



SITE LOCATION

PROPOSED RESIDENTIAL DEVELOPMENT

521-525 ESSA ROAD



LIST OF DRAWINGS

RM-1	EXISTING CONDITIONS AND REMOVALS PLAN
ESC-1	EROSION AND SEDIMENT CONTROL PLAN
SERV-1	SITE SERVICING PLAN
GP-1	SITE GRADING PLAN
PM-1	PAVEMENT PAINT MARKINGS AND SIGNAGE PLAN
PRE-1	PRE-DEVELOPMENT CATCHMENT PLAN
POST-1	POST DEVELOPMENT CATCHMENT PLAN
STM-1	STORM SEWER CATCHMENT PLAN
DET-1	STANDARD AND CONSTRUCTION DETAILS
GN-1	GENERAL NOTES AND DETAILS

PROJECT NO.17-11306

2nd SUBMISSION
JUNE 2019



NOTE: EXISTING WELLS ON THE PROPERTY SHALL BE DECOMMISSIONED IN ACCORDANCE ONTARIO REGULATION 903. CONFIRMATION OF WELL DECOMMISSIONING TO BE PROVIDED TO ENGINEER AND CITY OF BARRIE

LEGEND

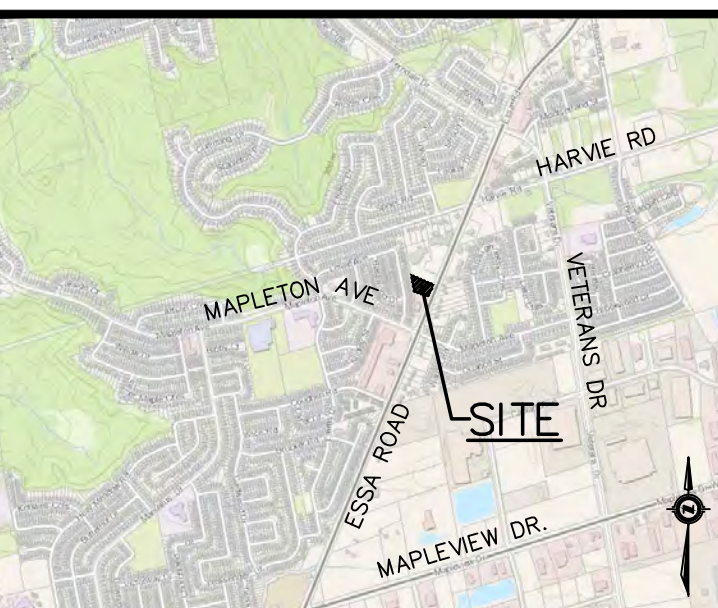
- EX. HP/LS
- EX. CATCHBASIN
- EX. HYDRANT
- EX. VALVE AND BOX
- EX. SANITARY MANHOLE
- EX. STORM MANHOLE
- EX. TRAFFIC LIGHT
- EX. SIGN
- CONTOUR
- OVERHEAD HYDRO WIRE
- DITCH CENTERLINE
- EXISTING FENCE
- APPROXIMATE BOREHOLE LOCATION
- EXISTING TREE
- LIMIT OF EXISTING VEGETATION
- EXISTING ASPHALT SURFACE



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KEY MAP

NOTES

1. TOPOGRAPHIC SURVEY AND LEGAL INFORMATION COMPLETED BY AZIZ SURVEYORS INC. APRIL 6 2017.
2. SITE PLAN PROVIDED BY PATRICK MARKUS LUCKIE ARCHITECT.
3. REFER TO SOILS REPORT PREPARED BY PETO MacCALLUM LTD. FOR BOREHOLE DETAILS.
4. REFER TO DRAWING ESC-1 FOR SITE DISTURBANCE LIMITS.
5. EXISTING ON-SITE SEWAGE SYSTEMS TO BE PUMPED PRIOR TO REMOVAL.

BENCHMARK

TBM #1
TOP OF IB IN NORTHWEST CORNER OF PROPERTY
ELEVATION 314.30

NO.	YY.MM.DD	REVISION	BY
1	19.06.06	REVISED PER CITY COMMENTS	G.N.



DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED:	J.V.
DATE:	NOVEMBER 2018
SCALE:	1:250

CLIENT/PROJECT

521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT

DRAWING TITLE

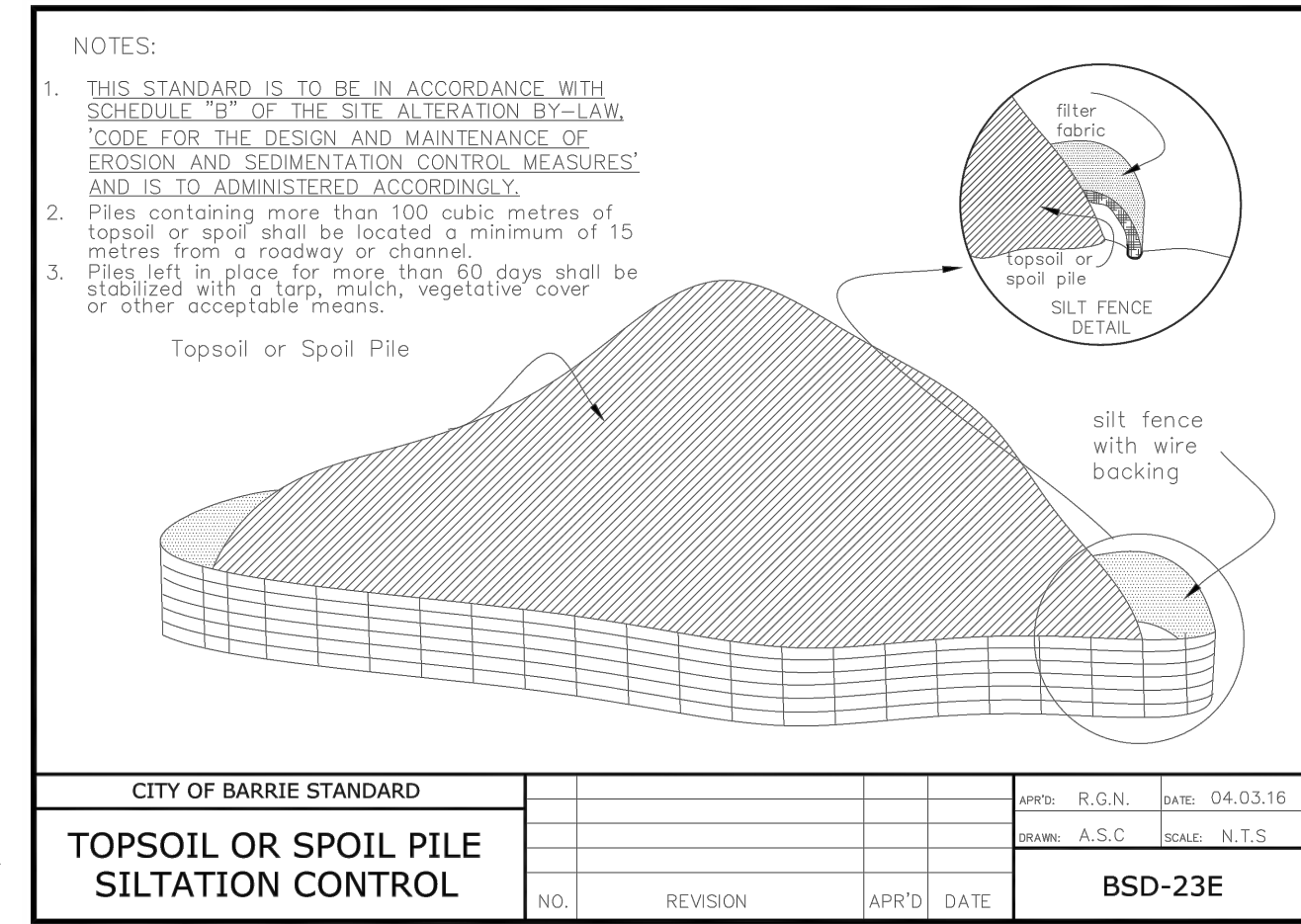
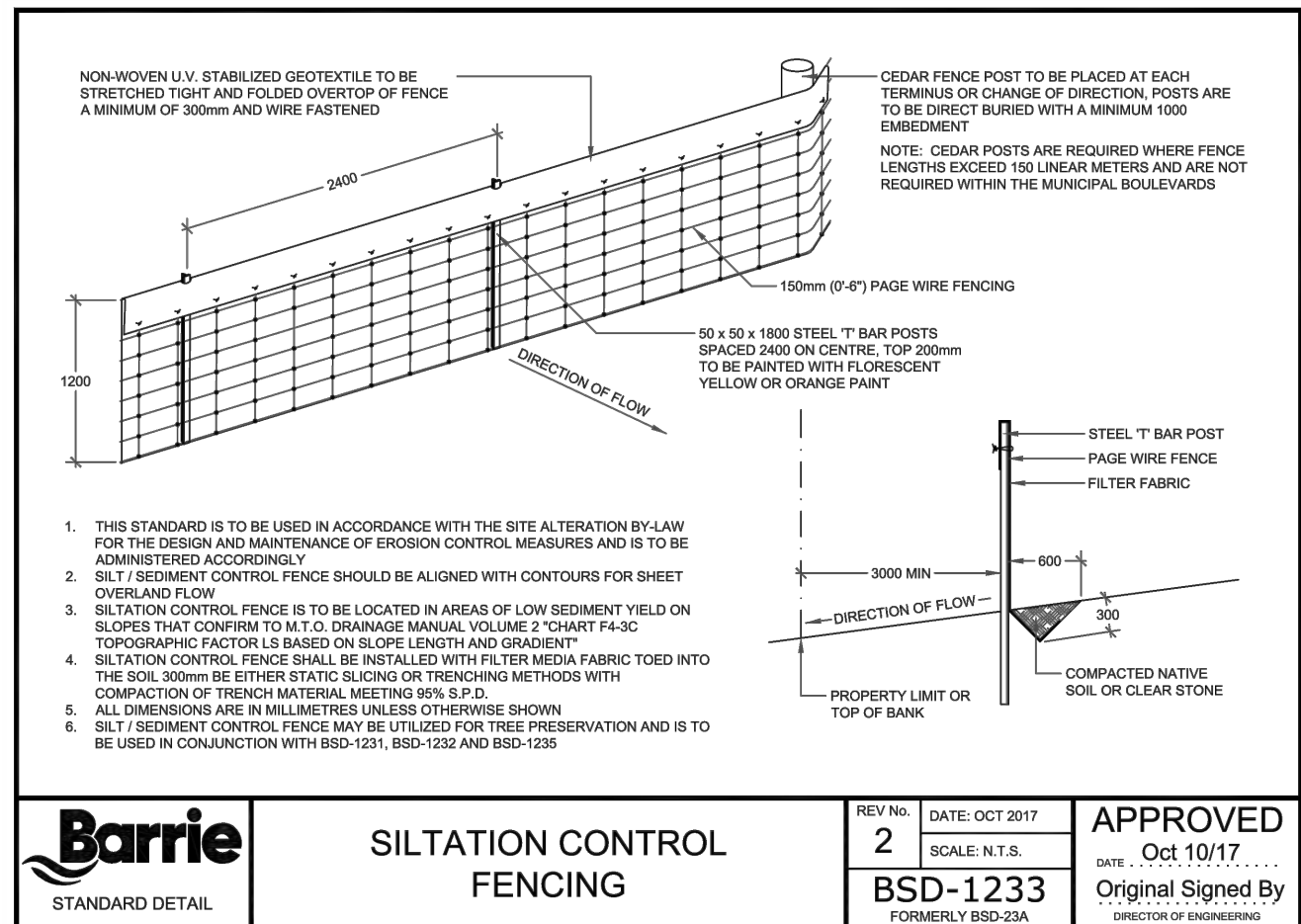
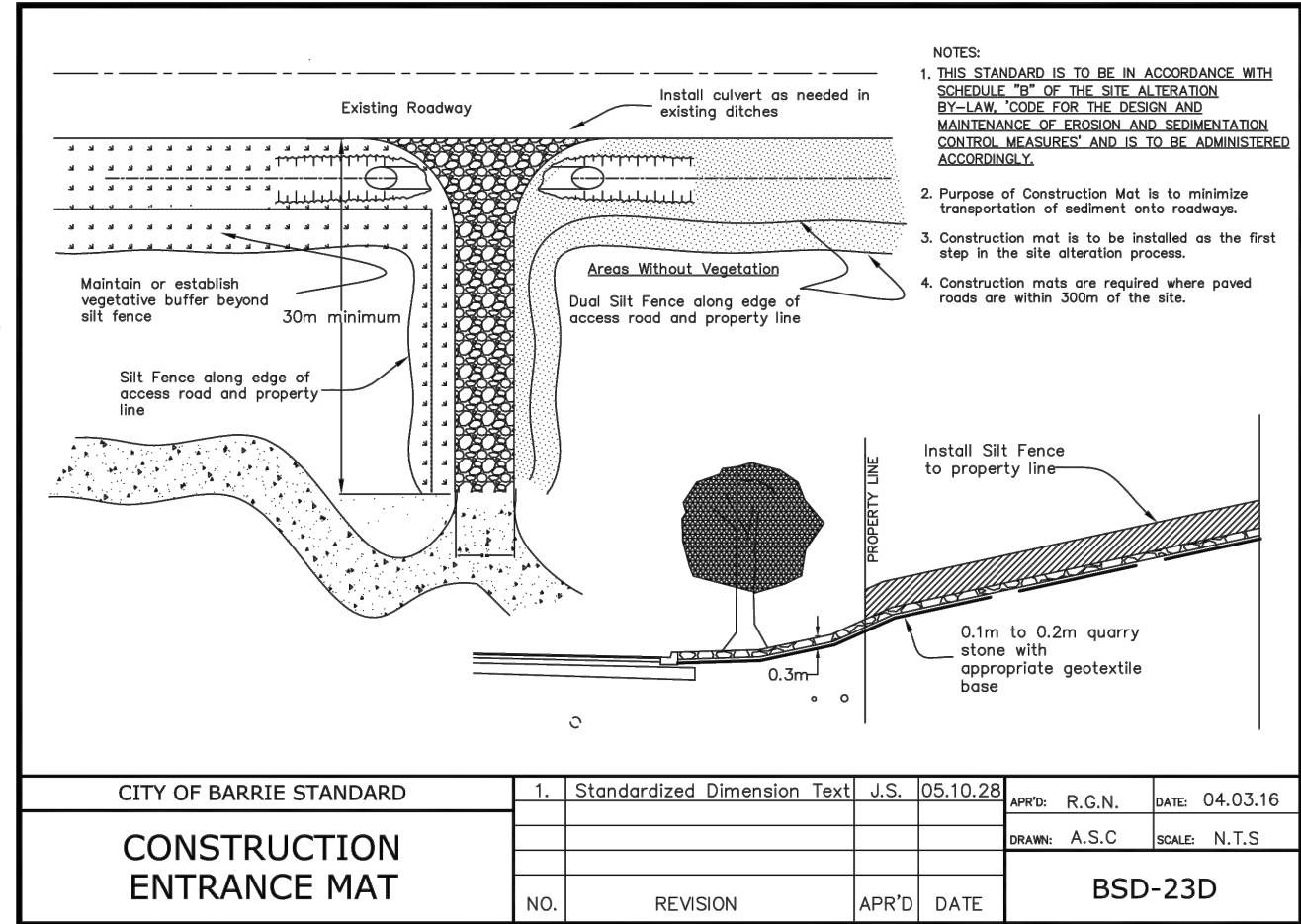
