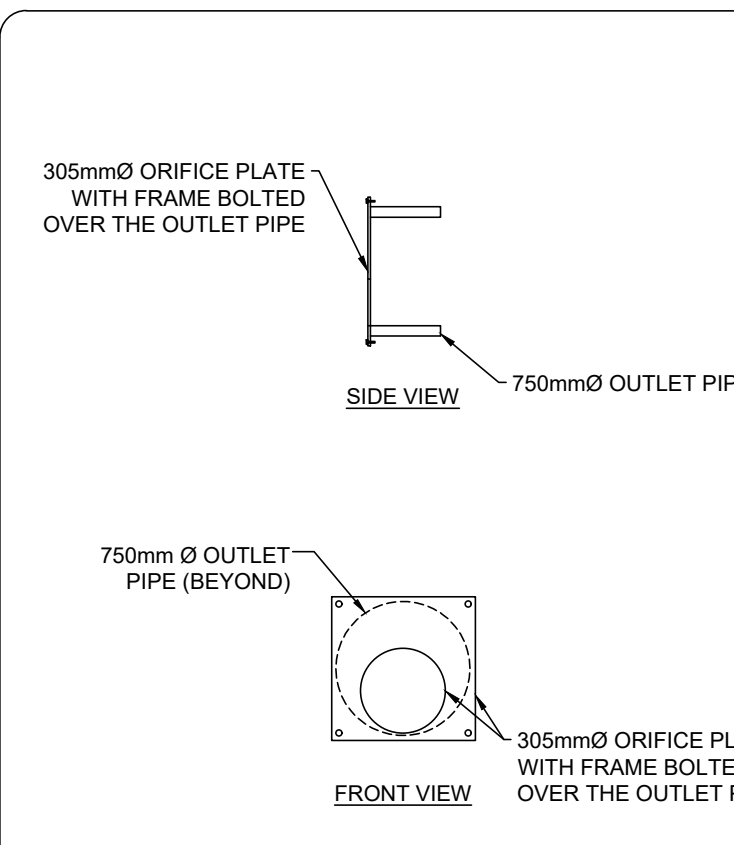
DRAWING NO: **C103** REV: **1**



SILT SACK DETAIL

PARSONS

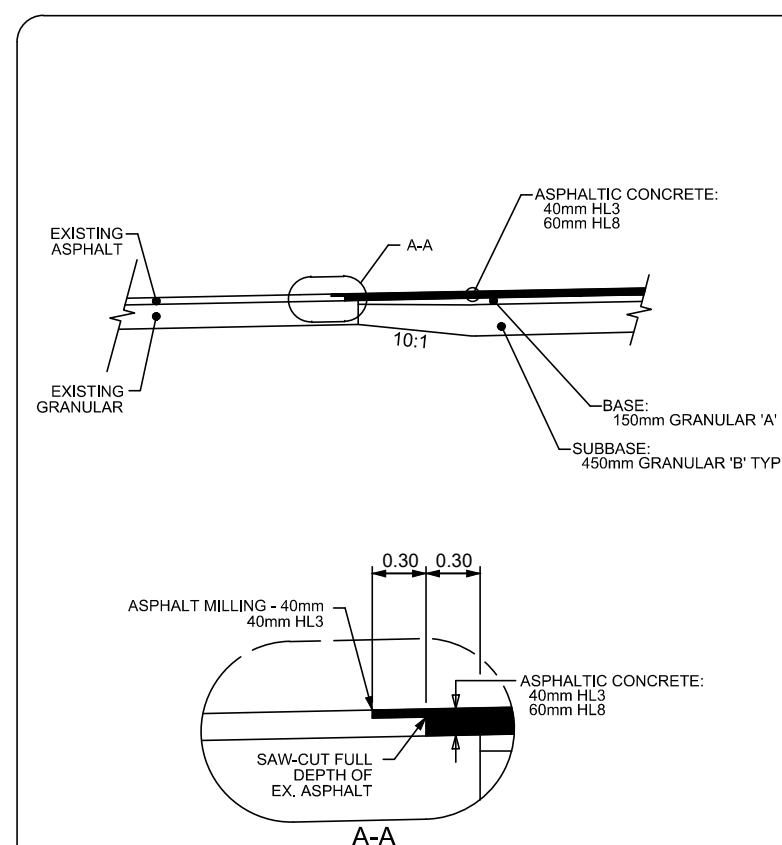
D1



FRAME & PLATE ICD

PARSONS

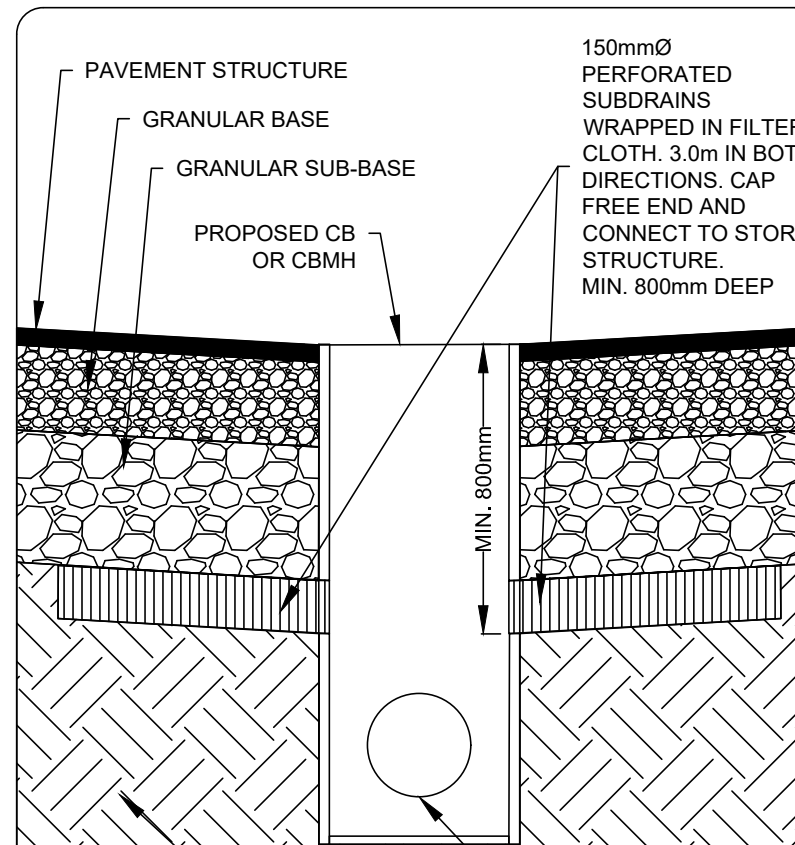
D2



NEW TO EXISTING PAVEMENT PERPENDICULAR TRANSITION DETAIL

PARSONS

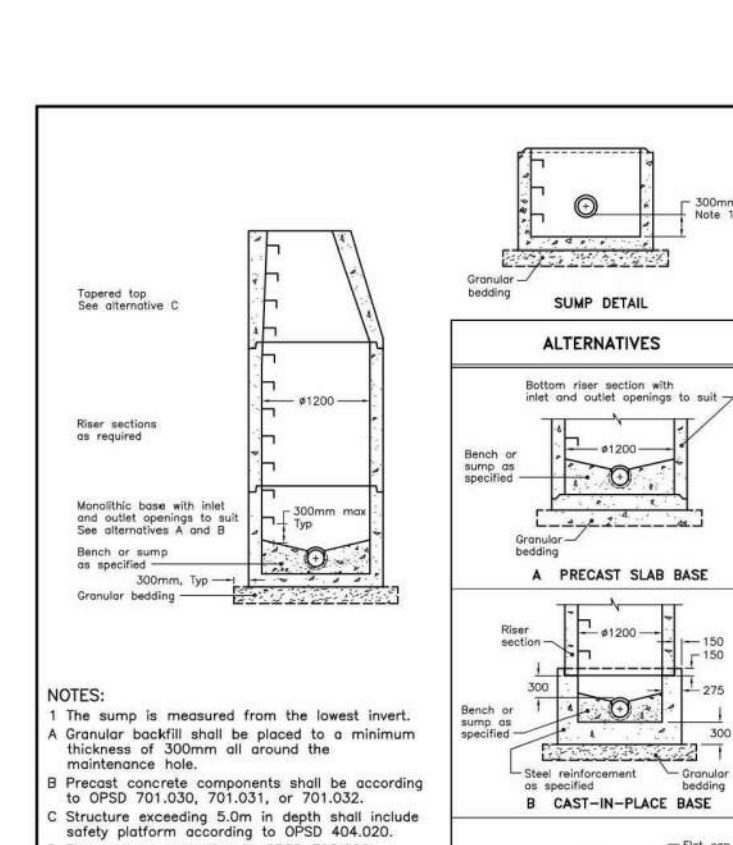
D3



TYPICAL SUBDRAIN DETAIL

PARSONS

D4

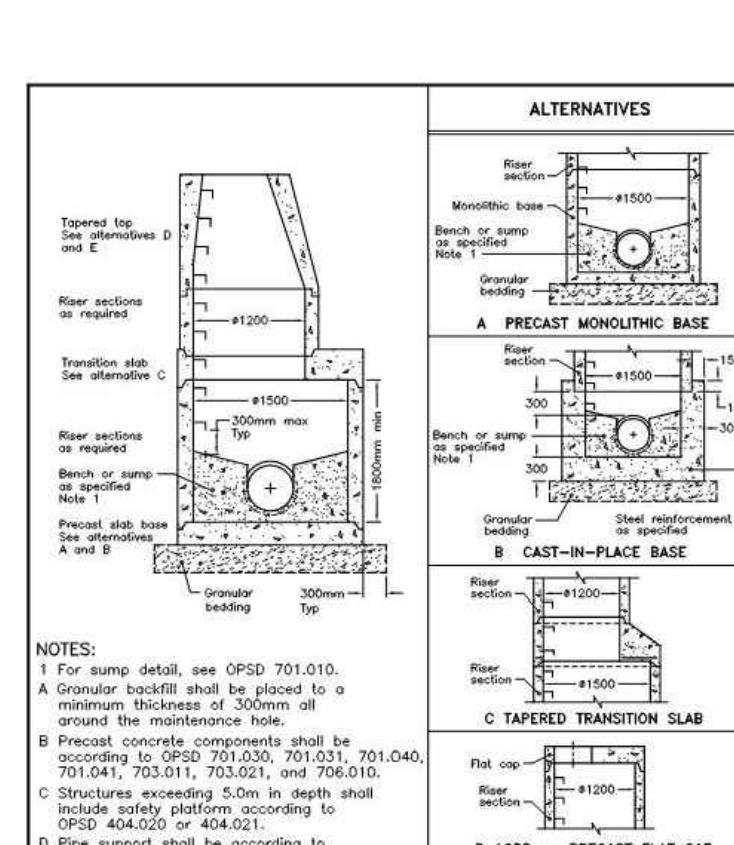


PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2014 (Rev 1)

