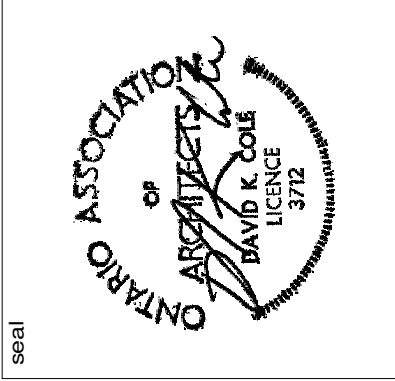


WAREHOUSE PHASE 2, 18071

MINOR VARIANCE R1, 2019-11-29

DRAWING LIST		
GENERAL		
GENERAL	A00	COVER SHEET
GENERAL	A001	LEGENDS, KEYNOTES, ABBREVIATIONS, GENERAL NOTES
CONTEXT		
CONTEXT	A100	EXISTING SITE PLAN
CONTEXT	A101	SITE PLAN
CONTEXT	A102	ROOF PLAN
CONTEXT	A103	3D REFERENCE VIEWS
ELEVATIONS		
ELEVATIONS	A401	EXTERIOR ELEVATIONS
ELEVATIONS	A402	EXTERIOR ELEVATIONS
FLOOR PLANS		
FLOOR PLANS	A201	FLOOR PLAN - LEVEL 01
SECTIONS		
SECTIONS	A501	BUILDING SECTIONS
LANDSCAPE		
LANDSCAPE	L1.0	LANDSCAPE PLAN
LANDSCAPE	TCR1	TREE CONSERVATION REPORT
CIVIL		
CIVIL	C-1	SITE SERVICING PLAN
CIVIL	C-2	GRADING PLAN AND EROSION & SEDIMENT CONTROL PLAN
CIVIL	C-3	NOTES & DETAILS
CIVIL	C-4	DRAINAGE PLAN
CIVIL	C-5	EXISTING DRAINAGE PATTERN
SURVEY		
SURVEY	S0	SITE SURVEY PLAN



COVER SHEET

scale
1 : 1

date
2019/11/29

checked by
LN

drawn by
AN

project
18071

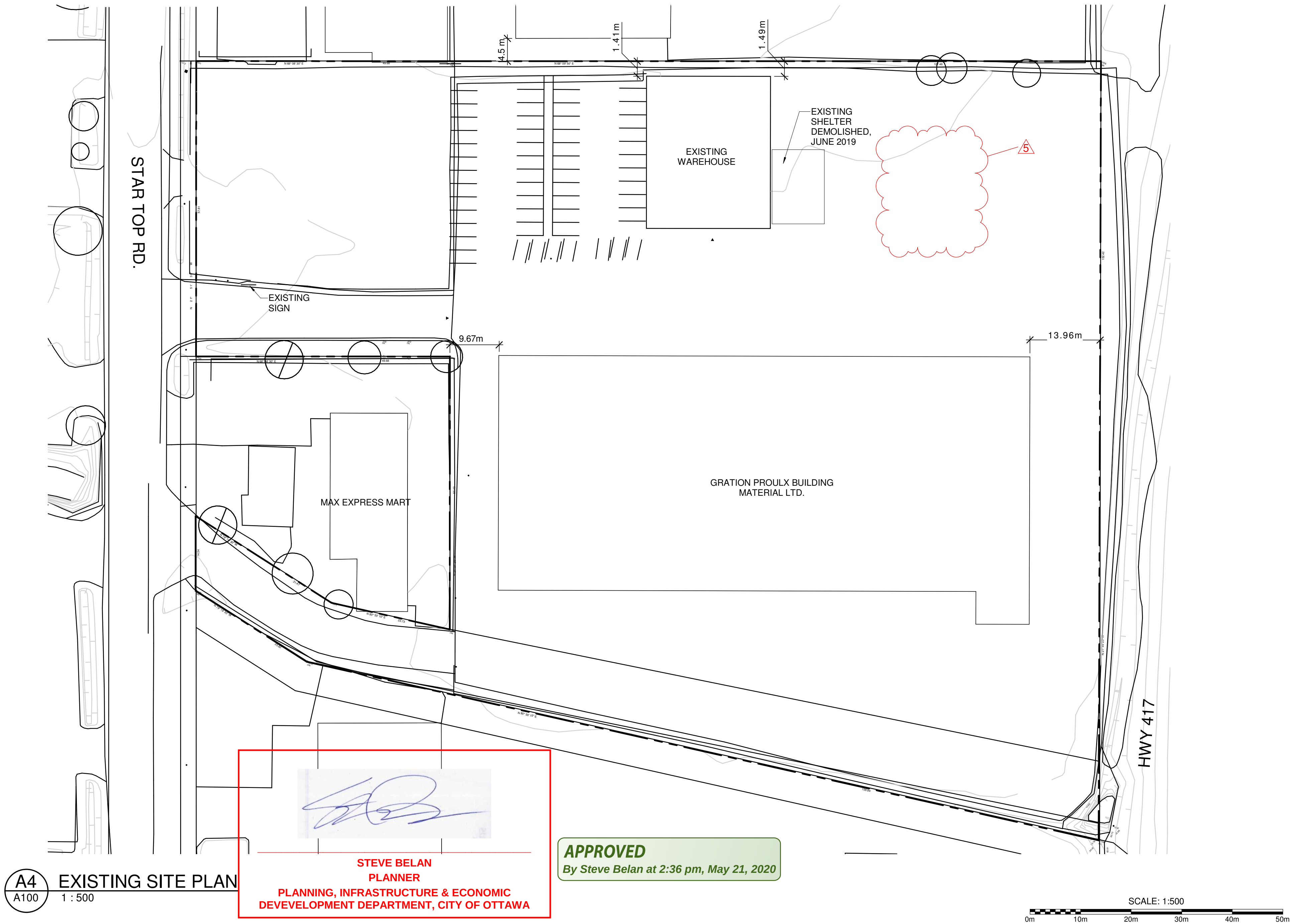
revisions

1 2019-07-10 MINOR VARIANCE R1
2 2019-08-10 SITE PLAN CONTROL R1
3 2019-11-29 MINOR VARIANCE R1

Gratien Proulx
WAREHOUSE PHASE 2
1499 Star Top Rd, Ottawa, ON, K1B 3W5

A00

D07-12-19-0129



A4
A100 EXISTING SITE PLAN
1 : 500

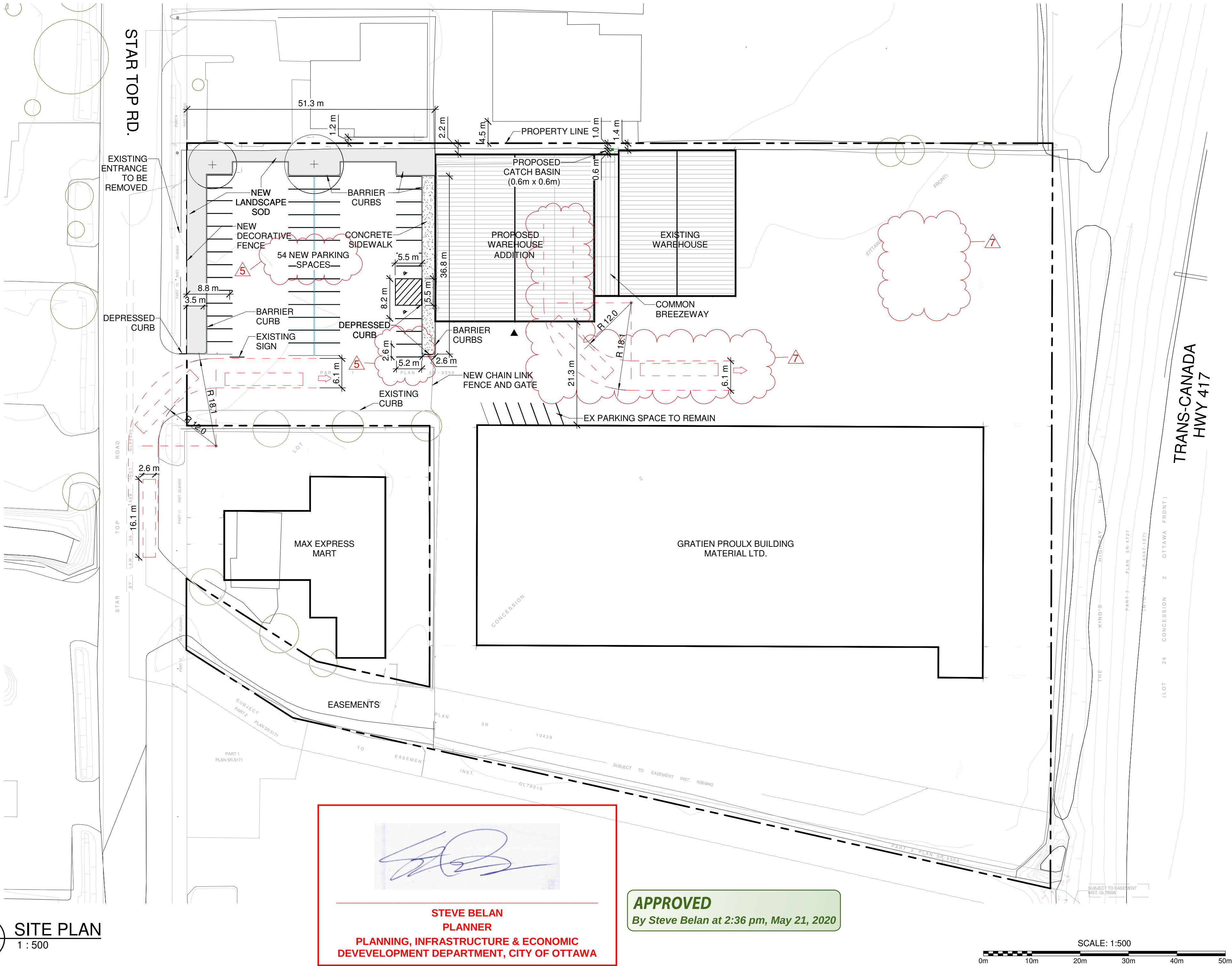
STEVE BELAN
PLANNER
PLANNING, INFRASTRUCTURE & ECONOMIC
DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

APPROVED
By Steve Belan at 2:36 pm, May 21, 2020

SCALE: 1:500
0m 10m 20m 30m 40m 50m

EXISTING SITE PLAN	scale 1 : 500	revisions		project Gratien Proulx WAREHOUSE PHASE 2 1499 Star Top Rd, Ottawa, ON, K1B 3W5
	date 2019/12/13	1 2019-07-10 MINOR VARIANCE 2 2019-08-10 MINOR VARIANCE 3 2019-08-10 SITE PLAN CONTROL R1 4 2019-11-29 MINOR VARIANCE R1 5 2019-12-13 MINOR VARIANCE CLARIFICATION		
A100	checked by LN	project 18071		
	drawn by AN			

ITEM	ONTARIO BUILDING CODE DIVISION B, PART 3 DATA MATRIX OBC										REFERENCES
1	Project Description:	New	Alteration	Change of Use	X	Expansion					Div. A, 1.1.2.
2	Major Occupancy(ies):	F2									Div. B, 3.1.2.1.
3	Building Area (m²):		Existing:	New:	Total:						Div. A, 1.4.1.2.
4	Gross Area (m²):	1146 m2	Existing:	New:	1305	Total:					-
5	Number of Storeys:	Above Grade:	1	Below Grade:	NA						Div. A, 1.4.1.2.
6	Height of Building (m):	8									
7	Number of Streets, Access Routes:	1									Div. B, 3.2.2.10.; 3.2.5.5.
8	Building Classification:	F2									Div. B, 3.2.2.20. - 83.
9	Sprinkler System:	Entire Building	Basement Only	In Lieu of Roof Rating	x	Not Required					Div. B, 3.2.1.; 3.2.2.
					x	Not Applicable to Project					
10	Required Construction:	Combustible	Non-Combustible	Both							Div. B, 3.2.2.20. - 83.
	Proposed Construction:	Combustible	x	Non-Combustible	Both						
11	Standpipe required:	Yes	x	No							Div. B, 3.2.9.
12	Fire Alarm required:	Yes	x	No							Div. B, 3.2.4.
13	Water Service/Supply is Adequate:	x	Yes	No							Div. B, 3.2.5.7.
14	High Building:	Yes	x	No							Div. B, 3.2.6.
15	Mezzanine(s) Area (m²):	NA									Div. B, 3.2.1.1.
16	Interconnected Floor Space:	x	Not Applicable to Project	Permitted without special protection measures		Requires special protective measures					Div. B, 3.2.8.
17	Occupant Load Based on:	m²/person	Design of Building								Div. B, 3.1.17.
	Basement:	Occupancy:	Load	Persons							
	1st Floor:	Occupancy:	36	Load	Persons						
	2nd Floor:	Occupancy:		Load	Persons						
	3rd Floor:	Occupancy:		Load	Persons						
	(If necessary, provide information on additional floors in #22, below.)										
18	Barrier-free Design:	Yes	x	No (Explain in #22 below)							Div. B, 3.8.
19	Hazardous Substances:	Yes	x	No							Div. B, 3.3.1.2.
20	Required Fire Resistance Rating (FRR)	Horizontal Assemblies:	Hours:	Listed Design No. or Description (SB-2)							Div. B, 3.2.2.20. - 83.; 3.1.7.
		Floors:									
		Roof:									
		Mezzanines:									
		FRR Supporting Members:		Listed Design No. or Description (SB-2)							
		Floors:									
		Roof:									
		Mezzanines:									
21	Spatial Separation - Construction of Exterior Walls										Div. B, 3.2.3.
	Wall:	Area of EBF (m²)	LD (m)	L/H OR H/L	Permitted Max. % of Openings	Proposed % of Openings	FRR Required (Hours)	Listed Design or Description	Combustible Construction Permitted	Combustible Construction, with Req'd Noncomb. Cladding	Non-Combustible Construction (NC), and NC Cladding (C, if req'd)
	North										
	East										
	West										
	South										
22	Plumbing Fixtures Requirements:										
	Male/Female Count @ %/except as noted otherwise	Occupancy Load	Building Code Table Number	Fixtures Required	Fixtures Provided	Building Code References					
	Basement:	Occupancy									
	1st Floor:	Occupancy									
	2nd Floor:	Occupancy									
	3rd Floor:	Occupancy									
	(Adjust as Required for Additional Floors or Occupancies)										
22	Other - Describe (Attach Additional Pages):										

