

**EROSION AND SEDIMENT CONTROL MEASURES:**

"CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES"

**1 PRIOR TO START OF CONSTRUCTION:**

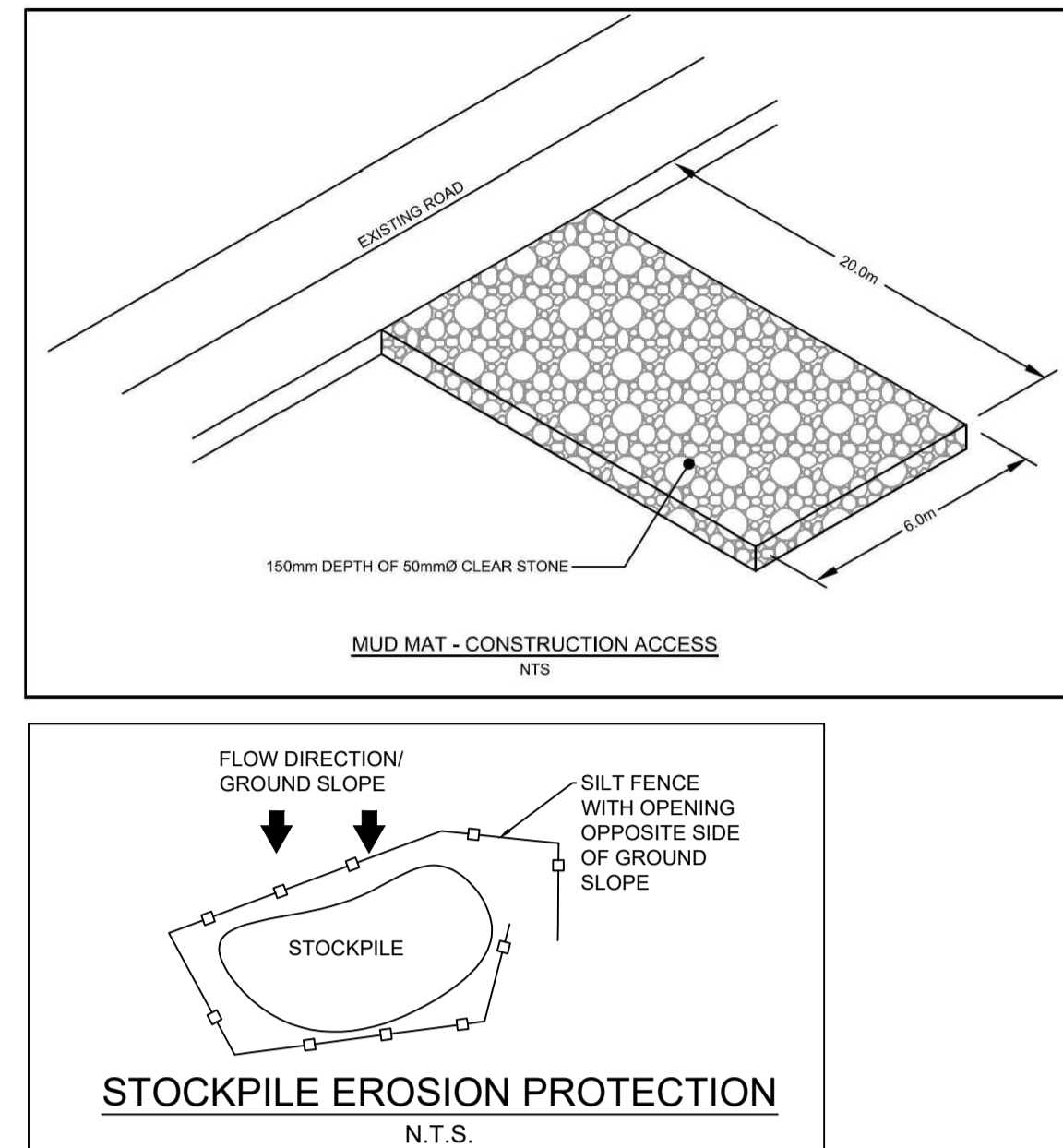
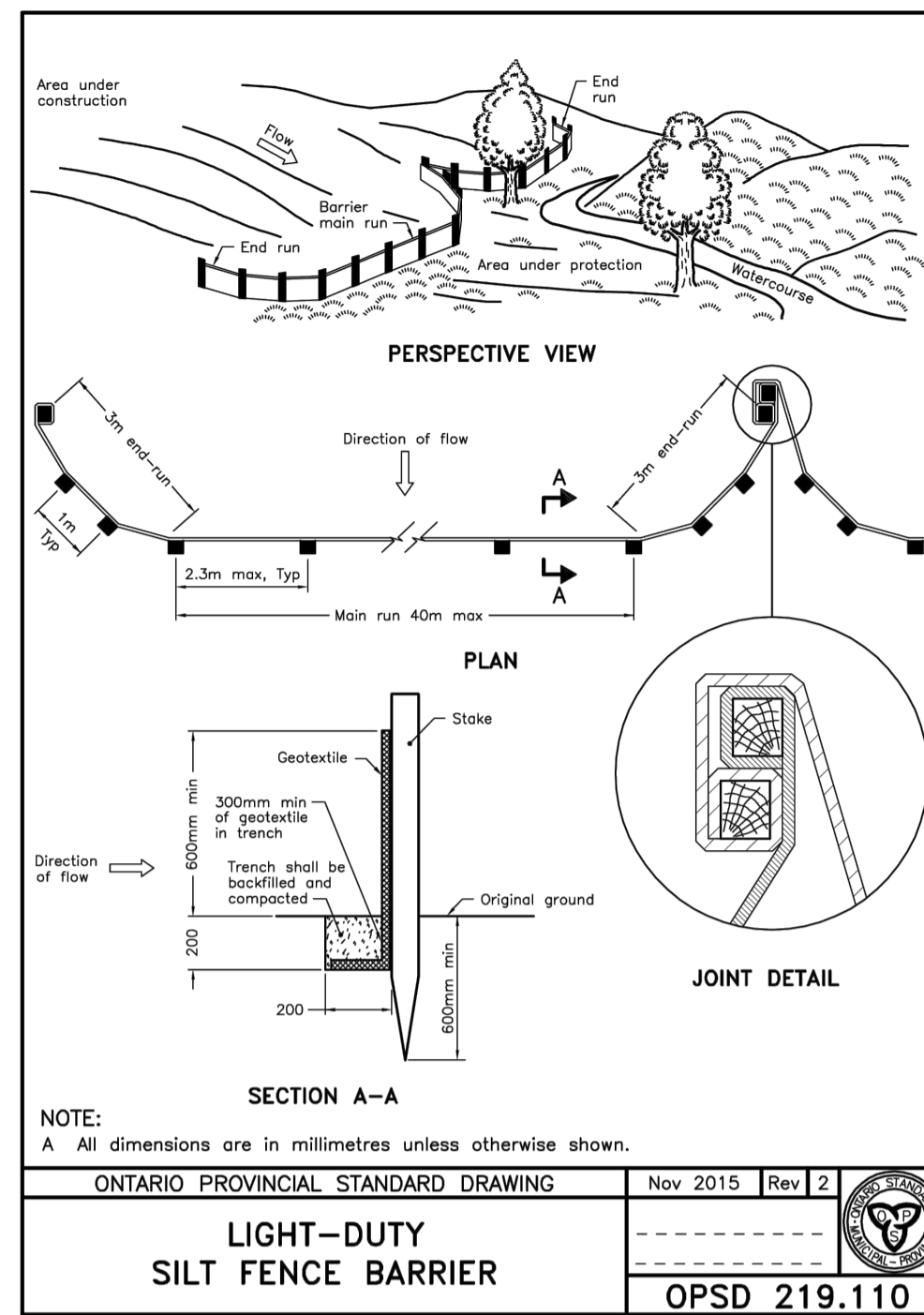
- PRIOR TO THE REMOVAL OF ANY VEGETATIVE COVER, MOVING OF SOIL AND CONSTRUCTION:
- INSTALL SILT FENCE IMMEDIATELY DOWNSTREAM FROM AREAS TO BE DISTURBED (SEE PLAN FOR LOCATION).
- INSTALL GEOSOCK INSERTS WITH AN OVERFLOW IN ALL THE DOWNSTREAM CATCHBASINS AND MANHOLES
- INSTALL SILT SACK FILTERS IN ALL CONCRETE CATCH BASINS STRUCTURES
- INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.

**2 DURING CONSTRUCTION:**

- WORK TO BE DONE IN THE VICINITY OF MAJOR WATERWAYS TO BE CARRIED OUT FROM JULY TO 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 WITHIN 30 DAYS
- INSPECT SILT FENCES, FILTER CLOTHS AND CATCH BASIN SUMPS WEEKLY AND AFTER EVERY MAJOR STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
- CONSTRUCT SWALES AS PER DETAIL.
- 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 90 DAYS)
- CONTROL WIND-BLOWN DUST OFF SITE TO ACCEPTABLE LEVELS BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED).
- 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.
- NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THIS CONSULTING ENGINEER AND THE CITY DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR RESPONSIBLE FOR CITY ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING ETC. AT THE END OF EACH WORK DAY.
- PROVIDE GRAVEL ENTRANCE WHEREVER EQUIPMENT LEAVES THE SITE TO PREVENT MUD TRACKING ONTO PAVED SURFACES. GRAVEL BED SHALL BE A MINIMUM OF 15m LONG, 4M WIDE AND 0.3m DEEP AND SHALL CONSIST OF COARSE (50mm CRUSHED-RUN LIMESTONE) MATERIAL. MAINTAIN GRAVEL ENTRANCE IN CLEAN CONDITION.
- 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 ADJUTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.

**3 AFTER CONSTRUCTION:**

- PROVIDE PERMANENT COVER CONSISTING OF TOPSOIL AND SEED TO DISTURBED AREAS.
- REMOVE STRAW BALE FLOW CHECK DAMS, SILT FENCES AND FILTER CLOTHS ON CATCH BASINS AND MANHOLE COVERS
- AFTER DISTURBED AREAS HAVE BEEN REHABILITATED AND STABILIZED.
- INSPECT AND CLEAN CATCH BASIN SUMPS AND STORM SEWERS.



**LEGEND:**

- EXISTING PROPERTY LINE TO REMAIN
- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED TERRACING (3:1 MIN.)
- PROPOSED SILT FENCE AS PER OPSD 219.110
- PROPOSED FENCE
- PROPOSED DOOR ENTRANCE/EXIT
- PROPOSED GRASS AREA (100mm TOP SOIL & SOD)
- PROPOSED CONCRETE FEATURES/SLAB
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED RIP RAP
- PROPOSED ELEVATION
- PROPOSED HIGH POINT ELEVATION
- PROPOSED DEPRESSED CURB
- PROPOSED BOTTOM OF CURB / ASPHALT ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED EXPOSED BOTTOM OF RETAINING WALL
- PROPOSED TOP OF RETAINING WALL
- MATCH INTO EXISTING ELEVATION
- EXISTING ELEVATION
- PROPOSED OVERLAND MAJOR FLOW ROUTE
- PROPOSED 100mmØ PERFORATED SUBDRAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING GAS LINE
- EXISTING MANHOLE
- EXISTING CATCHBASIN
- PROPOSED CATCHBASIN-MANHOLE/CATCHBASIN
- PROPOSED MANHOLE
- PROPOSED AREA DRAIN
- PROPOSED CURB STOP
- PROPOSED PIPE INSULATION
- PROPOSED 100 YEAR HIGH WATER LEVEL
- STORM WATERSHED EXTENT
- WATERSHED NAME
- RUNOFF COEFFICIENT
- AREA IN HECTARES

**USE AND INTERPRETATION OF DRAWINGS**

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAIL SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.

BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER CONFIRMS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR CONFIRMS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

AS INSTRUMENTS OF SERVICE, ALL DRAWINGS, SPECIFICATIONS, CAD FILES OR OTHER ELECTRONIC MEDIA AND COPIES THERE OF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT, INCLUDING REPEATS OF THE PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.

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UNAUTHORIZED CHANGES:

IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRI ASSOCIATES LTD. (LRI) WITHOUT OBTAINING LRI'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRI AND TO RELEASE LRI FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.

IN ADDITION, THE CLIENT AGREES TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRI FROM ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

IN ADDITION, THE CLIENT AGREES TO INCLUDE IN ANY CONTRACTS FOR CONSTRUCTION APPROPRIATE LANGUAGE THAT PROHIBITS THE CONTRACTOR OR ANY SUBCONTRACTORS OF ANY TIER FROM MAKING ANY CHANGES OR MODIFICATIONS TO LRI'S CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF LRI AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH LRI AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

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CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.