OPSD 701.010

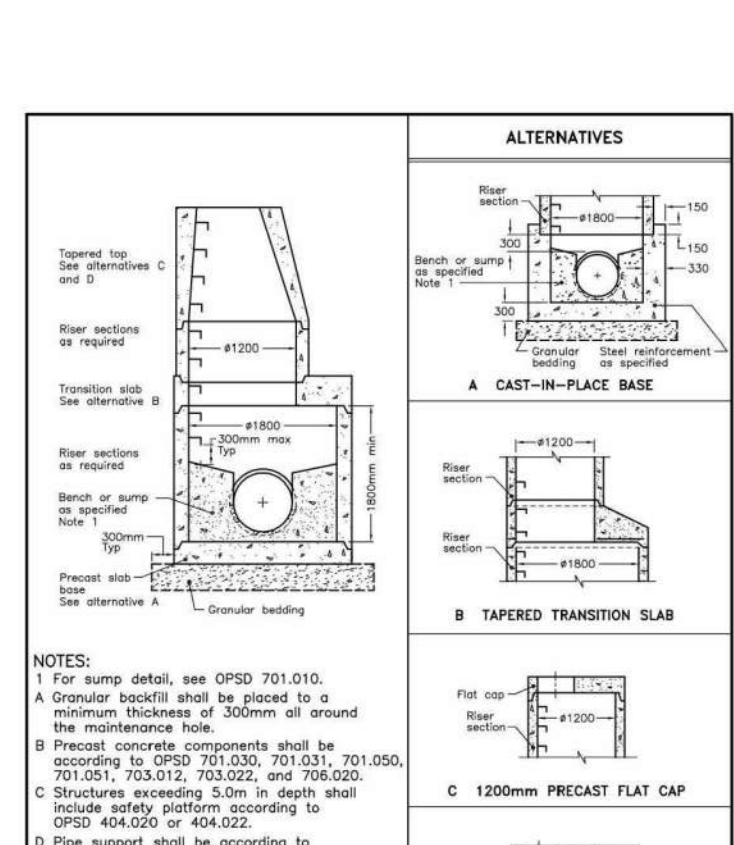


PRECAST CONCRETE MAINTENANCE HOLE 1500mm DIAMETER

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2014 (Rev 1)

OPSD 701.011



PRECAST CONCRETE MAINTENANCE HOLE 1800mm DIAMETER

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2014 (Rev 1)

OPSD 701.012

TURNER FLEISCHER

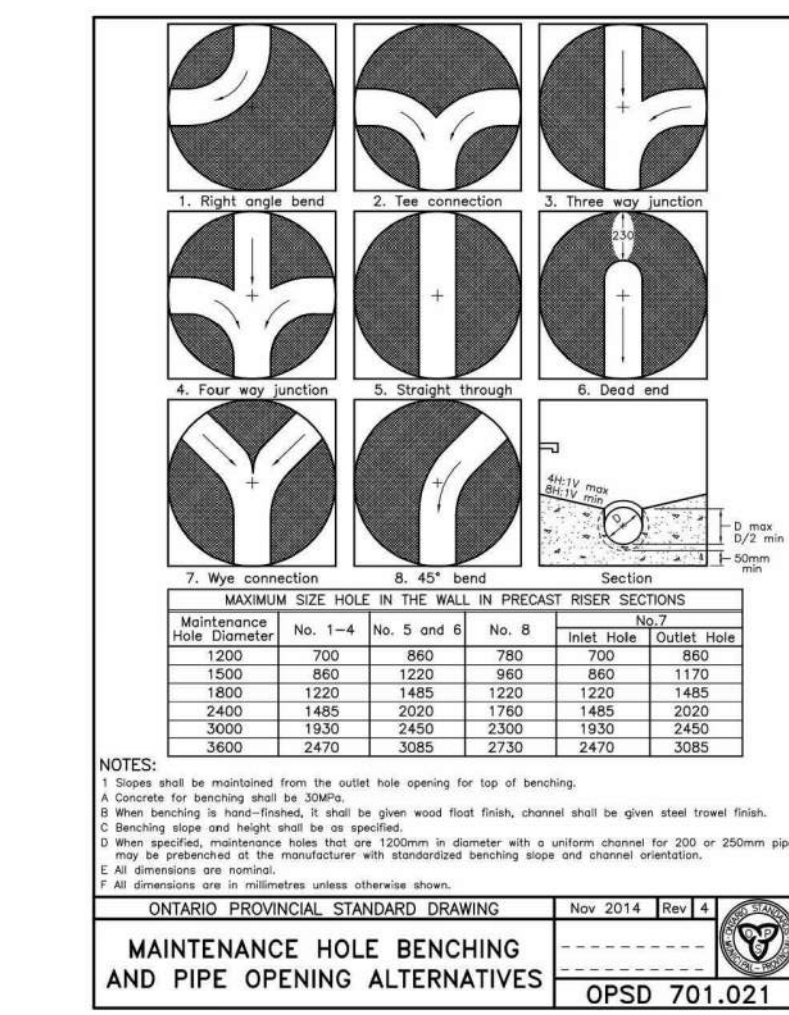
Turner Fleischer Architects Inc.

67 Lansall Road
Toronto, ON, M5B 2T8
T 416 425 2222
turnerfleischer.com

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PARSONS

1223 MICHAEL STREET, SUITE 1100, OTTAWA, ONTARIO K1J 1T2
Tel: 613-738-4160 Fax: 613-739-7105

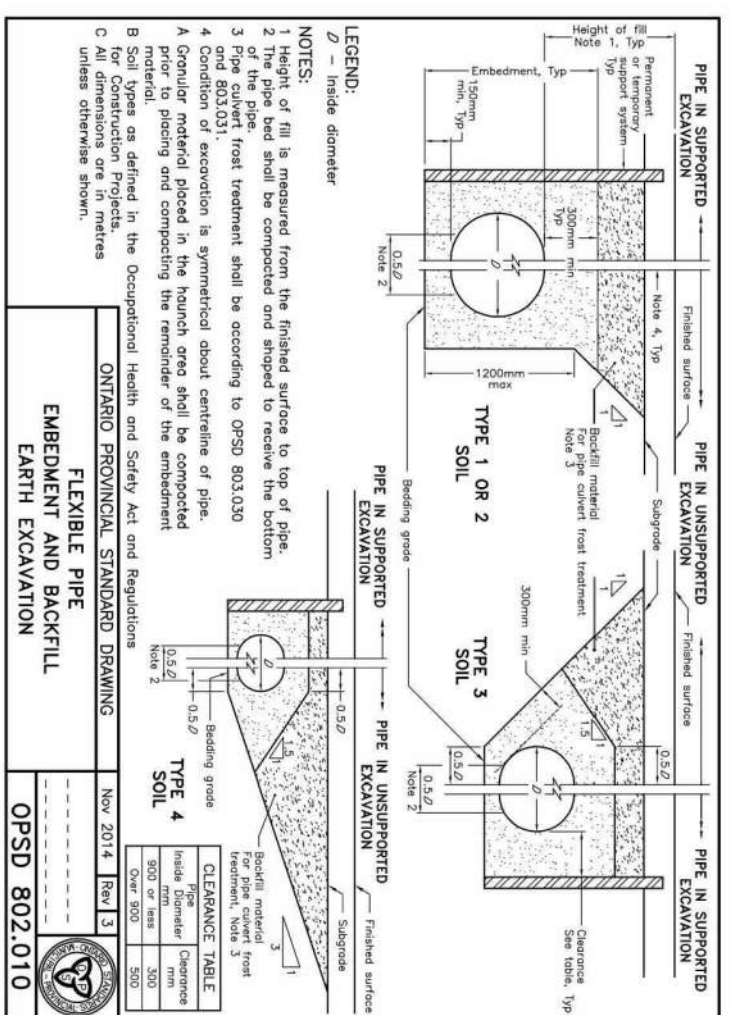


MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2014 (Rev 1)

OPSD 701.021

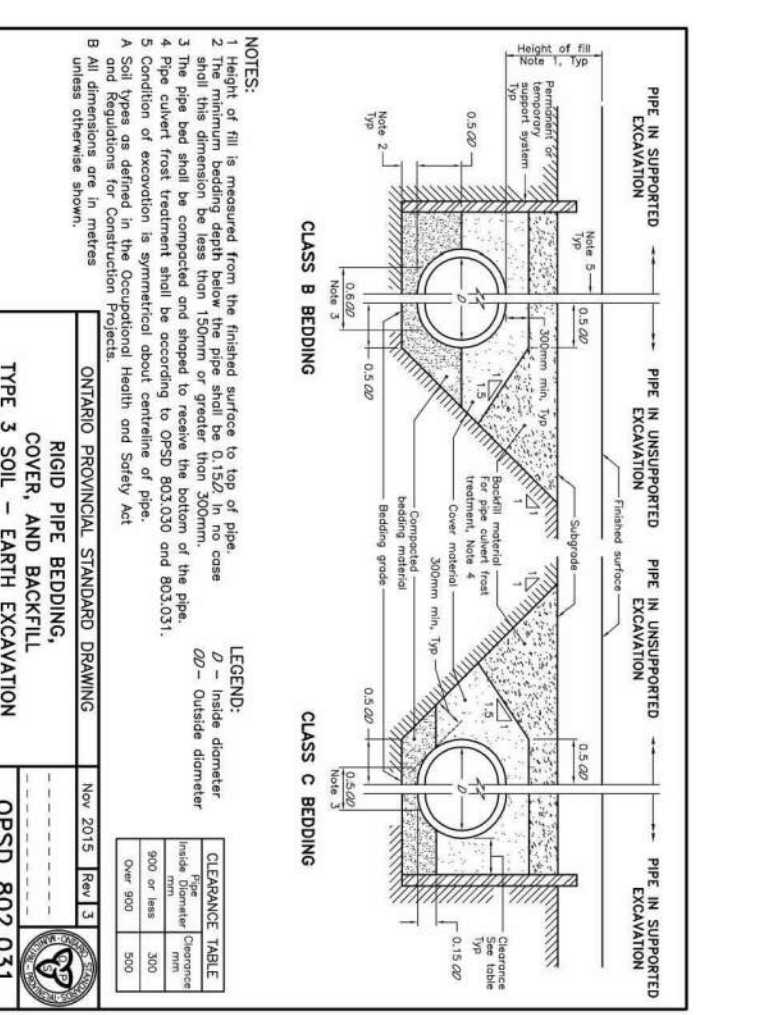


EMBEDMENT AND BACKFILL

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2014 (Rev 1)

OPSD 802.010

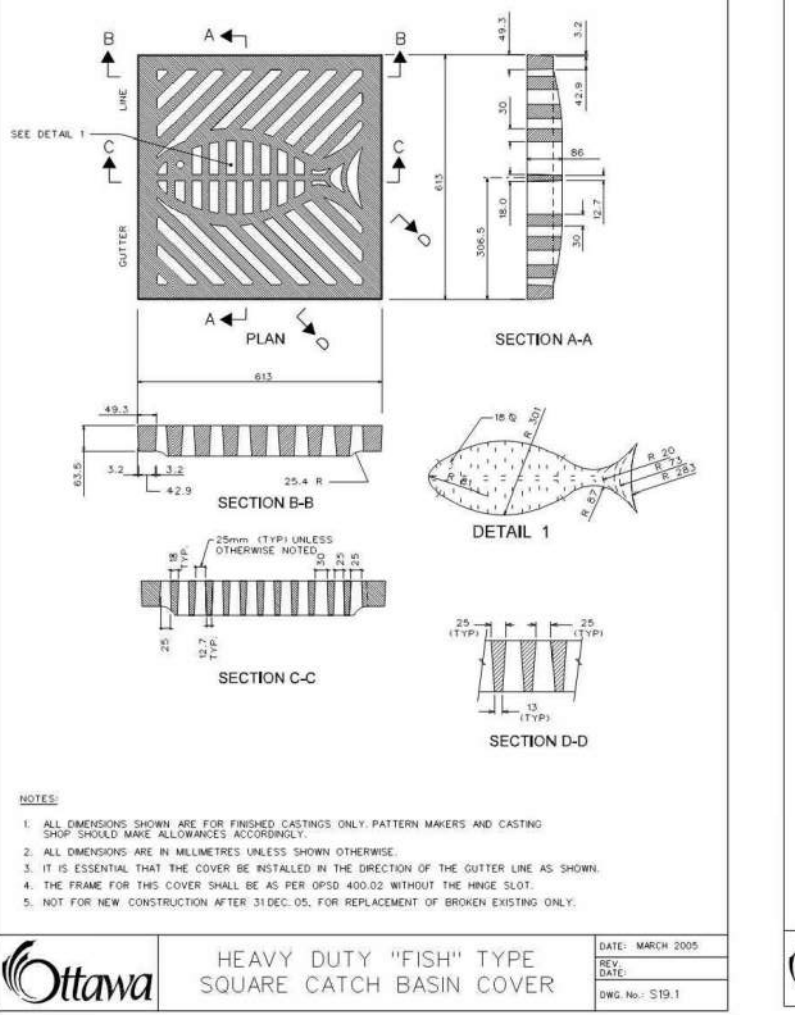


TYPE 3 COVER AND BACKFILL

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2014 (Rev 1)