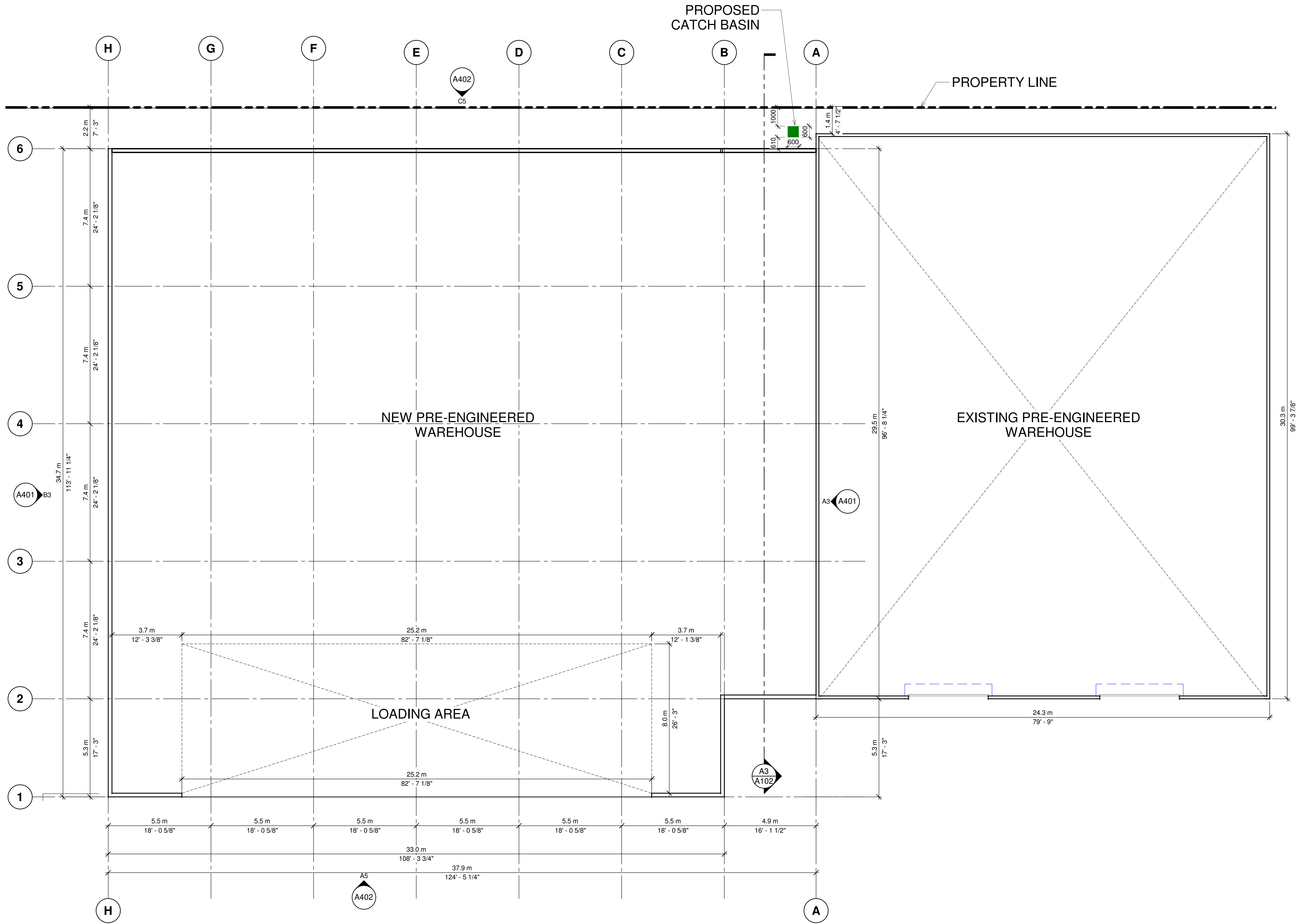


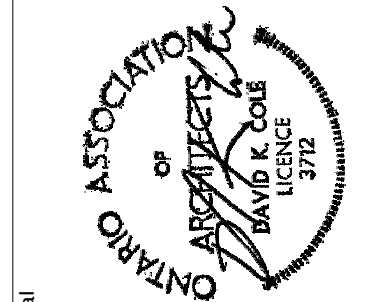
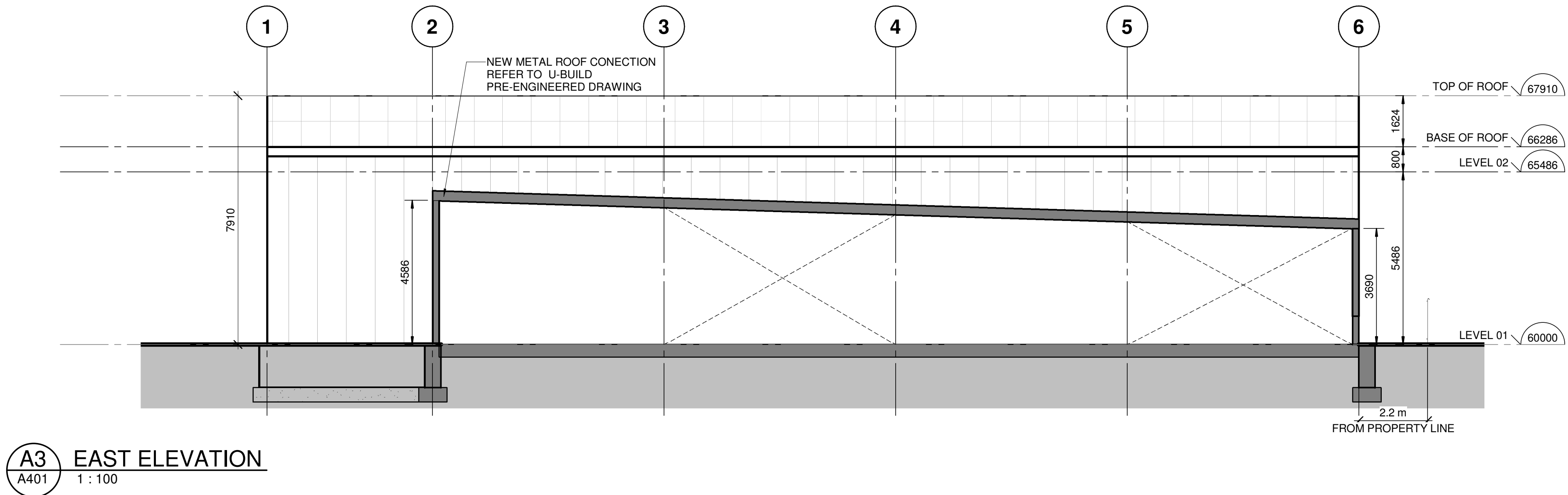
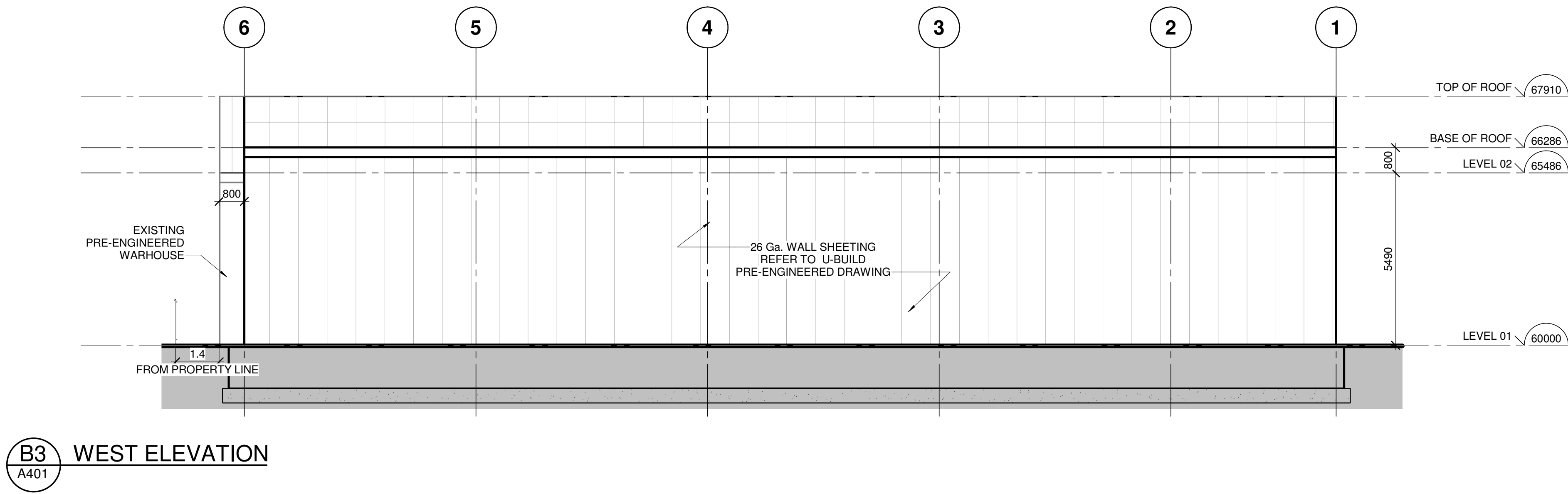
A4
A101
SITE PLAN
1 : 500

STEVE BELAN
PLANNER
PLANNING, INFRASTRUCTURE & ECONOMIC
DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

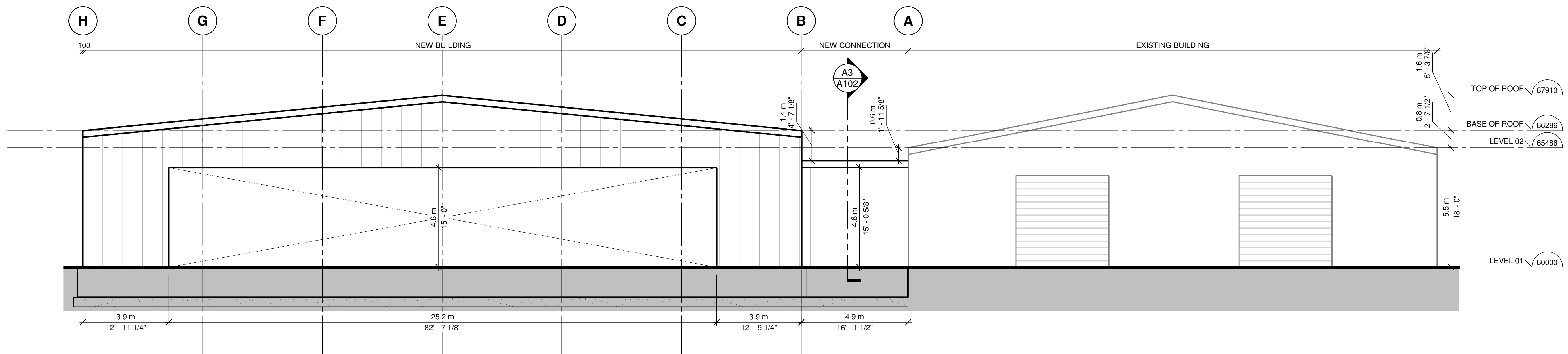
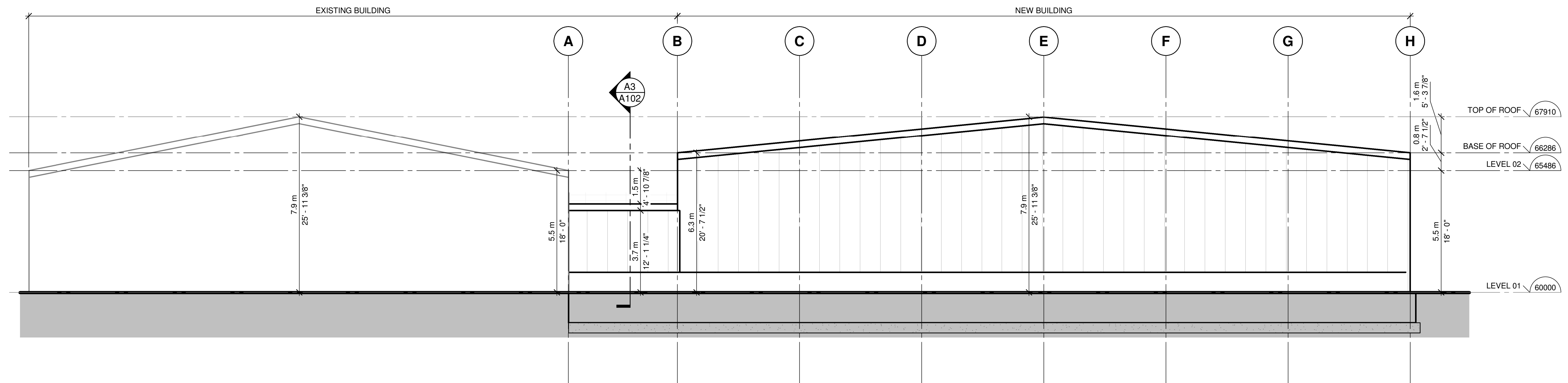
APPROVED
By Steve Belan at 2:36 pm, May 21, 2020

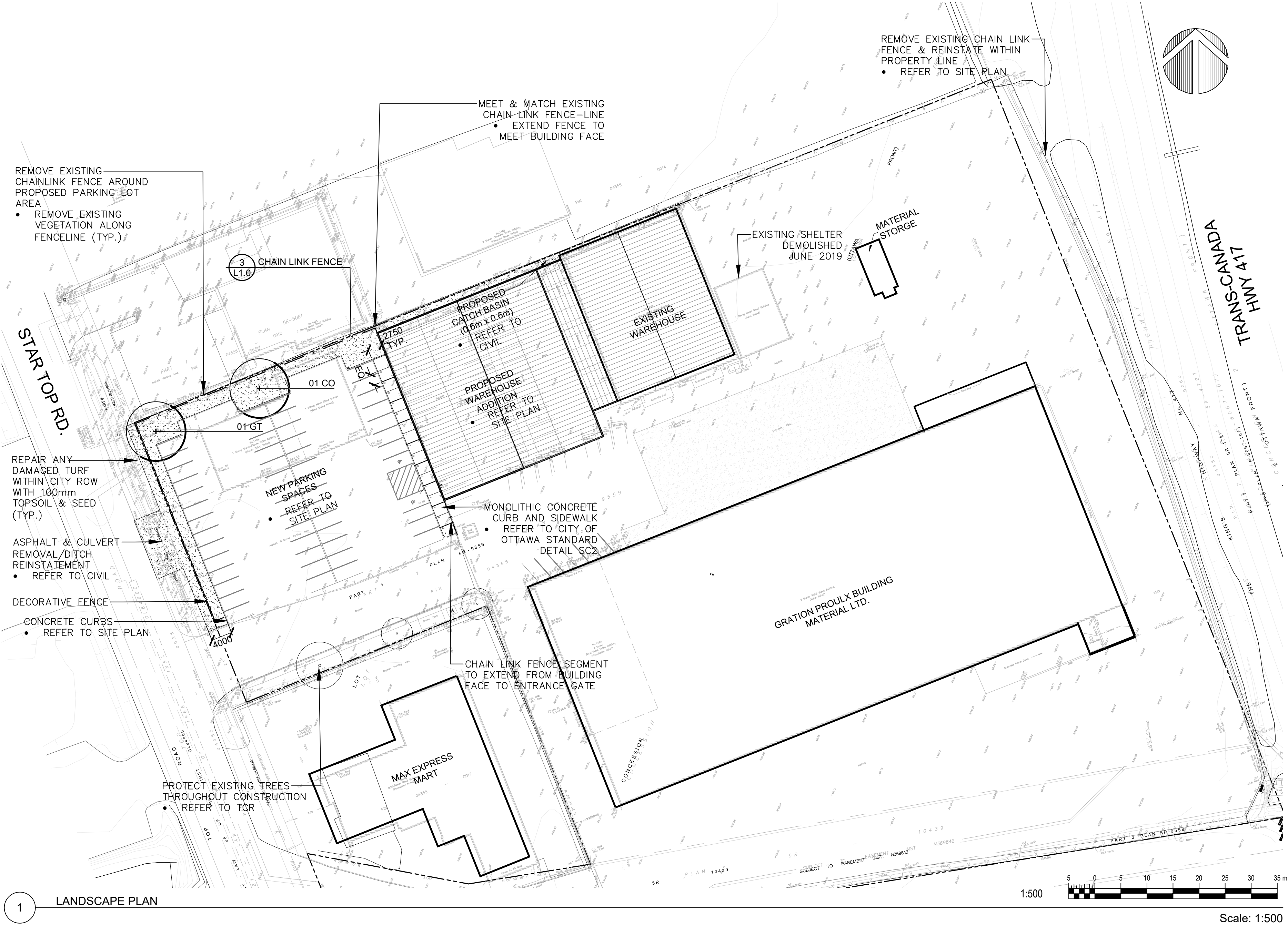
SCALE: 1:500
0m 10m 20m 30m 40m 50m





drawing	EXTERIOR ELEVATIONS		A401	
	scale	1 : 100	project	18071
	date	27/06/19	project	18071
revisions		1 2018-07-10 MINOR VARIANCE		
project		Gratien Proulx WAREHOUSE PHASE 2 1499 Star Top Rd, Ottawa, ON, K1B 3W5		





PLANT LIST

SYM.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
	LARGE DECIDUOUS TREES				
CO	CELTIS OCCIDENTALIS	COMMON HACKBERRY	1	70mm CAL.	B&B / W.B.
GT	GLEDITSIA TRIACANTHOS VAR. INERM. 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	1	70mm CAL.	B&B / W.B.

