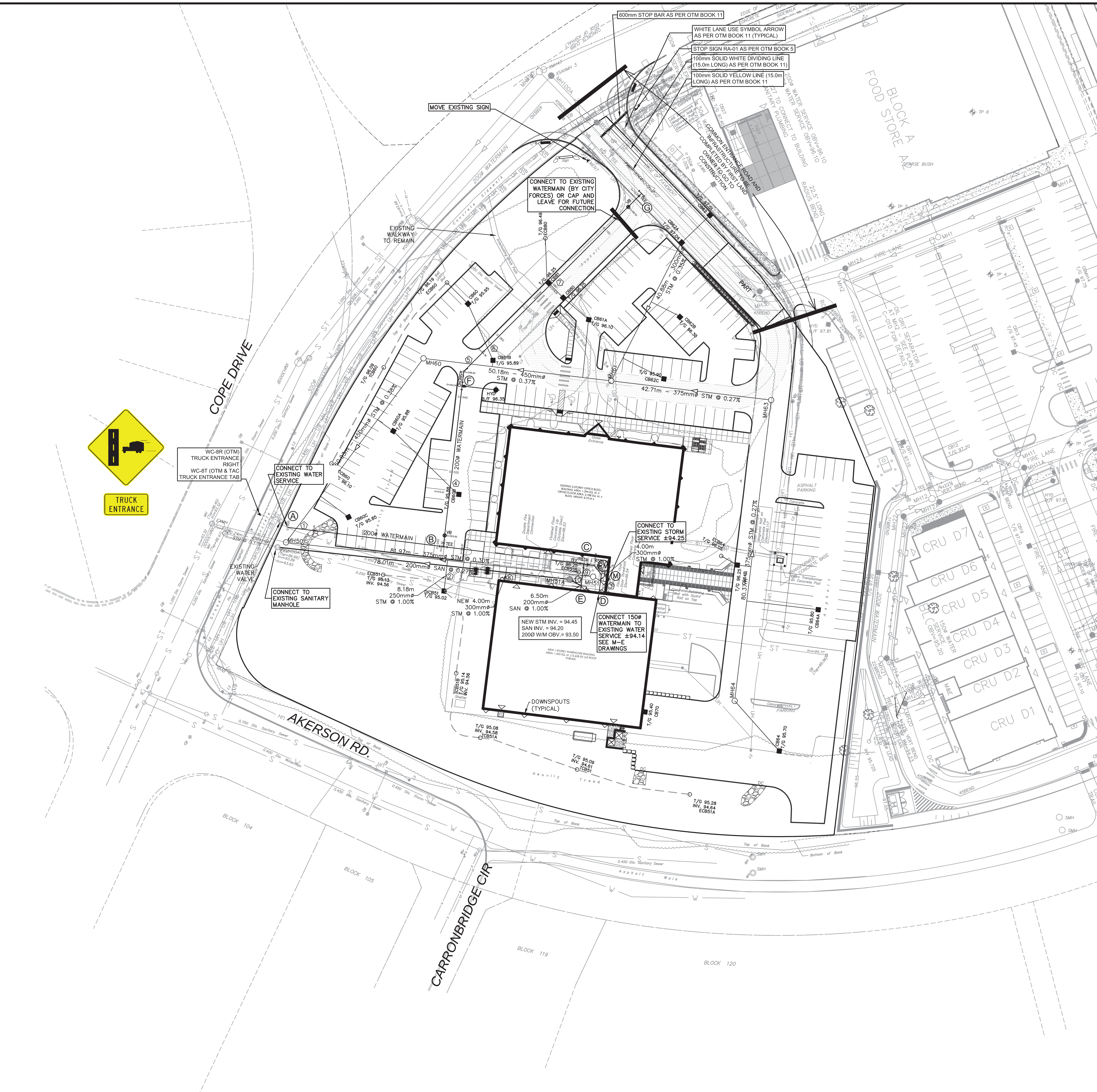
APPROVED
By Derrick Moodie at 12:08 pm, Feb 28, 2019

DERRICK MOODIE
MANAGER
PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA



SANITARY SEWER STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT OUT	DESCRIPTION
EXMH50A	96.16	*E93.890*	*W93.830*	EXISTING MANHOLE
MH51A	96.29	SE94.135	W94.101	1200 DIA. OPSD 701.010

STORM SEWER STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT OUT	DESCRIPTION
EXMH	96.40	E93.550		1200 DIA. OPSD 701.010
MH50	96.03	NE93.700 E93.775	W93.625	1200 DIA. OPSD 701.010
MH51	96.28	SE94.210	W94.021	1200 DIA. OPSD 701.010
MH60	96.13	E93.991	SW93.931	1200 DIA. OPSD 701.010
MH61	96.11	NE94.327 E94.251	W94.177	1200 DIA. OPSD 701.010 C/W TEMPEST MHF ICD 25L/s @ 1.67 HEAD
MH63	96.62	S94.427	W94.366	1200 DIA. OPSD 701.010 C/W TEMPEST MHF ICD 44L/s @ 1.44 HEAD
MH64	95.96	SE94.730	N94.644	1200 DIA. OPSD 701.010

WATERMAIN SCHEDULE

STATION		DESCRIPTION	FINISHED GRADE	TOP OF WATERMAIN	AS-BUILT WATERMAIN
A	0+000.00	CONNECT TO EXISTING	95.88	93.40	
B	0+041.60	TEE 200ø	96.09	93.69	
C	0+079.10	TEE 200ø	96.30	93.55	
	0+080.50	200ø–150ø RED	96.30	93.60	
	0+081.90	150ø 45° BEND	96.30	93.65	
	0+084.90	150ø 45° BEND	96.31	93.70	
D	0+090.00	BUILDING CONNECTION	96.35	93.75	
C	0+000.00	TEE 200ø	96.30	93.55	
E	0+007.20	BUILDING CONNECTION	96.35	93.50	
B	0+000.00	TEE	96.09	93.69	
	0+003.00	V&B	96.04	93.64	
F	0+043.00	150ø HYDRANT	96.15	93.50	
	0+043.90	45° BEND	96.07	93.53	
	0+105.60	V&B	97.17	94.77	
G	0+110.60	TEE	97.38	94.98	

REVISED 2019–01–08

CROSSING SCHEDULE

1	450ø STM 0.27m CLEARANCE OVER 200ø WM.
2	200ø CB LEAD 0.17m CLEARANCE OVER 200ø SAN.
3	150ø WM 0.50m CLEARANCE UNDER 300 STM.
4	200ø CB LEAD 1.02m CLEARANCE OVER 200ø WM.
5	450ø STM 0.50m CLEARANCE OVER 200ø WM.
6	200ø CB LEAD 0.69m CLEARANCE OVER 200ø WM.
7	200ø CB LEAD 0.64m CLEARANCE OVER 200ø WM.
8	300ø STM 0.18m CLEARANCE OVER 200ø WM.
9	375ø STM 0.5m CLEARANCE OVER 200ø WM.
10	200ø SAN 0.5m CLEARANCE OVER 200ø WM.

REVIEWED BY
DEVELOPMENT REVIEW SERVICES BRANCH

Signed ______

Date ______ 2018

Plan Number ______

NOTE : ALL SNOW TO BE REMOVED FROM SITE. TEMPORARY ONSITE STOCKPILING LOCATION PER ARCH PLAN.