OPSD 802.031



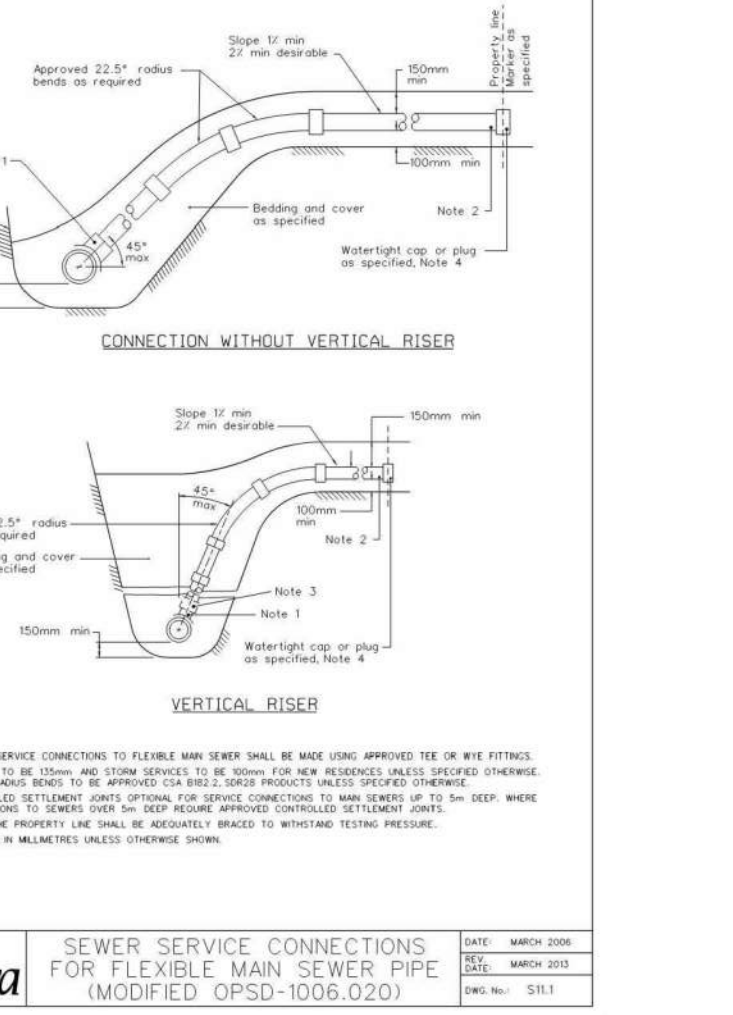
HEAVY DUTY "FISH" TYPE SQUARE CATCH BASIN COVER

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



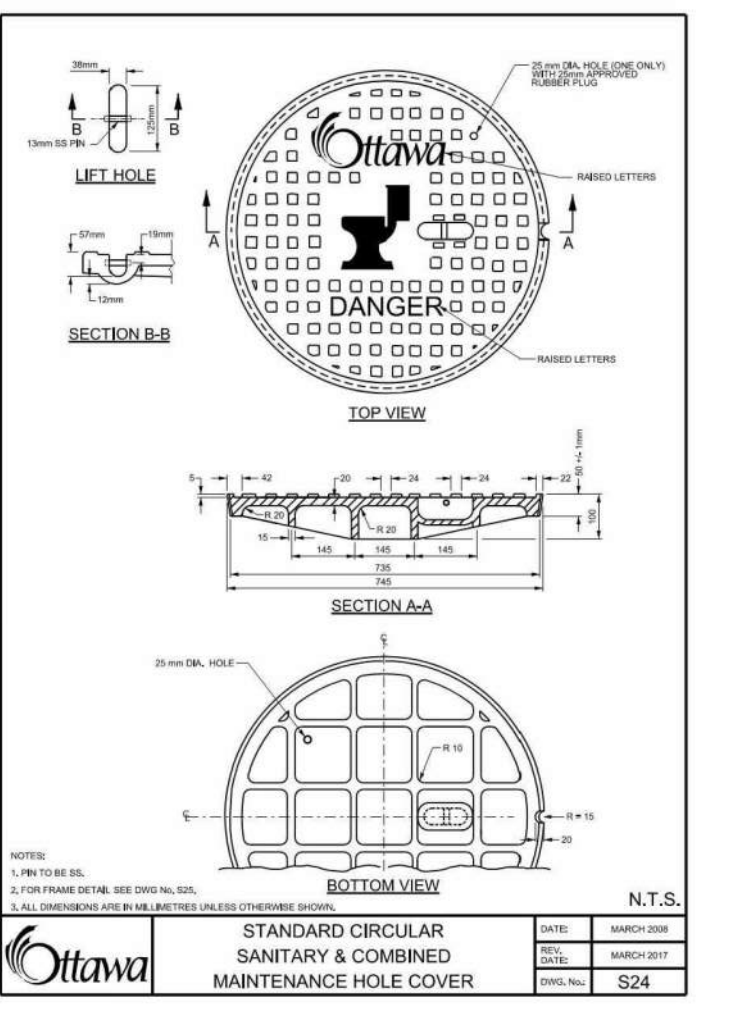
SEWER SERVICE CONNECTIONS FOR FLEXIBLE MAN SEWER PIPE (MODIFIED OPSD-1006.020)

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



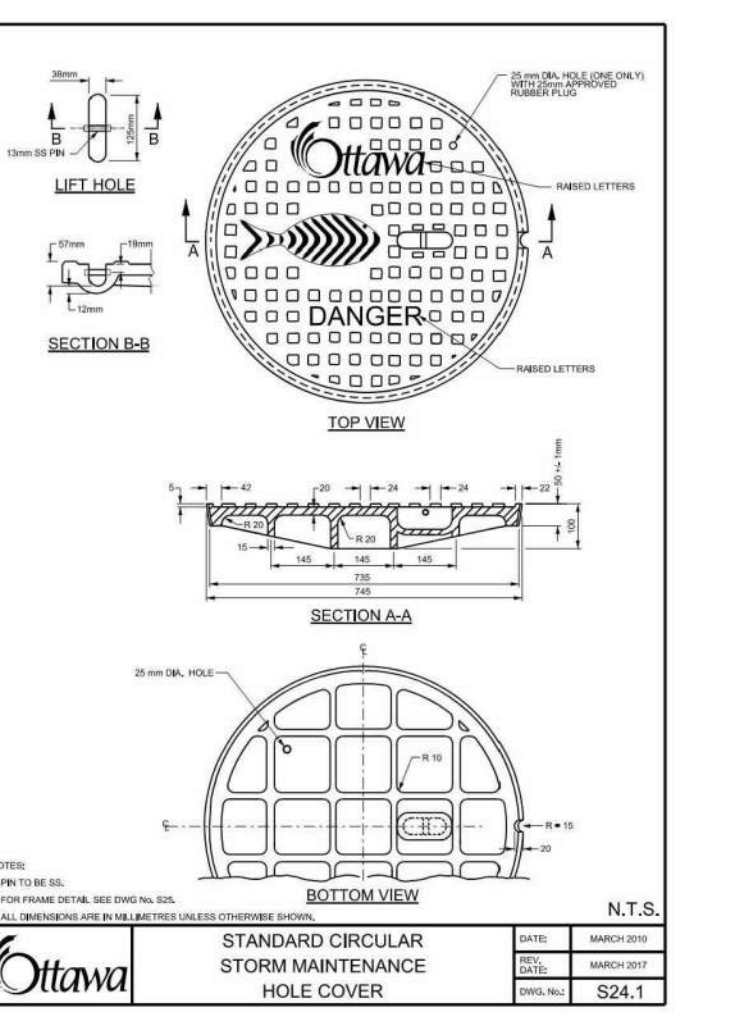
STANDARD CIRCULAR SANITARY & COMBINED MAINTENANCE HOLE COVER

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



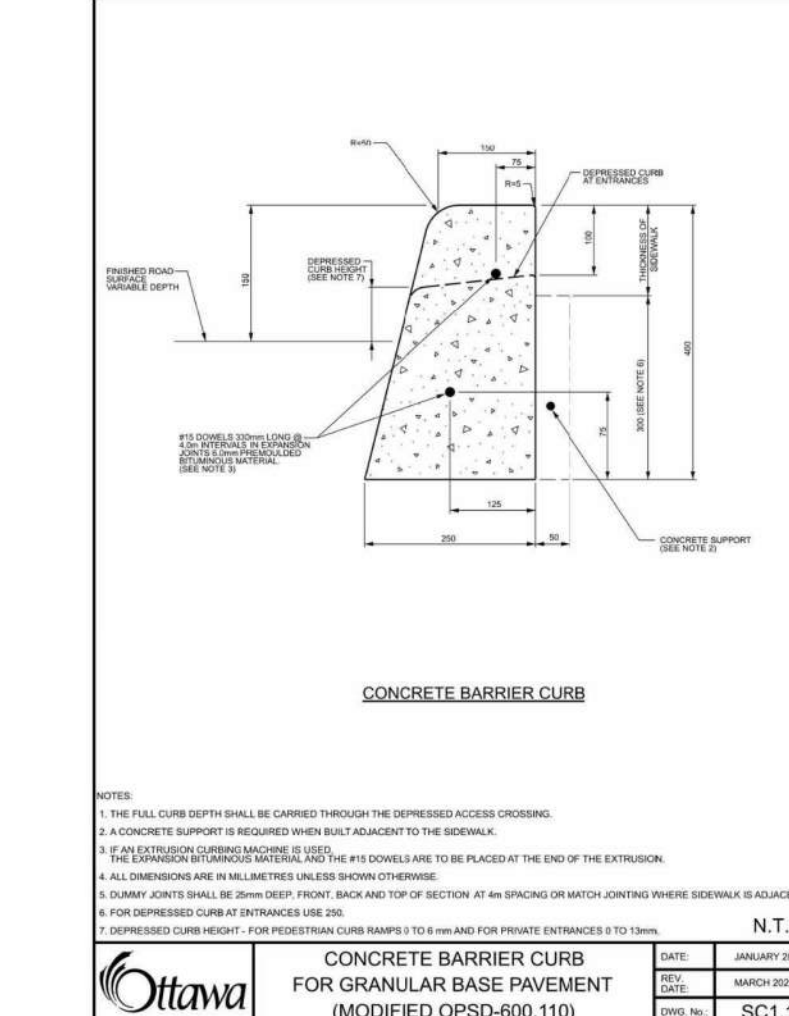
STANDARD CIRCULAR STORM MAINTENANCE HOLE COVER

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



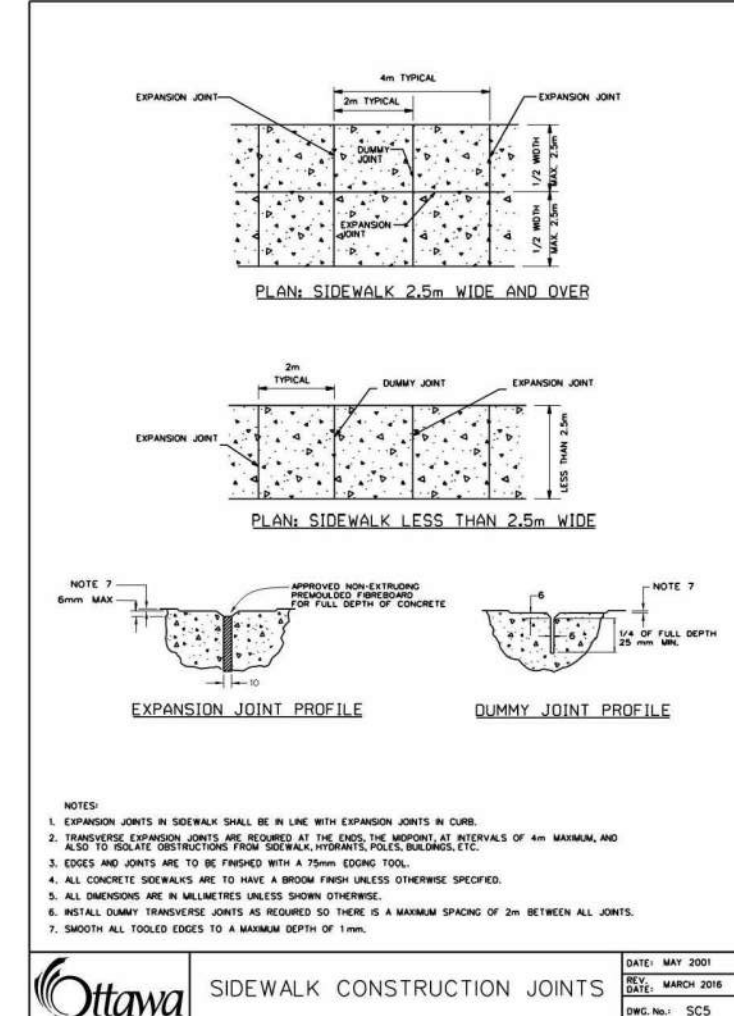
CONCRETE BARRIER CURB FOR GRANULAR BASE PAVEMENT (MODIFIED OPSD-600.119)