SCALE: 1:250

02 REISSUED FOR CITY APPROVAL T.H. 15 DEC 2022

01 ISSUED FOR MUNICIPAL APPROVAL A.S. 04 MAR 2021

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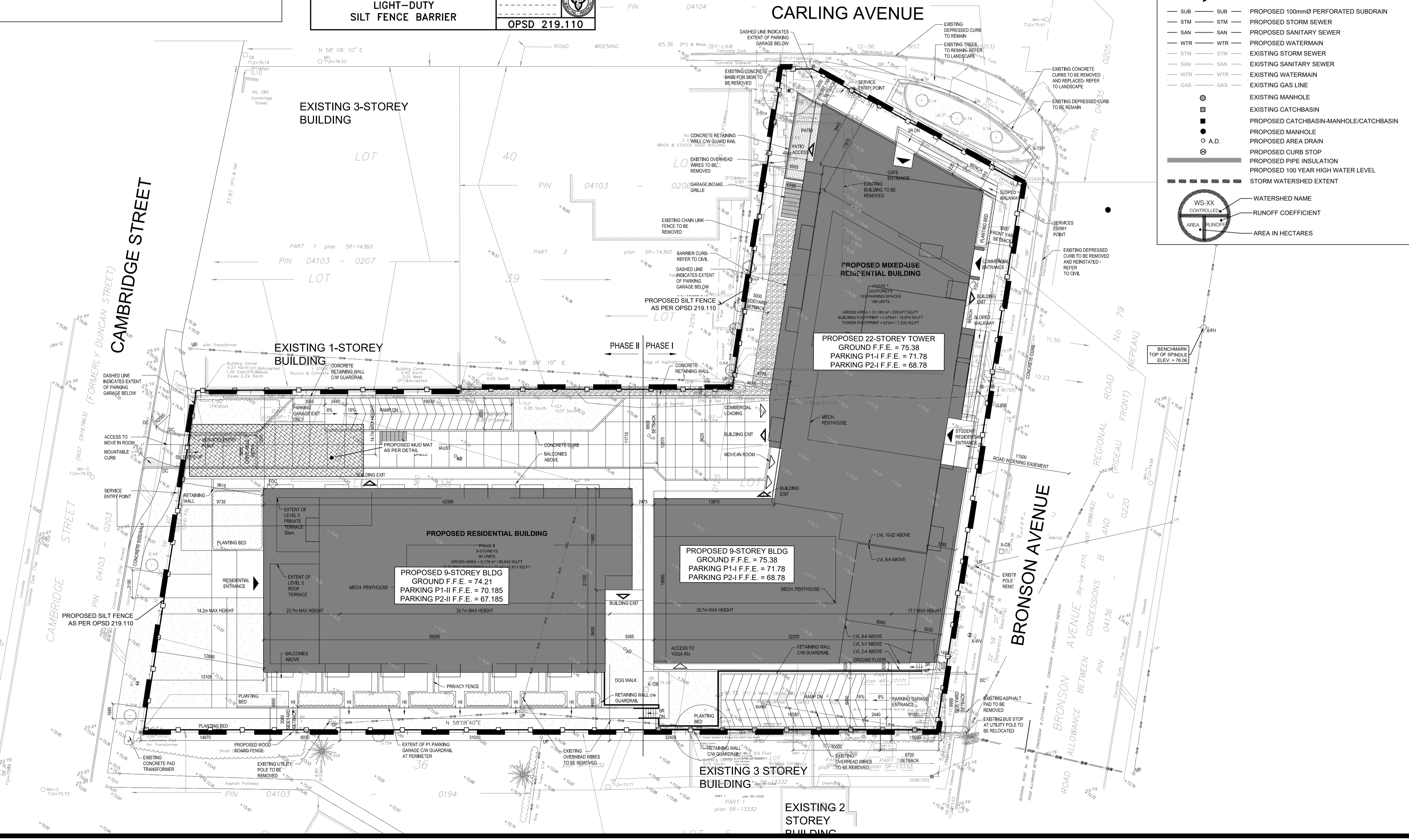
CLIENT: **KATASA GROUP**  
69 Rue Jean-Proulx unit #301  
Gatineau, QC, J8V 1W2

DESIGNED BY: T.H. DRAWN BY: T.H. APPROVED BY: M.B.

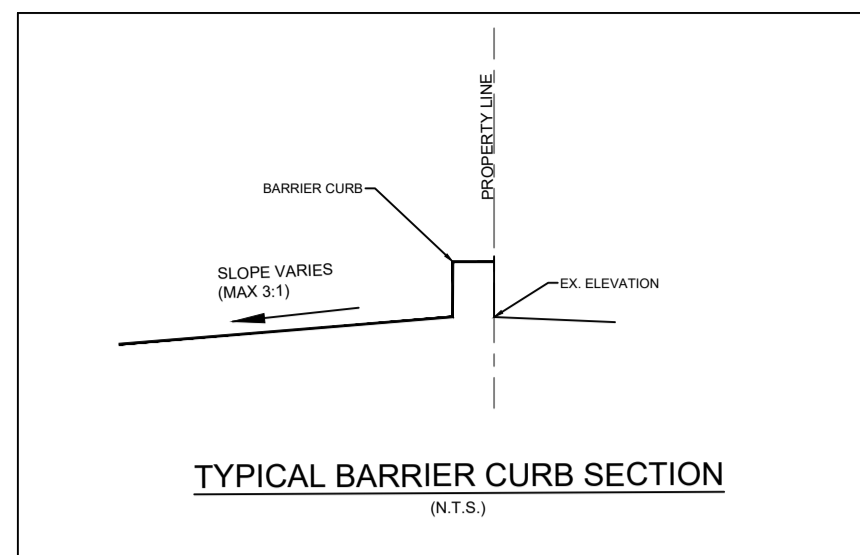
PROJECT: **770-774 BRONSON AVENUE**

DRAWING TITLE: **EROSION AND SEDIMENT CONTROL PLAN**

PROJECT NO: 200436 DATE: DECEMBER 2022



- GENERAL GRADING NOTES**
1. ANY MODIFICATIONS IN ELEVATION BETWEEN THE SURVEY AND CONSTRUCTION THAT WILL AFFECT THE PROJECT ARE TO BE COMMUNICATED WITH THE ENGINEER PRIOR TO START OF CONSTRUCTION.
  2. PRIOR TO START OF ANY WORK ON SITE, THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXISTING GRADES AND ENSURE OVERLAND DRAINAGE IS FEASIBLE WITH ACTUAL SITE CONDITIONS.
  3. ANY DISCREPANCIES ARE TO BE COMMUNICATED WITH THE ENGINEER PRIOR TO CONSTRUCTION.
  4. NO EXCESS DRAINAGE, EITHER DURING OR AFTER CONSTRUCTION, WILL BE DIRECTED TOWARDS NEIGHBOURING PROPERTIES.
  5. NO ALTERATION OF EXISTING GRADES AND DRAINAGE PATTERNS ON PROPERTY BOUNDARIES.
  6. ENSURE POSITIVE DRAINAGE AWAY FROM FOUNDATION.
  7. CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.



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SCALE: 1:250

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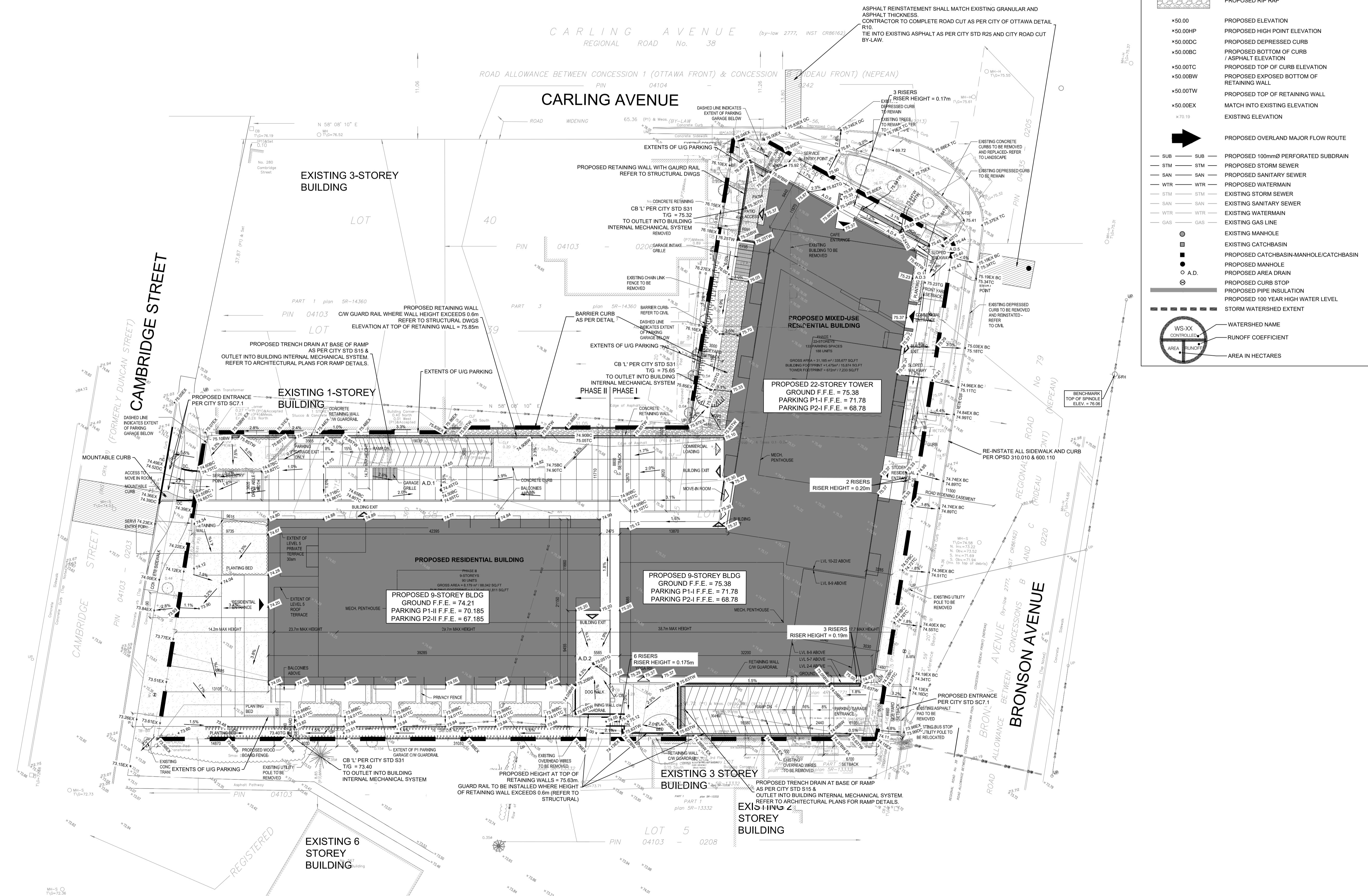
PROJECT: **770-774 BRONSON AVENUE**

DRAWING TITLE: **GRADING AND DRAINAGE PLAN**

PROJECT NO: 200436

DATE: DECEMBER 2022

**C301**



**NOTES: GENERAL**

- CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
- ELEVATION ARE GEOMETRIC AND UTILIZE METRIC UNITS.
- JOB BENCH MARK - CONFIRM WITH LRL PRIOR TO UTILIZATION.
- ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE, CATCH BASIN OUTLETS AND/OR STORM DETENTION AREAS ARE PROVIDED.
- STRIP AND REMOVE ALL TOPSOIL FROM IMPROVED AREAS.
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A CLEAN STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM.
- CURBS TO BE BARRIER, CONSTRUCTED AS PER OPSD 600.110.
- ALL MATERIAL SUPPLY AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSD STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- CONSTRUCTION TO OPSD 206, 310 & 314. MATERIALS TO OPSD 1001, 1003 & 1010.
- ASBUTTING PROPERTY GRADE TO BE MATCHED.
- OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
- MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
- FILTER FABRIC TO BE INSTALLED AND MAINTAINED BETWEEN THE FRAME AND COVER OF ALL CATCHBASINS, CATCHBASIN MANHOLES AND MANHOLES DURING THE CONSTRUCTION PERIOD TO MINIMIZE SEDIMENTS ENTERING THE STORM SEWER SYSTEM. ALL GRASSED AREAS MUST BE COMPLETED PRIOR TO THE REMOVAL OF THE FILTER FABRIC IN THE DRAINAGE STRUCTURES.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS, IF ANY, LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
- THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS BUT NOT LIMITED TO, ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC.
- 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.
- ALL SIDEWALK CONSTRUCTION TO BE AS PER OPSD 310.010 & OPSD 310.050.
- EXISTING BUILDINGS REQUIRE A CCTV INSPECTION AND REPORT TO ENSURE EXISTING SERVICES TO BE RE-USED ARE IN GOOD WORKING ORDER AND MEET CURRENT MINIMUM SIZE REQUIREMENTS.
- ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH CURRENT CITY OF OTTAWA (COA) STANDARDS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS (OPSS & OPSD), SEWER AND WATERMAIN MATERIAL TYPES AND DISINFECTION.
- SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH CURRENT CITY OF OTTAWA (COA) STANDARDS AND ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS (OPSS & OPSD), ROADS AND PUBLIC WORKS.

**NOTES: SEWERS**

- SEWER BEDDING AS PER PIPE TRENCH DETAIL WITH GRANULAR 'A' BEDDING COMPACTED TO 95% OF ITS SPMD.
- ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSD 407 AND 410.
- CONTRACTOR TO CONFIRM ELEVATION OF EXISTING SEWERS AT PROPOSED CONNECTION POINTS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE COMMENCING ANY WORK.
- ALL SEWERS WITH LESS THAN 2.0m OF COVER ARE SUBJECT TO INSULATION DETAIL.
- INSULATE ALL STORM PIPES WITH LESS THAN 1.5M COVER AND ALL SANITARY PIPES WITH LESS THAN 2.1M COVER WITH APPROPRIATE DEPTH OF THERMAL INSULATION AS PER CITY OF OTTAWA SEWER DESIGN GUIDELINES SECTION 5.7.1.3 & 5.10 AS WELL AS REFER TO COO STD. DWG. W21-23.
- FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTION SEWER PIPES TO MANHOLES. SANITARY RUBBER GASKET TYPE JOINTS TO CONFORM TO CSA.
- QUALITY CONTROL FIELD TESTS, LEAKAGE & DYE TESTS FOR SEWERS TO BE COMPLETED IN ACCORDANCE TO OTTAWA SEWER DESIGN GUIDELINES SECTION 6.1.14 & 6.1.15.

**SANITARY**

- ALL SANITARY GRAVITY SEWER SHALL BE PVC SDR 35, IPEX 'RING-TITE' (OR APPROVED EQUIVALENT) PER CSA STANDARD B182.2 OR LATEST AMENDMENT, UNLESS SPECIFIED OTHERWISE.
- EXISTING MAINTENANCE STRUCTURES TO BE RE-BENCHED WHERE A NEW CONNECTION IS MADE.
- SANITARY GRAVITY SEWER TRENCH AND BEDDING SHALL BE PER CITY OF OTTAWA STD. S6 AND S7, CLASS 'B' BEDDING, UNLESS SPECIFIED OTHERWISE.
- SANITARY MAINTENANCE STRUCTURE FRAME AND COVERS SHALL BE PER CITY OF OTTAWA STD. S24 AND S25.
- SANITARY MAINTENANCE STRUCTURES SHALL BE BENCHED PER OPSD 701.021.