No.	REVISIONS	By	Date
14			
13			
12			
11			
10			
9			
8			
7			
6			
5	PAVEMENT MARKINGS AT INTERSECTION	DGY	2019:02:05
4	REVISED FOR CITY COMMENTS	DGY	2019:02:01
3	REVISED WATERMAIN	DGY	2019:01:08
2	REVISED PER NEW SITE PLAN	DGY	2018:12:14
1	ISSUED FOR CITY APPROVAL	DGY	2018:09:17

CCR PROCESS PRODUCTS

IBI GROUP
400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 fax 613 225 9868
ibigroup.com

Project Title

CCR WAREHOUSE ADDITION & OFFICE RENOVATION
20 COPE DRIVE, KANATA, ONTARIO

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2019/01/08
PROVINCE OF ONTARIO

N

Drawing Title

GENERAL PLAN OF SERVICES

Scale: 1 : 500

Design: ST
Date: SEPT 2018
Drawn: ST
Checked: DGY
Project No.: 117308
Drawing No.: C-001

CITY PLAN No. 14050

CITY FILE No. D07-12-18-0144

UTILITY LEGEND

- TRANSFORMER
- TRANSFORMER C/W CONCRETE WINGS
- HSG — HYDRO SWITCHGEAR
- HMH — HYDRO MANHOLE
- BELL PEDESTAL
- GLB — BELL GRADE LEVEL BOX (l=600mm, w=1200mm, d=750mm) C/W 1.5 x 3.0m easement
- FC — BELL FIBER CABINET (l=1200mm, w=750mm, d=500mm)
- CSP — BELL CENTRAL SPLITTING POINTS (l=1175mm, w=1200mm, d=500mm)
- ROGERS PEDESTAL
- ROGERS VAULT (l=1000mm, w=1000mm, d=1200mm) C/W 1m x 2m easement
- STREET LIGHT
- D — STREET LIGHT DISCONNECT
- STREET LIGHT GROUNDING
- H/B/T/G/S — JOINT UTILITY TRENCH
- H — HYDRO CABLE AND DUCTS
- B — BELL CABLE
- BB — BELL DUCTS
- T — ROGERS CABLE
- TT — ROGERS DUCTS
- G — GAS
- S — STREET LIGHT CABLE
- UTILITY DROP LOCATIONS
- 10–DUCTS 6–H 4–T — CONCRETE ENCASED DUCT BANK C/W NUMBER OF DUCTS
- CMB — COMMUNITY MAILBOX
- PROPOSED TREE LOCATION
- ROOT MANAGEMENT BARRIER

SEDIMENT EROSION LEGEND

- HEAVY DUTY SILT FENCE
- SNOW FENCE
- STRAW BALE CHECK DAM
- STRAW BALE CHECK DAM WITH FILTER CLOTH
- ROCK CHECK DAM
- CB — SEDIMENT SACK PLACED UNDER EXISTING CB COVER
- TEMPORARY MUD MAT 0.15m THICK 50mm CLEAR STONE ON NON WOVEN FILTER CLOTH

GENERAL LEGEND

- LIMIT OF CONSTRUCTION
- PHASING LINE
- BARRIER CURB
- MOUNTABLE CURB
- DEPRESSED BARRIER CURB
- CONCRETE SIDEWALK
- DC — TACTILE WALKING SURFACE INDICATOR, DEPRESSED CURB
- ASPHALT SIDEWALK / PATHWAY
- BUS — BUS STOP CONCRETE / ASPHALT
- FIRE LANE — FIRE ROUTE

STANTEC GEOMATICS LTD. SURVEY LEGEND

- TREELINE
- INV — INVERT
- BPED — BELL PEDESTAL
- TS — TRAFFIC SIGN
- BMH — BELL MANHOLE
- HMH — HYDRO MANHOLE
- TMH — TRAFFIC MANHOLE
- HYD — FIRE HYDRANT
- HGUY — HYDRO GUY WIRE
- HBP — HYDRO BELL POLE
- HP — HYDRO POLE
- LS — LIGHT STANDARD
- HLS — HYDRO LIGHT STANDARD
- HH — HAND HOLE
- SN — SIGN
- BP — BELL POLE
- TCB — TRAFFIC CONTROL BOX
- TL — TRAFFIC LIGHT
- CP — CABLE PEDESTAL
- HTRAN — HYDRO TRANSFORMER
- WV — WATER VALVE
- TP — TEST PIT
- GV — GAS VALVE
- BLRD — BOLLARD
- CB — CATCH BASIN
- VC — VALVE CHAMBER
- STMH — STORM MANHOLE
- FMH — FIBER OPTIC MANHOLE
- SMH — SANITARY MANHOLE
- DRN — DRAIN
- WELL — WATER WELL

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By Derrick Moodie at 12:09 pm, Feb 28, 2019

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PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

SERVICING LEGEND

- MH118A — SANITARY MANHOLE
- MH119A — SANITARY MANHOLE C/W WATER TIGHT COVER
- 200mmø SAN — SANITARY SEWER
- MH109, MH118 — STORM MANHOLE
- 825mmø STM — STORM SEWER - LESS THAN 900Ø
- 900mmø STM — STORM SEWER - 900Ø AND GREATER
- 200ø WATERMAIN — WATERMAIN
- CB100 T/G 104.10 — STREET CATCHBASIN C/W TOP OF GRATE
- CICB101 G/G 104.25 — CURB INLET CATCHBASIN C/W GUTTER GRADE
- DCB100 T/G 104.10 — DOUBLE CATCHBASIN C/W TOP OF GRATE
- DCICB101 G/G 104.25 — DITCH INLET CATCHBASIN C/W GUTTER GRADE
- CBMH100 T/G 103.59 — CATCHBASIN MANHOLE C/W TOP OF GRATE
- CBMH101 T/G 103.59 — DITCH INLET MANHOLE C/W TOP OF GRATE
- CB100 T/G 104.10 — ICD LOCATION
- RYCB T/G 104.35 — REAR YARD CATCHBASIN IN ROAD CONNECTING STRUCTURE C/W SOLID GRATE
- TCB T/G 104.35 — REAR YARD "TEE" CATCHBASIN C/W TOP OF GRATE (300Ø)
- ECB T/G 104.50 — REAR YARD "END" CATCHBASIN C/W TOP OF GRATE (300Ø)
- CCB T/G 104.35 — REAR YARD "CUSTOM ANGLED" CATCHBASIN C/W TOP OF GRATE (450Ø)
- WCB T/G 104.35 — REAR YARD "THREE WAY" CATCHBASIN C/W TOP OF GRATE (450Ø)
- PERFORATED REAR YARD SUBDRAIN
- 300mmø CSP — CSP CULVERT
- V&VB — VALVE AND VALVE BOX
- V&VC — VALVE AND VALVE CHAMBER
- HYD 104.35 — FIRE HYDRANT C/W BOTTOM OF FLANGE ELEVATION
- 200ø WM RED 150ø WM — WATERMAIN REDUCER
- 2 VBENDS — VERTICAL BEND LOCATION
- SINGLE SERVICE LOCATION
- DOUBLE SERVICE LOCATION
- BH 12 102.00 — INFERRED BEDROCK (SEE GEOTECHNICAL REPORT)
- HGL 101.79 — 100 YEAR STORM HYDRAULIC GRADE LINE AT MANHOLE
- S/T HGL 101.79 — STRESS TEST STORM HYDRAULIC GRADE LINE AT MANHOLE
- 108 102.40 — UNDERSIDE OF FOOTING ELEVATION (WITH LOT #)
- CLAY SEAL IN SEWER / WATERMAIN TRENCH

GRADING LEGEND

- PROPOSED SWALE C/W FLOW DIRECTION
- 0.5% — PROPOSED DITCH C/W FLOW DIRECTION AND SLOPE
- 1.3% — SLOPE C/W FLOW DIRECTION
- OVERLAND FLOW ROUTE
- 104.62 — PROPOSED SPOT GRADE
- 104.40 (S) — PROPOSED SWALE GRADE
- 104.50 (S)HP — PROPOSED SWALE HIGH POINT GRADE
- 104.60 103.59 — LOT CORNER GRADE C/W EXISTING GRADE
- 86.45 EX — TIE INTO EXISTING GRADE
- 96.79 — FULL STATIC PONDING GRADE
- RETAINING WALL
- 105.30 T/W — TOP OF RETAINING WALL GRADE
- TERRACING 3:1 MAXIMUM UNLESS NOTED OTHERWISE
- 103.50 B/W — PROPOSED BOTTOM OF RETAINING WALL GRADE
- PRESSURE REDUCING VALVE
- F.FL. 96.32 — FINISHED FLOOR ELEVATION
- T.FND. 95.96 — TOP OF FOUNDATION ELEVATION
- U.S.F. 93.36 — UNDERSIDE OF FOOTING ELEVATION
- RISERS 0 — TOTAL NUMBER OF RISERS
- M.U.S.F. — MINIMUM UNDERSIDE OF FOOTING
- WU — WALKUP UNIT
- WO — WALKOUT UNIT
- NS — NON-STANDARD FOUNDATION (Frost cover not provided for standard unit)
- BS — BACKSPLIT UNIT (1.5m frost cover on footings)
- NOISE FENCE LOCATION
- NOISE FENCE GATE