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



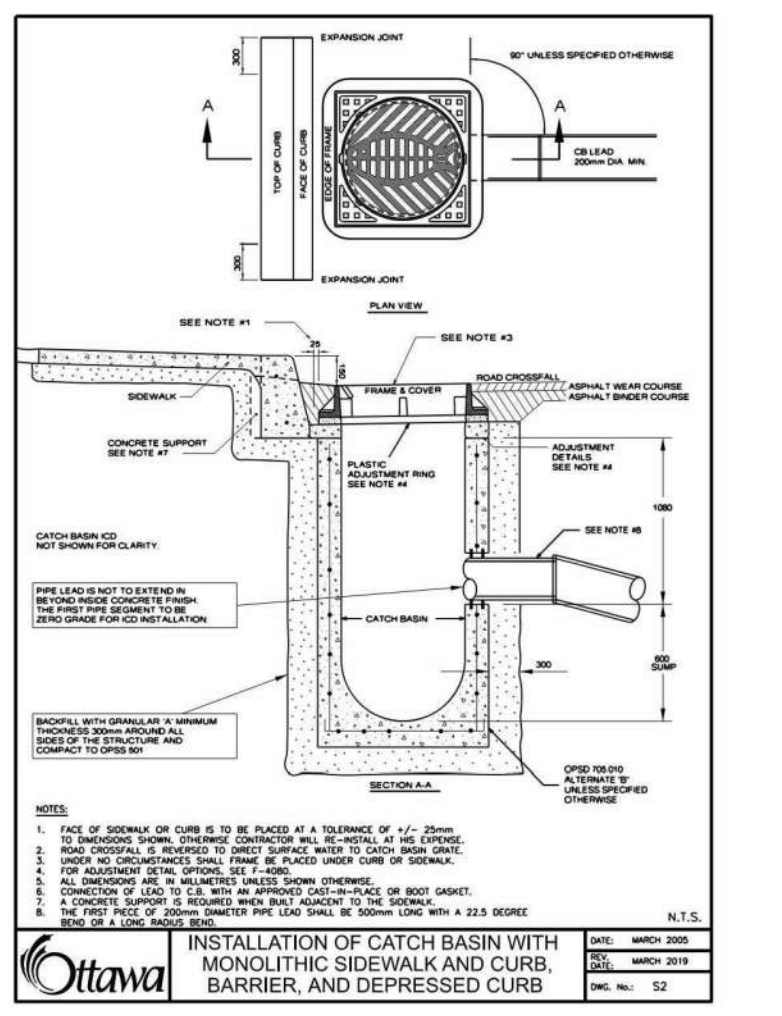
SIDEWALK CONSTRUCTION JOINTS

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



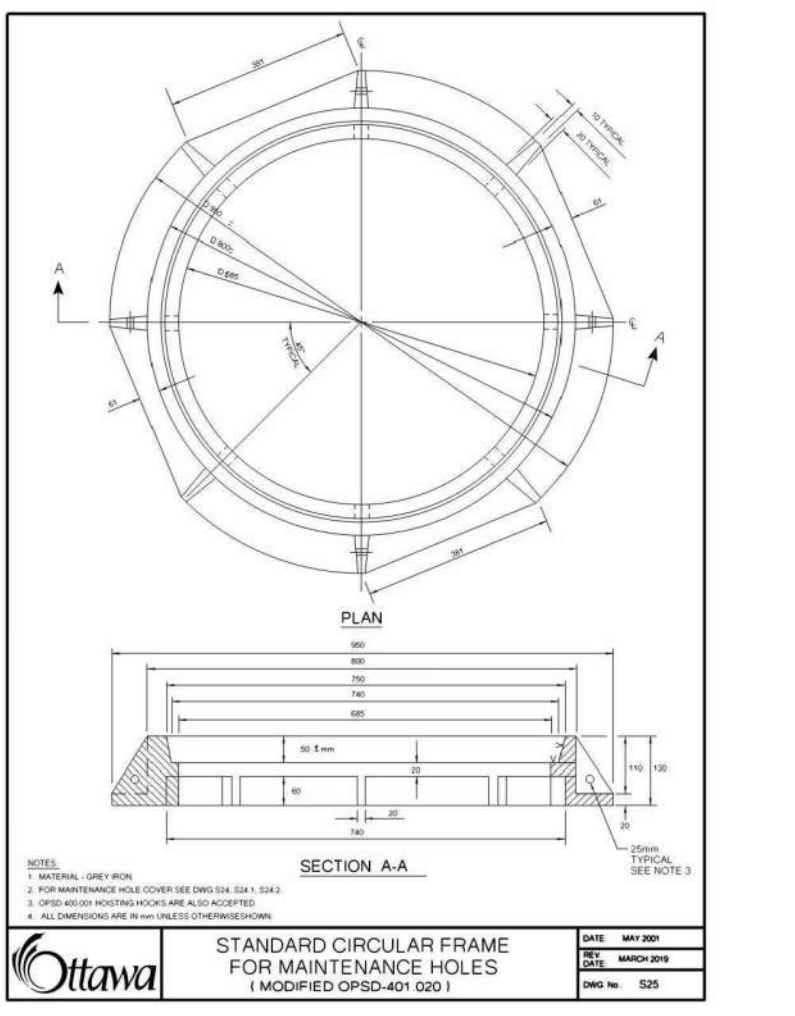
INSTALLATION OF CATCH BASIN WITH MONOLITHIC SIDEWALK AND CURB, BARRIER, AND DEPRESSION CURB

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



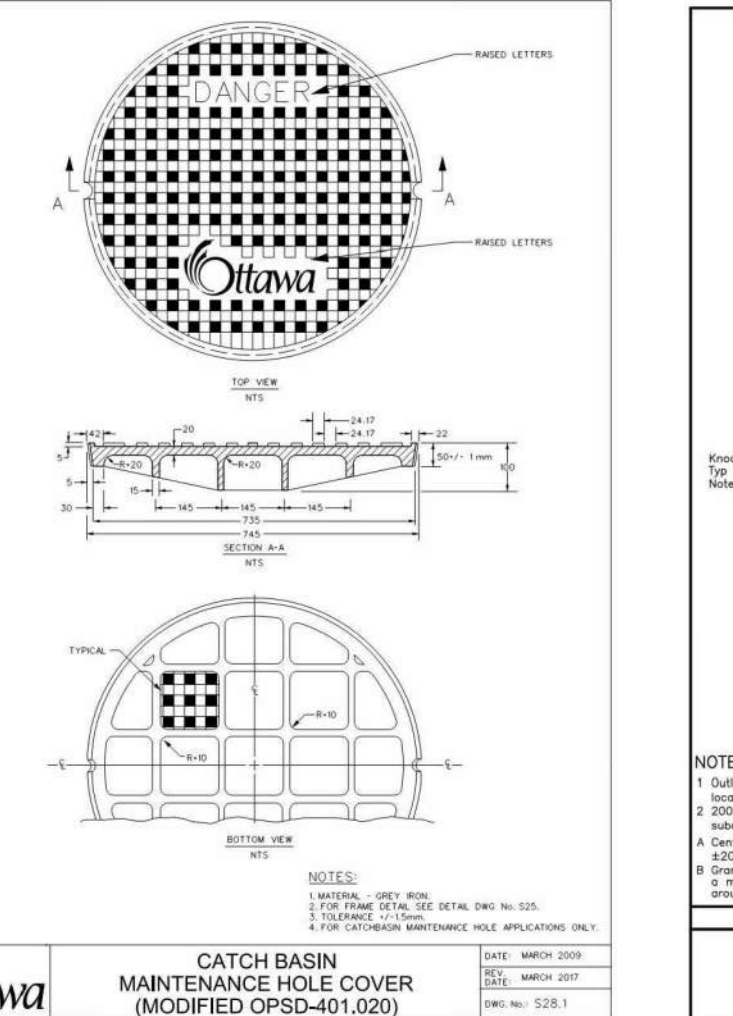
STANDARD CIRCULAR FRAME FOR MAINTENANCE HOLES

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



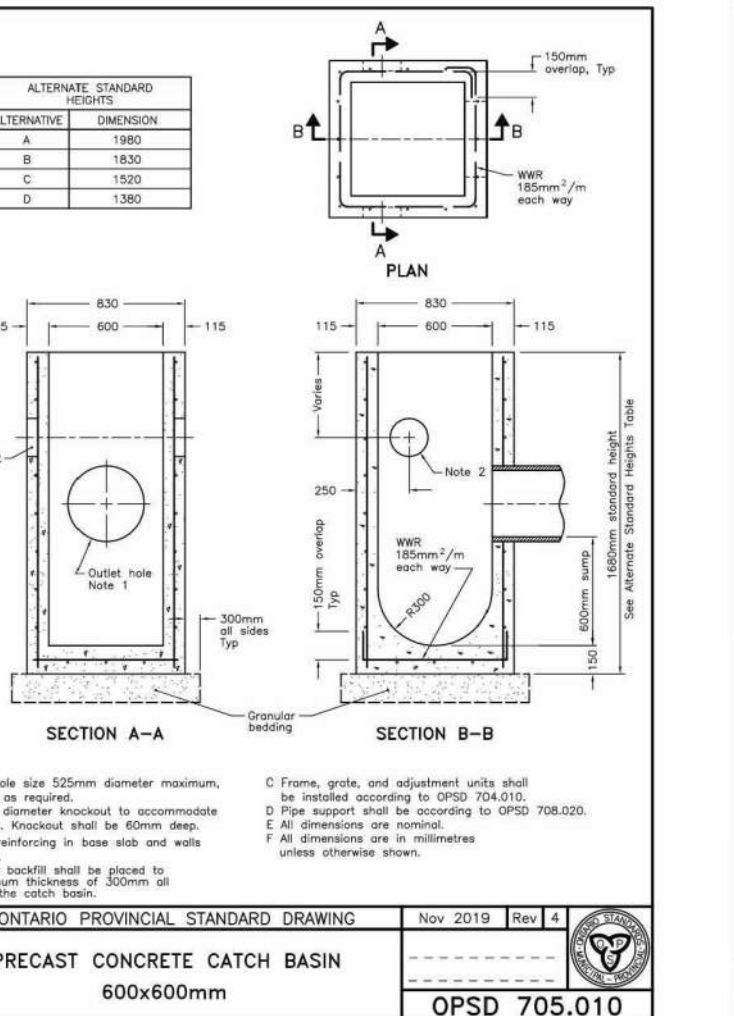
CATCH BASIN MAINTENANCE HOLE COVER (MODIFIED OPSD-401.020)