STEVE BELAN
PLANNER
PLANNING, INFRASTRUCTURE & ECONOMIC
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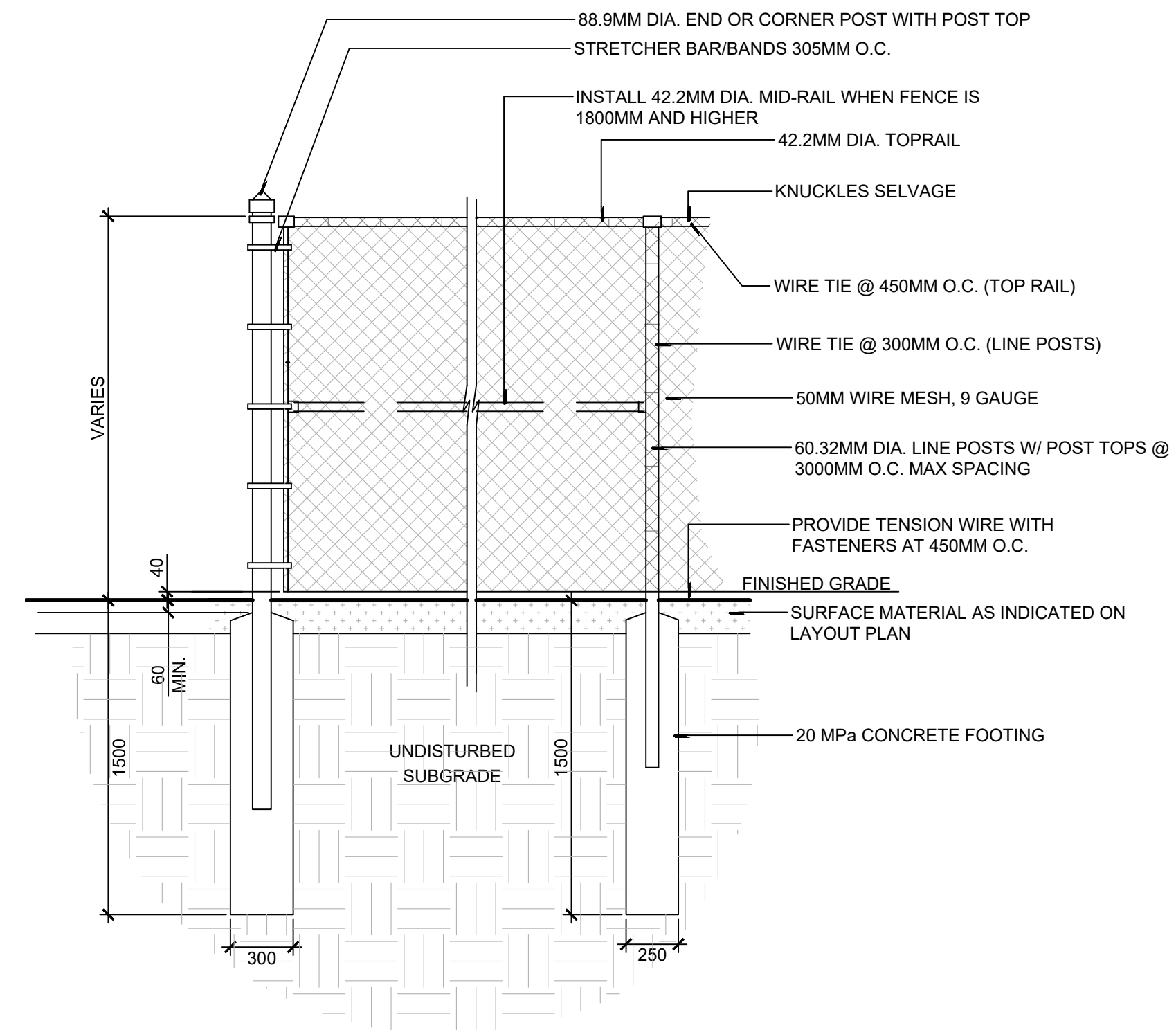
APPROVED
By Steve Belan at 2:37 pm, May 21, 2020

LEGEND

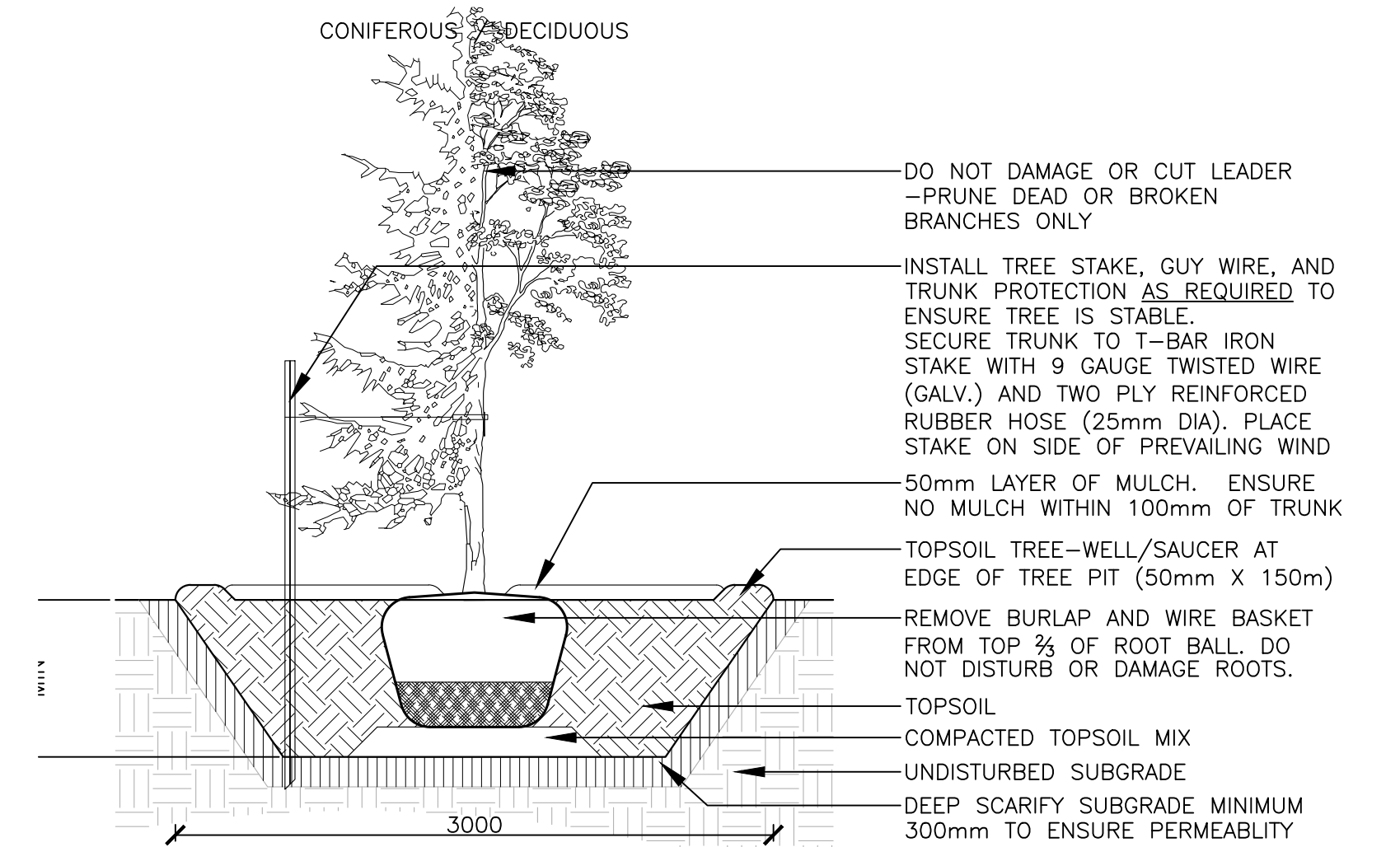
- PROPERTY LINE
- EXISTING TREE
- PROPOSED DECIDUOUS TREE
- 100mm TOPSOIL & SOD
- PROPOSED CHAIN LINK FENCE
- PROPOSED ALUMINUM FENCE

NOTES

- All measurements in millimeters unless specified otherwise. Do not scale drawing. All drawings to be read in conjunction with written specifications.
- Copyright reserved. This drawing is the exclusive property of CSW Landscape Architects Ltd. and shall not be used without the consent thereof.
- This Drawing may not be used for construction until signed by the landscape architect. It is the responsibility of the contractor to:
 - check and verify all dimensions on site;
 - report all errors and/or omissions to the landscape architect;
 - comply with all pertinent codes and by-laws;
 - check and verify locations of all underground services with all local utilities prior to any digging.

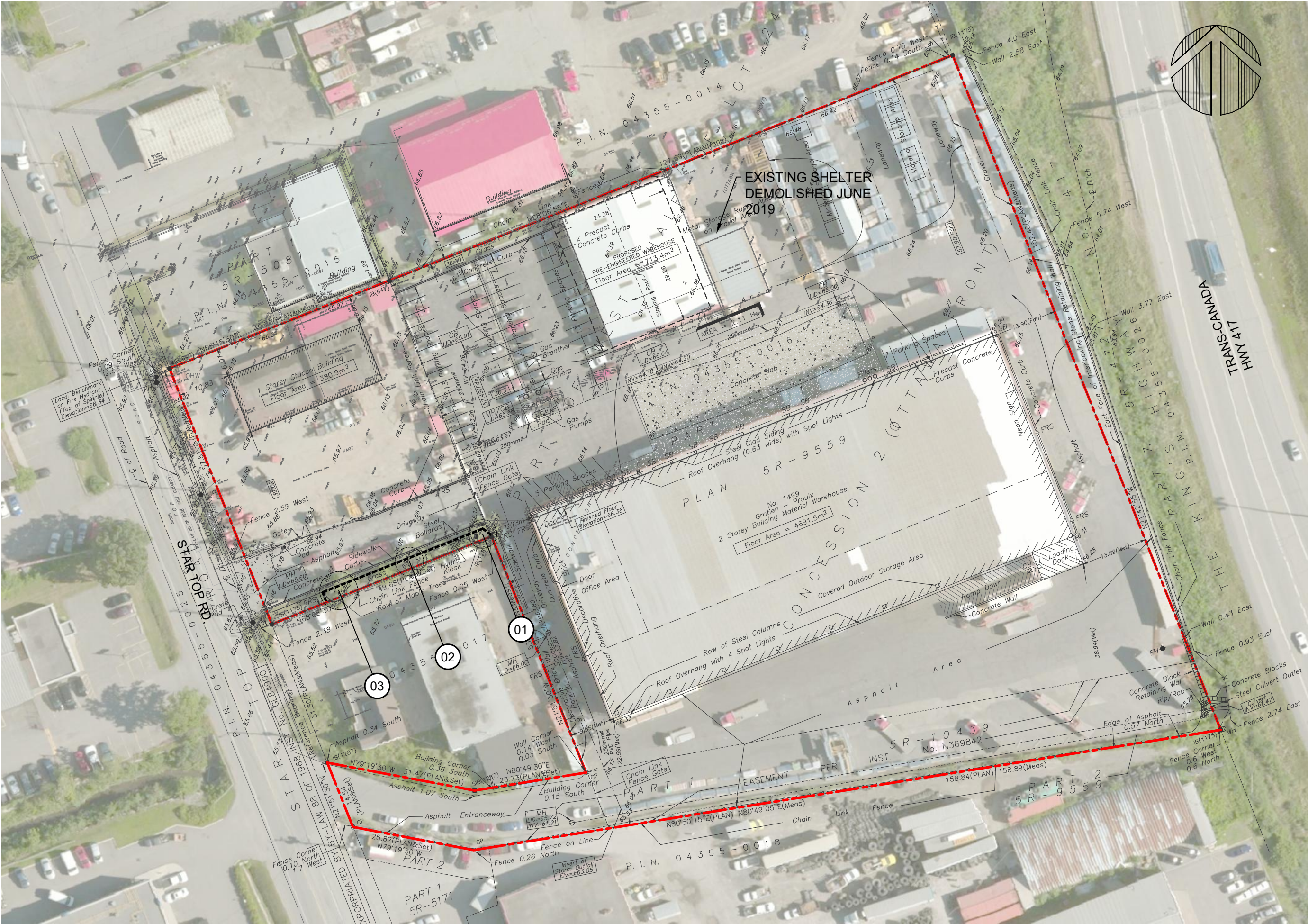


3 CHAIN LINK FENCE Scale: 1:25



- NOTES:
- TREE STAKES ARE GENERALLY ARE TO BE USED FOR CONDITIONS WHERE THE INSTALLED TREE IS UNSTABLE AND/OR BECOMES UNSTABLE.
 - ALLOW 10mm TO 25mm SLACK ON GUY WIRE SUPPORT FOR TREE.
 - TOP OF ROOT BALL TO RETAIN SAME ELEVATION AS GROWING CONDITIONS.
 - REMOVE STAKES ONE YEAR AFTER INSTALL.
 - INSTALL STAKE BEYOND EDGE OF ROOT BALL.

2 TREE PLANTING Scale: 1:30



1 CURRENT VEGETATION

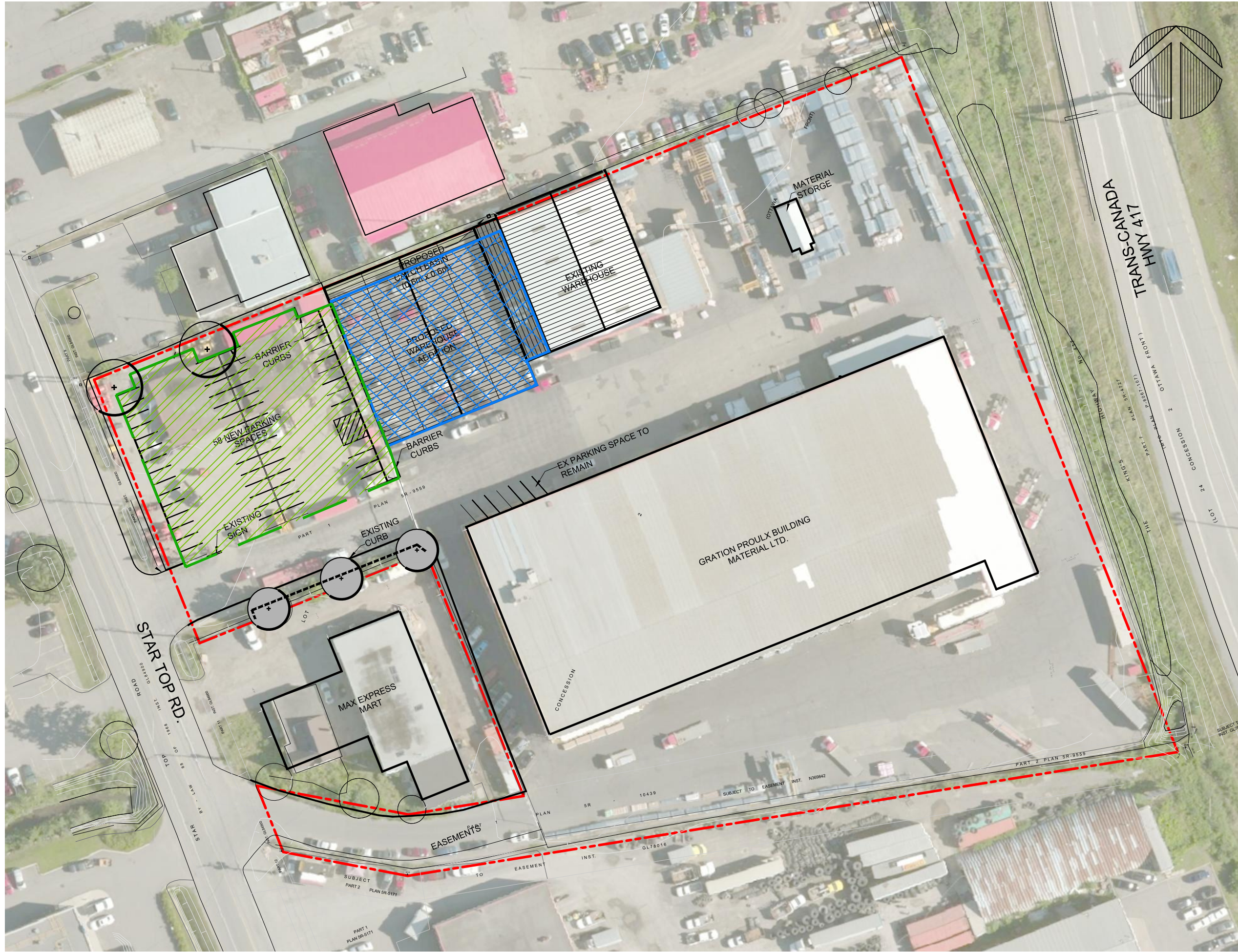
Scale: 1:750

TREE LIST

Tree #	Botanical Name	Common Name	Caliper (cm)	Condition	High Quality Tree	Rare Tree	Comments	To Be Preserved
1	Acer platanoides	Norway Maple	30	MODERATE	NO	NO	Private property, symmetrical canopy, Single stem, Broken limbs, Pruned, Co-dominant leaders, Included bark	Retain
2	Acer platanoides	Norway Maple	30, 22, 12	POOR	NO	NO	Private property, symmetrical canopy, Single stem, Co-dominant leaders, Poor branch union/angle, 30% die-back @ limbs	Retain
3	Acer platanoides	Norway Maple	40	MODERATE	NO	NO	Private property, symmetrical canopy, Poor branch union, Included bark, Broken limbs	Retain