ROADWAY STRUCTURE:

CAR PARKING AREA :(590mm)

- 35mm - SURFACE COURSE ASPHALTIC CONCRETE HL-4 (OPSS 1150)
- 55mm - BINDER COURSE ASPHALTIC CONCRETE HL-8 (OPSS 1150)
- 150mm - BASE COURSE: GRANULAR "A" (OPSS 1010)
- 350mm - SUBBASE Course: GRANULAR "B" TYPE I (OPSS 1010)

ACCESS LANES :(720mm)

- 35mm - SURFACE COURSE ASPHALTIC CONCRETE HL-4 (OPSS 1150)
- 85mm - BINDER COURSE ASPHALTIC CONCRETE HL-8 (OPSS 1150)
- 150mm - BASE COURSE: GRANULAR "A" (OPSS 1010)
- 450mm - SUBBASE Course: GRANULAR "B" TYPE I (OPSS 1010)

PER PINCHIN LTD. REPORT

DRAWING NOTES

1.0 GENERAL

1.1 CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

1.2 DO NOT SCALE DRAWINGS.

1.3 CONTRACTOR TO REPORT ALL DISCOVERIES OF ERRORS, OMISSIONS OR DISCREPANCIES TO THE ARCHITECT OR DESIGN ENGINEER AS APPLICABLE.

1.4 USE ONLY THE LATEST REVISED DRAWINGS OR THOSE THAT ARE MARKED "ISSUED FOR CONSTRUCTION".

1.5 ALL CONSTRUCTION SHALL COMPLY WITH CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

1.6 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.

1.7 FOR LEGAL SURVEY INFORMATION REFER TO REGISTERED PLAN.

1.8 REFER TO SITE PLAN (DRAWING NO A0.1) BY A+ ARCHITECTURE INC.

1.09 CONTRACTOR TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES AS IDENTIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.). DURING ALL PHASES OF THE SITE PREPARATION AND CONSTRUCTION THE MEASURES ARE TO BE MAINTAINED TO THE SATISFACTION OF THE ENGINEER AND CITY OF OTTAWA IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL. SHOULD ANY ADDITIONAL MEASURES BE REQUIRED TO ADDRESS FIELD CONDITIONS THEY SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR THE CITY OF OTTAWA. SUCH ADDITIONAL MEASURES MAY INCLUDE BUT NOT BE LIMITED TO INSTALLATION OF FILTER CLOTHS ACROSS MANHOLE AND CATCHBASIN LIDS TO PREVENT SEDIMENT FROM ENTERING THE STRUCTURE AND INSTALLATION AND MAINTENANCE OF A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED.

1.10 ALL IRON WORK ELEVATIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR ADJUSTMENTS AS DETERMINED BY THE ENGINEER.

1.11 ALL CONCRETE CURBS AND SIDEWALKS TO CONFORM TO O.P.S. AND CONSTRUCTED TO CITY STANDARDS. ALL ONSITE CURBS TO BE BARRIER TYPE, WITH DEPRESSIONS AS NOTED.

1.12 ALL CONCRETE SHALL BE "NORMAL PORTLAND CEMENT" IN ACCORDANCE WITH O.P.S.S. 1350 AND SHALL ACHIEVE A MINIMUM STRENGTH OF 30MPa AT 28 DAYS.

1.13 ALL CONSTRUCTION TRAFFIC TO ACCESS SITE FROM COPE DRIVE.

1.14 FOR GEOTECHNICAL REPORT REFER TO PINCHIN LTD. REPORT .

1.15 CONTRACTOR TO PROTECT EXISTING INFRASTRUCTURE AND PROPERTY SUCH AS TREES, PARKING METERS, SIDEWALKS, CURBS, ASPHALT, AND STREET SIGNS FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR TO PAY THE COST TO REINSTATE OR REPLACE ANY DAMAGED INFRASTRUCTURE OR PROPERTY TO THE SATISFACTION OF THE CITY.

1.16 THE POSITION OF POLE LINES, CONDUITS, WATERMAIN, SEWERS, AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK THE CONTRACTOR SHALL INFORM ITSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, SHALL PROTECT ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

1.17 CONTRACTOR TO SUPPLY SUITABLE FILL MATERIAL WHERE REQUIRED TO ROUGH GRADE THE SITE. ALL IMPORTED FILL MATERIAL TO BE CERTIFIED AS ACCEPTABLE BY THE GEOTECHNICAL ENGINEER.

1.18 CONTRACTOR TO HAUL EXCESS MATERIAL OFFSITE AS NECESSARY TO GRADE SITE TO MEET THE PROPOSED GRADES. ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED OF AT AN APPROVED DUMP SITE. SHOULD THE CONTRACTOR DISCOVER ANY HAZARDOUS MATERIAL, CONTRACTOR IS TO NOTIFY ENGINEER. ENGINEER TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.

1.19 FILL MATERIAL WITHIN THE PARKING LOT AND BUILDING PAD AREAS, AND SUPPORTING BUILDING FOUNDATIONS SHALL BE COMPACTED TO 98% STANDARD MODIFIED PROCTOR DENSITY AND TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.

1.20 ALL COMPACTION METHODS TO BE PERFORMED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER TO INCLUDE BUT NOT BE LIMITED TO THE THICKNESS OF LIFTS, AND COMPACTION EQUIPMENT USED.

1.21 ALL DISTURBED BOULEVARDS TO BE REINSTATED WITH SOD ON 100mm TOPSOIL.

1.22 UTILITY DUCTS TO BE INSTALLED PRIOR TO ROAD BASE CONSTRUCTION.

1.23 CLAY DIKES TO BE INSTALLED WHERE INDICATED ON THE DRAWINGS OR AS APPROVED AND DIRECTED BY THE GEOTECHNICAL ENGINEER ALL IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

1.24 SNOW TO BE REMOVED OFF SITE.

2.0 SANITARY

2.1 ALL SANITARY SEWER MAINS TO BE CSA CERTIFIED, BELL AND SPIGOT TYPE. ONLY FACTORY FITTINGS TO BE USED. SEWER TO BE INSTALLED AS PER OSPD 1005.01. SANITARY SEWER MATERIALS TO BE:
250mmØ AND SMALLER - PVC DR 35

2.2 ALL SANITARY MAINTENANCE HOLES TO BE 1.2m DIAMETER AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING, RUNGS, FRAME AND COVER, DROP PIPES AND LANDINGS WHERE NEEDED.

2.3 SANITARY MANHOLE COVERS TO BE CITY OF OTTAWA STD. S25 (MOD. OPSD. 401.020). SANITARY MANHOLE COVER TO BE CLOSED COVER TYPE, AS PER CITY STANDARD S24.

2.4 SANITARY SEWER LEAKAGE TEST AND CCTV INSPECTION SHALL BE COMPLETED AS PER CITY SPECIFICATIONS PRIOR TO INSTALLATION OF BASE COURSE ASPHALT.

2.5 ANY SANITARY SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

2.6 CONNECTION TO THE EXISTING SANITARY SEWER TO BE INCLUDED IN THE COST FOR SANITARY SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

3.0 STORM

3.1 ALL STORM SEWERS TO BE CSA CERTIFIED, BELL AND SPIGOT TYPE. ALL STORM SEWERS TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. ONLY FACTORY FITTINGS TO BE USED. STORM SEWER MATERIALS TO BE : 375mmØ AND SMALLER - PVC DR 35, 450Ø AND LARGER CL-100D, 825Ø AND LARGER CL-65D.