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



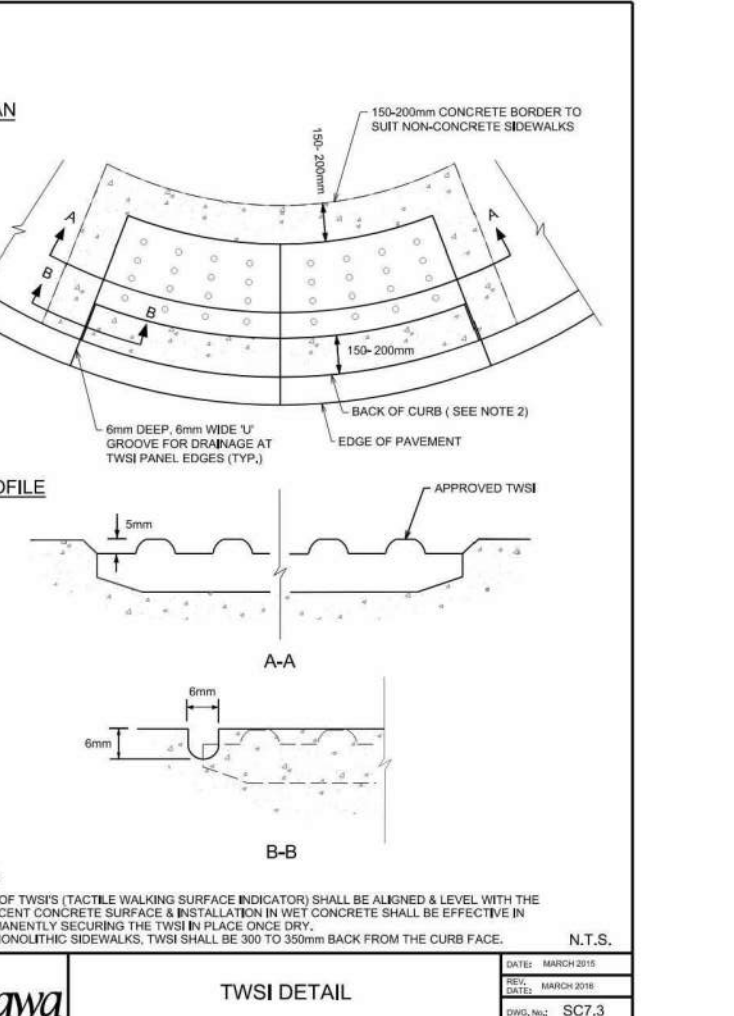
PRECAST CONCRETE CATCH BASIN 600x600mm

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



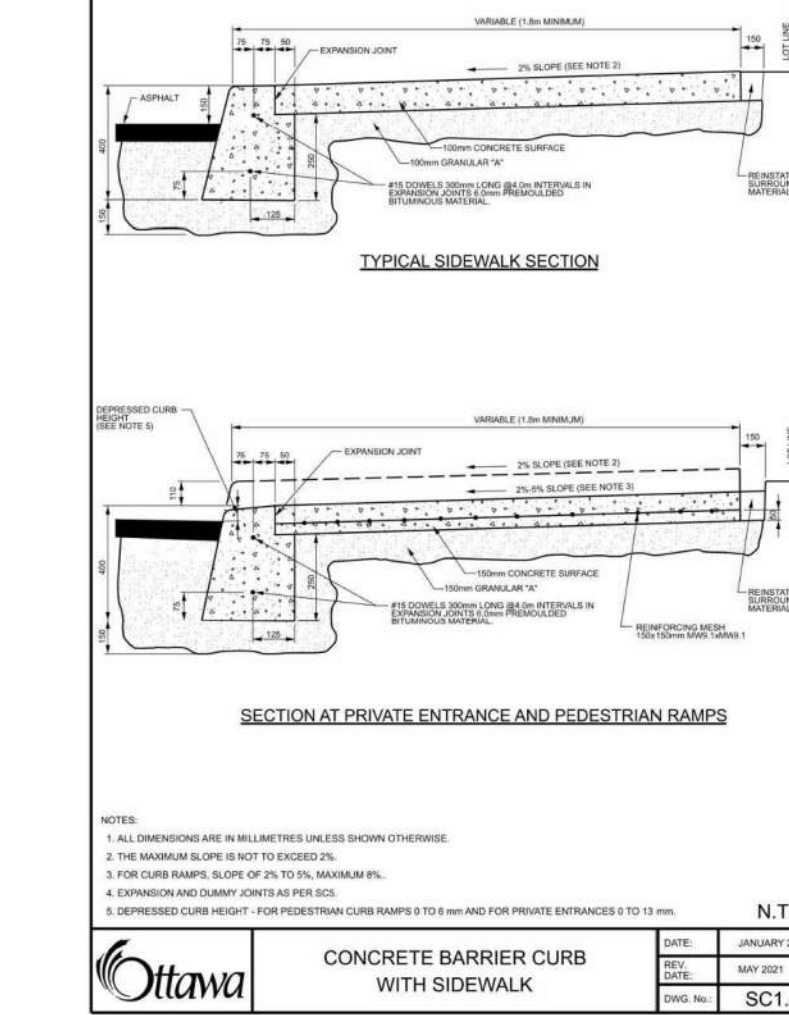
TWSI DETAIL

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



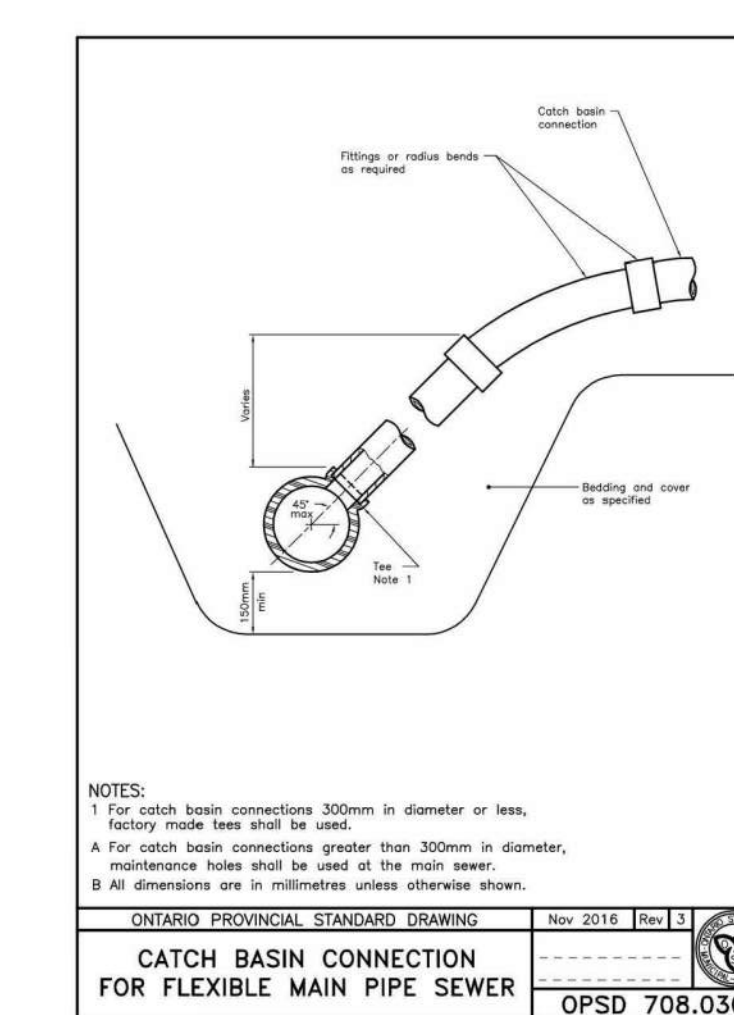
CONCRETE BARRIER CURB WITH SIDEWALK

Ottawa

Nov 2021 (Rev 1)

Nov 2021 (Rev 1)

Nov 2021 (Rev 1)



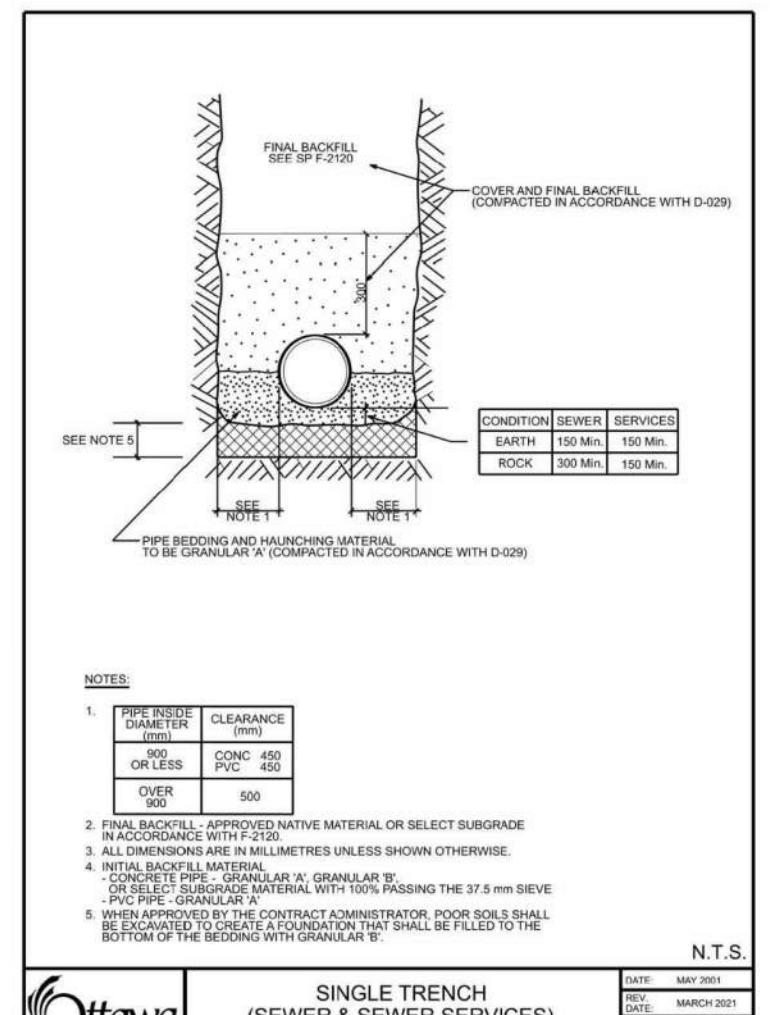
CATCH BASIN CONNECTION FOR FLEXIBLE MAIN PIPE SEWER

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2016 (Rev 1)

Nov 2016 (Rev 1)

Nov 2016 (Rev 1)