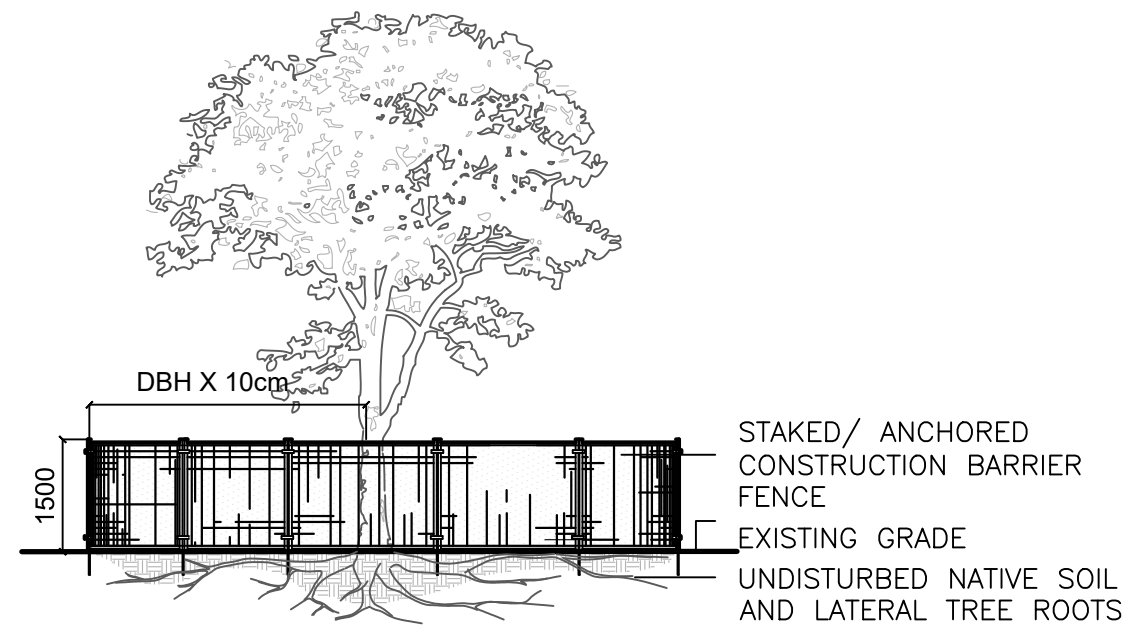
NOTES

- 1.1. THE EXISTING PROPERTY CONTAINS LIGHT INDUSTRIAL/COMMERCIAL BUILDINGS. APPROXIMATELY 6400 m² OF THE SITE IS CURRENTLY OCCUPIED BY THE EXISTING BUILDING FOOTPRINTS.
- 1.2. APPROXIMATELY 1352 m² TO BE COVERED BY THE PROPOSED BUILDING ADDITION FOOTPRINT.
- 1.3. APPROXIMATELY 1250 m² TO BE HARD SURFACES.
2. ALL EXISTING TREES ON-SITE ARE PROPOSED TO BE RETAINED.
3. THE DEVELOPMENT SITE IS NOT CONSIDERED OF PRIMARY OR SUPPORTING SIGNIFICANCE AS NATURAL LANDS IN THE GREENSPACE MASTER PLAN, NOR IS IT IDENTIFIED NEAR GREENSPACE NETWORK LANDS.



2 PROPOSED DEVELOPMENT AND CONSERVED VEGETATION

Scale: 1:750



NOTES:

THE FOLLOWING PROTECTION MEASURES MUST BE IMPLEMENTED FOR RETAINED TREES, BOTH ON SITE AND ADJACENT SITES, PRIOR TO ANY TREE REMOVAL OR SITE WORKS AND MAINTAINED FOR THE DURATION OF CONSTRUCTION ON SITE.

1. UNDER THE GUIDANCE OF AN ARBORIST, ERECT A FENCE AT THE CRITICAL ROOT ZONE(CRZ) OF TREES WHERE THE CRZ IS ESTABLISHED AS BEING 10 CENTIMETERS FROM THE TRUNK FOR EVERY CENTIMETER OF TRUNK DIAMETER AT BREAST HEIGHT. THE CRZ IS CALCULATED AS DBH X 10cm.
2. DO NOT PLACE ANY MATERIAL OR EQUIPMENT WITHIN THE CRZ OF THE TREE
3. DO NOT ATTACH ANY SIGNS NOTICES OR POSTERS TO ANY TREE
4. DO NOT RAISE OR LOWER THE GRADE WITHIN THE CRZ WITHOUT APPROVAL
5. TUNNEL OR BORE WHEN DIGGING WITHIN THE CRZ OF A TREE
6. DO NOT DAMAGE THE ROOT SYSTEM, TRUNK, OR BRANCHES OR ANY TREE
7. ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARDS ANY TREE CANOPY

LEGEND

- PROPERTY LINE
- TREE IDENTIFICATION NUMBER
- CRITICAL ROOT ZONE
- TREE TO BE RETAINED
- PROPOSED TREE
- PROPOSED BUILDING
- PROPOSED HARD SURFACES
- PROPOSED TREE PROTECTION

STEVE BELAN
PLANNER
PLANNING, INFRASTRUCTURE & ECONOMIC
DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

3 TREE PROTECTION FENCING

Scale: 1:100

APPROVED
By Steve Belan at 2:37 pm, May 21, 2020

TOPOGRAPHIC PLAN OF

**PART OF LOT 24
CONCESSION 2 (OTTAWA FRONT)**
GEOGRAPHIC TOWNSHIP OF GLOUCESTER
CITY OF OTTAWA

FARLEY, SMITH & DENIS SURVEYING LTD. 2019

Scale 1: 200

Distances and coordinates on this plan are in metres and can be converted to feet by dividing by 0.3048.

Metric Note

Distances and coordinates on this plan are in metres and can be converted to feet by dividing by 0.3048.

Bearing Note

Bearings are astronomic and are referred to the easterly limit of Star Top Road having a bearing of N 21° 51' 30" W as shown on Plan SR-9559.

Boundary information compiled from (1692) office records.

Elevation Notes

- Elevations shown are geodetic and are referred to Geodetic Datum CGVD-1928 1978.
- Elevations derived from a local benchmark as shown on a plan by (1692) dated August 26, 2015 (File No. 309-15), having a published elevation of 46.30m.
- It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that its relative elevation and description agrees with the information shown on this drawing.

Utility Notes

- This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
- Only visible surface utilities were located.
- A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

Warning

Information shown on a lighter line weight has not been verified in the field and may not reflect current site conditions.

Notes & Legend

- | | | |
|----------|---------|--------------------------------|
| ○ MH-ST | Denotes | Maintenance Hole (Storm) |
| ○ MH-S | | Maintenance Hole (Sanitary) |
| ○ MH-H | | Maintenance Hole (Hydro) |
| ○ U | | Utility Pole |
| ○ AN | | Anchor |
| ○ CB | | Catch Basin |
| ○ CP | | Corrugated Steel Pipe |
| ○ FH | | Fire Hydrant |
| ○ I | | Invert |
| ○ T/G | | Top of Grate |
| ○ M | | Gas Meter |
| ○ OW | | Overhead Wires |
| ○ CLF | | Chain Link Fence |
| ○ MF | | Metal Fence |
| ○ CW | | Concrete Retaining Wall |
| ○ B | | Bollard |
| ○ C/L | | Centreline |
| ○ TOS | | Top of Slope |
| ○ +65.00 | | Location of Elevations |
| ○ +65.00 | | Top of Concrete Curb Elevation |
| ○ Δ S | | Sign |
| ○ BRW | | Brick Retaining Wall |
| ○ CNW | | Concrete Retaining Wall |
| ○ MH-ST | | Maintenance Hole (Storm) |
| ○ MH-S | | Maintenance Hole (Sanitary) |
| ○ | | Deciduous Tree |

REVISION NOTE:

This plan was revised to show additional topographic information

Date: _____ Jamie Leslie
Ontario Land Surveyor

The field survey was completed on the 10th day of December, 2018.

December 11, 2018
Date: _____ Jamie Leslie
Ontario Land Surveyor

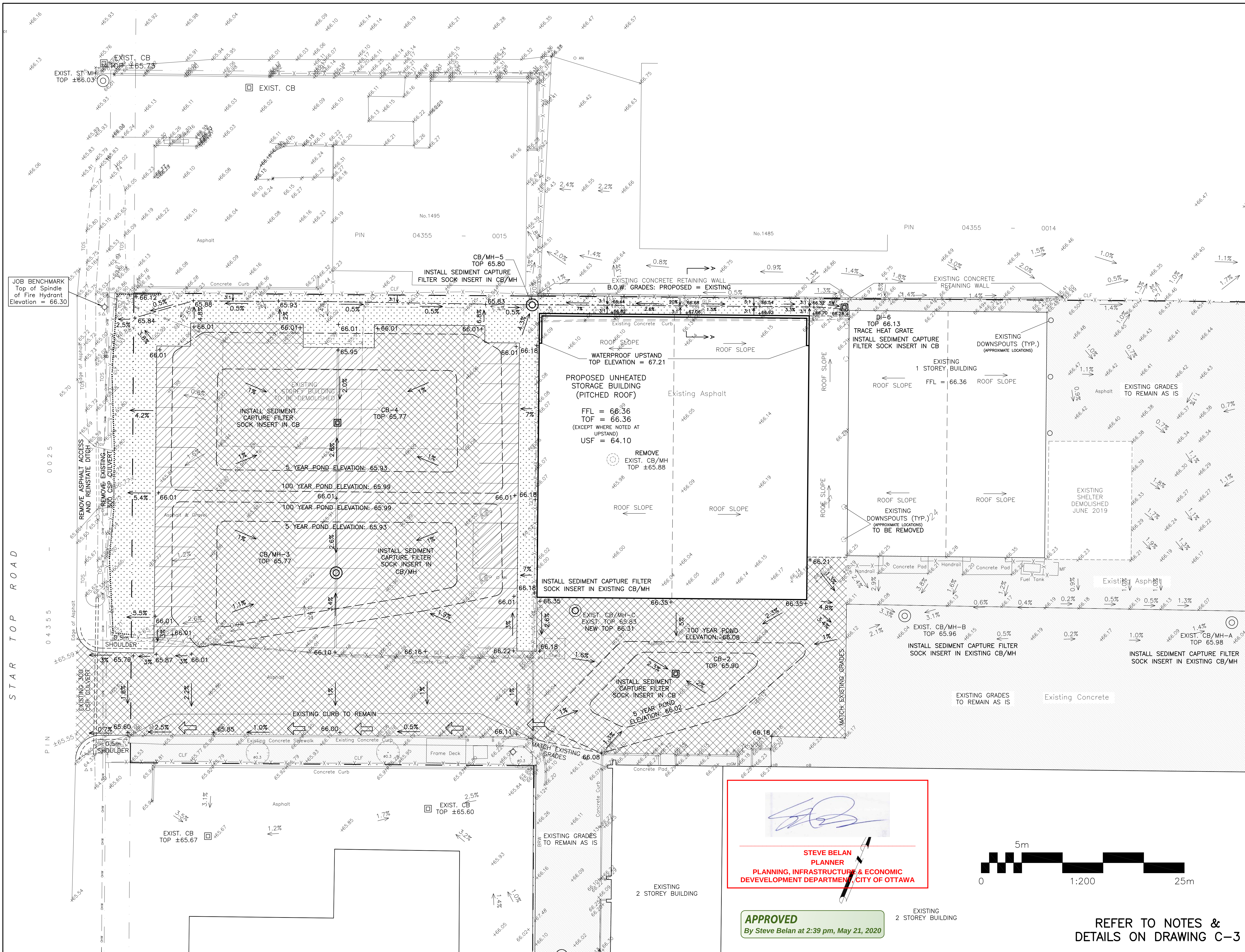
TOPOGRAPHIC DATA WAS COLLECTED UNDER WINTER CONDITIONS: SNOW COVER AND ICE PRECLUDE DETERMINING LOCATION AND ELEVATION OF SOME TOPOGRAPHICAL DATA THAT IS OTHERWISE VISIBLE.

WARNING: NO PERSON MAY COPY, REPRODUCE, DISTRIBUTE OR ALTER THIS PLAN IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF FARLEY, SMITH & DENIS SURVEYING LTD. © FARLEY, SMITH & DENIS SURVEYING LTD., 2020.

FARLEY, SMITH & DENIS SURVEYING LTD.

ONTARIO LAND SURVEYORS
CANADA LAND SURVEYORS

150 COLLEENADE ROAD, OTTAWA, ONTARIO K2E 7J5
TEL: (613) 727-8226 FAX: (613) 727-1826



DRAWING LEGEND

- CB CATCH BASIN
- MH MANHOLE
- CB/MH CATCH BASIN/MANHOLE
- SPL SPRINGLINE OF PIPE
- INV INVERT OF PIPE
- SAN SANITARY SEWER
- ST STORM SEWER
- WS/WM WATER SERVICE/WATERMAIN
- VB VALVE BOX
- FH FIRE HYDRANT
- x 66.75 EXISTING GRADE ELEVATION
- + 66.75 PROPOSED GRADE ELEVATION
- 0.5% EXISTING SLOPE OF GRADE
- 0.5% PROPOSED SLOPE OF GRADE
- ⇨ EMERGENCY OVERLAND FLOW
- CENTERLINE OF SWALE
- PROPERTY LINE
- DC 150mm CURB/DEPRESSED CURB
- /// LIGHT-DUTY PAVEMENT
- /// HEAVY-DUTY PAVEMENT
- SILT FENCE BARRIER
- FFL FIRST FLOOR ELEVATION
- TOF TOP OF FOUNDATION
- USF UNDERSIDE OF FOOTING

KEY PLAN

No.	DATE	REVISION
2	JUL 18-19	ISSUED FOR APPROVAL
1	MAY 24-19	ISSUED FOR REVIEW & COORDINATION

D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermain

700 Long Point Circle
Ottawa, Ontario

613-425-8044
d.gray@dbgrayengineering.com

Project

**PROPOSED
STORAGE BUILDING
1499 STAR TOP ROAD
OTTAWA, ONTARIO**

Drawing Title

**GRADING PLAN AND
EROSION & SEDIMENT
CONTROL PLAN**

Engineer's Seal

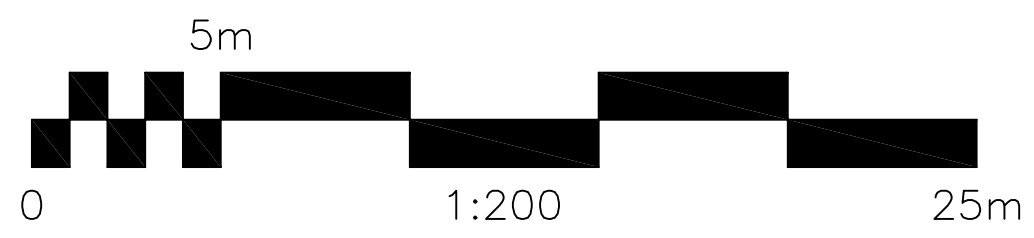
Drawn D.B.G.
Hor. Scale 1:200
Vert. Scale
Date MAY 24-19
Job No. 18073

Drawing No.