3.2 ALL STORM MAINTENANCE HOLES TO BE SIZED IN ACCORDANCE WITH THE PLANS AND AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING, RUNGS, AND FRAME AND COVER.

3.3 STORM MH COVERS TO BE OPEN TYPE, AS PER CITY STANDARD S24, FRAMES TO BE PER CITY OF OTTAWA STD. S25. CONTRACTOR TO INSTALL FILTER FABRIC UNDER STORM MH COVER UNTIL SODDING IS COMPLETE.

3.4 STORM MAINTENANCE HOLES TO BE OPSD, SIZE AS SPECIFIED, TAPER TOP.

3.5 ALL CATCH BASINS TO BE AS PER OPSD 705.010, FRAME & FISH TYPE GRATE AS PER CITY OF OTTAWA STD. S19.1.

3.6 150mm Ø SOCK WRAPPED PERFORATED PVC SUBDRAINS TO BE INSTALLED AT ALL CB'S. SUBDRAINS TO BE 3m LONG (EACH SIDE ALONG CURB AND ALL FOUR SIDES ORTHOGONALLY OUT FOR ALL SUMP CB'S) AND DISCHARGE INTO CB.

3.7 ANY STORM SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

3.8 CONNECTION TO THE EXISTING STORM SEWER TO BE INCLUDED IN THE COST FOR STORM SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUT TO CITY STANDARDS.

3.9 CONTRACTOR TO PROVIDE IPEX-TEMPEST MHF ICD'S SHOP DRAWINGS, OR EQUIVALENT, FOR ENGINEERS REVIEW PRIOR TO ORDERING ICD'S.

3.10 ALL LEADS FOR CB's CONNECTED TO MAIN SHALL BE 200mmØ PVC DR35 @ MIN 1% SLOPE UNLESS NOTED OTHERWISE.

4.0 WATER

4.1 ALL WATERMAINS TO BE PVC DR 18, WITH MINIMUM COVER OF 2.4m AND INSTALLED PER CITY OF OTTAWA STANDARDS. ALL WATER SERVICES ARE TO BE AS NOTED.

4.2 THRUST BLOCKS TO BE INSTALLED AT ALL BENDS, TEES, AND CAPS ALL AS PER OPSD 1103.01 AND 1103.02.

4.3 CONTRACTOR TO CONDUCT PRESSURE AND LEAKAGE TESTING OF ALL WATERMAINS AND DISINFECT AND CHLORINATE ALL WATERMAINS TO THE SATISFACTION OF M.O.E. AND THE CITY OF OTTAWA.

4.4 TRACER WIRE TO BE INSTALLED ALONG THE FULL LENGTH OF WATERMAIN AND ATTACHED TO EACH MAIN STOP AS PER CITY OF OTTAWA STANDARDS.

4.5 ALL COMPONENTS OF THE WATER DISTRIBUTION SYSTEM SHALL BE CATHODICALLY PROTECTED AS PER CITY OF OTTAWA STANDARDS.

4.6 ALL VALVES & VALVE BOXES AND CHAMBERS, HYDRANTS, AND HYDRANT VALVES AND ASSEMBLIES SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS.

4.7 ANY WATERMAIN WITH LESS THAN 2.4m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

4.8 CONTRACTOR IS RESPONSIBLE FOR ACQUIRING THE WATER PERMIT FROM THE CITY OF OTTAWA AND PAYMENT OF ANY FEES ASSOCIATED WITH SECURING THE WATER PERMIT. OWNER IS RESPONSIBLE FOR REIMBURSING THE CONTRACTOR FOR THE ACTUAL COST OF ACQUIRING THE WATER PERMIT.

4.9 CONNECTION TO EXISTING WATERMAIN TO BE INCLUDED IN THE COST FOR THE WATERMAIN INSTALLATION. THIS COST INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

5.0 PARKING LOT AND WORK IN PUBLIC RIGHTS OF WAY

5.1 CONTRACTOR TO REINSTATE ROAD CUTS PER CITY OF OTTAWA STANDARD R-10.

5.2 THE CONTRACTOR SHALL PREPARE A TRAFFIC MANAGEMENT PLAN FOR REVIEW AND APPROVAL BY THE CITY OF OTTAWA. CONTRACTOR TO MAINTAIN TRAFFIC FLOW DURING THE ENTIRE CONSTRUCTION PERIOD. MAINTENANCE OF ROAD CUTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROVISION OF FLAGMEN, DETOURS AS NECESSARY, BARRICADES AND SIGNS TO THE FULL SATISFACTION OF THE ENGINEER AND ROAD AUTHORITY SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

5.3 CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROOFROLLING, TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.

5.4 FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT REQUIREMENTS.

5.5 CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR B MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOETCHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF GRANULAR B MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.6 GRANULAR A MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL ENGINEER OF GRANULAR B PLACEMENT.

5.7 CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR A MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOETCHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF GRANULAR A MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.8 ASPHALT MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL ENGINEER OF GRANULAR A PLACEMENT.

5.9 CONTRACTOR TO SUPPLY, PLACE AND COMPACT ASPHALT MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF ASPHALT MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.10 CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING LINE AND GRADE IN ACCORDANCE WITH THE PLANS, AND FOR PROVIDING THE ENGINEER WITH VERIFICATION PRIOR TO PLACEMENT.

5.11 DITCHES DISTURBED DURING CULVERT INSTALLATION AND GRADING OPERATIONS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION AND FLOWLINE GRADES.

5.12 ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED OF AT AN APPROVED DUMP SITE. SHOULD THE CONTRACTOR DISCOVER ANY HAZARDOUS MATERIAL, CONTRACTOR IS TO NOTIFY ENGINEER. ENGINEER TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.

5.13 PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESS) FOR HEAVY DUTY AND LIGHT DUTY AREAS TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT AND SHOWN ON THE PLANS.

CATCH BASIN DATA TABLE

STRUCTURE ID	AREA ID	STRUCTURE	COVER	ELEVATION			OUTLET PIPE		HEAD (m)	FLOW (l/s)	ICD TYPE
				TOP OF GRATE	INVERT INLET	INVERT OUTLET	DIAMETER (mm)	TYPE			
DICB51	**BUSH**	**OPSD 705.030**	**3:1**	**94.97**	**94.540**	**94.420**	**250**	**PVC DR-35**	**0.72**	**10**	**TEMPEST MHF**
CB60	CB60	OPSD 705.010	S19	95.95	94.600	94.550	250	PVC DR-35			
CB60A	**CB60A**	**OPSD 705.010**	**S19**	**95.88**	**94.250**	**94.120**	**250**	**PVC DR-35**	**1.86**	**20**	**TEMPEST MHF**
CB60B	CB60B	OPSD 705.010	S19	95.88		94.500	200	PVC DR-35			
CB60C	**CB60C**	**OPSD 705.010**	**S19**	**95.85**		**94.450**	**200**	**PVC DR-35**	**1.45**	**10**	**TEMPEST MHF**
CB61A	**CB61A**	**OPSD 705.010**	**S19**	**96.10**	**94.640**	**94.520**	**250**	**PVC DR-35**	**1.56**	**30**	**TEMPEST MHF**
CB61B	**CB61B**	**OPSD 705.010**	**S19**	**95.89**	**94.410**	**94.290**	**250**	**PVC DR-35**	**1.74**	**10**	**TEMPEST MHF**
CB62	CB62	OPSD 705.010	S19	97.01		95.610	200	PVC DR-35			
CB62A	CB62A	OPSD 705.010	S19	97.01	95.410	94.470	300	PVC DR-35			
CB62B	CB62B	OPSD 705.010	S19	96.30		94.900	200	PVC DR-35			
CB62C	CB62C	OPSD 705.010	S19	95.90		94.500	200	PVC DR-35			
CB64	CB64	OPSD 705.010	S19	95.70		94.910	200	PVC DR-35			
CB64A	CB64A	OPSD 705.010	S19	95.80		94.950	200	PVC DR-35			
CB64B	CB64B	OPSD 705.010	S19	96.10	94.850	94.750	250	PVC DR-35			
CB70	CB70	OPSD 705.010	S19	95.30		94.840	200	CONNECT TO FOUNDATION DRAIN			
CB80	CB80	OPSD 705.010	S19	96.25	94.790	94.740	250	PVC DR-35			
CB81	CB81	OPSD 705.010	S19	96.25	94.874	94.850	200	PVC DR-35			