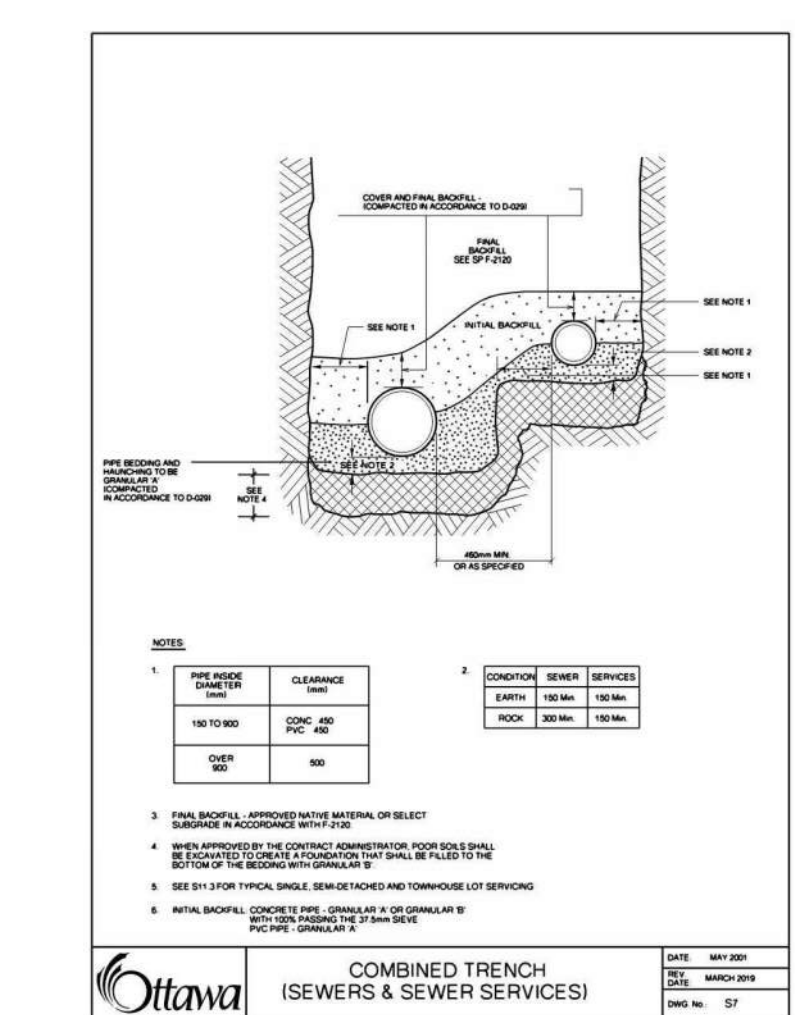
SINGLE TRENCH (SEWER & SEWER SERVICES)

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



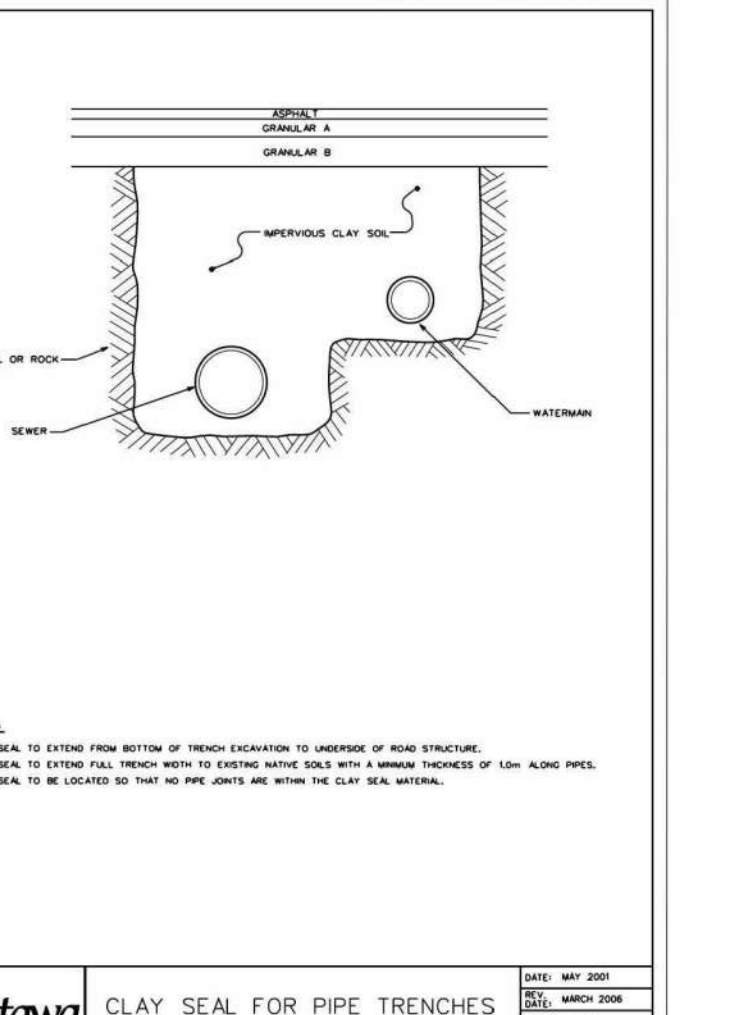
COMBINED TRENCH (SEWERS & SEWER SERVICES)

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



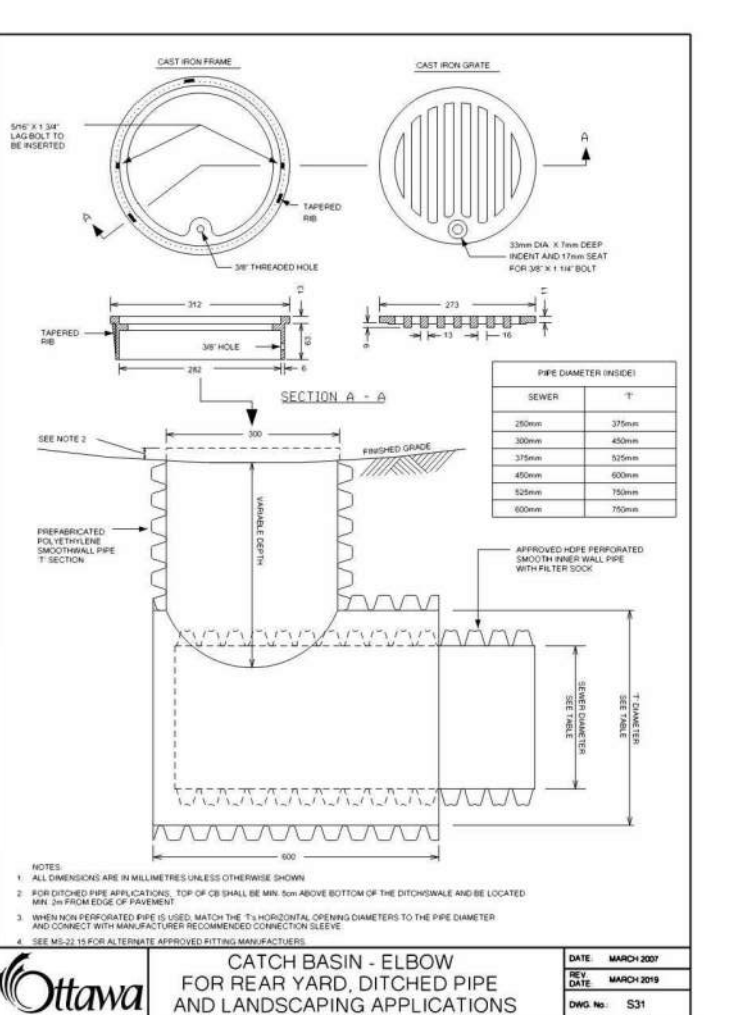
CLAY SEAL FOR PIPE TRENCHES

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



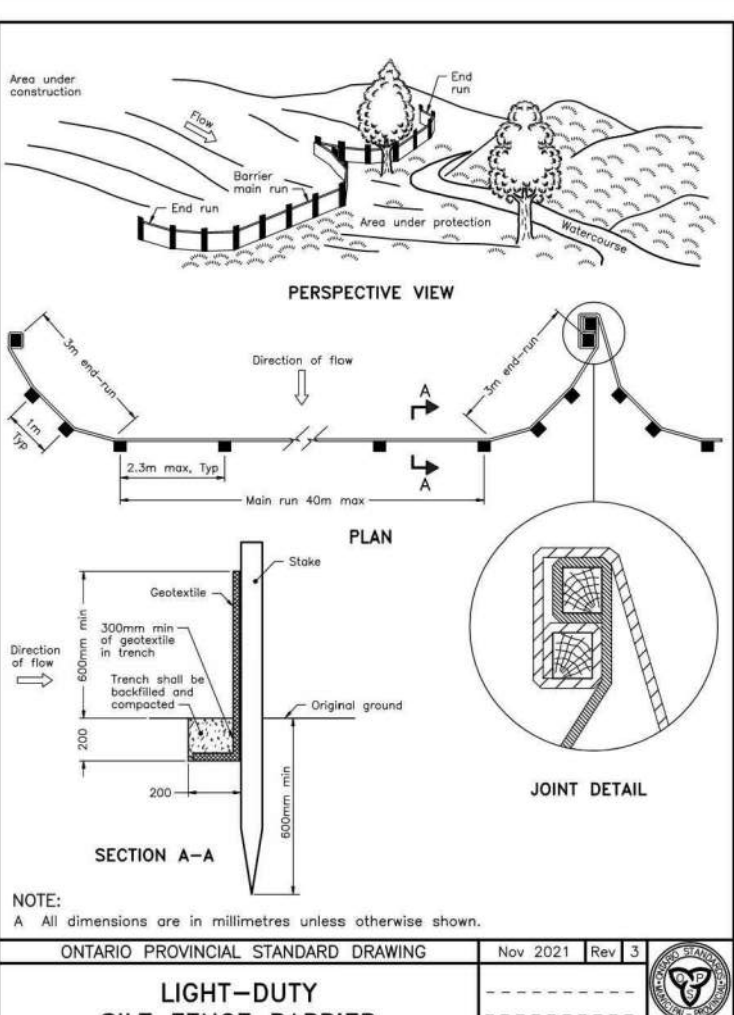
CATCH BASIN - ELBOW FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS

Ottawa

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)

Nov 2019 (Rev 1)



LIGHT-DUTY SILT FENCE BARRIER

ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2021 (Rev 1)

Nov 2021 (Rev 1)

Nov 2021 (Rev 1)

Loblaw Companies Limited

PROJECT: 3845 CAMBRIAN RD
BARRHAVEN, ONTARIO

DRAWING: DETAIL PAGE 1

PROJECT NO: 478575
PROJECT DATE: 2023-02-27
DRAWN BY: [Signature]
CHECKED BY: MT
SCALE: As indicated