**STORM**

- STORM GRAVITY SEWER TRENCH AND BEDDING SHALL BE PER CITY OF OTTAWA STD. S9 AND S7, CLASS 'B' BEDDING, UNLESS SPECIFIED OTHERWISE. BEDDING AND COVER MATERIAL TO BE SPECIFIED BY GEOTECHNICAL ENGINEER.
- ALL PVC STORM SEWERS ARE TO BE SDR 35 APPROVED PER C.S.A. B182.2 OR LATEST AMENDMENT, UNLESS OTHERWISE SPECIFIED.
- CATCH BASIN SHALL BE IN ACCORDANCE WITH OPSD 705.010.
- CATCH BASIN LEADS SHALL BE 200mm DIA. AT 1.0% SLOPE (MIN) UNLESS SPECIFIED OTHERWISE.
- ALL CATCH BASINS SHALL HAVE 600mm SUMPS, UNLESS SPECIFIED OTHERWISE.
- ALL CATCH BASIN LEAD INVERTS TO BE 1.5m BELOW FINISHED GRADE UNLESS SPECIFIED OTHERWISE.
- STORM MAINTENANCE STRUCTURE FRAME AND COVERS SHALL BE PER CITY OF OTTAWA STD. S25 AND S24.1, UNLESS SPECIFIED OTHERWISE.
- CATCHBASIN FRAME AND COVER SHALL BE PER OPSD 400.010 UNLESS OTHERWISE NOTED.

**NOTES: WATERMAIN**

- PROPOSED WATER SERVICE TO BE 2.4m BELOW GRADE, WHERE LESS THAN 2.4M COVER, THERMAL INSULATION IS TO BE PROVIDED AS PER COO STD. DWGS. W 21 (DITCHED AREAS), W22 (SHALLOW TRENCHES), W22 (AT OPEN STRUCTURES) AND CITY OF OTTAWA DESIGN GUIDELINES (COODG)-WATER DISTRIBUTION (WD) SECTION 4.3.13.
- ALL PVC WATERMANS SHALL BE AWWA C-900 CLASS 150, SDR 18 OR APPROVED EQUIVALENT.
- WATERMAIN TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH OPSD 802.010/802.010 AND CITY OF OTTAWA STANDARD W17, UNLESS SPECIFIED OTHERWISE. BEDDING AND COVER MATERIAL TO BE SPECIFIED BY GEOTECHNICAL ENGINEER.
- FIRE HYDRANT INSTALLATION AS PER CITY STD. W19, ALL BOTTOM OF HYDRANT FLANGE ELEVATIONS TO BE INSTALLED 0.10m ABOVE PROPOSED FINISHED GRADE AT HYDRANT; FIRE HYDRANT LOCATION AS PER STD. DWG. W19 UNLESS OTHERWISE NOTED.
- BUILDING SERVICE TO BE CAPPED OFF 1.0m OFF THE FACE OF BUILDING UNLESS OTHERWISE NOTED AND MUST BE RESTRAINED A MINIMUM OF 12m BACK FROM STUB.
- ALL WATERMAIN STUBS SHALL BE TERMINATED WITH A PLUG AND 500mm BLOW OFF UNLESS OTHERWISE NOTED.
- METALLIC WARNING TAPE SHALL BE USED OVER ALL WATERMANS.
- INSTALL AND TEST TRACER WIRE FOR ALL PROPOSED WATERMAIN IN ACCORDANCE WITH THE COODG-WO AS SPECIFIED IN SECTION 4.3.12 AND COO STD. DWG. W38.
- WATER SHUTOFF VALVE AND VALVE BOX TO BE WITHIN THE ROW AND LOCATED A MINIMUM DISTANCE OF 1.0 M FROM THE BUILDING FOUNDATION (IF APPLICABLE). TYPICAL PRIVATE SERVICES AS PER COO STD. DWG. W50 (≥ 100MM SERVICE CONNECTION), VALVE BOX ASSEMBLY AS PER COO STD. DWG. W24.
- ALL CONNECTIONS, RESTRAINT RODS AND VALVE BOLTS TO BE STAINLESS STEEL AS PER COODG - WATER DISTRIBUTION SECTION 4.3.11 AND COO STD. DWGS.
- VALVES TO BE OPERATED BY CITY OF OTTAWA STAFF ONLY.
- NO CONNECTION TO EXISTING WATER NETWORK SHALL BE COMPLETED UNTIL A WATER PERMIT IS OBTAINED FROM THE CITY OF OTTAWA (COO). COA FORCES TO COMPLETE WATERMAIN CONNECTIONS, EXCAVATION, BACKFILLING AND REINSTATEMENT TO BE COMPLETED BY CONTRACTOR.
- CATHODIC PROTECTION AS PER OPSD 1109.010, COADG - WATER DISTRIBUTION SECTION 4.8 AND COO STD. DWGS. W39 (DI), W40 (PVC) AND/OR W41-W43 & 48 AS APPLICABLE.
- PRESSURE TESTING AS PER AWWA C605 & COADG - WATER DISTRIBUTION SECTION 4.6.13.
- CHLORINATION AS PER AWA C-651-06, COADG - WATER DISTRIBUTION SECTION 4.6.13 & COO STD. DWG. W46.

**LEGEND:**

	EXISTING PROPERTY LINE TO REMAIN
	PROPOSED CURB
	PROPOSED DEPRESSED CURB
	PROPOSED TERRACING (3.1 MIN.)
	PROPOSED SILT FENCE AS PER OPSD 219.110
	PROPOSED FENCE
	PROPOSED DOOR ENTRANCE/EXIT
	PROPOSED GRASS AREA (100mm TOP SOIL & SOD)
	PROPOSED CONCRETE FEATURES/SLAB
	PROPOSED HEAVY DUTY ASPHALT
	PROPOSED LIGHT DUTY ASPHALT
	PROPOSED RIP RAP
	PROPOSED ELEVATION
	PROPOSED HIGH POINT ELEVATION
	PROPOSED DEPRESSED CURB / ASPHALT ELEVATION
	PROPOSED BOTTOM OF CURB / ASPHALT ELEVATION
	PROPOSED TOP OF CURB ELEVATION
	PROPOSED EXPOSED BOTTOM OF RETAINING WALL
	PROPOSED TOP OF RETAINING WALL
	MATCH INTO EXISTING ELEVATION
	EXISTING ELEVATION
	PROPOSED OVERLAND MAJOR FLOW ROUTE
	PROPOSED 100mm PERFORATED SUBDRAIN
	PROPOSED STORM SEWER
	PROPOSED SANITARY SEWER
	PROPOSED WATERMAIN
	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN
	EXISTING GAS LINE
	EXISTING MANHOLE
	EXISTING CATCHBASIN
	PROPOSED CATCHBASIN-MANHOLE/CATCHBASIN
	PROPOSED MANHOLE
	PROPOSED AREA DRAIN
	PROPOSED CURB STOP
	PROPOSED PIPE INSULATION
	PROPOSED 100 YEAR HIGH WATER LEVEL
	STORM WATER SHED EXTENT
	WATERSHED NAME
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	AREA IN HECTARES

**GENERAL INTERPRETATION OF DRAWINGS**

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE WORK AND INTENT OF THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.

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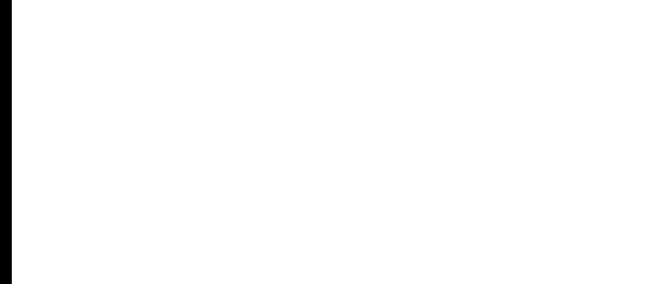
UNAUTHORIZED CHANGES: IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRL ASSOCIATES LTD. (LRL) WITHOUT THE WRITTEN APPROVAL OF LRL AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

IN ADDITION, THE CLIENT AGREES TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

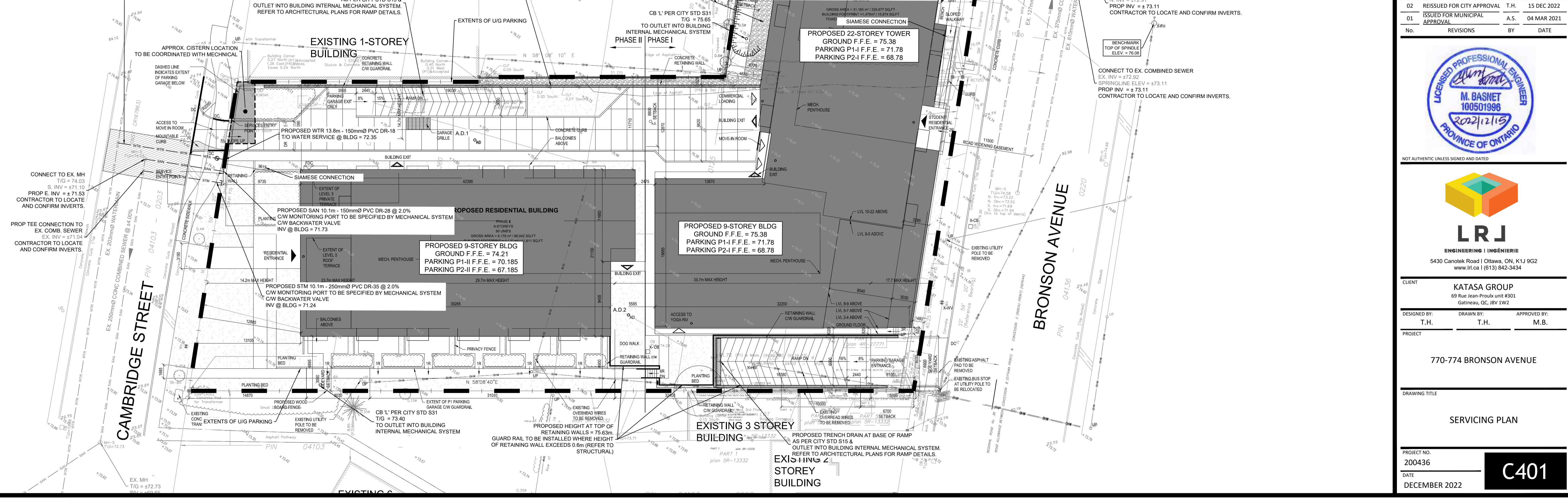
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THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND MODIFICATIONS TO THIS CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF LRL AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH LRL AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.



1500x2000 PROPOSED CONNECTION TO 200mmØ WATERMAIN BY CITY FORCES. EXCAVATION AND REINSTATEMENT BY CONTRACTOR. T/G = ±74.20. EX. WATERMAIN O.B.V. = ±71.80



No.	REVISIONS	BY	DATE
02	REISSUED FOR CITY APPROVAL	T.H.	15 DEC 2022
01	ISSUED FOR MUNICIPAL APPROVAL	A.S.	04 MAR 2021



NOT AUTHENTIC UNLESS SIGNED AND DATED

**LRL**  
ENGINEERING | INGENIERIE  
5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lrl.ca | (613) 842-3434

CLIENT: **KATASA GROUP**  
69 Rue Jean-Proulx unit #301  
Gatineau, QC, J8V 1W2

DESIGNED BY: T.H. DRAWN BY: T.H. APPROVED BY: M.B.

PROJECT: **770-774 BRONSON AVENUE**

DRAWING TITLE: **SERVICING PLAN**  
PROJECT NO: 200436  
DATE: DECEMBER 2022  
**C401**

Summary of Release Rates and Storage Volumes For PHASE 1				
Catchment Area / Associated Roof Drain Number	Drainage Area (ha)	100-year Release Rate (L/s)	100-Year Required Storage (m3)	Total Available Storage (m3)
WS-06 (ROOF) / RD6	0.009	0.63	2.78	3.89
WS-07 (ROOF) / RD7	0.016	0.63	6.70	6.95
WS-08 (ROOF) / RD8 & RD9	0.017	1.26	5.39	6.86
WS-09 (ROOF) / RD10	0.011	0.63	3.94	4.94
WS-10 (ROOF) / RD11	0.011	0.63	3.94	4.98
WS-11 (ROOF) / RD12	0.008	0.63	2.71	3.04
WS-12 (ROOF) / RD13	0.018	0.63	8.11	8.41
WS-13 (ROOF) / RD16	0.006	0.63	1.58	2.73
WS-14 (ROOF) / RD17	0.011	0.63	4.05	4.89
WS-15 (ROOF) / RD18	0.011	0.63	4.19	5.04
WS-16 (ROOF) / RD19	0.008	0.63	2.53	3.38
WS-17 (CONTROLLED) Cistern	0.071	2.42	30.90	35.00
WS-18 (UNCONTROLLED)	0.016	7.72	0.00	0.00
<b>TOTAL</b>	<b>0.213</b>	<b>17.71</b>	<b>76.82</b>	<b>90.11</b>

Summary of Release Rates and Storage Volumes For PHASE 2				
Catchment Area / Associated Roof Drain Number	Drainage Area (ha)	100-year Release Rate (L/s)	100-Year Required Storage (m3)	Total Available Storage (m3)
WS-01 (ROOF) / RD1	0.014	0.63	5.39	6.08
WS-02 (ROOF) / RD2	0.019	0.63	8.62	8.90
WS-03 (ROOF) / RD3	0.014	0.63	5.56	6.10
WS-04 (ROOF) / RD4	0.016	0.95	5.90	6.55
WS-05 (ROOF) / RD5	0.016	0.63	6.56	7.25
WS-20 (CONTROLLED) Cistern	0.149	3.69	59.30	60.00
WS-19 (UNCONTROLLED)	0.015	6.59	0.00	0.00
<b>TOTAL</b>	<b>0.244</b>	<b>13.75</b>	<b>91.34</b>	<b>94.88</b>