Bold font indicates CB's with ICD's　　Revision: 2018-09-17

REVIEWED BY
DEVELOPMENT REVIEW SERVICES BRANCH

Signed ______________

Date ______________ 2018

Plan Number ______________

No.	REVISIONS	By	Date
14			
13			
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4	REVISED FOR CITY COMMENTS	DGY	2019:02:01
3	REVISED WATERMAIN	DGY	2019:01:08
2	REVISED PER NEW SITE PLAN	DGY	2018:12:14
1	ISSUED FOR CITY APPROVAL	DGY	2018:09:17

CCR PROCESS PRODUCTS

IBI GROUP
400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 fax 613 225 9868
ibigroup.com

Project Title
CCR WAREHOUSE ADDITION & OFFICE RENOVATION
20 COPE DRIVE, KANATA, ONTARIO

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2019/01/08
PROVINCE OF ONTARIO

Drawing Title
GENERAL NOTES, LEGEND AND CB DATA TABLE

Scale: N.T.S.

Design	Date
ST	APR 2018
Drawn	**Checked**
ST	DGY
Project No.	**Drawing No.**
117308	010

CITY FILE No. D07-12-18-0144　　CITY PLAN No. 14050

J:\117308_20CopeDrExp\5.9 Drawings\59civil\layouts\C-010.dwg Layout Name: C-010 NOTES-LEGEND-CB DATA Plotted At: 2/5/2019 10:38 AM Last Saved By: SD.TAYLOR Last Saved At: Feb. 4, 19

APPROVED
By Derrick Moodie at 12:09 pm, Feb 28, 2019

DERRICK MOODIE
MANAGER
PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

REVIEWED BY
DEVELOPMENT REVIEW SERVICES BRANCH

Signed ______________________

Date ______________________ 2018

Plan Number ______________________

LEGEND :

ACCESS LANES (REFER TO 117308-010 FOR ROADWAY STRUCTURE)

NOTE : ALL SNOW TO BE REMOVED FROM SITE. TEMPORARY ONSITE STOCKPILING LOCATION PER ARCH PLAN.

No.	REVISIONS	By	Date
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13			
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4	REVISED FOR CITY COMMENTS	DGY	2019:02:01
3	REVISED WATERMAIN	DGY	2019:01:08
2	REVISED PER NEW SITE PLAN	DGY	2018:12:14
1	ISSUED FOR CITY APPROVAL	DGY	2018:09:17

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Project Title
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20 COPE DRIVE, KANATA, ONTARIO

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2019/01/08
PROVINCE OF ONTARIO

N

Drawing Title
GRADING PLAN

Scale 1 : 500

Design	Date
ST	SEPT 2018
Drawn	**Checked**
ST	DGY
Project No.	**Drawing No.**
117308	C-200

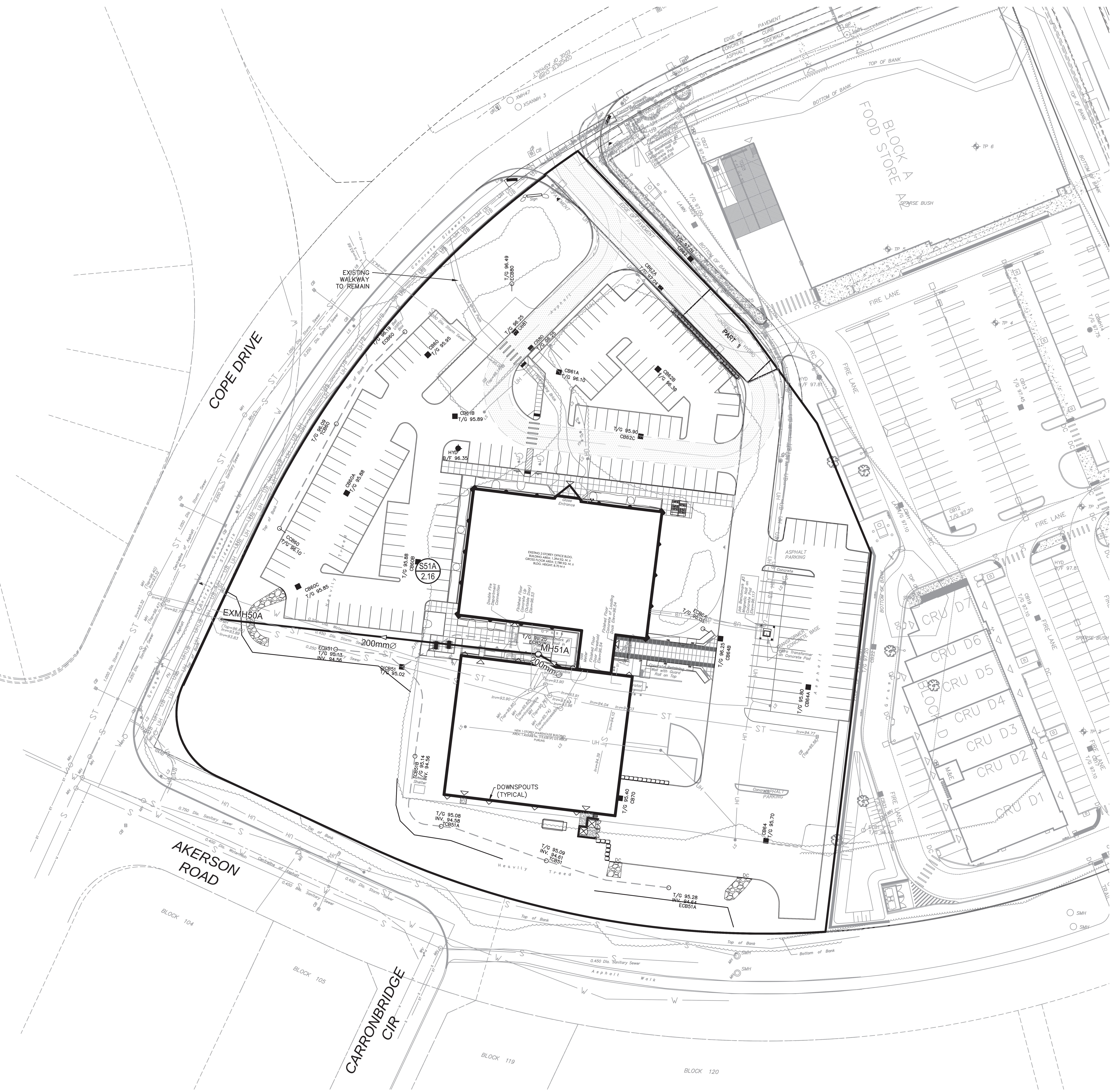
CITY PLAN No. 14050

CITY FILE No. D07-12-18-0144

J:\117308_20CopeDrExp\5.9 Drawings\59civil\layouts\C-200.dwg Layout Name: GRADING PLAN Plot Style: AIA STANDARD-FULL.CTB Plot Scale: 1:25.4 Plotted At: 2/5/2019 10:39 AM Last Saved By: SD.TAYLOR Last Saved At: Feb. 5, 19

APPROVED
By Derrick Moodie at 12:10 pm, Feb 28, 2019

DERRICK MOODIE
MANAGER
PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA



REVIEWED BY
DEVELOPMENT REVIEW SERVICES BRANCH

Signed ______________________

Date ______________________ 2018

Plan Number ______________________

LEGEND :

AREA NUMBER
LAND USE
AREA IN HECTARES

AREA NUMBER
AREA IN HECTARES

AREA BOUNDARY

No.	REVISIONS	By	Date
14			
13			
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4	REVISED FOR CITY COMMENTS	DGY	2019:02:01
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Project Title
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20 COPE DRIVE, KANATA, ONTARIO

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2019/01/08
PROVINCE OF ONTARIO