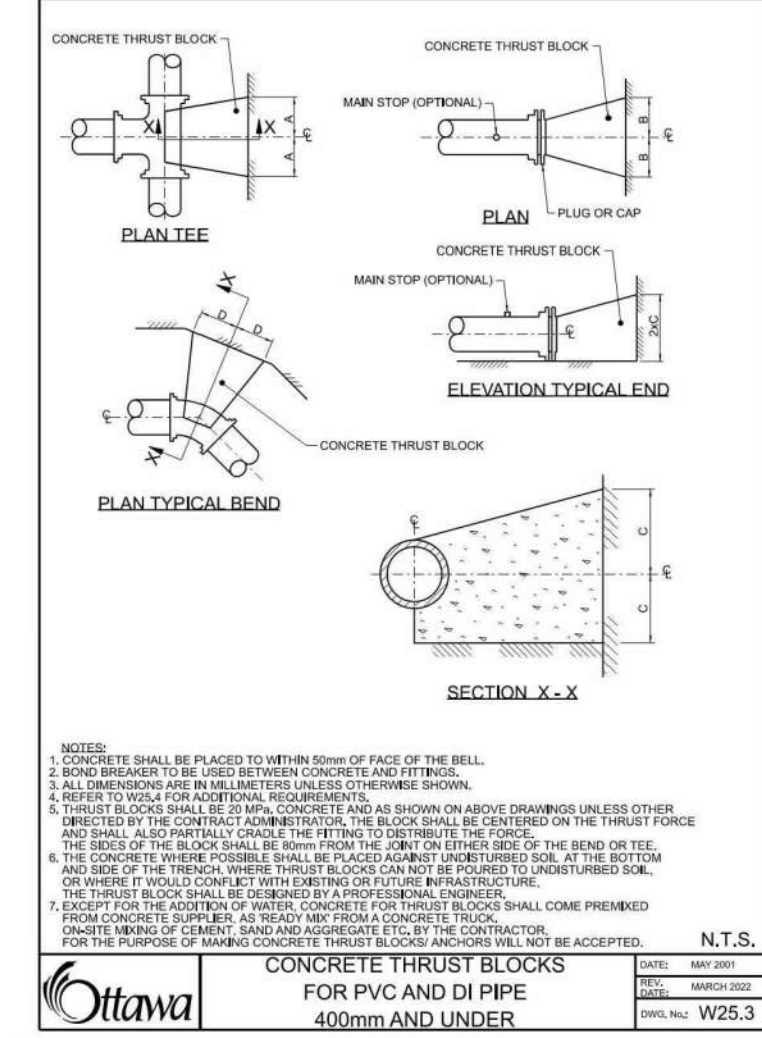
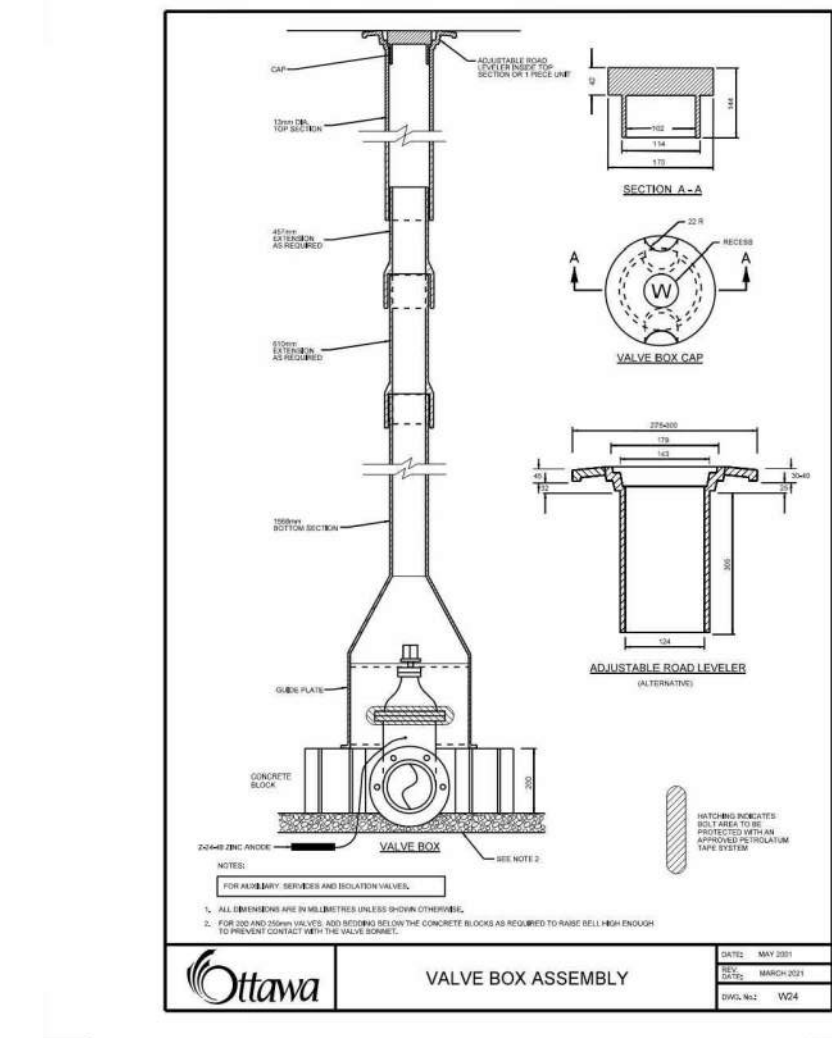
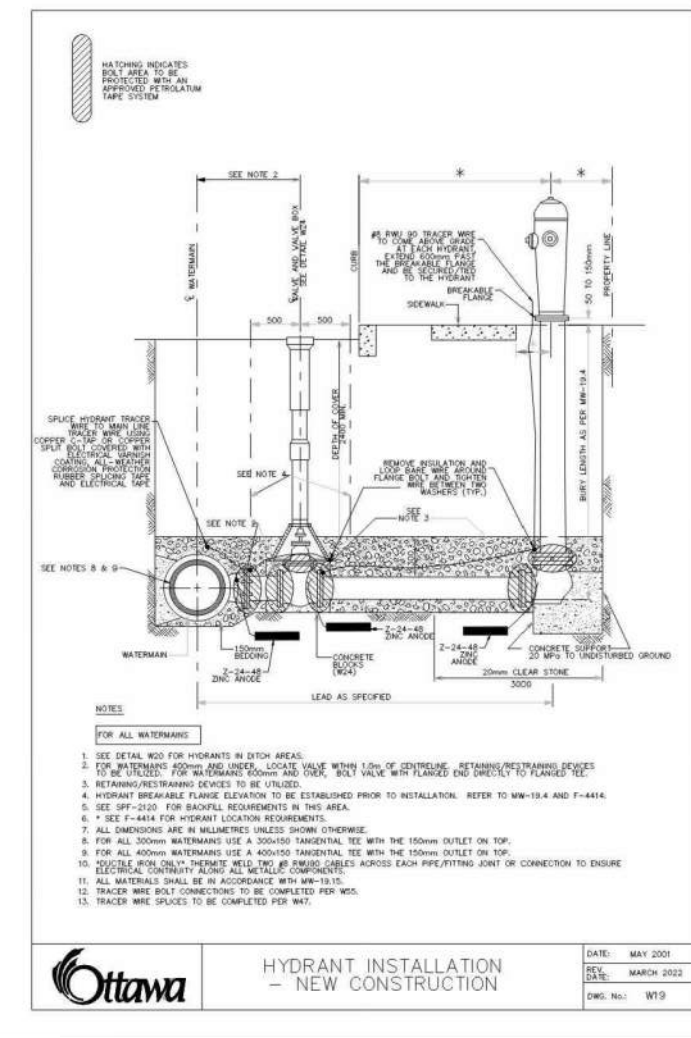
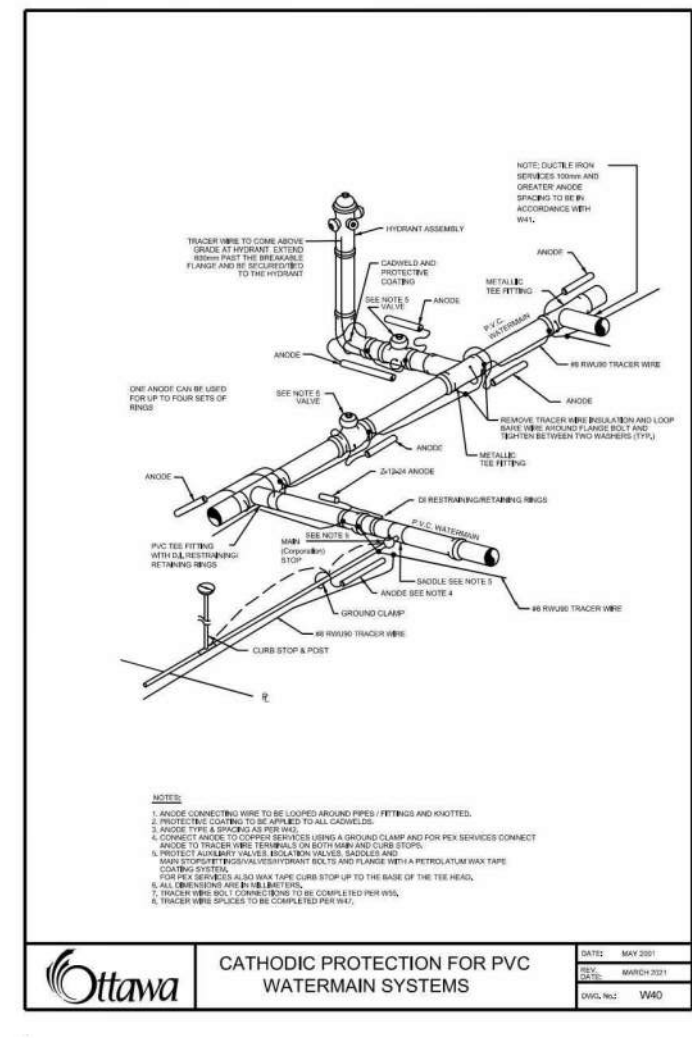
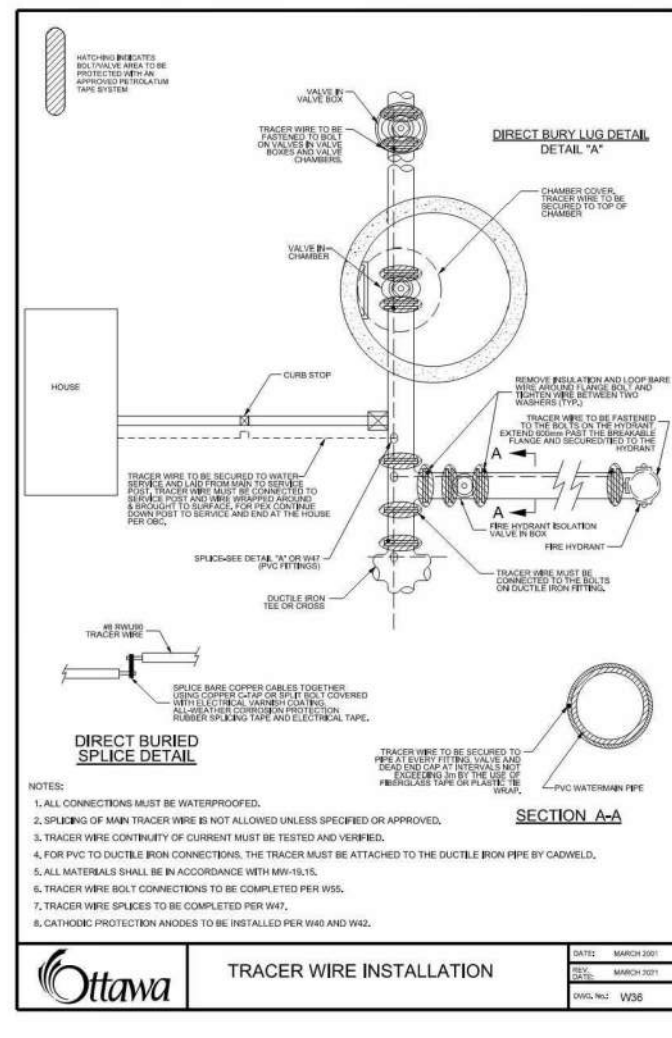
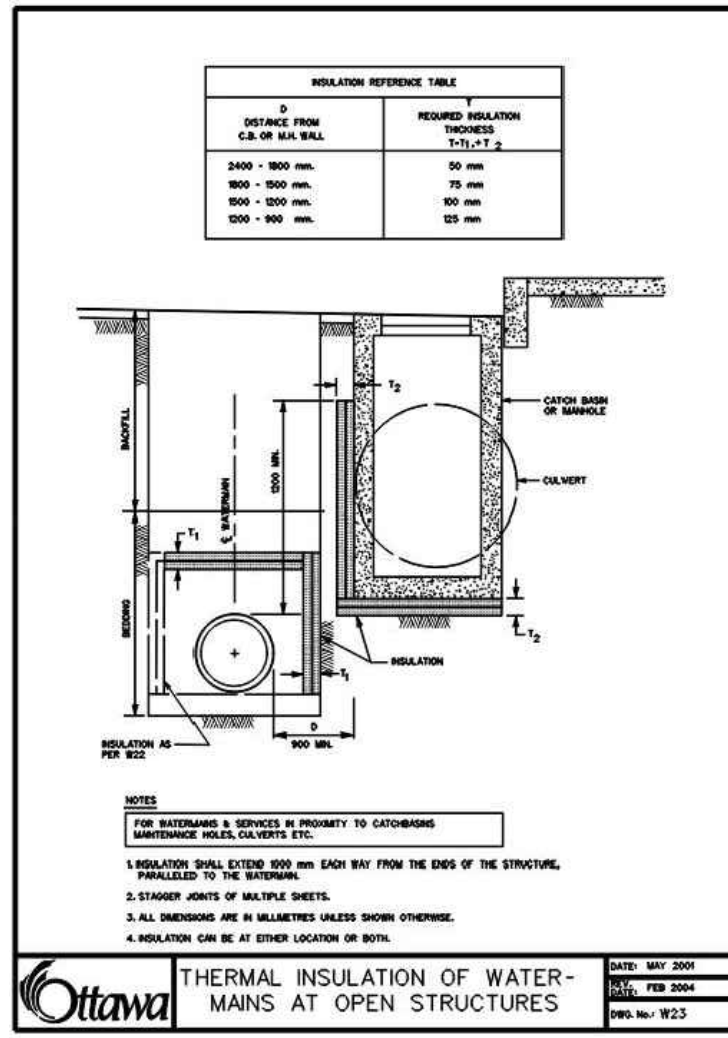
PROFESSIONAL ENGINEER
Loblaw
B VILLENEUVE
100553987
2023-05-01
PROVINCE OF ONTARIO