**C-2
of 5**

STEVE BELAN
PLANNER
PLANNING, INFRASTRUCTURE & ECONOMIC
DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

APPROVED
By Steve Belan at 2:39 pm, May 21, 2020



REFER TO NOTES &
DETAILS ON DRAWING C-3

1. GENERAL
- 1.1 USE BAR SCALE TO CONFIRM ACTUAL PLOT SCALE. EXISTING AND NEW ELEVATIONS AND INVERTS SHOWN ARE GEODETIC AND ARE IN METERS. ALL PIPE DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- 1.2 UNLESS OTHERWISE STATED "ENGINEER" REFERS TO D. B. GRAY ENGINEERING INC.
- 1.3 EXISTING ELEVATIONS AND LOCATIONS, INVERTS AND SIZES OF EXISTING SERVICES & UTILITIES ARE NOT NECESSARILY SHOWN ON PLAN AND THOSE SHOWN ARE DERIVED FROM AVAILABLE INFORMATION AND MUST BE CONFIRMED ON SITE BEFORE COMMENCING CONSTRUCTION. REPORT ANY DIFFERENCES TO ENGINEER.
- 1.4 UNDERGROUND LOCATES (INCLUDING ONTARIO ONE CALL: 1-800-400-2255) SHALL BE CONDUCTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION.
- 1.5 SITE BOUNDARIES AND EXISTING GRADES AND OTHER FEATURES DERIVED FROM TOPOGRAPHIC SURVEY PREPARED BY FARLEY, SMITH & DENIS SURVEYING LTD. JOB No. 626-15.
- 1.6 REFER TO ARCHITECTURAL AND LANDSCAPE SITE PLANS FOR EXACT LOCATIONS OF BUILDINGS, PAVED AREAS, SIDEWALKS, PLANTERS ETC.
- 1.7 REFERENCE THE LATEST REVISION AND ALL ADDENDUMS OF THE GEOTECHNICAL INVESTIGATION BY INTERSON GROUP INC. FILE P4754-1. SITE PREPARATION INCLUDING BUILDING SUB-GRADE PREPARATION AND PAVEMENT SUB-GRADE PREPARATION AND CONSTRUCTION OF THE PAVEMENT STRUCTURE AND EXCAVATION AND BACKFILLING, INCLUDING COMPACTION OF MATERIALS, SHALL CONFORM TO THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
- 1.8 DRAWINGS ARE TO BE READ IN CONJUNCTION WITH SERVISING BRIEF & STORM WATER MANAGEMENT REPORT No. 19073. PREPARED BY D. B. GRAY ENGINEERING INC.
- 1.9 REINSTATE ADJACENT PROPERTIES TO PRE-CONSTRUCTION CONDITIONS.
- 1.10 REINSTATE CITY PROPERTIES TO CITY STANDARDS AND TO CITY OF OTTAWA'S SATISFACTION.
- 1.11 ALL RELEVANT WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT CITY STANDARDS AND SPECIFICATIONS.
- 1.12 OTTAWA PROVINCIAL STANDARDS & SPECIFICATIONS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.

2. EROSION AND SEDIMENT CONTROL PLAN

- 2.1 THE EROSION AND SEDIMENT CONTROL PLAN IS A "LIVING DOCUMENT" AND SHALL BE REVISED IN THE EVENT THE SPECIFIED CONTROL MEASURES ARE NOT SUFFICIENT. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATER COURSE DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, USING SEDIMENT CAPTURE FILTER SOCKS, INSERTS IN CATCH BASINS AND MANHOLES AND INSTALLING SILT FENCES AND OTHER EFFECTIVE SEDIMENT TRAPS. THE CONTRACTOR ACKNOWLEDGES THAT FAILING TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY. SPECIFICALLY THE CONTRACTOR SHALL INSTALL THE FOLLOWING CONTROL MEASURES AND INSPECT, MAINTAIN AND REMOVE THE CONTROL MEASURES.
- 2.2 PRIOR TO COMMENCEMENT OF CONSTRUCTION OF ANY WORK, THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN CATCH BASINS THAT WILL RECEIVE DISCHARGE FROM DE-WATERING OPERATIONS AND ALL NEW CATCH BASINS AS THEY ARE INSTALLED. INSTALL SEDIMENT CAPTURE FILTER SOCK INSERTS (TERAFIX GEOSYNTHETICS INC. SILEXACK OR APPROVED EQUAL). INSPECT AT THE END OF EACH DAY AND AFTER EACH RAINFALL. REMOVE SEDIMENT AS RECOMMENDED BY THE MANUFACTURER. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED FILTER SOCK INSERTS. DO NOT REMOVE UNTIL CONSTRUCTION IS COMPLETE.
- 2.3 INSTALL A SILT FENCE BARRIER AROUND STOCKPILED SEDIMENT OR SOIL PRIOR TO COMMENCEMENT OF CONSTRUCTION. INSTALL A SILT FENCE BARRIER AS SHOWN ON PLANS. INSPECT ALL SILT FENCES AT THE END OF EACH DAY AND AFTER EACH RAINFALL. REMOVE SEDIMENT DEPOSITS WHEN THE LEVEL OF DEPOSITS REACHES ONE THIRD THE HEIGHT OF THE FENCE. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED SECTIONS OF FENCE. DO NOT REMOVE ANY SILT FENCES IN ANY PHASE UNTIL CONSTRUCTION IS COMPLETE.
- 2.4 ANY MATERIAL DEPOSITED ON PUBLIC ROAD SHALL BE REMOVED AT THE END OF EACH DAY BY SWEEPING AND SHOVELING OR VACUUMING AND DISPOSING IN A CONTROLLED AREA. DO NOT SWEEP OR HOSE MATERIAL INTO ANY STORMWATER CONVEYANCE SYSTEM.
- 2.5 CONSTRUCTION IS CONSIDERED COMPLETE WHEN THE FOLLOWING CONDITIONS HAVE BEEN MET:
- a. ALL STRUCTURES HAVE BEEN BUILT.
- b. ALL HARD SURFACES HAVE BEEN CONSTRUCTED.
- c. ALL PROPOSED GRASSED AREAS ARE EITHER SODDED OR HAVE A FULL COVERAGE OF WELL ESTABLISHED TURF AND HAVE HAD A MINIMUM OF ONE FULL GROWING SEASON (MAY 15TH TO SEPTEMBER 15TH).
- d. THERE ARE NO AREAS OF EXPOSED EARTH.
- e. ALL STOCKPILED MATERIALS HAVE BEEN REMOVED.
- 2.6 REMOVE EROSION AND SEDIMENT CONTROL MEASURES WHEN CONSTRUCTION IS COMPLETE.

3. GRADING & DRAINAGE

- 3.1 NEW GRADES TO MATCH EXISTING AT PROPERTY LINE. NO EXCESS DRAINAGE WILL BE DIRECTED TOWARDS THE ADJACENT PROPERTIES DURING AND AFTER CONSTRUCTION. THERE WILL BE NO ALTERATION TO EXISTING GRADE AND DRAINAGE PATTERNS ON PROPERTY LINE.
- 3.2 ALL AREAS SHALL BE GRADED TO ENSURE ADEQUATE DRAINAGE AWAY FROM BUILDINGS TO CATCH BASINS, SWALES, DITCHES AND OTHER APPROVED DISPOSAL AREAS. GRADING SHALL BE GRADUAL, BETWEEN FINISHED SPOT ELEVATIONS SHOWN ON DRAWINGS TO PREVENT PONDING (OTHER THAN PONDING REQUIRED FOR STORMWATER MANAGEMENT).

4. SITE SERVICES

- 4.1 EXISTING WATER SERVICE CONNECTIONS TO BE DECOMMISSIONED SHALL BE BLANKED AT CITY WATERMAIN BY CITY FORCES. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING AND REINSTATEMENT. EXISTING SEWER SERVICE CONNECTIONS SHALL BE DECOMMISSIONED AS PER CITY OF OTTAWA STANDARDS S11.4.
- 4.2 THE DRAIN SERVING THE FOUNDATION DRAINS SHALL BE INSTALLED WITH A BACKWATER VALVE TO CITY OF OTTAWA STANDARDS AND TO CITY OF OTTAWA DWG. NO. 514.
- 4.3 ALL SEWER MATERIALS AND CONSTRUCTION METHODS TO CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARDS SPECIFICATIONS (OPSS & OPSSD). SEWER MATERIAL, SHALL BE PVC SDR-35 (SDR-28 FOR DIAMETERS 150mm OR LESS) AND SHALL CONFORM TO CSA B185.2 AND SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS.
- 4.4 PROVIDE A MINIMUM 1.8 m COVER OVER SEWERS, WHERE THE MINIMUM COVER IS NOT POSSIBLE INSULATE AS INDICATED AND PER DETAIL.
- 4.5 MANHOLES & CATCH BASINS:
- a. PRECAST MANHOLE UNITS: TO OPSS 1361 AND OPSSD 701.010 WITH BASE SLAB OR MONOLITHIC BASE. SECTIONS ECCENTRIC CONE OR FLAT LAB TOP TYPE WITH OPENING OFFSET FOR VERTICAL LADDER INSTALLATION.
- b. MANHOLE STEPS: TO OPSS 405.01
- c. ADJUSTING RINGS: TO ASTM C 478M.
- ALUMINUM SURFACES IN CONTACT WITH OR CAST INTO CONCRETE SHALL HAVE POLYETHYLENE ANCHOR INSULATING LINES.
- d. PRECAST CATCH BASIN SECTIONS: TO OPSS 1351.
- e. JOINTS: SHALL BE MADE WATERTIGHT USING BUTYL BASED, FLEXIBLE WATERSTOP/JOINT SEALANT MATERIAL.
- f. SANITARY SEWERS: BENCH TO PROVIDE A SMOOTH U-SHAPED CHANNEL PER OPSSD 701.021. SLOPE INVERT TO ESTABLISH SEWER GRADE.
- g. STORM SEWERS: MANHOLES SHALL HAVE A 300mm SUMP AND CATCH BASINS AND DITCH INLETS SHALL HAVE A 600mm SUMP.
- h. FRAMES, GRATES AND COVERS TO CITY OF OTTAWA DRAWINGS OR OPSS 401.010. GRATES AND COVERS TO BEAR EVENLY ON FRAMES. PAINTED WITH ONE SHOP COAT OF ASPHALT OR TAR BASE BLACK. ALL JOINTS AND CREVICES SHALL BE THOROUGHLY COATED.
- i. GRATINGS (FOR DITCH INLETS): FABRICATED LATTICE OF WELDED QUALITY MILD CARBON STEEL BARS CONFORMING TO OPSS 1850 AND ASTM A569, GRADE 1015, HOT DIPPED GALVANIZED CONFORMING TO CSA G164-16.
- j. MANHOLE BEDDING AND BACKFILL: OPSS GRANULAR A. RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
- 4.6 THE INLET CONTROL DEVICES LOCATED IN THE OUTLET PIPE OF CATCH BASIN / MANHOLE CB/MH-3 SHALL BE A HYDROVEX VHM-1 VERTICAL VORTEX FLOW REGULATOR AND AND SIZED BY THE MANUFACTURER FOR A DISCHARGE RATE AS INDICATED ON PLAN. PRIOR TO INSTALLATION SUBMIT SHOP DRAWING TO ENGINEER FOR APPROVAL.
- 4.7 THE INLET CONTROL DEVICES LOCATED IN THE OUTLET PIPE OF CATCH BASIN MANHOLE CB-2 SHALL BE A PLUG STYLE WITH A ROUND ORIFICE DESIGN (WITH THE ORIFICE LOCATED AT THE BOTTOM OF THE PLUG) MANUFACTURED BY PEGMO PLASTICS (OR APPROVED EQUAL) AND AND SIZED BY THE MANUFACTURER FOR A DISCHARGE RATE AS INDICATED ON PLAN. PRIOR TO INSTALLATION SUBMIT SHOP DRAWING TO ENGINEER FOR APPROVAL.