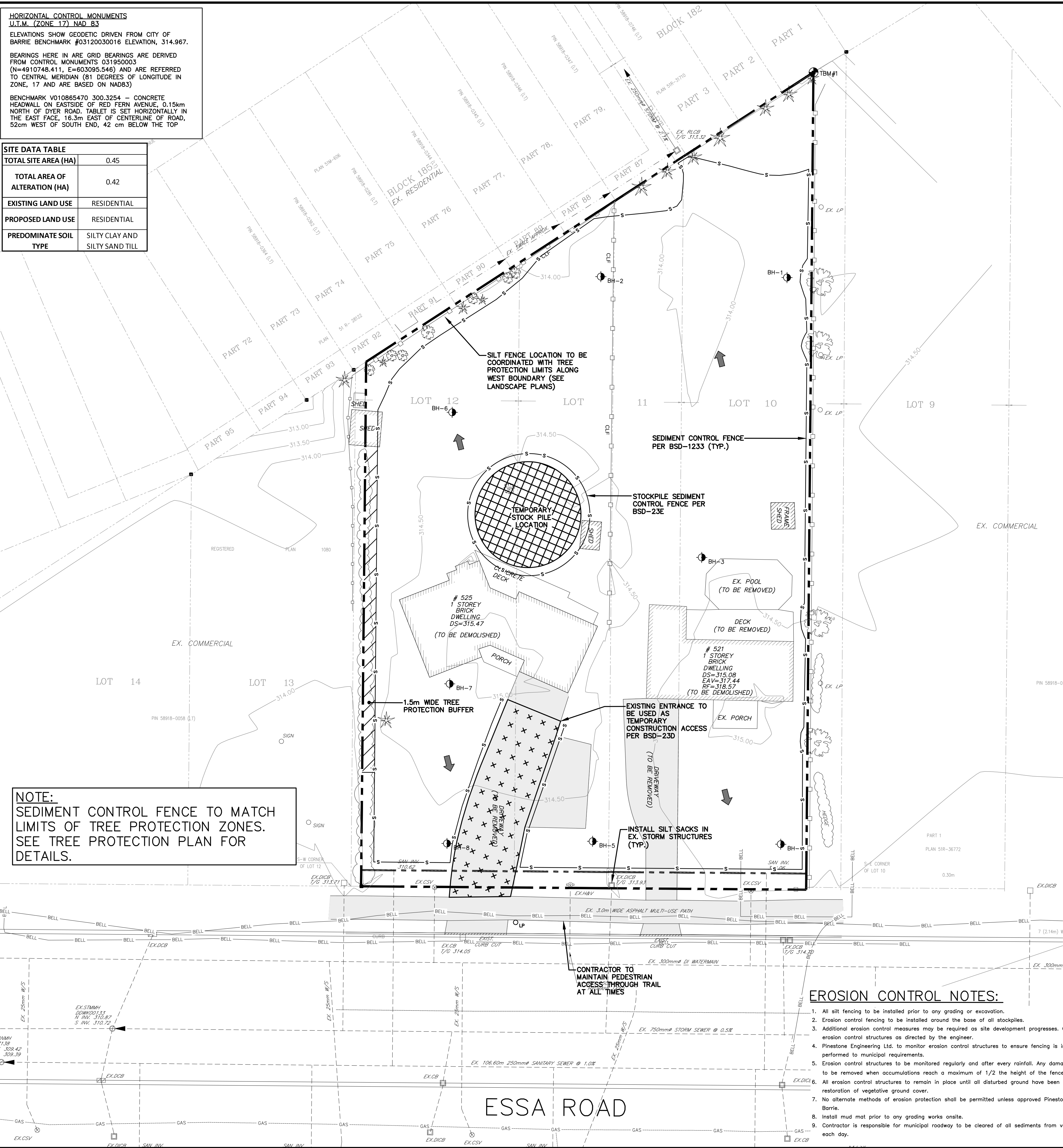
EXISTING CONDITIONS AND
REMOVALS PLAN