N

Drawing Title
SANITARY DRAINAGE AREA PLAN

Scale
1 : 500

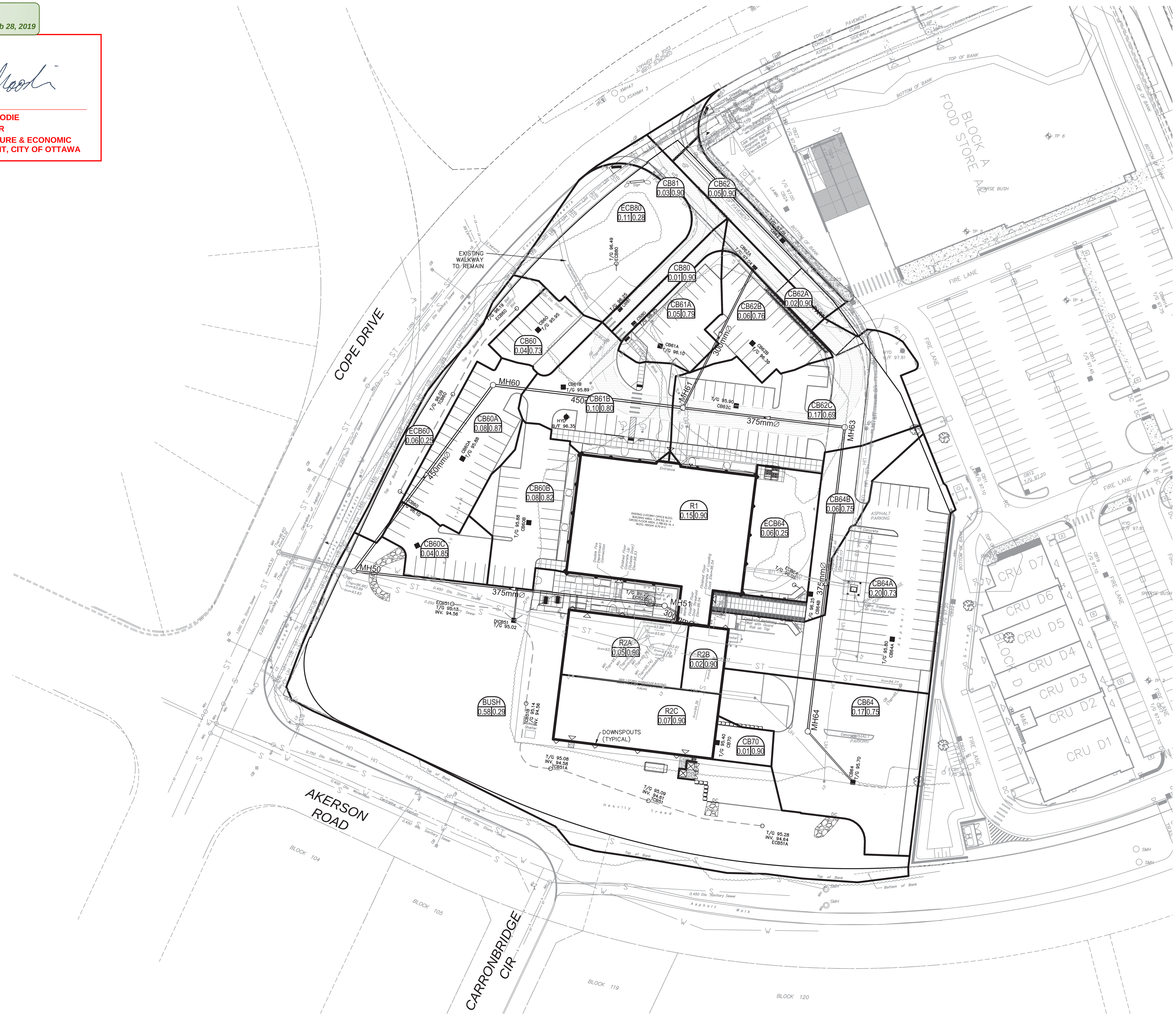
Design ST	Date SEPT 2018
Drawn ST	Checked DGY
Project No. 117308	Drawing No. C-400

CITY PLAN No. 14050

CITY FILE No. D07-12-18-0144

APPROVED
By Derrick Moodie at 12:10 pm, Feb 28, 2019

DERRICK MOODIE
MANAGER
PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA



REVIEWED BY
DEVELOPMENT REVIEW SERVICES BRANCH

Signed ______________________

Date ______________________ 2018

Plan Number ______________________

LEGEND :

- CB64B — AREA NUMBER
- 0.75 — RUN OFF COEFFICIENT
- 0.06 — AREA IN HECTARES
- ▬ — AREA BOUNDARY

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Project Title

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20 COPE DRIVE, KANATA, ONTARIO

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2019/01/08
PROVINCE OF ONTARIO

N

Drawing Title

STORM DRAINAGE AREA PLAN

Scale: 1 : 500	
Design: ST	Date: SEPT 2018
Drawn: ST	Checked: DGY
Project No.: 117308	Drawing No.: C-500

CITY PLAN No. 14050

CITY FILE No. D07-12-18-0144

J:\117308_20CopeDrExp\5.9 Drawings\59civil\layouts\C-500.dwg Layout Name: STORM DRAINAGE AREA PLAN Plot Style: AIA STANDARD-FULL.CTB Plot Scale: 1:25.4 Plotted At: 2/5/2019 10:42 AM Last Saved By: SD.TAYLOR Last Saved At: Feb.

APPROVED

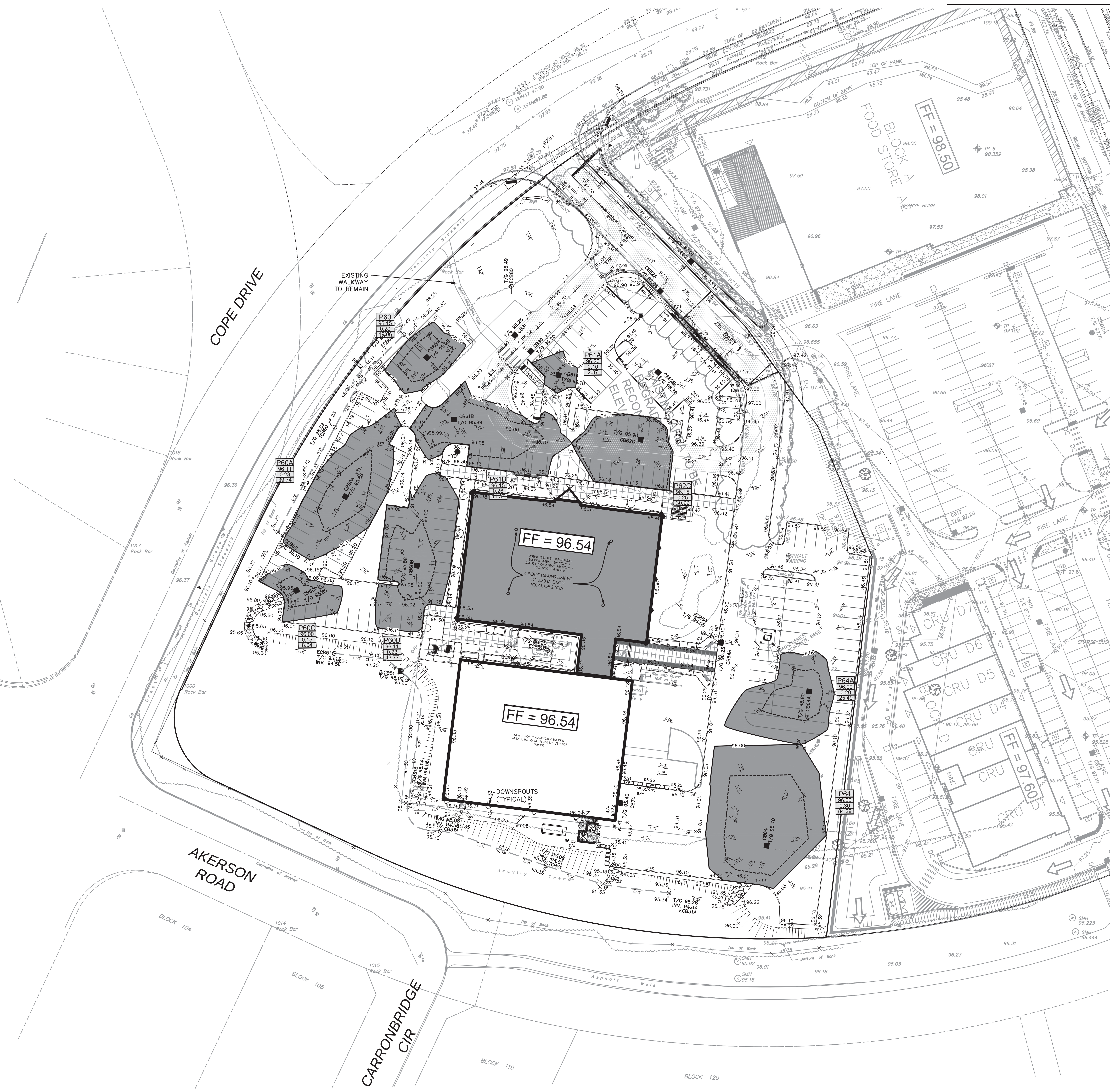
By Derrick Moodie at 12:10 pm, Feb 28, 2019