**LEGEND:**

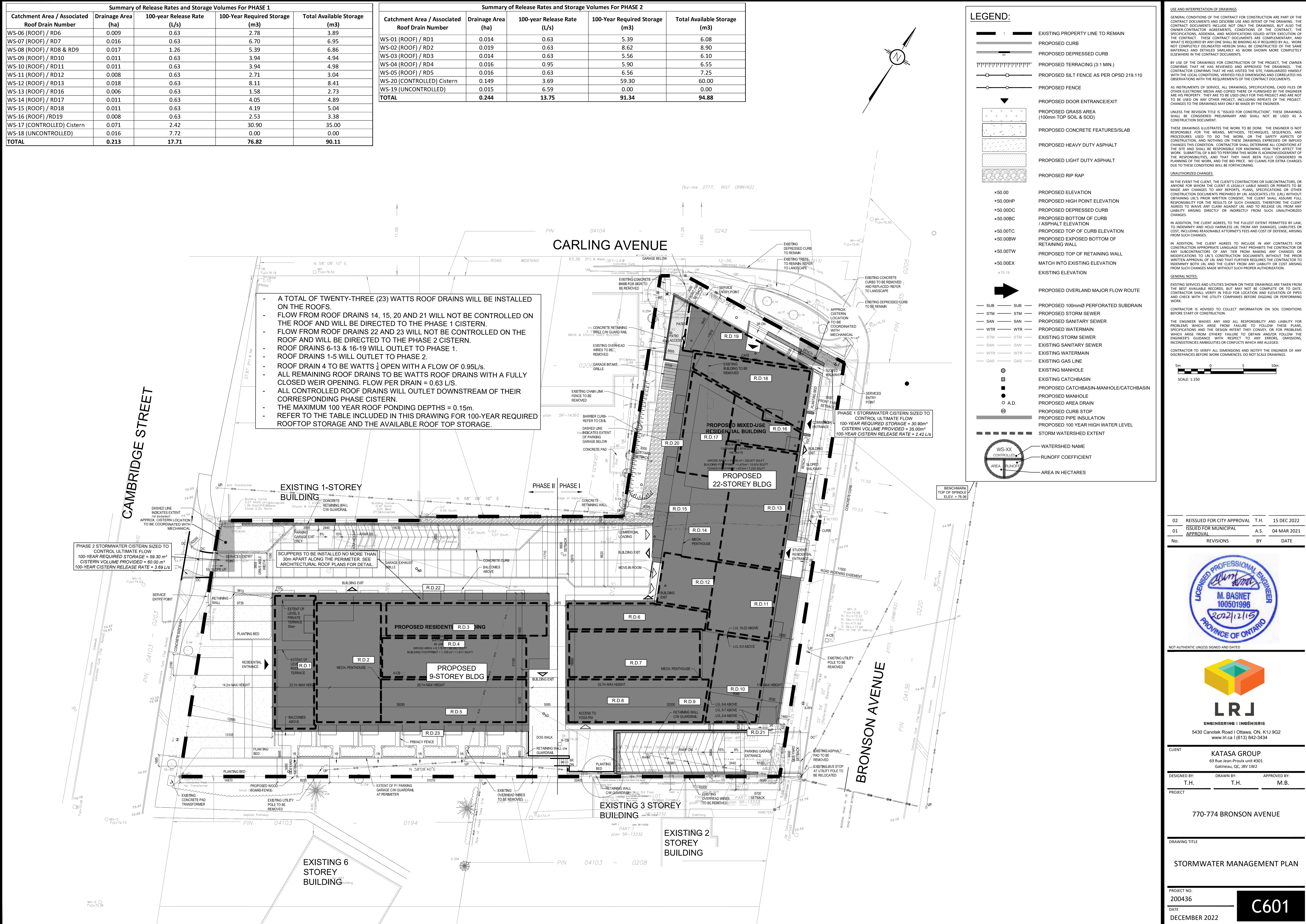
- 1 — EXISTING PROPERTY LINE TO REMAIN
- 2 — PROPOSED CURB
- 3 — PROPOSED DEPRESSED CURB
- 4 — PROPOSED TERRACING (3:1 MIN.)
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- 6 — PROPOSED FENCE
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- 8 — PROPOSED GRASS AREA (100mm TOP SOIL & SOD)
- 9 — PROPOSED CONCRETE FEATURES/SLAB
- 10 — PROPOSED HEAVY DUTY ASPHALT
- 11 — PROPOSED LIGHT DUTY ASPHALT
- 12 — PROPOSED RIP RAP
- 13 — PROPOSED ELEVATION
- 14 — PROPOSED HIGH POINT ELEVATION
- 15 — PROPOSED DEPRESSED CURB
- 16 — PROPOSED BOTTOM OF CURB / ASPHALT ELEVATION
- 17 — PROPOSED TOP OF CURB ELEVATION
- 18 — PROPOSED EXPOSED BOTTOM OF RETAINING WALL
- 19 — PROPOSED TOP OF RETAINING WALL
- 20 — MATCH INTO EXISTING ELEVATION
- 21 — EXISTING ELEVATION
- 22 — PROPOSED OVERLAND MAJOR FLOW ROUTE
- 23 — SUB — PROPOSED 100mmØ PERFORATED SUBDRAIN
- 24 — STM — PROPOSED STORM SEWER
- 25 — SAN — PROPOSED SANITARY SEWER
- 26 — WTR — PROPOSED WATERMAIN
- 27 — STM — EXISTING STORM SEWER
- 28 — SAN — EXISTING SANITARY SEWER
- 29 — WTR — EXISTING WATERMAIN
- 30 — GAS — EXISTING GAS LINE
- 31 — EXISTING MANHOLE
- 32 — EXISTING CATCHBASIN
- 33 — PROPOSED CATCHBASIN-MANHOLE/CATCHBASIN
- 34 — PROPOSED MANHOLE
- 35 — PROPOSED AREA DRAIN
- 36 — PROPOSED CURB STOP
- 37 — PROPOSED PIPE INSULATION
- 38 — PROPOSED 100 YEAR HIGH WATER LEVEL
- 39 — STORM WATERSHED EXTENT
- 40 — WS-XX CONTROLLED AREA — WATERSHED NAME
- 41 — RUNOFF COEFFICIENT
- 42 — AREA IN HECTARES

A TOTAL OF TWENTY-THREE (23) WATTS ROOF DRAINS WILL BE INSTALLED ON THE ROOFS.

- FLOW FROM ROOF DRAINS 14, 15, 20 AND 21 WILL NOT BE CONTROLLED ON THE ROOF AND WILL BE DIRECTED TO THE PHASE 1 CISTERN.
- FLOW FROM ROOF DRAINS 22 AND 23 WILL NOT BE CONTROLLED ON THE ROOF AND WILL BE DIRECTED TO THE PHASE 2 CISTERN.
- ROOF DRAINS 6-13 & 16-19 WILL OUTLET TO PHASE 1.
- ROOF DRAINS 1-5 WILL OUTLET TO PHASE 2.
- ROOF DRAIN 4 TO BE WATTS 1/2 OPEN WITH A FLOW OF 0.95L/s.
- ALL REMAINING ROOF DRAINS TO BE WATTS ROOF DRAINS WITH A FULLY CLOSED WEIR OPENING. FLOW PER DRAIN = 0.63 L/S.
- ALL CONTROLLED ROOF DRAINS WILL OUTLET DOWNSTREAM OF THEIR CORRESPONDING PHASE CISTERN.
- THE MAXIMUM 100 YEAR ROOF PONDING DEPTHS = 0.15m.
- REFER TO THE TABLE INCLUDED IN THIS DRAWING FOR 100-YEAR REQUIRED ROOFTOP STORAGE AND THE AVAILABLE ROOF TOP STORAGE.

PHASE 2 STORMWATER CISTERN SIZED TO CONTROL ULTIMATE FLOW  
 100-YEAR REQUIRED STORAGE = 30.90m³  
 CISTERN VOLUME PROVIDED = 60.00m³  
 100-YEAR CISTERN RELEASE RATE = 3.69 L/s

SCUPPERS TO BE INSTALLED NO MORE THAN 30m APART ALONG THE PERIMETER. SEE ARCHITECTURAL ROOF PLANS FOR DETAIL.



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IN ADDITION, THE CLIENT AGREES TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRI FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

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5m 0 5 10m  
 SCALE: 1:250

02 REISSUED FOR CITY APPROVAL T.H. 15 DEC 2022  
 01 ISSUED FOR MUNICIPAL APPROVAL A.S. 04 MAR 2021

No. REVISIONS BY DATE

**LRI**  
 ENGINEERING | INGENIERIE  
 5430 Canotek Road | Ottawa, ON, K1J 9G2  
 www.lri.ca | (613) 842-3434

CLIENT: **KATASA GROUP**  
 69 Rue Jean-Proulx unit #301  
 Gatineau, QC, J8V 1W2

DESIGNED BY: T.H. DRAWN BY: T.H. APPROVED BY: M.B.

PROJECT: **770-774 BRONSON AVENUE**

DRAWING TITLE: **STORMWATER MANAGEMENT PLAN**

PROJECT NO: 200436  
 DATE: DECEMBER 2022

**C601**

**LEGEND:**

- EXISTING PROPERTY LINE TO REMAIN
- PROPOSED CURB
- PROPOSED DEPRESSION CURB
- PROPOSED TERRACING (3:1 MIN.)
- PROPOSED SILT FENCE AS PER OPSD 219.110
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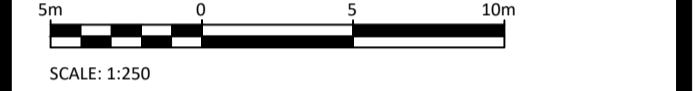
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02	REISSUED FOR CITY APPROVAL	T.H.	15 DEC 2022
01	ISSUED FOR MUNICIPAL APPROVAL	A.S.	04 MAR 2021
No.	REVISIONS	BY	DATE



NOT AUTHENTIC UNLESS SIGNED AND DATED

**LRJ**  
ENGINEERING | INGÉNIERIE  
5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lri.ca | (613) 842-3434

CLIENT	KATASA GROUP 69 Rue Jean-Proulx unit #301 Gatineau, QC, J8V 1W2		
DESIGNED BY:	T.H.	DRAWN BY:	T.H.
		APPROVED BY:	M.B.

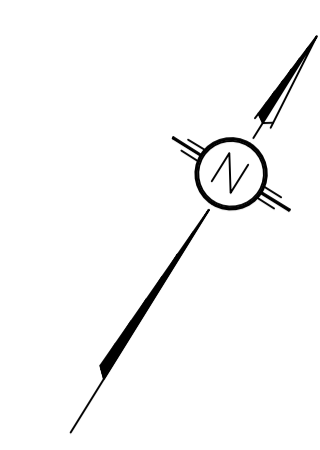
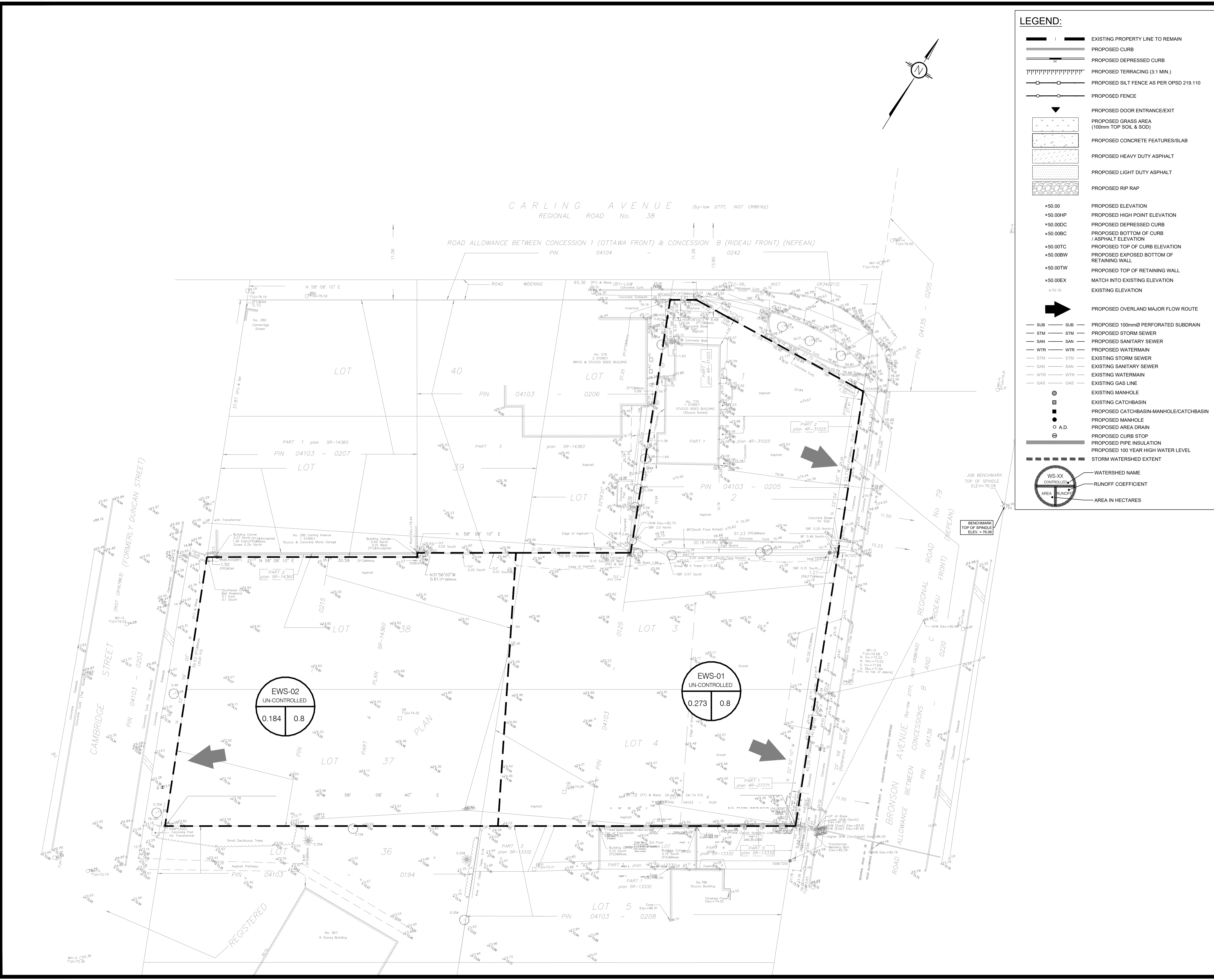
PROJECT  
**770-774 BRONSON AVENUE**