5. CONSTRUCTION

- 5.1 PRIOR TO COMMENCING WORK:
- a. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE AUTHORITIES.
- b. SIZE, DEPTH AND LOCATION OF EXISTING SERVICES, UTILITIES AND STRUCTURES AS INDICATED ON THE DRAWINGS ARE FOR GUIDANCE ONLY. ALL EXISTING SERVICES, UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE DRAWINGS. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. NOTIFY ALL APPLICABLE OWNERS, UTILITY COMPANIES AND AUTHORITIES HAVING JURISDICTION OF PROPOSED WORK AND LOCATE AND CLEARLY IDENTIFY ALL EXISTING SERVICES, UTILITIES AND STRUCTURES ON AND ADJACENT TO THE SITE. UNDERGROUND LOCATES (INCLUDING ONTARIO ONE CALL: 1-800-400-2255) SHALL BE CONDUCTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION. CONFIRM LOCATIONS OF BURIED SERVICES AND UTILITIES BY CAREFULLY EXCAVATING TEST PITS AND REPORT ANY DIFFERENCES TO THE ENGINEER.
- c. EXISTING GRADE ELEVATIONS INDICATED ON THE DRAWINGS ARE FOR GUIDANCE ONLY. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. CONFIRM EXISTING GRADE ELEVATIONS AND REPORT ANY DIFFERENCES TO THE ENGINEER.
- d. COORDINATE AND SCHEDULE WORK WITH THE AUTHORITIES AND OTHER TRADERS.
- e. SCHEDULE WORK TO PROVIDE THE MINIMUM DISRUPTION TO SERVICES.
- 5.2 MAINTAIN AND PROTECT FROM DAMAGE, SERVICES, UTILITIES AND STRUCTURES ENCOUNTERED.
- 5.3 PROTECT EXISTING BUILDINGS, TREES AND OTHER PLANTS, LAWNS, FENCING, SERVICE POLES, WIRES, PAVEMENT, SURVEY BENCH MARKS AND MONUMENTS AND OTHER SURFACE FEATURES FROM DAMAGE WHILE WORK IS IN PROGRESS. DO NOT DISTURB SOIL WITHIN BRANCH SPREAD OF TREES OR SHRUBS THAT ARE TO REMAIN.
- 5.4 PROVIDE TRAFFIC CONTROL AND SAFETY MEASURES INCLUDING ANY NECESSARY PERSONNEL AND THE SUPPLY, INSTALLATION, REMOVAL AND REPLACEMENT OF ALL NECESSARY SIGNAGE AND BARRIERS, AS REQUIRED BY THE AUTHORITIES. IF APPLICABLE, PROVIDE TRAFFIC MANAGEMENT PLAN AS PER CITY OF OTTAWA REQUIREMENTS.
- 5.5 REMOVE OBSTRUCTIONS, ICE AND SNOW, FROM SURFACES TO BE EXCAVATED.
- 5.6 CUT PAVEMENT AND / OR SIDEWALK NEATLY ALONG LIMITS OF PROPOSED EXCAVATION IN ORDER THAT SURFACE MAY BREAK EVENLY AND CLEARLY.
- 5.7 COORDINATE AND PAY FOR GEOTECHNICAL INSPECTIONS AND COMPACTION TESTS OF SUB-GRADE, PIPE BEDDING AND EACH LAYER OF SURROUND MATERIAL, BACKFILL, SUB-BASE, BASE AND ASPHALT TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT AND ENGINEER. SUBMIT GEOTECHNICAL INSPECTIONS AND COMPACTION REPORTS TO SMOOTHER.
- 5.8 CUT AND FILL AS NECESSARY TO ACHIEVE THE REQUIRED SUB-GRADE ELEVATION. DISPOSE OF SURPLUS AND UNSUITABLE EXCAVATED MATERIAL OFF SITE. FILL MATERIAL AND THE PLACEMENT AND COMPACTION OF THE FILL MATERIAL AS PER THE GEOTECHNICAL REPORT AND TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT AND ENGINEER. SUBMIT GEOTECHNICAL INSPECTIONS AND COMPACTION REPORTS TO SMOOTHER.
- 5.9 EXCAVATION, TRENCHING & BACKFILL:
- A. SHORE AND BRACE EXCAVATIONS, PROTECT SLOPES AND BANKS AND PERFORM ALL WORK IN ACCORDANCE WITH ONTARIO REGULATION 94 UNDER THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND OF OTHER AUTHORITIES HAVING JURISDICTION.
- B. KEEP EXCAVATIONS FREE OF WATER WHILE WORK IS IN PROGRESS. PROTECT OPEN EXCAVATIONS AGAINST FLOODING AND DAMAGE DUE TO SURFACE RUN-OFF.
- C. EXCAVATION MUST NOT INTERFERE WITH BEARING CAPACITY OF ADJACENT FOUNDATIONS.
- D. DO NOT OBSTRUCT FLOW OF SURFACE DRAINAGE OR NATURAL WATERCOURSES.
- E. EXCAVATE TO LINES, GRADES, ELEVATIONS AND DIMENSIONS AS INDICATED. EARTH BOTTOMS OF EXCAVATIONS MUST BE UNDISTURBED SOIL, LEVEL, FREE FROM LOOSE, SOFT OR ORGANIC MATTER.
- F. ALL STRUCTURES WITHIN PAVED AREAS SHALL HAVE 4:1 FROST TAPERS FROM FROST LINE TO SUB-GRADE.
- G. CORRECT OVER-EXCAVATION WITH GRANULAR A COMPACTED TO NOT LESS THAN 95% OF CORRECTED MAXIMUM DRY DENSITY.
- H. SUB-GRADE AND AREAS TO BE BACKFILLED TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND.
- I. DO NOT USE BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
- K. BEDDING AND SURROUND MATERIAL FOR SEWERS SHALL BE OPSS GRANULAR A. BEDDING AND SURROUND MATERIAL FOR WATERMAIN AND WATER SERVICE CONNECTIONS SHALL BE OPSS GRANULAR A OR OPSS GRANULAR M. RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
- L. DO NOT USE BEDDING, SURROUND OR BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
- M. PIPE BEDDING SHALL BE 150mm THICK. SHAPE BED TRUE TO GRADE AND TO PROVIDE CONTINUOUS, UNIFORM BEARING SURFACE FOR PIPE.
- N. PLACE SURROUND MATERIAL AROUND PIPES TO FULL WIDTH OF TRENCH AND TO 300mm ABOVE PIPES.
- O. PLACE BEDDING AND SURROUND MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 150mm COMPACTED THICKNESS. PLACE FILL AND BACKFILL MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS.
- P. COMPACT EACH LAYER TO 95% OF CORRECTED DRY DENSITY BEFORE PLACING SUCCEEDING LAYER.
- Q. DO NOT BACKFILL AROUND OR OVER CAST-IN-PLACE CONCRETE WITHIN 24 HOURS AFTER PLACING OF CONCRETE.
- R. BACKFILL MATERIALS WITHIN 1.8m OF PROPOSED GRADE SHALL MATCH THE MATERIALS EXPOSED ON THE TRENCH WALLS. BACKFILL BELOW 1.8m OF THE PROPOSED GRADE SHALL CONSIST EITHER OF UNDISTURBED SOIL OR OF IMPORTED GRANULAR MATERIAL CONFORMING TO OPSS GRANULAR B TYPE I OR II. ANY OBSTRUCTED SOILS OR TOPSOIL IF ENCOUNTERED, SHALL BE REMOVED FROM THE EXCAVATION. IF ROCK IS USED AS BACKFILL, IT SHALL BE WELL SHATTERED AND GRADED AND 200mm OR SMALLER IN DIAMETER, TO PREVENT INGRESS OF FINE MATERIAL INTO VOIDS IN THE ROCK FILL. THE UPPER SURFACE OF THE ROCK FILL SHALL BE COVERED WITH 150mm LAYER OF COMPACTED, WELL GRADED CRUSHED STONE PLACED ON GEOTEXTILE FABRIC.
- 5.10 PIPES:
- A. HANDLE PIPE USING METHODS APPROVED BY MANUFACTURER.
- B. LAY, CUT AND JOIN PIPES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- C. USE ONLY FITTINGS AS RECOMMENDED BY PIPE MANUFACTURER.
- D. LAY PIPES ON PREPARED BED, TRUE TO LINE AND GRADE AND ENSURE BARREL OF EACH PIPE IS IN CONTACT WITH SHAPED BED THROUGHOUT ITS FULL LENGTH, FREE OF SAGS OR HIGH POINTS.
- E. DO NOT EXCEED MAXIMUM JOINT DEFLECTION RECOMMENDED BY PIPE MANUFACTURER.
- F. WHENEVER WORK IS SUSPENDED, INSTALL REMOVABLE WATERTIGHT BULKHEAD AT OPEN END OF LAST PIPE LAD TO PREVENT ENTRY OF FOREIGN MATERIALS.
- G. WHEN STOPPAGE OF WORK OCCURS, BLOCK PIPES TO PREVENT CREEP DURING DOWN TIME. MAKE WATERTIGHT CONNECTIONS TO MANHOLES.
- H. JOINTS SHALL BE STRUCTURALLY SOUND AND WATERTIGHT.
- I. REPAIR OR REPLACE PIPE, PIPE JOINT OR BEDDING FOUND DEFECTIVE.
- 5.11 SEWERS AND SEWER SERVICES:
- A. CONSTRUCT SEWER TRENCHES AS PER CITY DWG S6 & S7.
- B. RIGID STRUCTURES, INSTALL PIPE JOINTS NOT MORE THAN 1.2M FROM SIDE OF STRUCTURE.
- C. MAINTAIN EXISTING SEWAGE FLOWS DURING CONSTRUCTION.
- D. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410. REPAIR AND RE-TEST SEWER LINE AS REQUIRED. REPAIR VISIBLE LEAKS REIMBURSE OF TEST REPAIRS.
- E. CONDUCT TWO CCTV INSPECTIONS OF SEWERS. FIRST INSPECTION AFTER COMPLETION OF CONSTRUCTION. SECOND INSPECTION IMMEDIATELY PRIOR TO END OF WARRANTY PERIOD. A PLAN AND TILT CAMERA SHALL BE USED. REPAIR SEWER LINE AS REQUIRED. SUBMIT REPORTS AND DVDS TO ENGINEER.
- 5.12 MANHOLES & CATCH BASINS:
- A. JOINTS: SHALL BE MADE WATERTIGHT.
- B. SET PRECAST CONCRETE BASE ON 150mm MINIMUM OF GRANULAR BEDDING COMPACTED TO 100% CORRECTED MAXIMUM DRY DENSITY.
- C. MAKE EACH JOINT WATERTIGHT WITH RUBBER RING GASKETS.
- D. PLACE GRANULAR BACKFILL MATERIALS IN A UNIFORM LAYERS TO COMPACTED THICKNESS OF 150mm. COMPACT TO 95% CORRECTED MAXIMUM DRY DENSITY.
- E. PLACE FRAME AND COVER ON TOP SECTION TO ELEVATION AS INDICATED. IF ADJUSTMENT REQUIRED USE CONCRETE RINGS TO A MAXIMUM OF 300mm.
- F. CLEAN UNITS OF DEBRIS, FOREIGN AND SURPLUS MATERIALS. REMOVE FINIS AND SHARP PROJECTIONS FROM ALL EXTERIOR SURFACES.
- G. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 407.
- 5.13 MAINTAIN RECORD DRAWINGS AND RECORD ACCURATELY DEVIATIONS FROM THE ORIGINAL CONTRACT DOCUMENTS. RECORD ALL CHANGES TO THE ORIGINAL DRAWINGS BY CHANGE ORDER OR ADDITIONAL INSTRUCTIONS. UPDATE DAILY AND MAKE AVAILABLE ON-SITE FOR REVIEW THROUGHOUT THE CONSTRUCTION PERIOD. MARK CHANGES IN RED INK. RECORD DRAWINGS SHALL INCLUDE BUT NOT NECESSARILY LIMITED TO CHANGES OF DIMENSION AND DETAIL CHANGES TO GRADE ELEVATIONS; AND HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND SERVICES, UTILITIES AND APPURTENANCES REFERENCED TO A PERMANENT SURFACE STRUCTURE. SUBMIT DRAWINGS TO ENGINEER AT THE END OF CONSTRUCTION.
- 5.14 CONCRETE CURBS TO CITY OF OTTAWA DRAWING NO. SC1.1. CONCRETE SIDEWALK TO CITY OF OTTAWA DRAWING NO. SC4.
- 5.15 REINSTATE PAVEMENTS AND SIDEWALKS DISTURBED BY EXCAVATION TO THICKNESS, STRUCTURE AND ELEVATION WHICH EXISTED BEFORE EXCAVATION.
- 5.16 CLEAN AND REINSTATE AREAS AFFECTED BY THE WORK.

5.9 EXCAVATION, TRENCHING & BACKFILL:

- A. SHORE AND BRACE EXCAVATIONS, PROTECT SLOPES AND BANKS AND PERFORM ALL WORK IN ACCORDANCE WITH ONTARIO REGULATION 94 UNDER THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND OF OTHER AUTHORITIES HAVING JURISDICTION.
- B. KEEP EXCAVATIONS FREE OF WATER WHILE WORK IS IN PROGRESS. PROTECT OPEN EXCAVATIONS AGAINST FLOODING AND DAMAGE DUE TO SURFACE RUN-OFF.
- C. EXCAVATION MUST NOT INTERFERE WITH BEARING CAPACITY OF ADJACENT FOUNDATIONS.
- D. DO NOT OBSTRUCT FLOW OF SURFACE DRAINAGE OR NATURAL WATERCOURSES.
- E. EXCAVATE TO LINES, GRADES, ELEVATIONS AND DIMENSIONS AS INDICATED. EARTH BOTTOMS OF EXCAVATIONS MUST BE UNDISTURBED SOIL, LEVEL, FREE FROM LOOSE, SOFT OR ORGANIC MATTER.
- F. ALL STRUCTURES WITHIN PAVED AREAS SHALL HAVE 4:1 FROST TAPERS FROM FROST LINE TO SUB-GRADE.
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- H. SUB-GRADE AND AREAS TO BE BACKFILLED TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND.
- I. DO NOT USE BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
- K. BEDDING AND SURROUND MATERIAL FOR SEWERS SHALL BE OPSS GRANULAR A. BEDDING AND SURROUND MATERIAL FOR WATERMAIN AND WATER SERVICE CONNECTIONS SHALL BE OPSS GRANULAR A OR OPSS GRANULAR M. RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
- L. DO NOT USE BEDDING, SURROUND OR BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
- M. PIPE BEDDING SHALL BE 150mm THICK. SHAPE BED TRUE TO GRADE AND TO PROVIDE CONTINUOUS, UNIFORM BEARING SURFACE FOR PIPE.
- N. PLACE SURROUND MATERIAL AROUND PIPES TO FULL WIDTH OF TRENCH AND TO 300mm ABOVE PIPES.
- O. PLACE BEDDING AND SURROUND MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 150mm COMPACTED THICKNESS. PLACE FILL AND BACKFILL MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS.
- P. COMPACT EACH LAYER TO 95% OF CORRECTED DRY DENSITY BEFORE PLACING SUCCEEDING LAYER.
- Q. DO NOT BACKFILL AROUND OR OVER CAST-IN-PLACE CONCRETE WITHIN 24 HOURS AFTER PLACING OF CONCRETE.
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- E. DO NOT EXCEED MAXIMUM JOINT DEFLECTION RECOMMENDED BY PIPE MANUFACTURER.
- F. WHENEVER WORK IS SUSPENDED, INSTALL REMOVABLE WATERTIGHT BULKHEAD AT OPEN END OF LAST PIPE LAD TO PREVENT ENTRY OF FOREIGN MATERIALS.
- G. WHEN STOPPAGE OF WORK OCCURS, BLOCK PIPES TO PREVENT CREEP DURING DOWN TIME. MAKE WATERTIGHT CONNECTIONS TO MANHOLES.
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- C. MAINTAIN EXISTING SEWAGE FLOWS DURING CONSTRUCTION.
- D. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410. REPAIR AND RE-TEST SEWER LINE AS REQUIRED. REPAIR VISIBLE LEAKS REIMBURSE OF TEST REPAIRS.
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- B. SET PRECAST CONCRETE BASE ON 150mm MINIMUM OF GRANULAR BEDDING COMPACTED TO 100% CORRECTED MAXIMUM DRY DENSITY.
- C. MAKE EACH JOINT WATERTIGHT WITH RUBBER RING GASKETS.
- D. PLACE GRANULAR BACKFILL MATERIALS IN A UNIFORM LAYERS TO COMPACTED THICKNESS OF 150mm. COMPACT TO 95% CORRECTED MAXIMUM DRY DENSITY.
- E. PLACE FRAME AND COVER ON TOP SECTION TO ELEVATION AS INDICATED. IF ADJUSTMENT REQUIRED USE CONCRETE RINGS TO A MAXIMUM OF 300mm.
- F. CLEAN UNITS OF DEBRIS, FOREIGN AND SURPLUS MATERIALS. REMOVE FINIS AND SHARP PROJECTIONS FROM ALL EXTERIOR SURFACES.
- G. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 407.

5.13 MAINTAIN RECORD DRAWINGS AND RECORD ACCURATELY DEVIATIONS FROM THE ORIGINAL CONTRACT DOCUMENTS.

- RECORD ALL CHANGES TO THE ORIGINAL DRAWINGS BY CHANGE ORDER OR ADDITIONAL INSTRUCTIONS. UPDATE DAILY AND MAKE AVAILABLE ON-SITE FOR REVIEW THROUGHOUT THE CONSTRUCTION PERIOD. MARK CHANGES IN RED INK. RECORD DRAWINGS SHALL INCLUDE BUT NOT NECESSARILY LIMITED TO CHANGES OF DIMENSION AND DETAIL CHANGES TO GRADE ELEVATIONS; AND HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND SERVICES, UTILITIES AND APPURTENANCES REFERENCED TO A PERMANENT SURFACE STRUCTURE. SUBMIT DRAWINGS TO ENGINEER AT THE END OF CONSTRUCTION.