DRAWING NO: C104
REV: 1

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



1. SOIL DESCRIPTIONS WITH FINE SANDS, GRAVELS, CLAYEY SANDS, SILTS WITH TYPICAL BEARING CAPACITY OF 100 TO 200 kPa

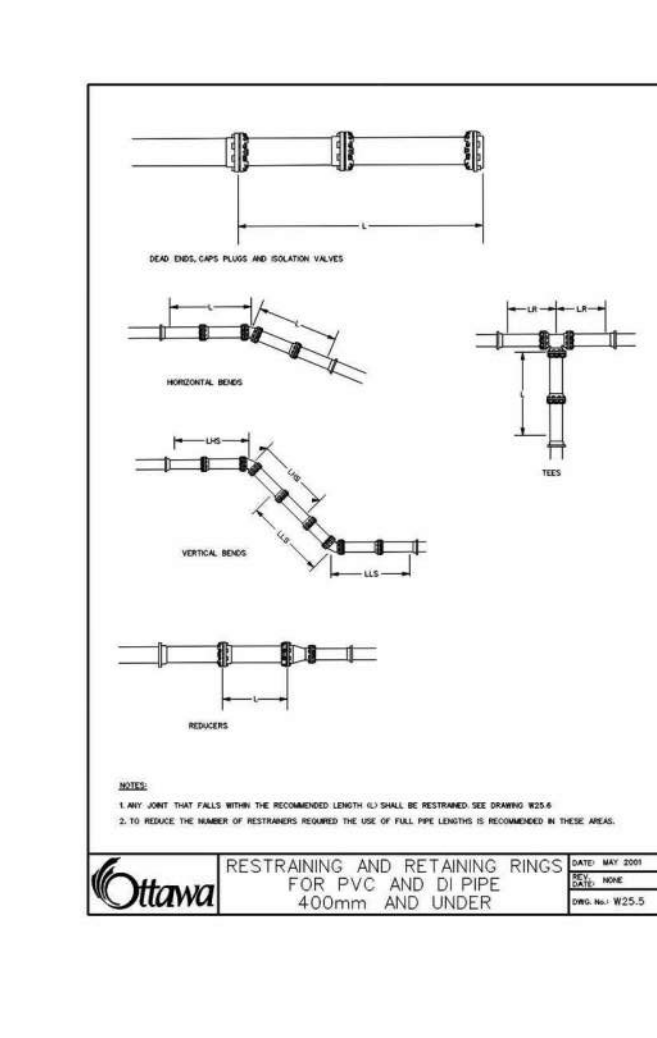
PIPE DIAMETER	DIMENSION REFERRED TO IN NOTES			
	A	B	C	D
100	200	200	200	200
150	400	400	200	200
200	600	600	200	200
250	800	800	200	200
300	1000	1000	200	200

2. SOIL DESCRIPTIONS WITH SANDS, GRAVELS OR CLAYEY SANDS, SILTS WITH TYPICAL BEARING CAPACITY OF 200 TO 300 kPa

PIPE DIAMETER	DIMENSION REFERRED TO IN NOTES			
	A	B	C	D
100	200	200	200	200
150	300	300	200	200
200	400	400	200	200
250	500	500	200	200
300	600	600	200	200

3. SOIL DESCRIPTIONS WITH SANDS, GRAVELS AND GRAVELS, SAND MIXTURES, SILTS WITH TYPICAL BEARING CAPACITY OF 300 kPa AND OVER

PIPE DIAMETER	DIMENSION REFERRED TO IN NOTES			
	A	B	C	D
100	150	150	150	150
150	200	200	200	200
200	250	250	200	200
250	300	300	200	200
300	350	350	200	200



TABLES OF RESTRAINED LENGTHS FOR PVC AND DI PIPE 400mm AND UNDER

REDUCERS	LARGER DIAMETER (SEE LIST OF RESTRAINTS)			
	100mm	150mm	200mm	250mm
100mm	N/A	3	8	13
150mm	N/A	N/A	3	8
200mm	N/A	N/A	N/A	3
250mm	N/A	N/A	N/A	N/A

PIE DIAMETERS

DIAMETER	RESTRAINTS			
	100mm	150mm	200mm	250mm
100mm	3	8	13	18
150mm	3	8	13	18
200mm	3	8	13	18
250mm	3	8	13	18

#	DATE	DESCRIPTION	BY
1	2023-05-01	ISSUED FOR SPA	BY



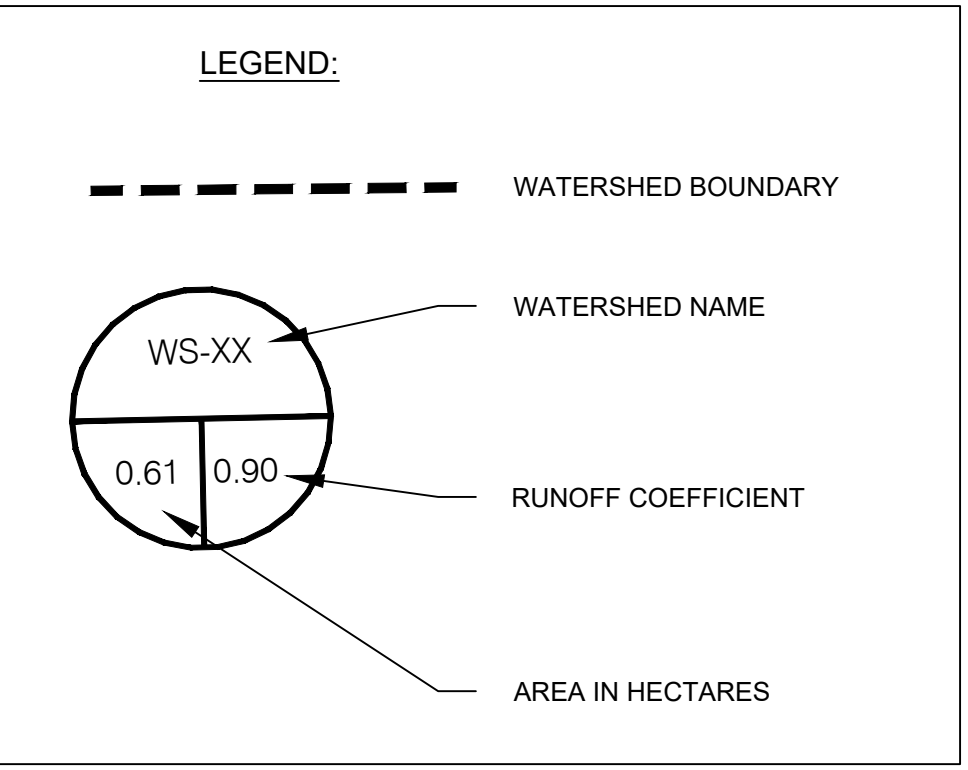
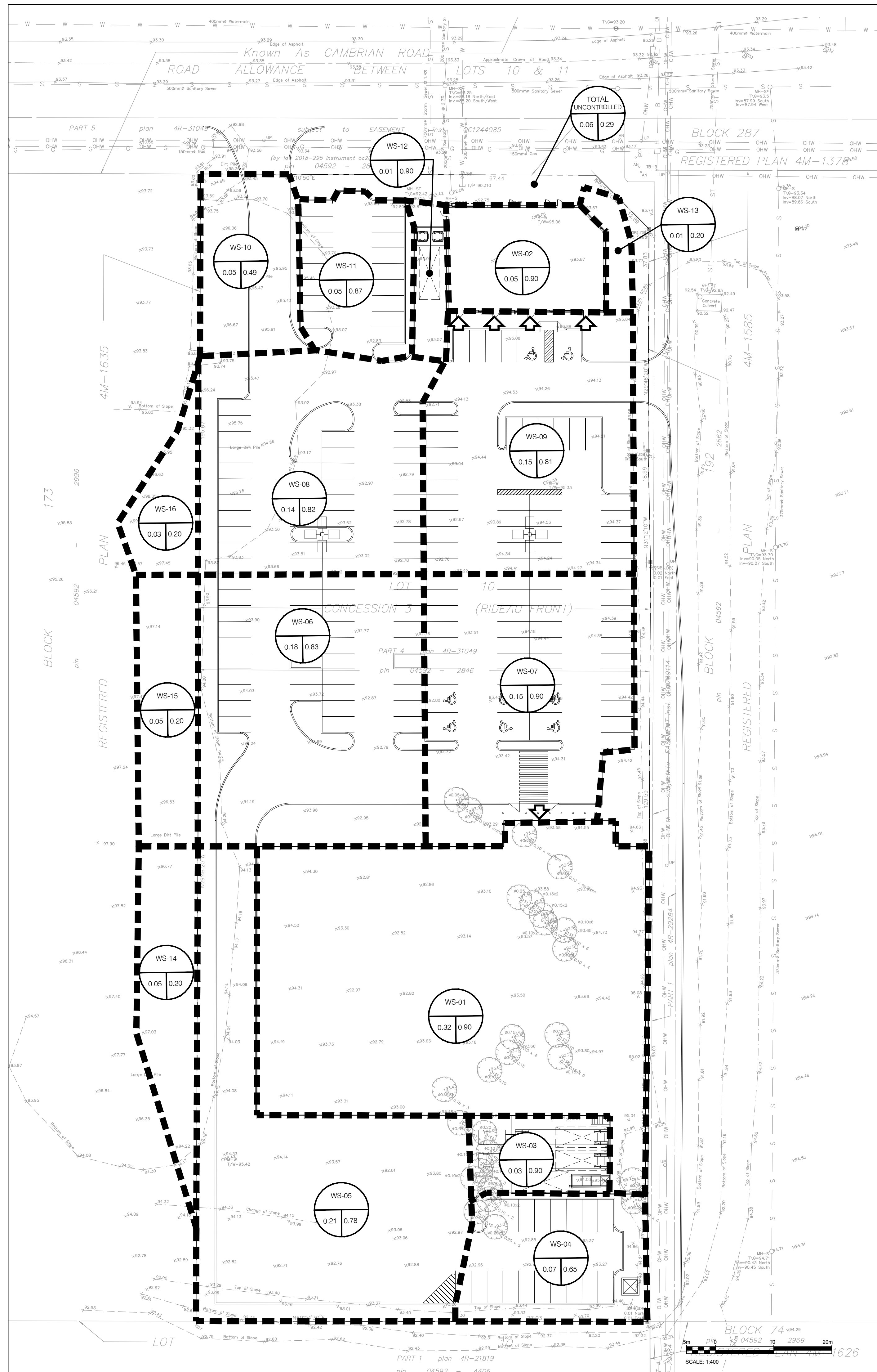
PROJECT
3845 CAMBRIAN RD
BARRHAVEN, ONTARIO

DRAWING
DETAIL PAGE 2

PROJECT NO.
478575
PROJECT DATE
2023-02-27
DRAWN BY
BY
CHECKED BY
MT
SCALE
As indicated



DRAWING NO.
C105
REV.
1



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Toronto, ON, M5B 2T8
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1	2023-05-01	ISSUED FOR SPA		BY

Loblaw Companies Limited

PROJECT
3845 CAMBRIAN RD
BARRHAVEN, ONTARIO

DRAWING
POST-DEVELOPMENT DRAINAGE AREAS

PROJECT NO. 478575	
PROJECT DATE 2023-02-27	
DRAWN BY BV	
CHECKED BY MT	
SCALE As indicated	

DRAWING NO. **C106** REV. **1**