DRAWING TITLE  
**PRE-DEVELOPMENT WATERSHED PLAN**

PROJECT NO.  
**200436**

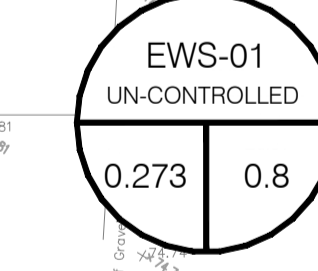
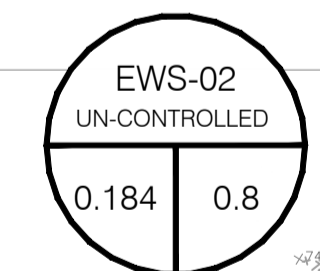
DATE  
**DECEMBER 2022**

**C701**



CARLING AVENUE (by-law 2777, INST CR66162)  
REGIONAL ROAD No. 38

ROAD ALLOWANCE BETWEEN CONCESSION 1 (OTTAWA FRONT) & CONCESSION B (RIDEAU FRONT) (NEPEAN)



CARLING AVENUE (by-law 2777, INST CR86162)  
REGIONAL ROAD No. 38

ROAD ALLOWANCE BETWEEN CONCESSION 1 (OTTAWA FRONT) & CONCESSION B (RIDEAU FRONT) (NEPEAN)

**LEGEND:**

- EXISTING PROPERTY LINE TO REMAIN
- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED TERRACING (3:1 MIN.)
- PROPOSED SILT FENCE AS PER OPSD 219.110
- PROPOSED FENCE
- PROPOSED DOOR ENTRANCE/EXIST
- PROPOSED GRASS AREA (100mm TOP SOIL & SOD)
- PROPOSED CONCRETE FEATURES/SLAB
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED RIP RAP
- PROPOSED ELEVATION
- PROPOSED HIGH POINT ELEVATION
- PROPOSED DEPRESSED CURB
- PROPOSED BOTTOM OF CURB / ASPHALT ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED EXPOSED BOTTOM OF RETAINING WALL
- PROPOSED TOP OF RETAINING WALL
- MATCH INTO EXISTING ELEVATION
- EXISTING ELEVATION
- PROPOSED OVERLAND MAJOR FLOW ROUTE
- PROPOSED 100mm PERFORATED SUBDRAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING GAS LINE
- EXISTING MANHOLE
- EXISTING CATCHBASIN
- PROPOSED CATCHBASIN-MANHOLE/CATCHBASIN
- PROPOSED MANHOLE
- PROPOSED AREA DRAIN
- PROPOSED CURB STOP
- PROPOSED PIPE INSULATION
- PROPOSED 100 YEAR HIGH WATER LEVEL
- STORM WATERSHED EXTENT
- WATERSHED NAME
- RUNOFF COEFFICIENT
- AREA IN HECTARES

**USE AND INTERPRETATION OF DRAWINGS**

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS IF REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILED SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.

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UNAUTHORIZED CHANGES:

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IN ADDITION, THE CLIENT AGREES TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRI FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

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SCALE: 1:250

5m 0 5 10m

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**LRI**  
ENGINEERING | INGÉNIÉRIE  
5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lri.ca | (613) 842-3434

CLIENT: **KATASA GROUP**  
69 Rue Jean-Proulx unit #301  
Gatineau, QC, J8V 1W2

DESIGNED BY: T.H. DRAWN BY: T.H. APPROVED BY: M.B.