5.14 CONCRETE CURBS TO CITY OF OTTAWA DRAWING NO. SC1.1.

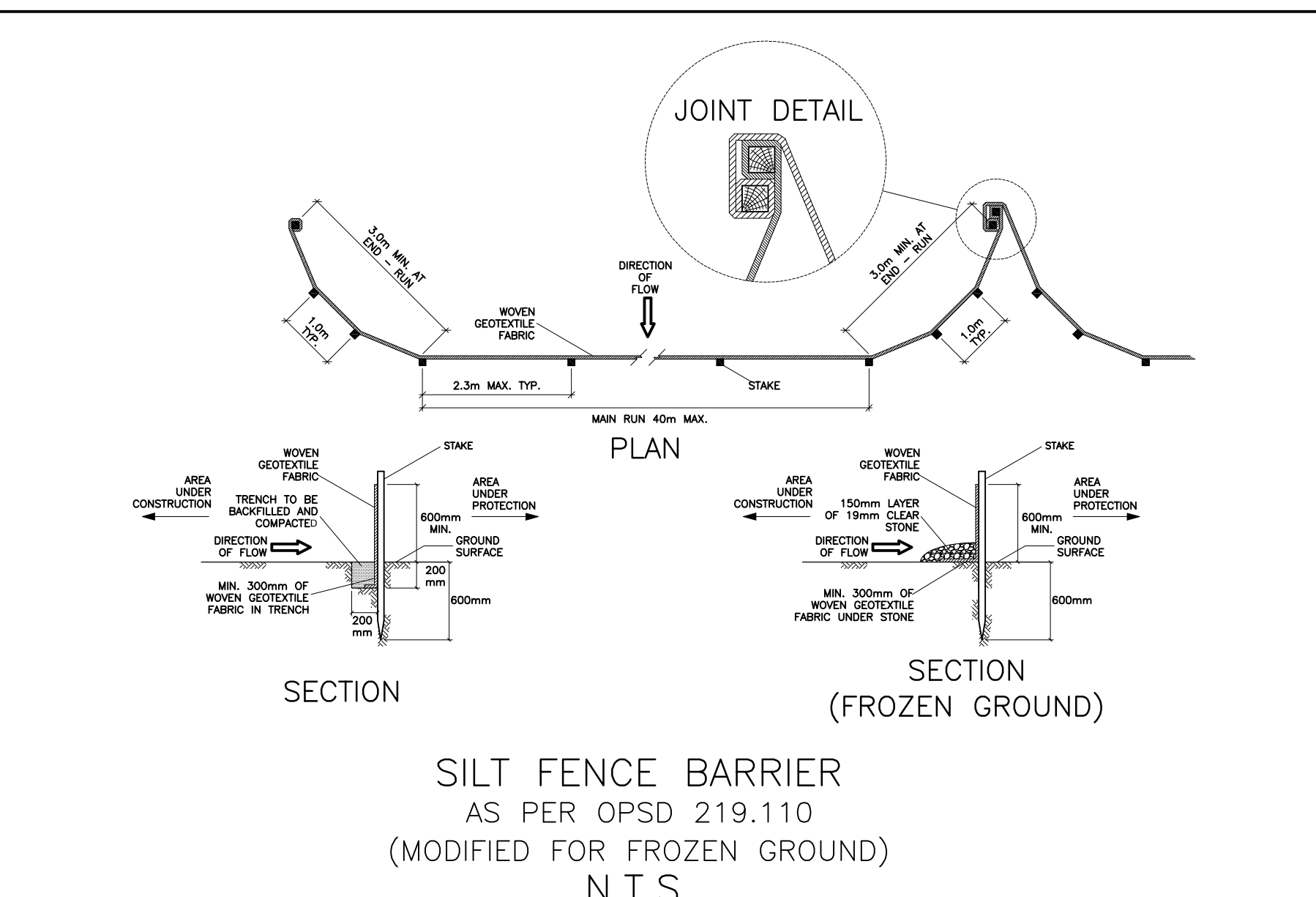
- CONCRETE SIDEWALK TO CITY OF OTTAWA DRAWING NO. SC4.
- 5.15 REINSTATE PAVEMENTS AND SIDEWALKS DISTURBED BY EXCAVATION TO THICKNESS, STRUCTURE AND ELEVATION WHICH EXISTED BEFORE EXCAVATION.
- 5.16 CLEAN AND REINSTATE AREAS AFFECTED BY THE WORK.

6. PAVEMENT

- 6.1 PAVEMENT STRUCTURE:
- LIGHT DUTY PAVEMENT:
- 50mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
- 150mm OPSS GRANULAR A BASE
- 300mm OPSS GRANULAR B TYPE II SUB-BASE
- RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
- HEAVY DUTY PAVEMENT:
- 40mm SUPERPAVE 12.5 ASPHALTIC CONCRETE
- 50mm SUPERPAVE 19.0 ASPHALTIC CONCRETE
- 150mm OPSS GRANULAR A BASE
- 450mm OPSS GRANULAR B TYPE II SUB-BASE
- RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
- ASPHALTIC CONCRETE SHALL BE PERFORMANCE GRADE PG58-34.
- HOT MIX ASPHALT MATERIALS SHALL BE ACCORDING TO OPSS 1150 OR 1151.
- PAVEMENT SUB-GRADE PREPARATION AND CONSTRUCTION OF THE PAVEMENT STRUCTURE SHALL CONFORM TO THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE ENGINEER.
- 6.2 REMOVE EXISTING ASPHALT AND HAUL TO A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS. REMOVE ALL MATERIALS TO THE SUB-GRADE LEVEL. REMOVE ORGANIC OR UNSUITABLE MATERIAL FROM SUB-GRADE WHERE ENCOUNTERED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
- SUB-GRADE TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND. COMPACT SUB-GRADE TO 95%.
- 6.3 CONSTRUCT GRANULAR BASE AND SUB-BASE TO DEPTH AND GRADE IN AREAS INDICATED. CONSTRUCT A 5H:1V FROST TAPER IN SUB-GRADE SURFACE AS A TRANSITION BETWEEN DIFFERING PAVEMENT STRUCTURES AND BETWEEN PAVEMENT AND CURBS AND SIDEWALKS.
- 6.4 ENSURE NO FROZEN MATERIAL IS PLACED. PLACE MATERIAL ONLY ON CLEAN UNFROZEN SURFACE, FREE FROM SNOW OR ICE.
- 6.5 PLACE MATERIAL TO FULL WIDTH IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS. SHAPE EACH LAYER TO SMOOTH CONTOUR AND COMPACT TO SPECIFIED DENSITY BEFORE SUCCEEDING LAYER IS PLACED.
- 6.6 COMPACT SUB-BASE MATERIAL TO DENSITY OF NOT LESS THAN 98% CORRECTED MAXIMUM DRY DENSITY. FULL DEPTH OF EXCAVATED SUB-GRADE WITH SUB-BASE MATERIAL, COMPACT TO 98%. COMPACT BASE MATERIAL TO DENSITY NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY.
- 6.7 IN AREAS NOT ACCESSIBLE TO ROLLING EQUIPMENT, COMPACT TO SPECIFIED DENSITY WITH MECHANICAL TAMPERS.
- 6.8 REPLACE PAVEMENT DISTURBED BY CONSTRUCTION AND REPLACE WITH PAVEMENT STRUCTURE ABOVE.
- 6.9 WHERE NEW ASPHALT COMES IN CONTACT WITH EXISTING PAVEMENT: SAWCUT EXISTING ASPHALT LAYER TO CREATE A TACK STRAIGHT EDGE. TACK COAT SHALL BE APPLIED TO ASPHALT SURFACES AT WHICH JOINTS ARE TO BE MADE INCLUDING EXISTING PAVEMENT SURFACES THAT HAVE BEEN CUT, GROUND OR MILED. TACK COAT THE SURFACE OF ALL BINDER COURSES AND BUTTING CONCRETE SURFACES. SURFACES TO BE TACK COATED SHALL BE FREE OF STANDING WATER AND CONTAMINATION, SUCH AS MUD, LOOSE AGGREGATE OR DEBRIS AND SHALL BE DRY AND CLEAN WHEN THE TACK COAT IS APPLIED. TACK COAT SHALL BE PLACED SUFFICIENTLY AHEAD OF THE PAVING OPERATION TO ALLOW FOR CURING. PAVING AND CONSTRUCTION EQUIPMENT SHALL NOT BE PERMITTED ONTO THE TACK COAT UNTIL IT HAS SET.
- 6.10 TACK MATERIAL SHALL CONSIST OF SS-1 EMULSIFIED ASPHALT DILUTED WITH AN EQUAL VOLUME OF WATER. THE UNDILUTED MATERIAL SHALL BE ACCORDING TO OPSS 1103.
- 6.11 SHAPE BASE TO SMOOTH CONTOUR AND COMPACT TO NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY BEFORE BEGINNING PAVING OPERATIONS.
- 6.12 APPLY ASPHALTIC CONCRETE ONLY WHEN BASE OR PREVIOUS COURSE IS DRY AND AIR TEMPERATURE IS ABOVE 5 DEG C.
- 6.13 ROLL UNTIL ROLLER MARKS ARE ELIMINATED AND COMPACTED TO NOT LESS THAN 95% OF DENSITY. COMPACT WITH HOT TAMPERS IN AREAS INACCESSIBLE TO A ROLLER. BEVEL EDGES ADJACENT TO GRANULAR SURFACES.
- 6.14 FINISH SURFACE SMOOTH, TRUE TO GRADE.
- 6.15 KEEP VEHICULAR TRAFFIC AND OTHER LOADS OFF NEWLY PAVED AREAS UNTIL 24 HOURS AFTER PAVING.
- 6.17 APPLY TRAFFIC PAINT AS IDENTIFIED ON PLAN. TRAFFIC PAINT, NON-CURABLE, HOMOGENEOUS, UNIFORM AND SMOOTH, FREE FROM SKIN, DIRT AND OTHER FOREIGN PARTICLES. APPLY TO DRY PAVEMENT SURFACE FREE FROM FROST, ICE, DUST, OIL, GREASE AND OTHER FOREIGN MATERIALS. PROTECT PAVEMENT MARKINGS UNTIL DRY.

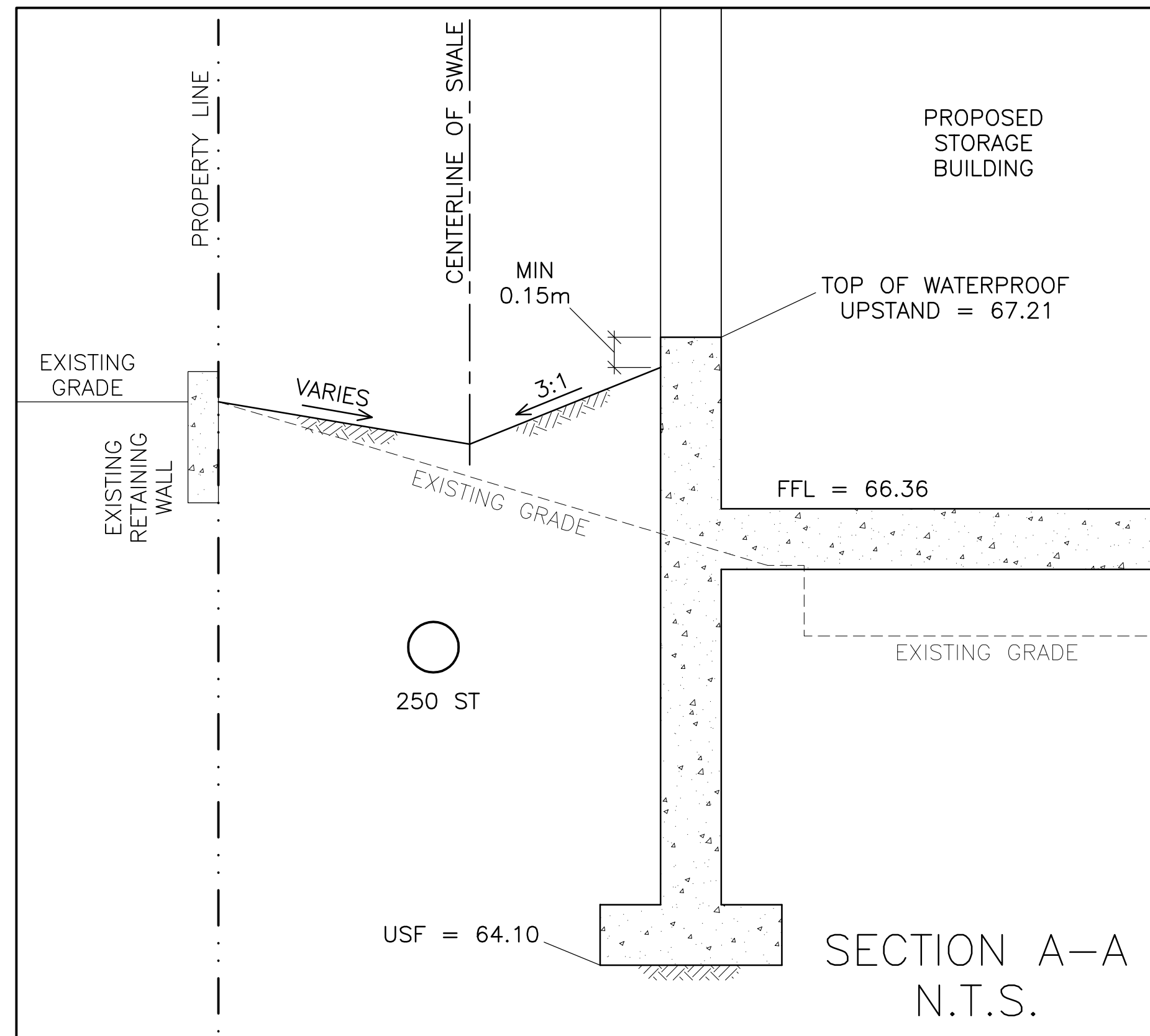
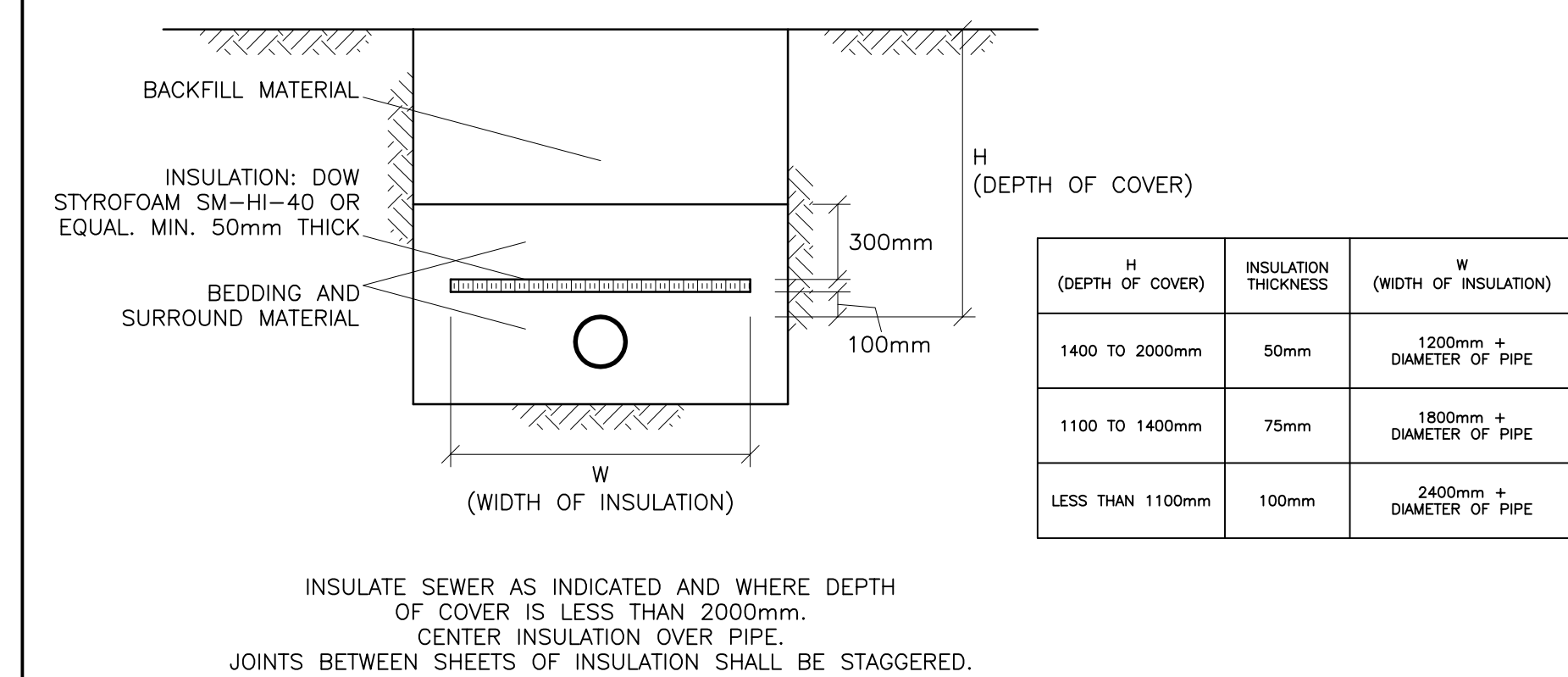
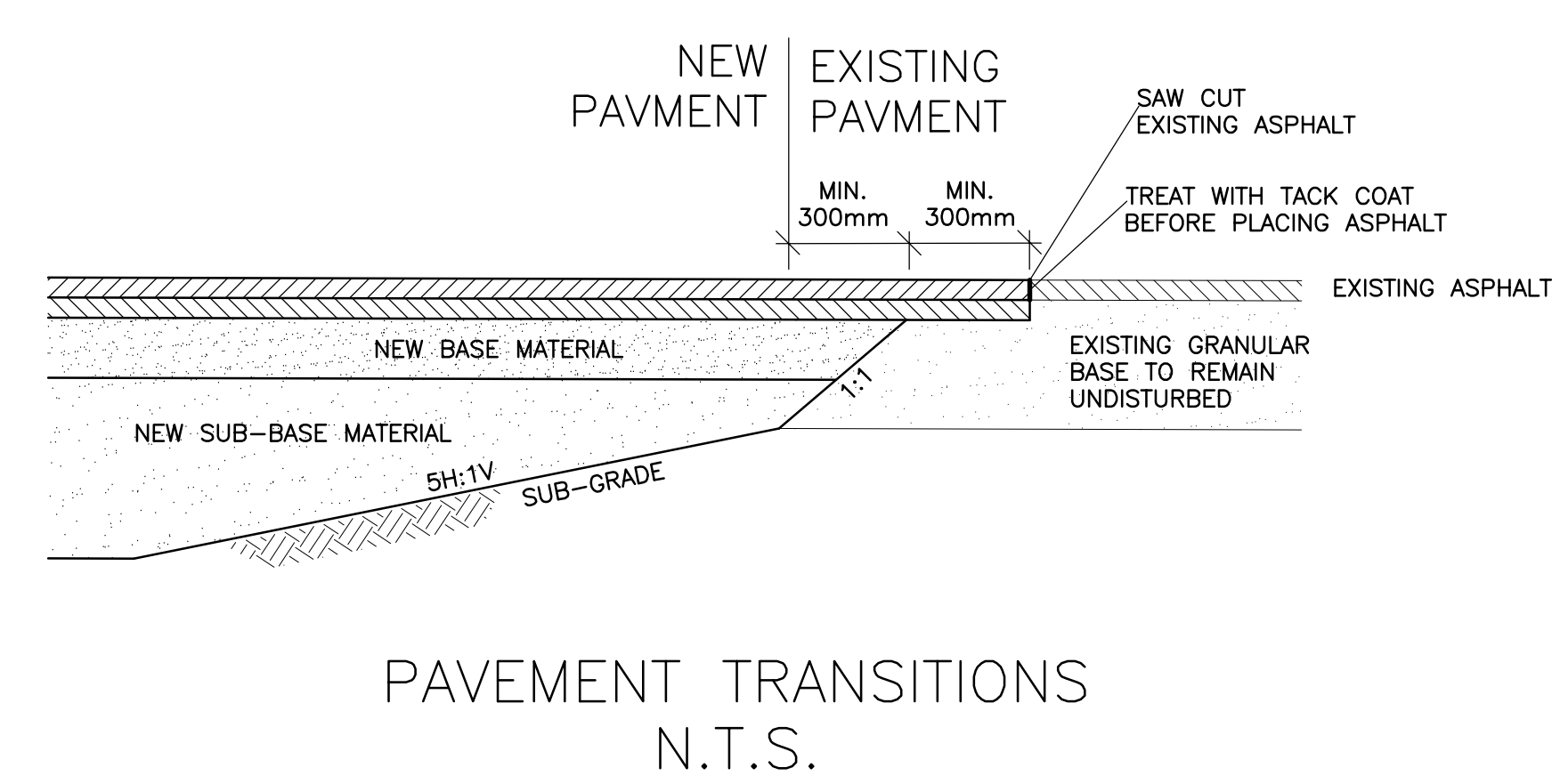
CATCH BASIN & MANHOLE SCHEDULE