DERRICK MOODIE
MANAGER
PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

LEGEND :

- 100 YEAR PONDING LIMIT
- 5 YEAR PONDING LIMIT
- EMMERGENCY FLOW ROUTE FOR STORMWATER ABOVE THE 1:100 EVENT

P11C	POND AREA #
98.40	POND ELEVATION (m)
0.25	POND DEPTH (m)
26.45	POND VOLUME (m^3)



REVIEWED BY
DEVELOPMENT REVIEW SERVICES BRANCH

Signed ______________________

Date ______________________ 2018

Plan Number ______________________

No.	REVISIONS	By	Date
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20 COPE DRIVE, KANATA, ONTARIO

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2019/01/08
PROVINCE OF ONTARIO

N

Drawing Title

PONDING PLAN

Scale: 1 : 500	
Design: ST	Date: SEPT 2018
Drawn: ST	Checked: DGY
Project No.: 117308	Drawing No.: C-600

CITY PLAN No. 14050

CITY FILE No. D07-12-18-0144

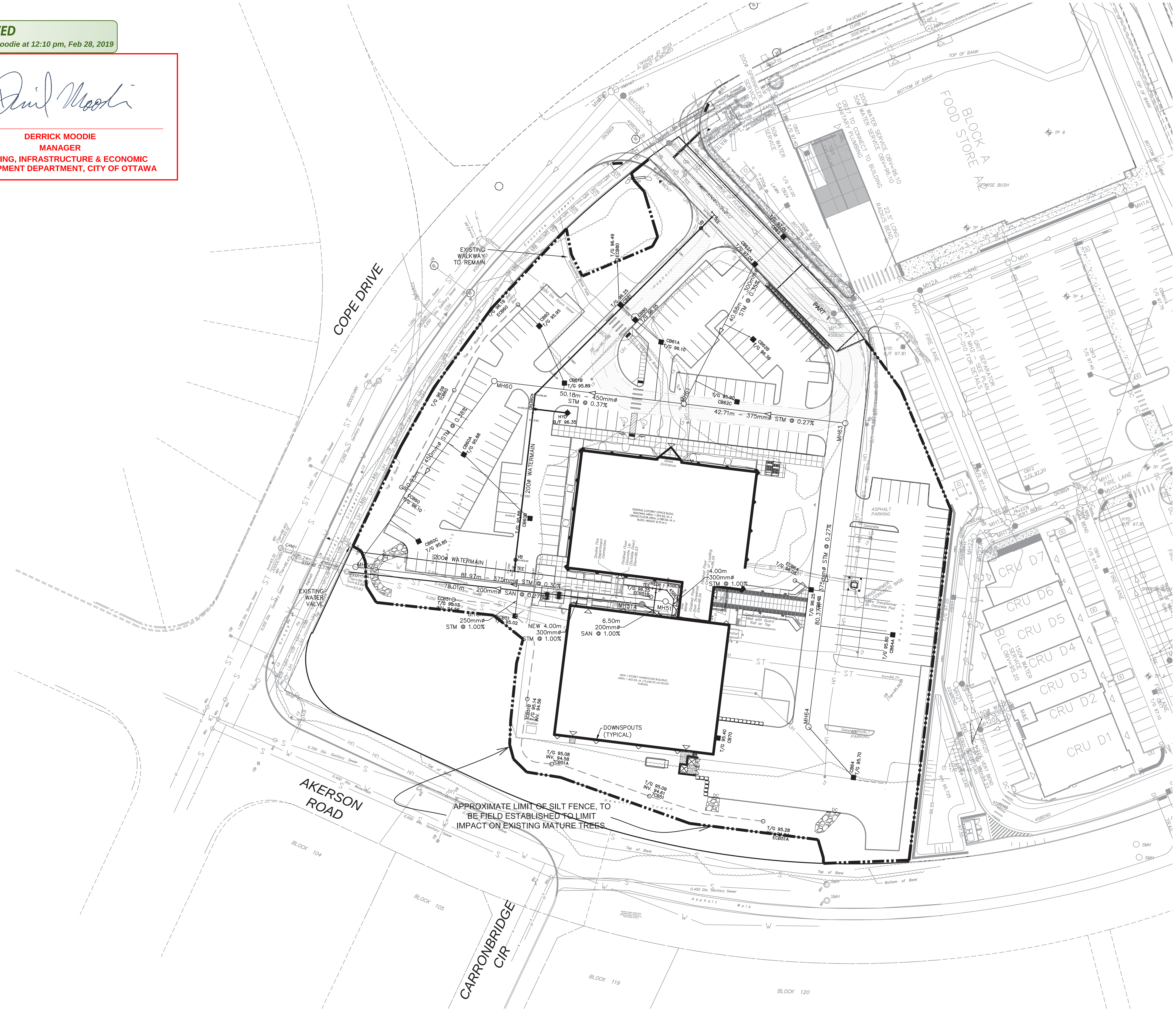
NOTES:

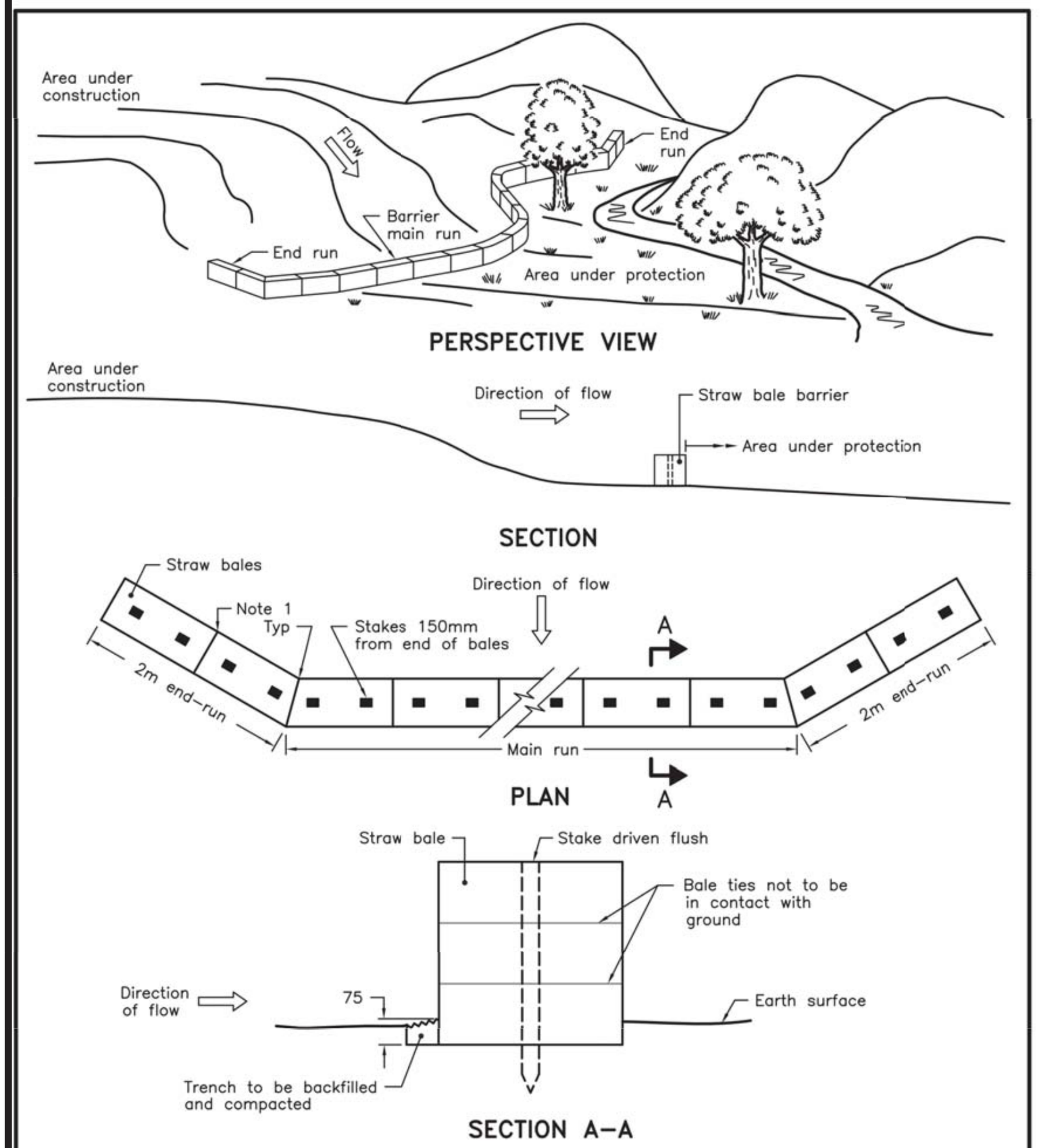
1. SILT FENCE TO BE ERECTED PRIOR TO EARTH WORKS BEING COMMENCED. SILT FENCE TO BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED OR UNTIL START OF SUBSEQUENT PHASE.
2. STRAW BALE SEDIMENT TRAPS TO BE CONSTRUCTED IN EXISTING ROAD SIDE DITCHES. TRAPS TO REMAIN AND BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED.
3. CONTRACTOR TO PROVIDE DETAILS ON LOCATION(S) AND DESIGN OF DEWATERING TRAP(S) PRIOR TO COMMENCING WORK. CONTRACTOR ALSO RESPONSIBLE FOR MAINTAINING TRAP(S) AND ADJUSTING SIZE(S) IF DEEMED REQUIRED BY THE ENGINEER DURING CONSTRUCTION.
4. 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 MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

APPROVED

By Derrick Moodie at 12:10 pm, Feb 28, 2019

DERRICK MOODIE
MANAGER
PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA



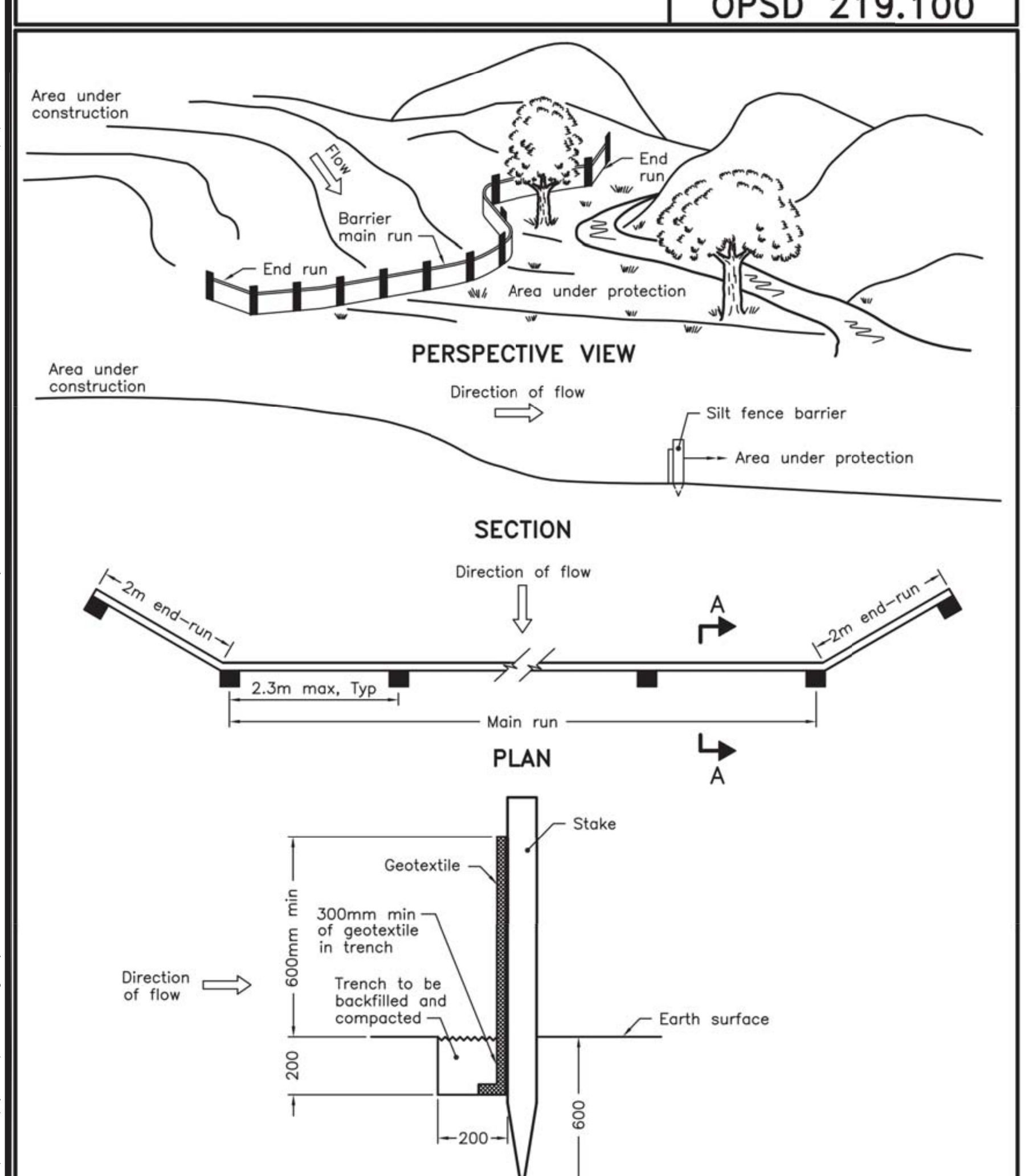


NOTES:
1 Straw bales to be butted tightly against adjoining bales to prevent sediment flow through barrier.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2006 | Rev 1

LIGHT-DUTY STRAW BALE BARRIER

OPSD 219.100



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2006 | Rev 1

LIGHT-DUTY SILT FENCE BARRIER

OPSD 219.110

REVIEWED BY
DEVELOPMENT REVIEW SERVICES BRANCH

Signed ____________________

Date ____________________ 2018

Plan Number ____________________

NOTES:
1. SEE DETAIL DRAWING C-010 FOR ADDITIONAL DETAILS AND NOTES.

LEGEND :

- LIGHT DUTY SILT FENCE AS PER OPSD-219.110
- STRAW BALE CHECK DAM AS PER OPSD-219.180
- SILT SACK PLACED UNDER EXISTING CB COVER

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LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2019/01/08
PROVINCE OF ONTARIO

N

Drawing Title

EROSION SEDIMENT CONTROL PLAN

Scale: 1 : 500

Design: ST | Date: SEPT 2018

Drawn: ST | Checked: DGY

Project No.: 117308 | Drawing No.: C-900

CITY PLAN No. 14050

CITY FILE No. D07-12-18-0144