PROJECT: **770-774 BRONSON AVENUE**

DRAWING TITLE: **POST-DEVELOPMENT WATERSHED PLAN**

PROJECT NO: 200436  
DATE: DECEMBER 2022

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ENGINEERING | INGÉNIÉRIE  
5430 Canotek Road | Ottawa, ON, K1J 9G2  
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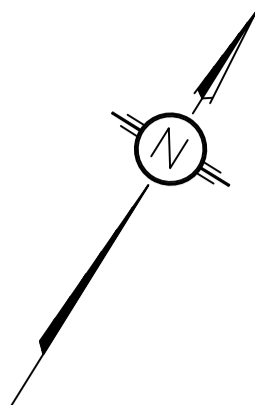
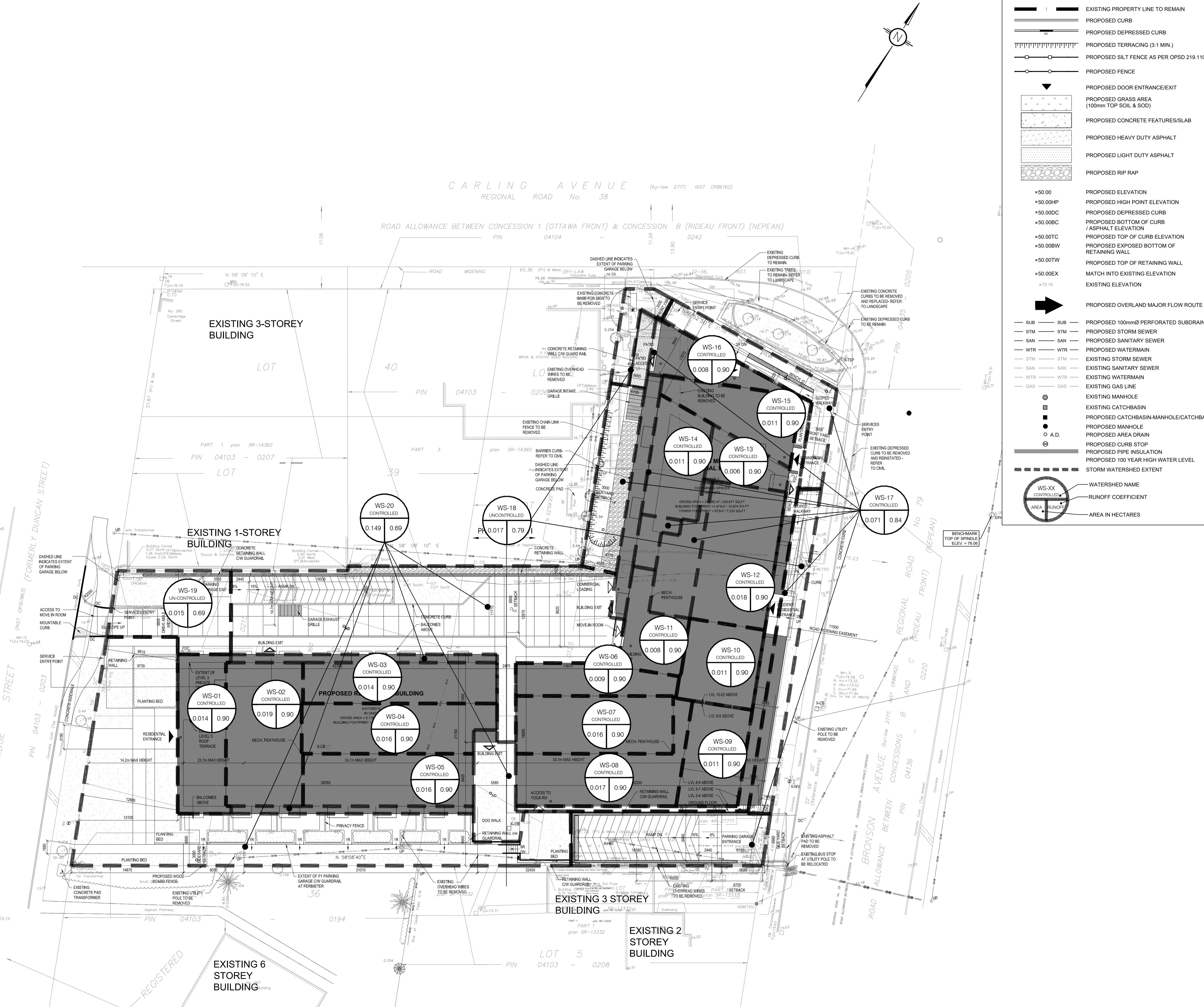
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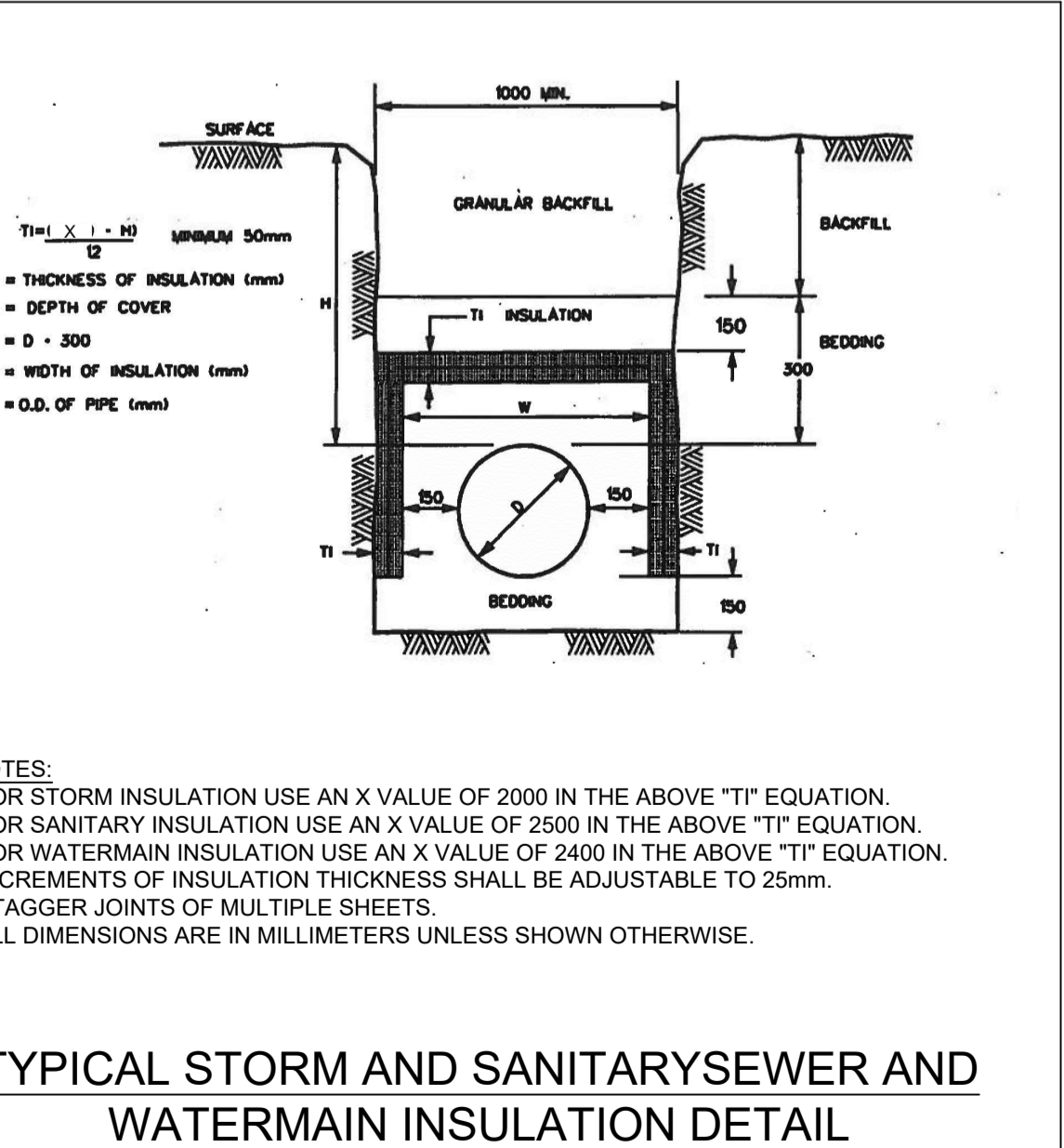
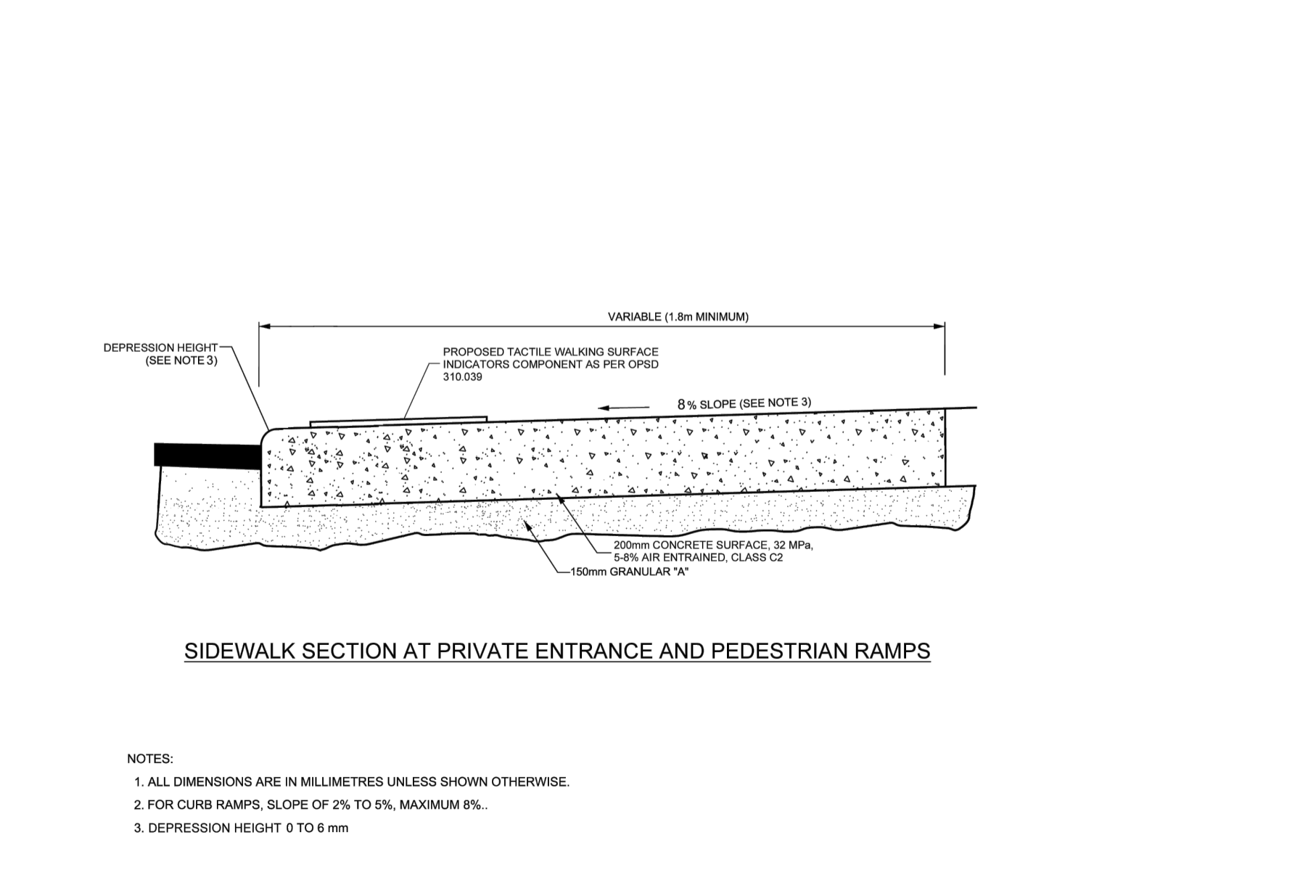
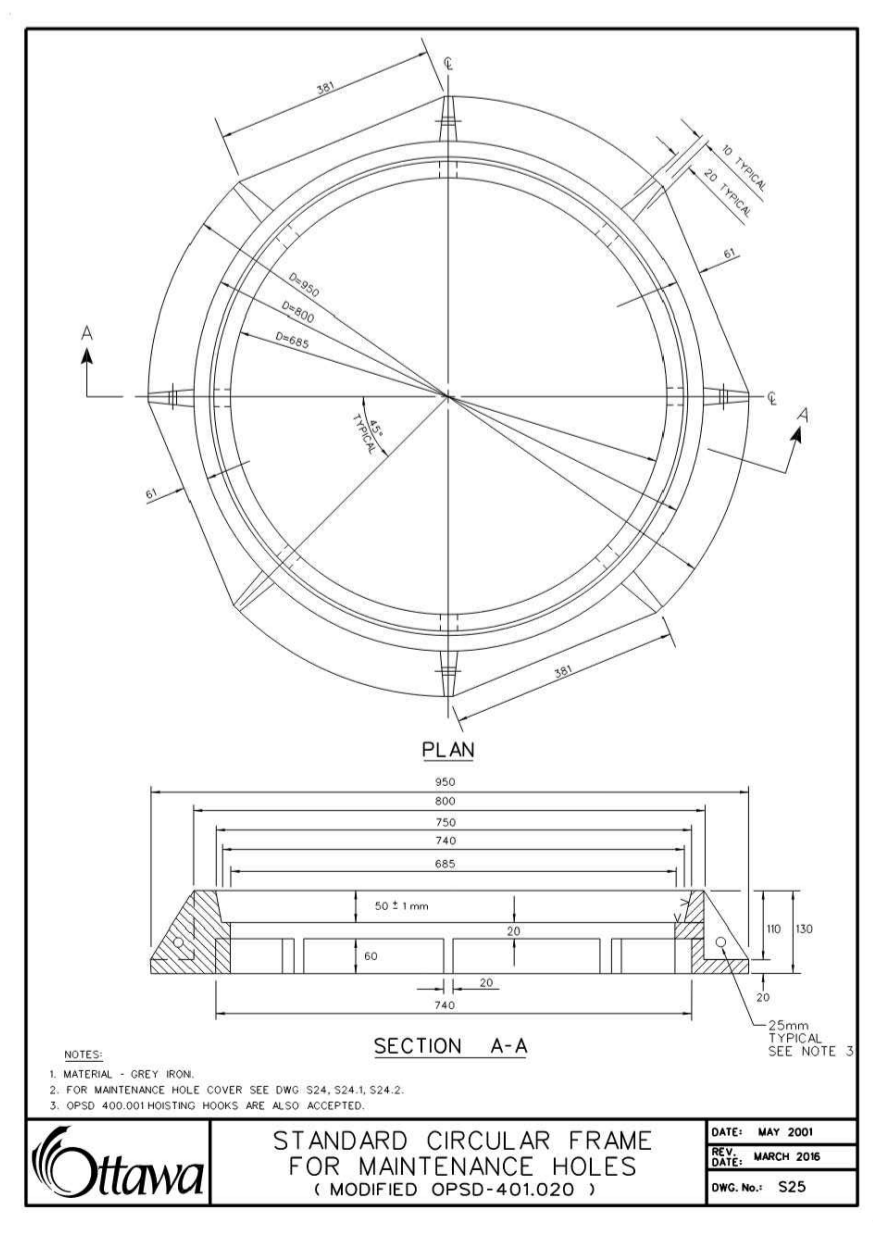
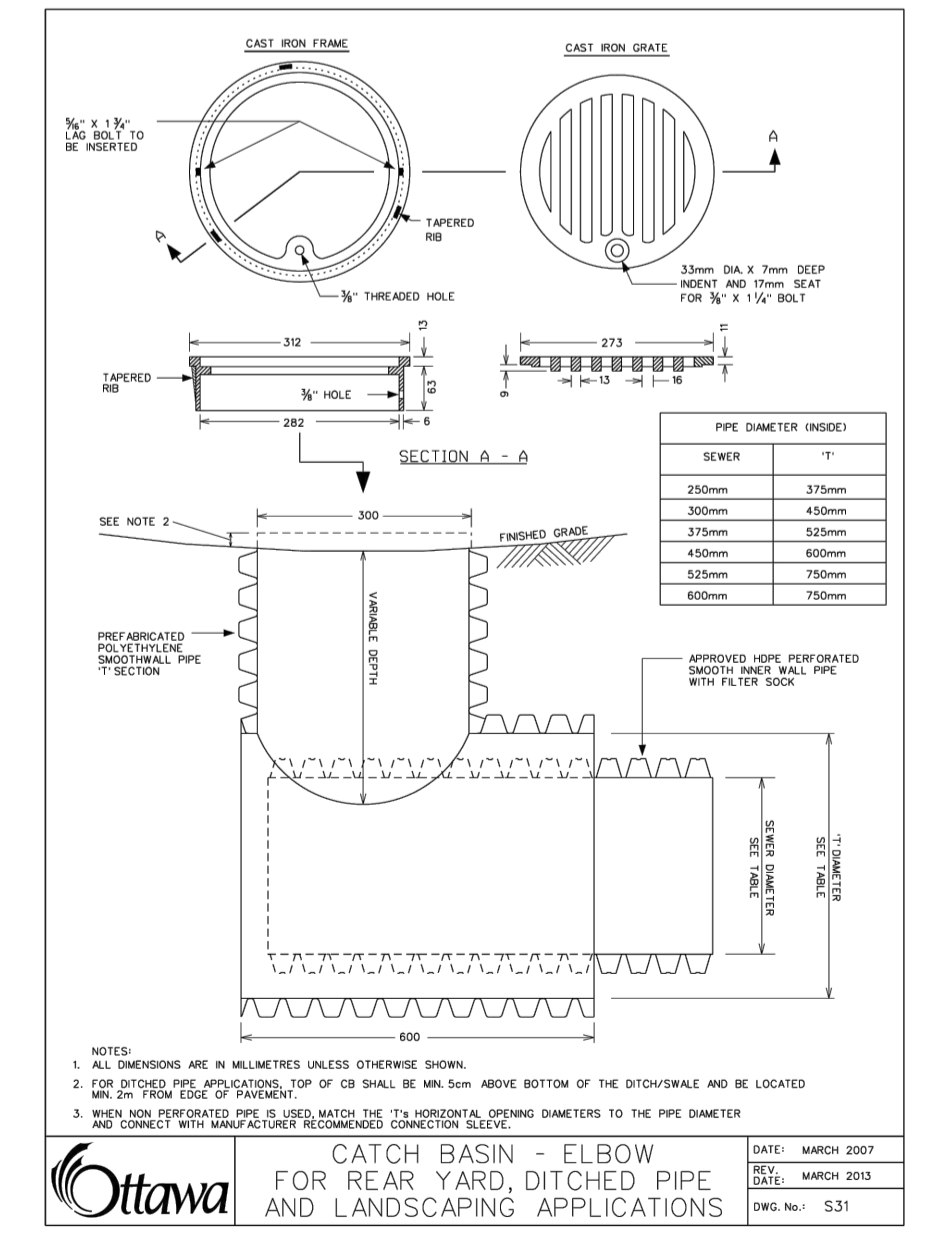