REF	TOP	SIZE	TYPE	INVERT AT INLET	INVERT AT OUTLET	NOTES
STORM SEWER						
MH-1	±66.08	AQUA SHIELD AQUA-SWIRL AS-3 BYP	OIL & GRIT SEPARATOR (OGS) MANHOLE (HDPE)	±63.05(N)	±65.04(S)	-
CB-2	65.90	600 x 600mm	PRE-CAST CONCRETE CATCH BASIN	-	64.05	TO OPSSD 705.010 & CITY OF OTTAWA STANDARDS - FRAMES & COVERS CITY DWG NO. S22 & S23 OR OPSSD 400.020 INSTALL ICD IN OUTLET PIPE
CB/MH-3	65.77	1200mm	PRE-CAST CONCRETE CATCH BASIN/ MANHOLE	64.13(N)	64.13(E)	TO OPSSD 701.010 & CITY OF OTTAWA STANDARDS - FRAMES & COVERS CITY DWG NO. S25 & S28.1 OR OPSSD 401.010 INSTALL ICD IN OUTLET PIPE
CB-4	65.77	600 x 600mm	PRE-CAST CONCRETE CATCH BASIN	-	64.21	TO OPSSD 705.010 & CITY OF OTTAWA STANDARDS - FRAMES & COVERS CITY DWG NO. S22 & S23 OR OPSSD 400.020
CB/MH-5	65.80	1200mm	PRE-CAST CONCRETE CATCH BASIN/ MANHOLE	65.47(E)	64.31(S)	TO OPSSD 701.010 & CITY OF OTTAWA STANDARDS - FRAMES & COVERS CITY DWG NO. S25 & S28.1 OR OPSSD 401.010
DI-6	66.13	600 x 600mm	PRE-CAST CONCRETE DITCH INLET	-	65.63	TO OPSSD 705.030 & CITY OF OTTAWA STANDARDS - GRATE TO OPSSD 403.010 3:1 SLOPE

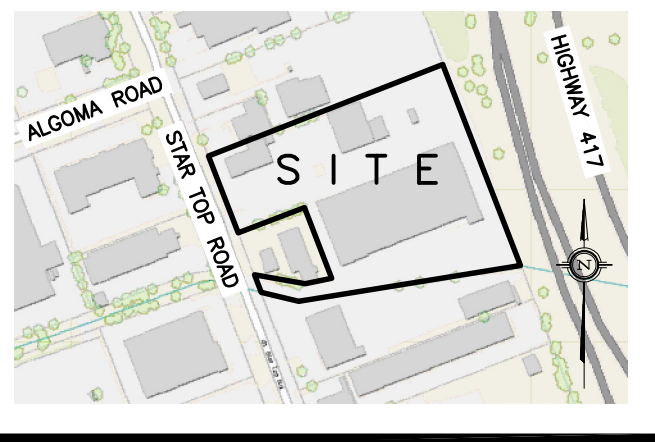


STEVE BELAN
PLANNER
PLANNING, INFRASTRUCTURE & ECONOMIC
DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

APPROVED
By Steve Belan at 2:40 pm, May 21, 2020



KEY PLAN



2	JUL 18-19	ISSUED FOR APPROVAL
1	MAY 24-19	ISSUED FOR REVIEW & COORDINATION
No.	DATE	REVISION

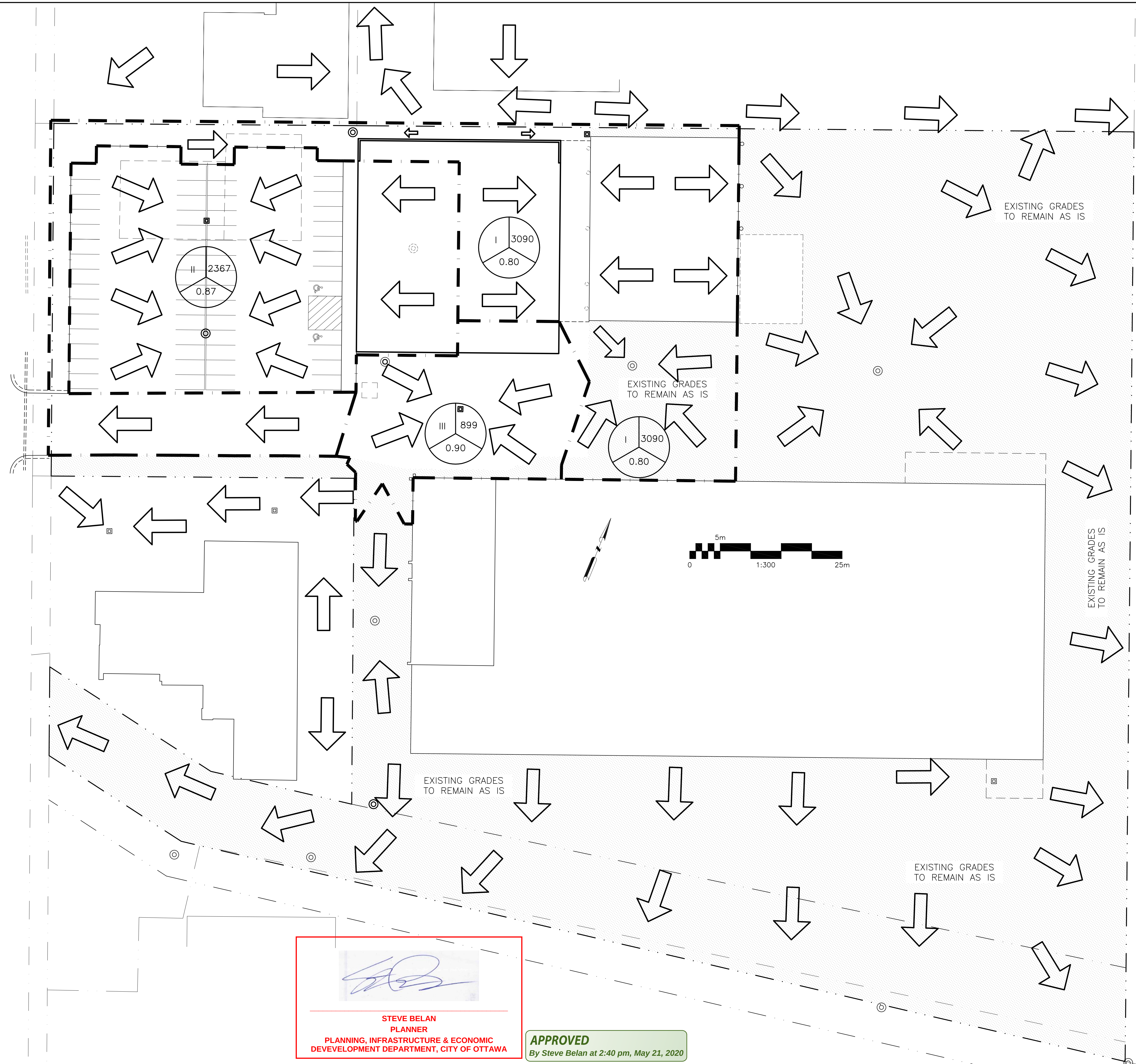
D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Sewer & Sanitary Sewers - Watermain
700 Long Point Circle
Ottawa, Ontario
613-425-8044
d.gray@dbgrayengineering.com

Project
PROPOSED
STORAGE BUILDING
1499 STAR TOP ROAD
OTTAWA, ONTARIO

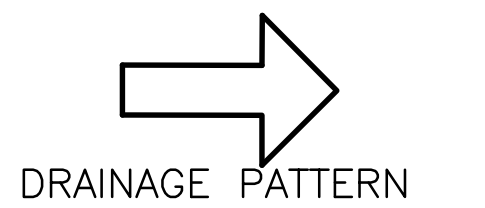
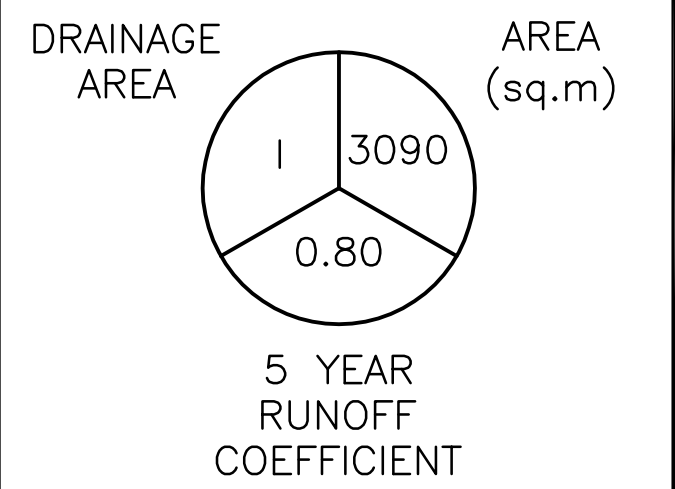
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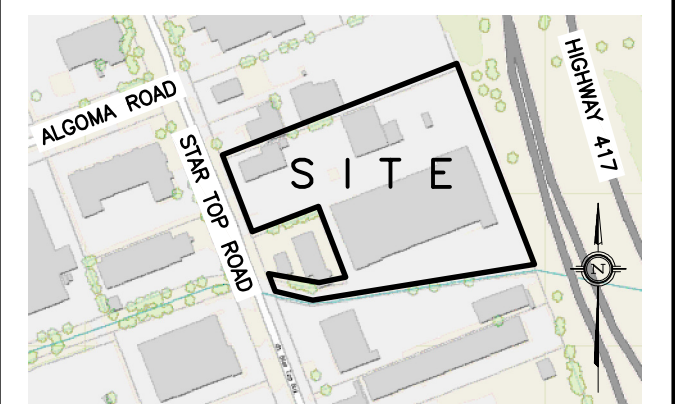
Engineer's Seal
D.B. GRAY
17016502
JUL 1



LEGEND



KEY PLAN

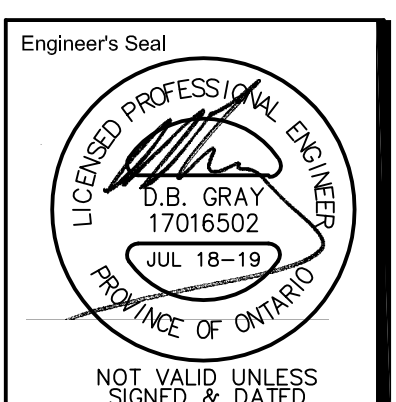


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**PROPOSED
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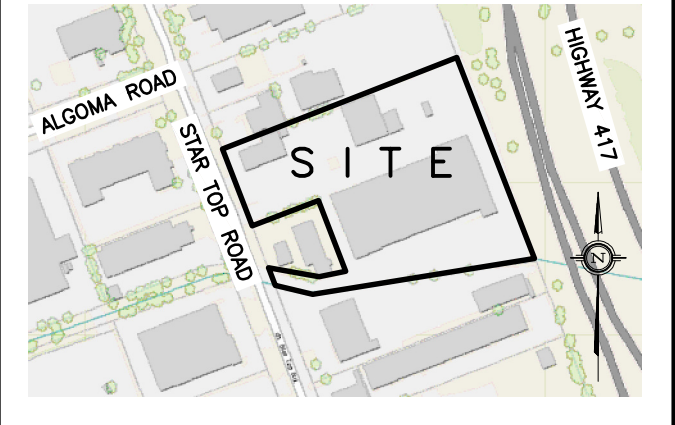
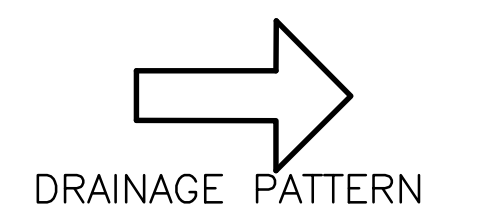
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DRAINAGE PLAN



Drawn D.B.G.
 Hor. Scale 1:300
 Vert. Scale
 Date MAY 24-19
 Job No. 18073
 Drawing No.
**C-4
 of 5**


STEVE BELAN
 PLANNER
 PLANNING, INFRASTRUCTURE & ECONOMIC
 DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

APPROVED
 By Steve Belan at 2:40 pm, May 21, 2020



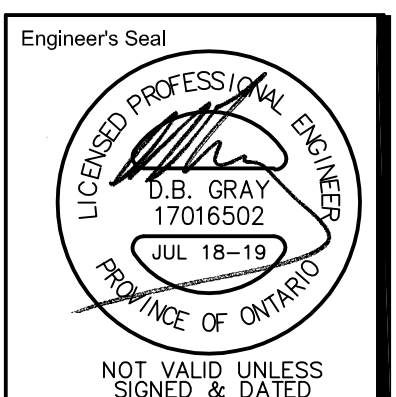
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D. B. GRAY ENGINEERING INC.
Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermaines

700 Long Point Circle 613-425-8044
 Ottawa, Ontario d.gray@dbgrayengineering.com

Drawing Title

EXISTING DRAINAGE
PATTERN



Drawn	D.B.G.
Hor. Scale	1:300
Vert. Scale	
Date	MAY 24-19
Job No.	18073

Drawing No.
C-5
of 5