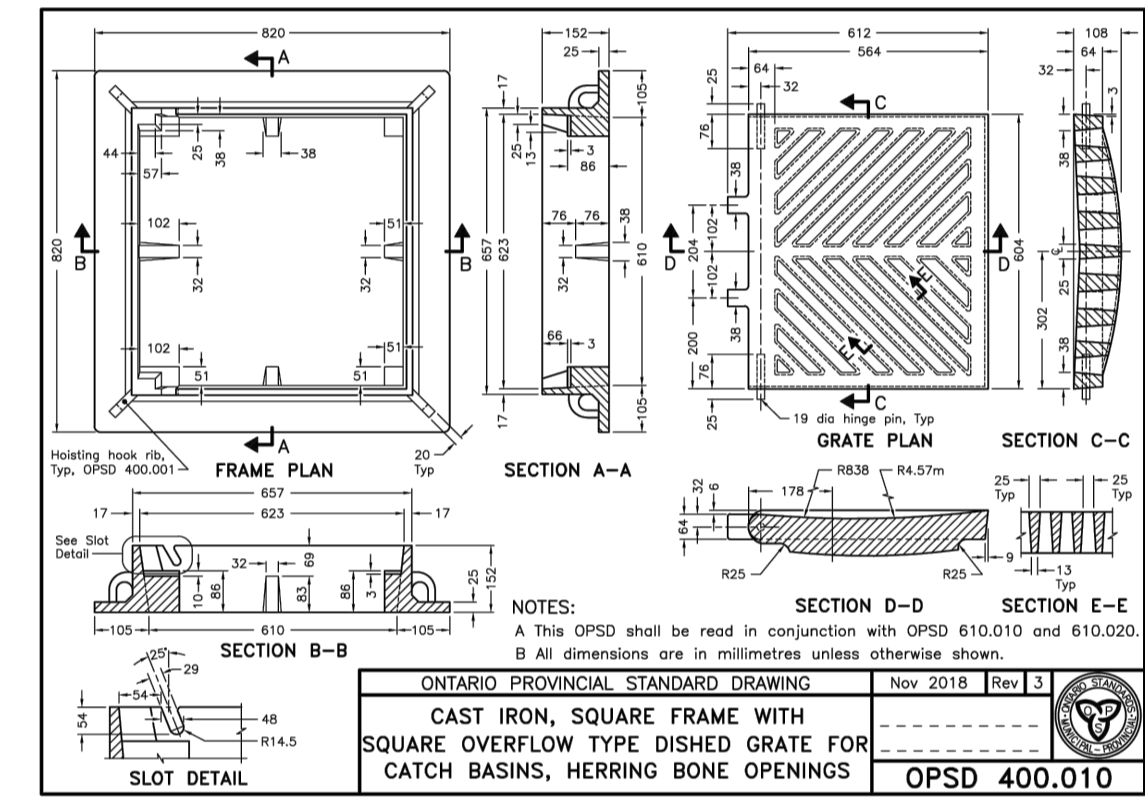
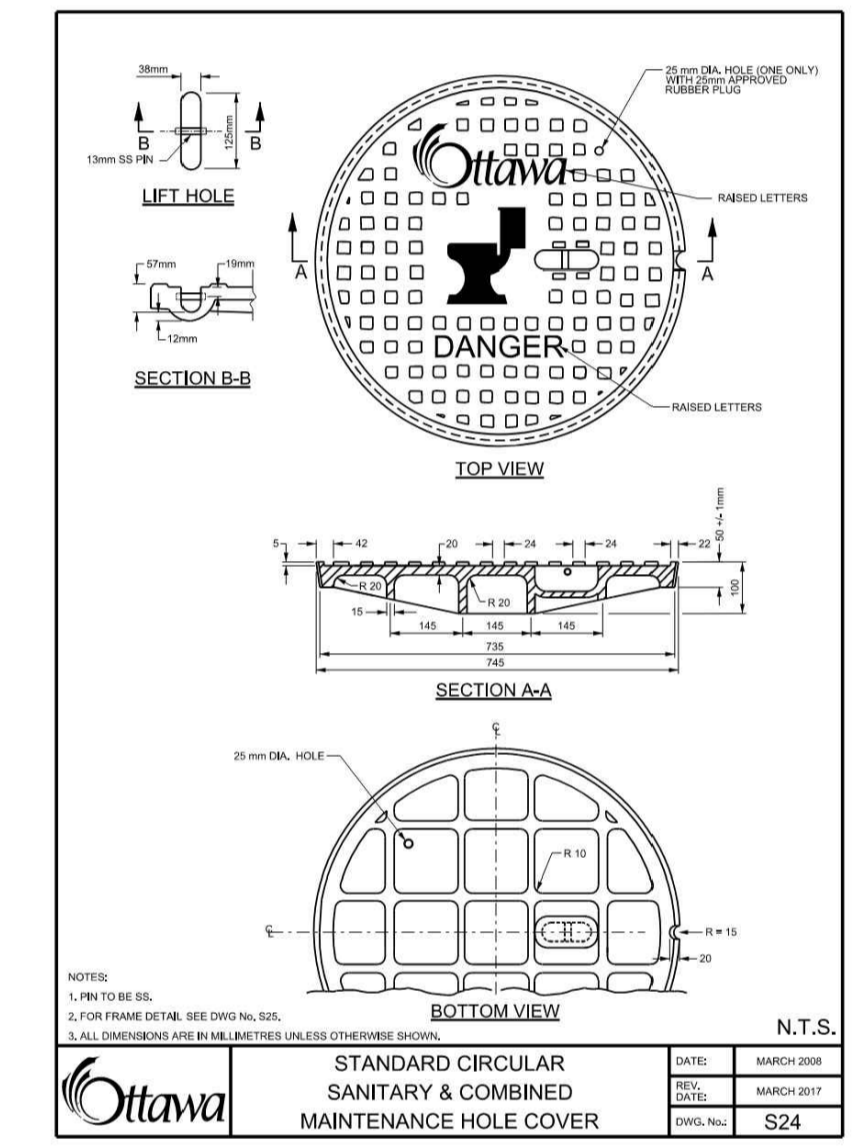
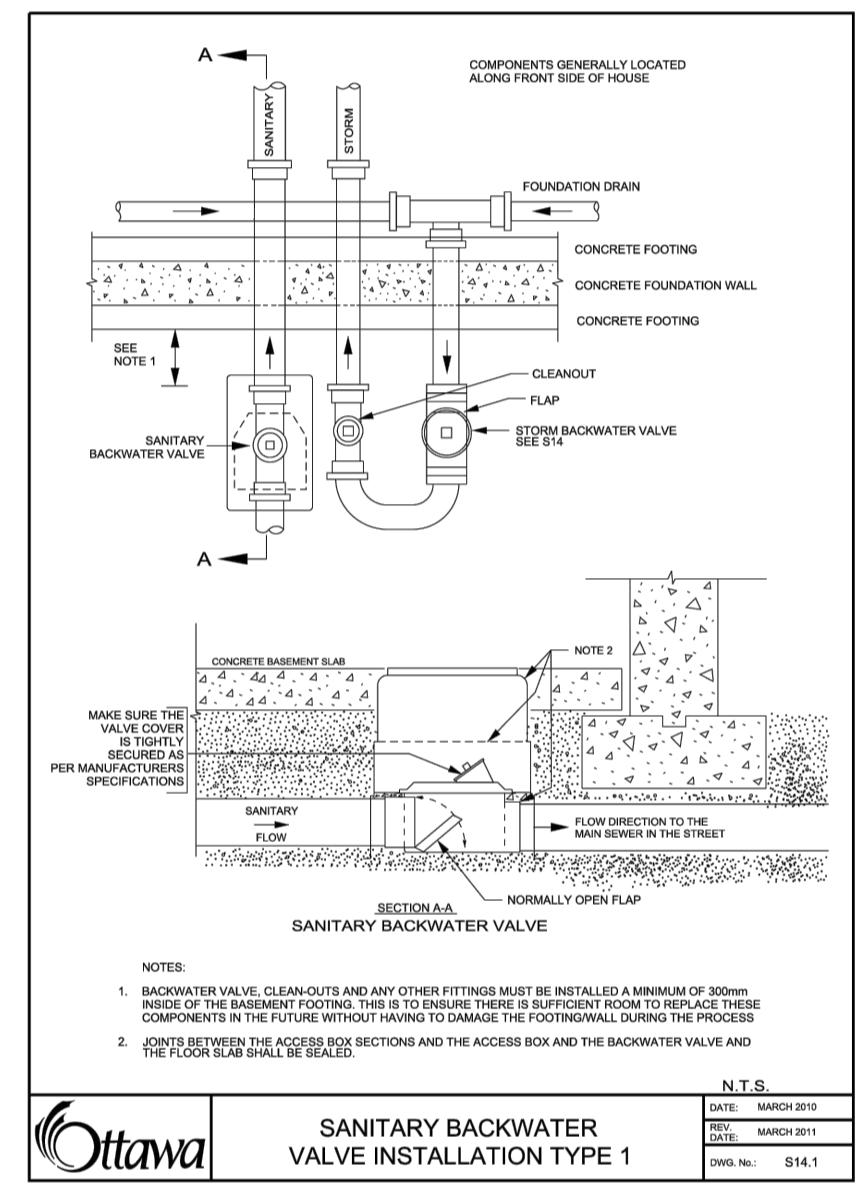
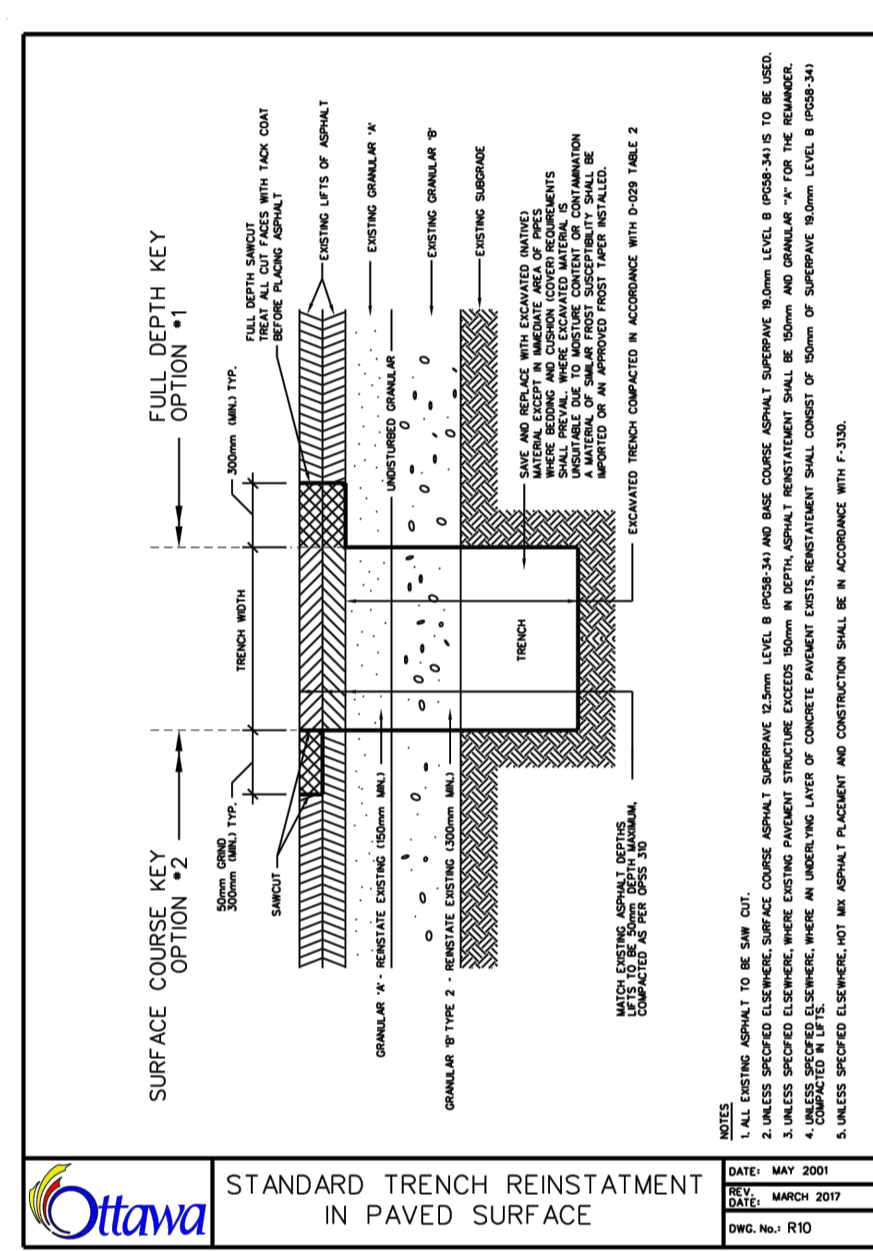
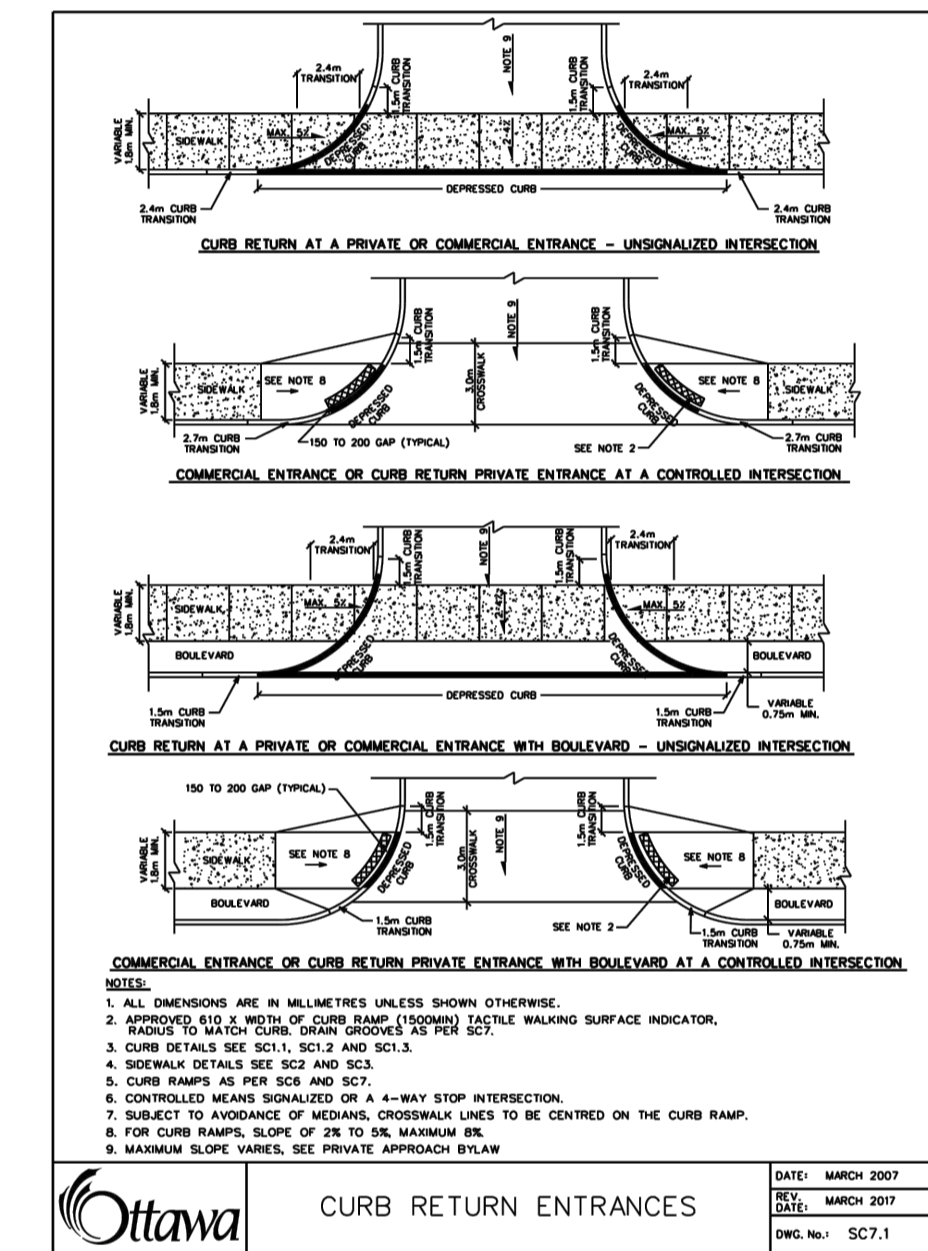
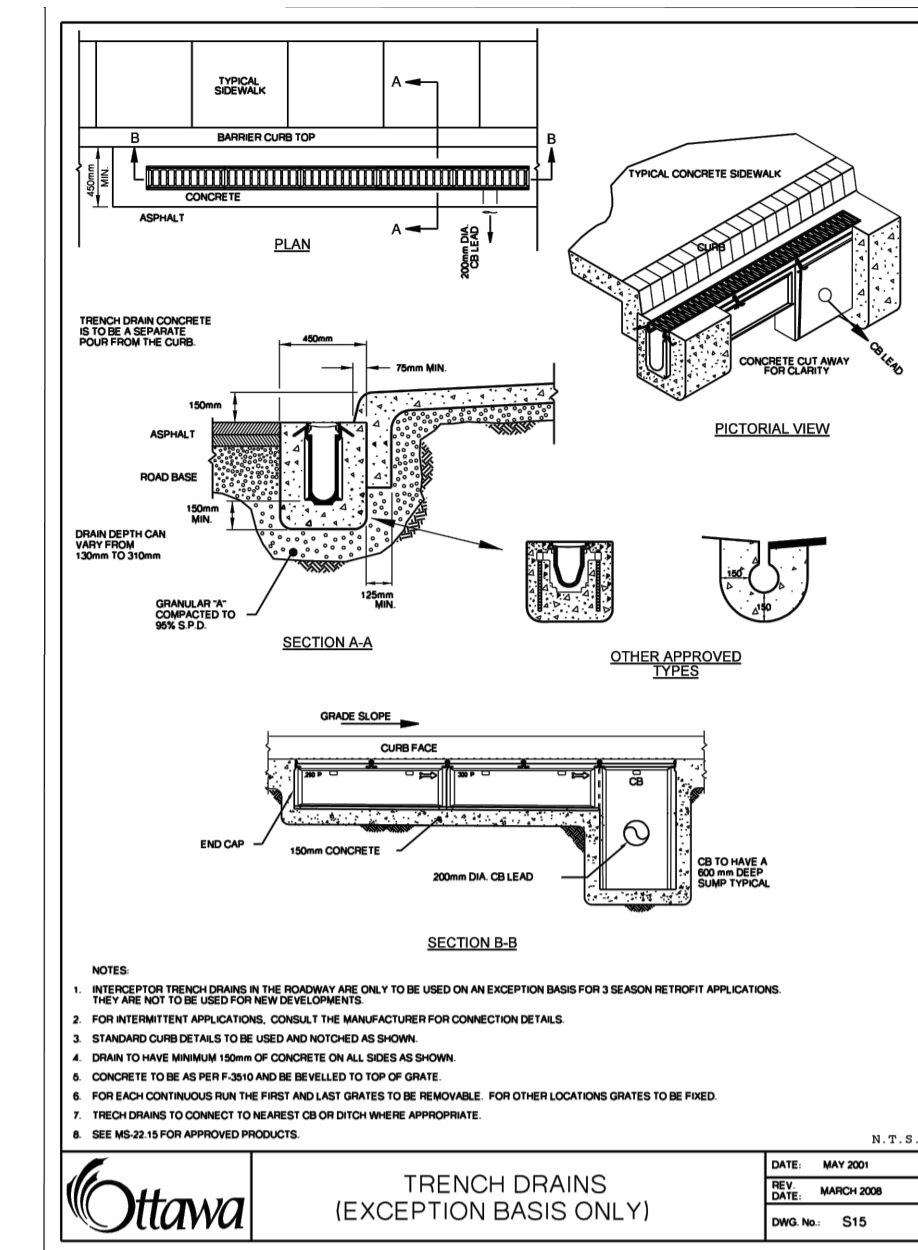
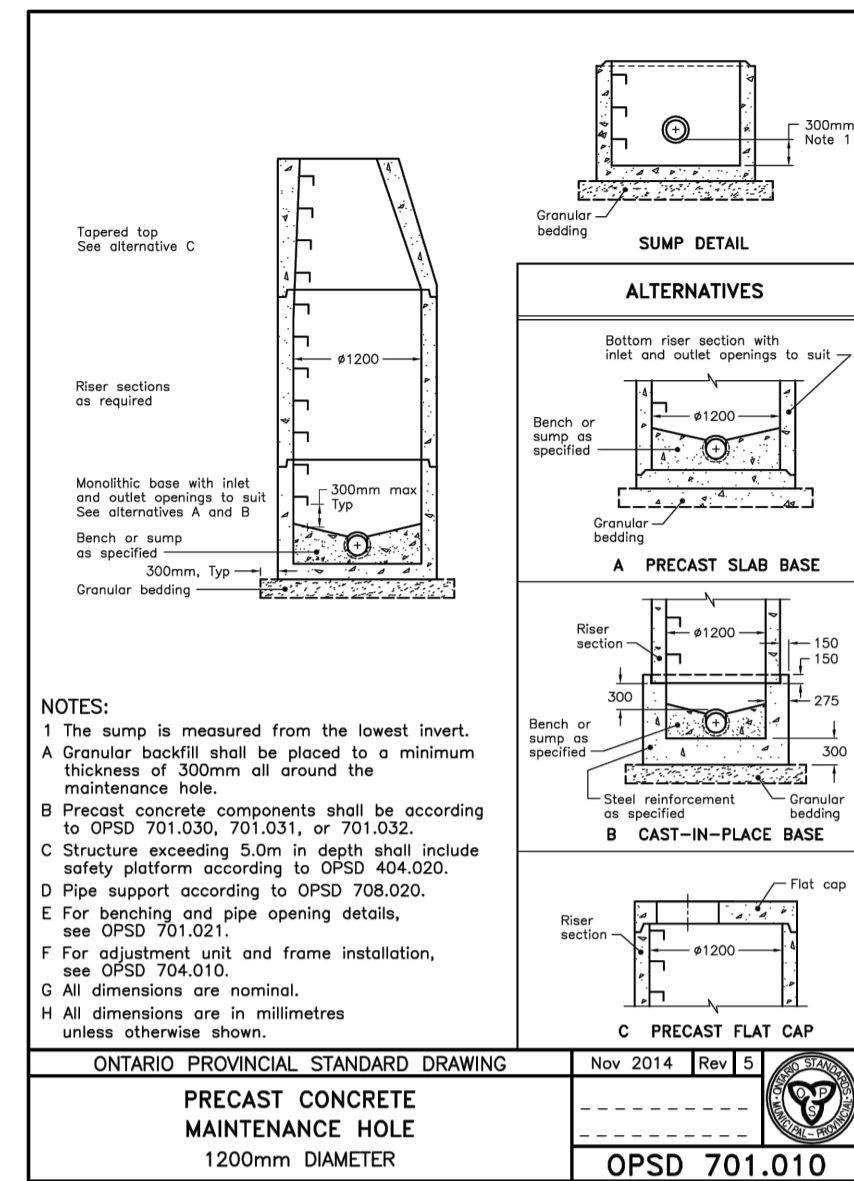
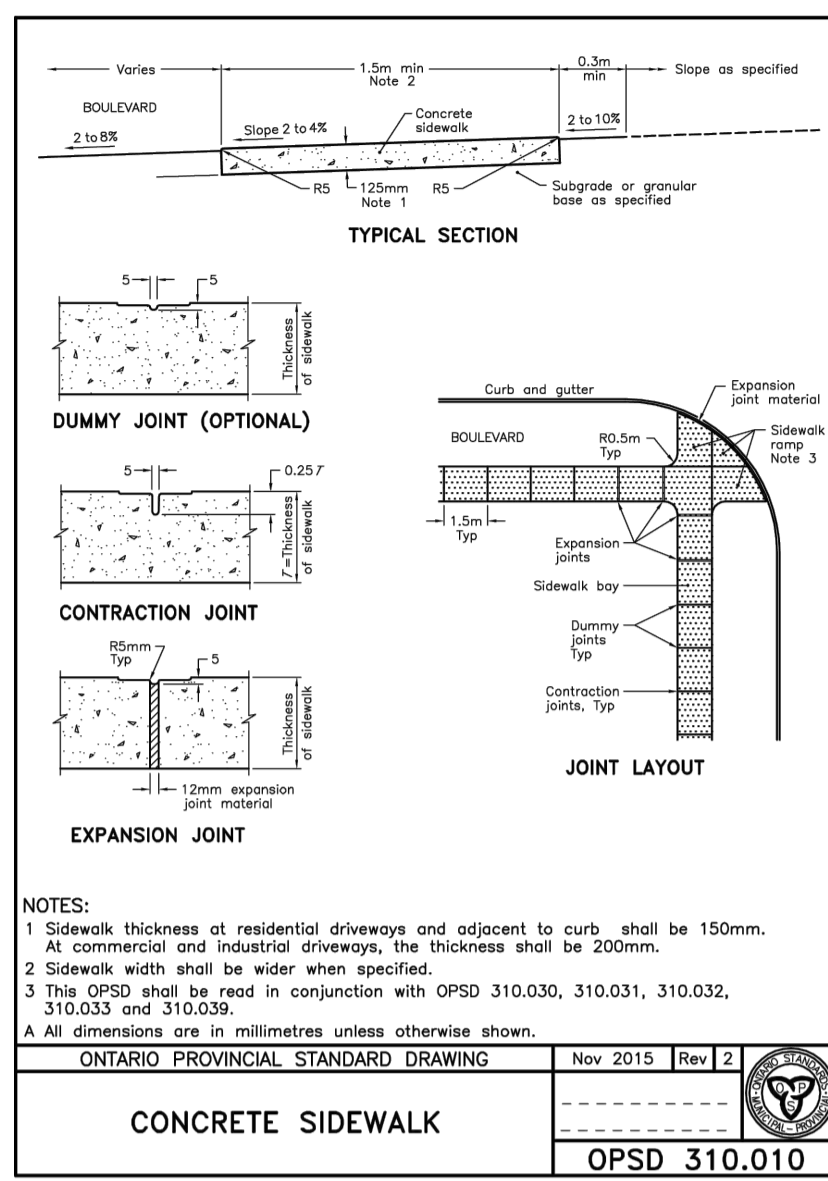
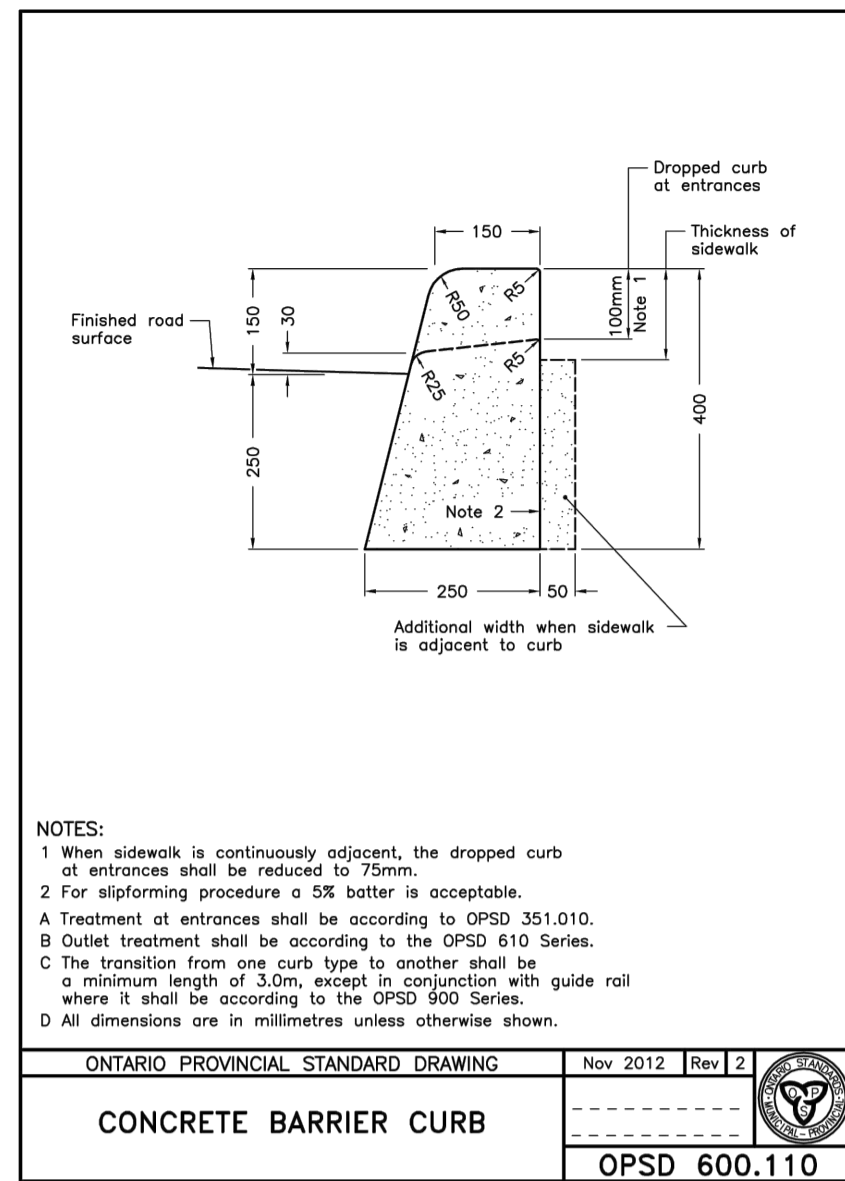
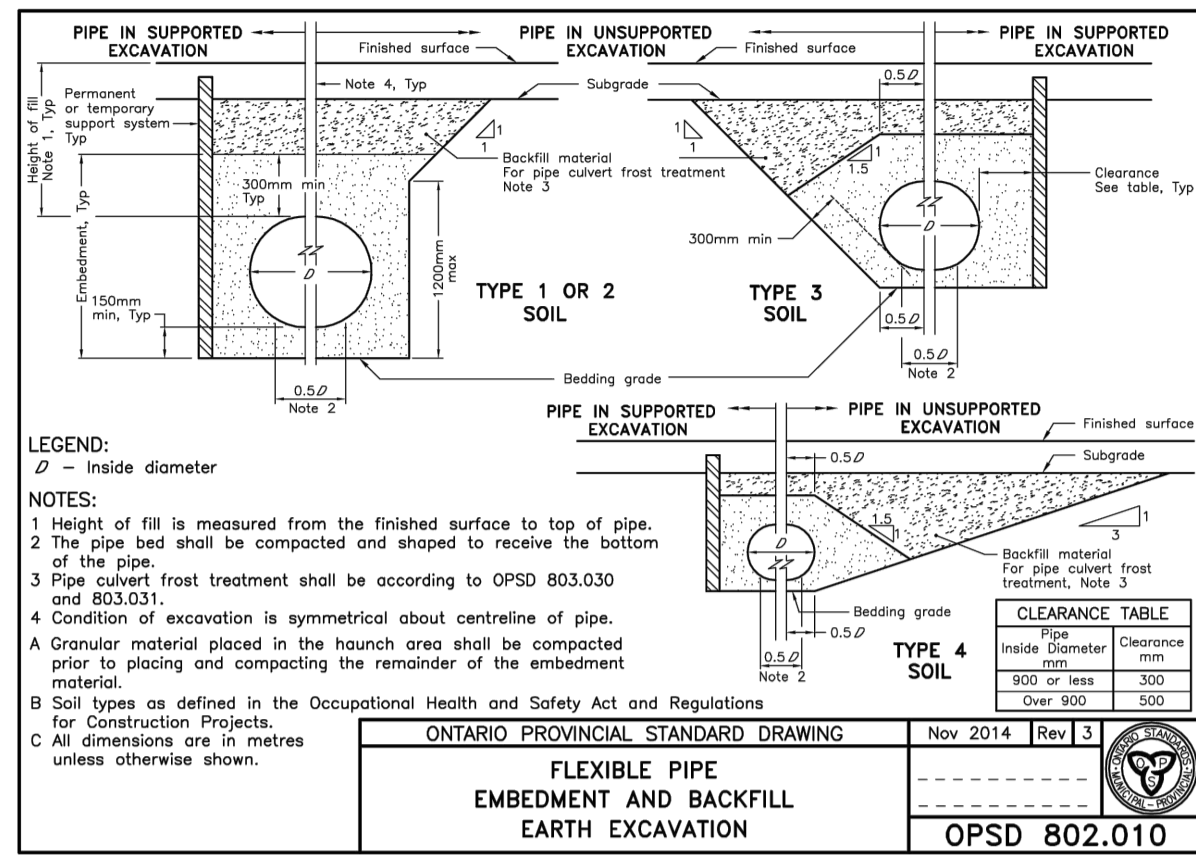
DESIGNED BY: T.H. DRAWN BY: T.H. APPROVED BY: M.B.

PROJECT: **770-774 BRONSON AVENUE**

DRAWING TITLE: **POST-DEVELOPMENT WATERSHED PLAN**

PROJECT NO: 200436  
DATE: DECEMBER 2022





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**Licensed Professional Engineer**  
M. BASNET  
100501996  
2022/12/15  
PROVINCE OF ONTARIO

**LRJ**  
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5430 Canotek Road | Ottawa, ON, K1J 9G2  
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CLIENT: **KATASA GROUP**  
69 Rue Jean-Proulx Unit #301  
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DESIGNED BY: T.H. DRAWN BY: T.H. APPROVED BY: M.B.

PROJECT: **770-774 BRONSON AVENUE**

DRAWING TITLE: **CONSTRUCTION DETAIL PLAN**

PROJECT NO: 200436  
DATE: DECEMBER 2022

**C901**