PROJECT NO.	DRAWING NO.	REVISION
17-113061-B	RM-1	1

HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83
ELEVATIONS SHOW GEODETIC DRIVEN FROM CITY OF BARRIE BENCHMARK #03120030016 ELEVATION, 314.967.
BEARINGS HERE IN ARE GRID BEARINGS ARE DERIVED FROM CONTROL MONUMENTS 031950003 (N=4910748.411, E=603095.546) AND ARE REFERRED TO CENTRAL MERIDIAN (81 DEGREES OF LONGITUDE IN ZONE, 17 AND ARE BASED ON NAD83)
BENCHMARK V010865470 300.3254 - CONCRETE HEADWALL ON EASTSIDE OF RED FERN AVENUE, 0.15km NORTH OF DYER ROAD. TABLET IS SET HORIZONTALLY IN THE EAST FACE, 16.3m EAST OF CENTERLINE OF ROAD, 52cm WEST OF SOUTH END, 42 cm BELOW THE TOP

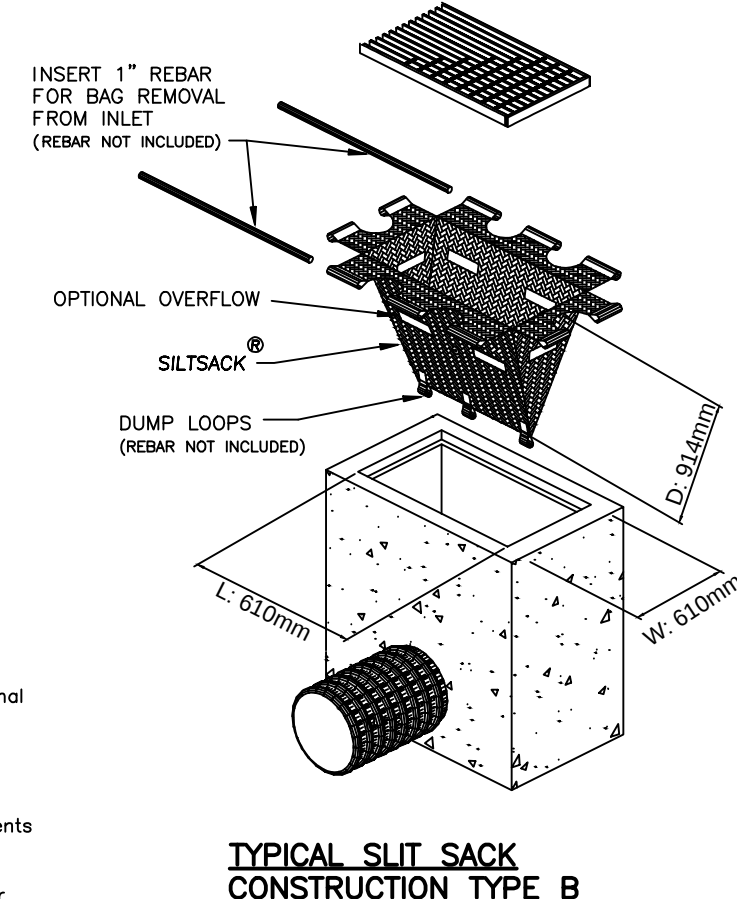
HORIZONTAL CONTROL MONUMENTS
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HEADWALL ON EASTSIDE OF RED FERN AVENUE, 0.15km
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52cm WEST OF SOUTH END, 42 cm BELOW THE TOP

SITE DATA TABLE	
TOTAL SITE AREA (HA)	0.45
TOTAL AREA OF ALTERATION (HA)	0.42
EXISTING LAND USE	RESIDENTIAL
PROPOSED LAND USE	RESIDENTIAL
PREDOMINATE SOIL TYPE	SILTY CLAY AND SILTY SAND TILL



EROSION CONTROL NOTES:

- All silt fencing to be installed prior to any grading or excavation.
- Erosion control fencing to be installed around the base of all stockpiles.
- Additional erosion control measures may be required as site development progresses. Contractor to provide all additional erosion control structures as directed by the engineer.
- Pinestone Engineering Ltd. to monitor erosion control structures to ensure fencing is installed and maintenance is performed to municipal requirements.
- Erosion control structures to be monitored regularly and after every rainfall. Any damage repaired immediately. Sediments to be removed when accumulations reach a maximum of 1/2 the height of the fence.
- All erosion control structures to remain in place until all disturbed ground have been re-stabilized either by paving or restoration of vegetative ground cover.
- No alternate methods of erosion protection shall be permitted unless approved Pinestone Engineering Ltd. and the City of Barrie.
- Install mud mat prior to any grading works onsite.
- Contractor is responsible for municipal roadway to be cleared of all sediments from vehicular tracking etc., at the end of each day.



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KEY MAP

- NOTES
- TOPOGRAPHIC SURVEY AND LEGAL INFORMATION COMPLETED BY AZIZ SURVEYORS INC. APRIL 6 2017.
 - SITE PLAN PROVIDED BY PATRICK MARKUS LUCKIE ARCHITECT.
 - REFER TO SOILS REPORT PREPARED BY PETO MacCALLUM LTD. FOR BOREHOLE DETAILS.

LEGEND

- 246.00 CONTOUR
- OH OH OVERHEAD HYDRO WIRE
- DITCH CENTERLINE
- DIRECTION OF OVERLAND FLOW
- EXISTING FENCE
- S S SILT FENCE
- CONSTRUCTION ENTRANCE MAT
- TEMPORARY STOCKPILE LOCATION
- BH-2 APPROXIMATE BOREHOLE LOCATION

BENCHMARK

TBM#1
TOP OF IB IN NORTHWEST CORNER OF PROPERTY
ELEVATION 314.30

NO.	YY.MM.DD	REVISION	BY
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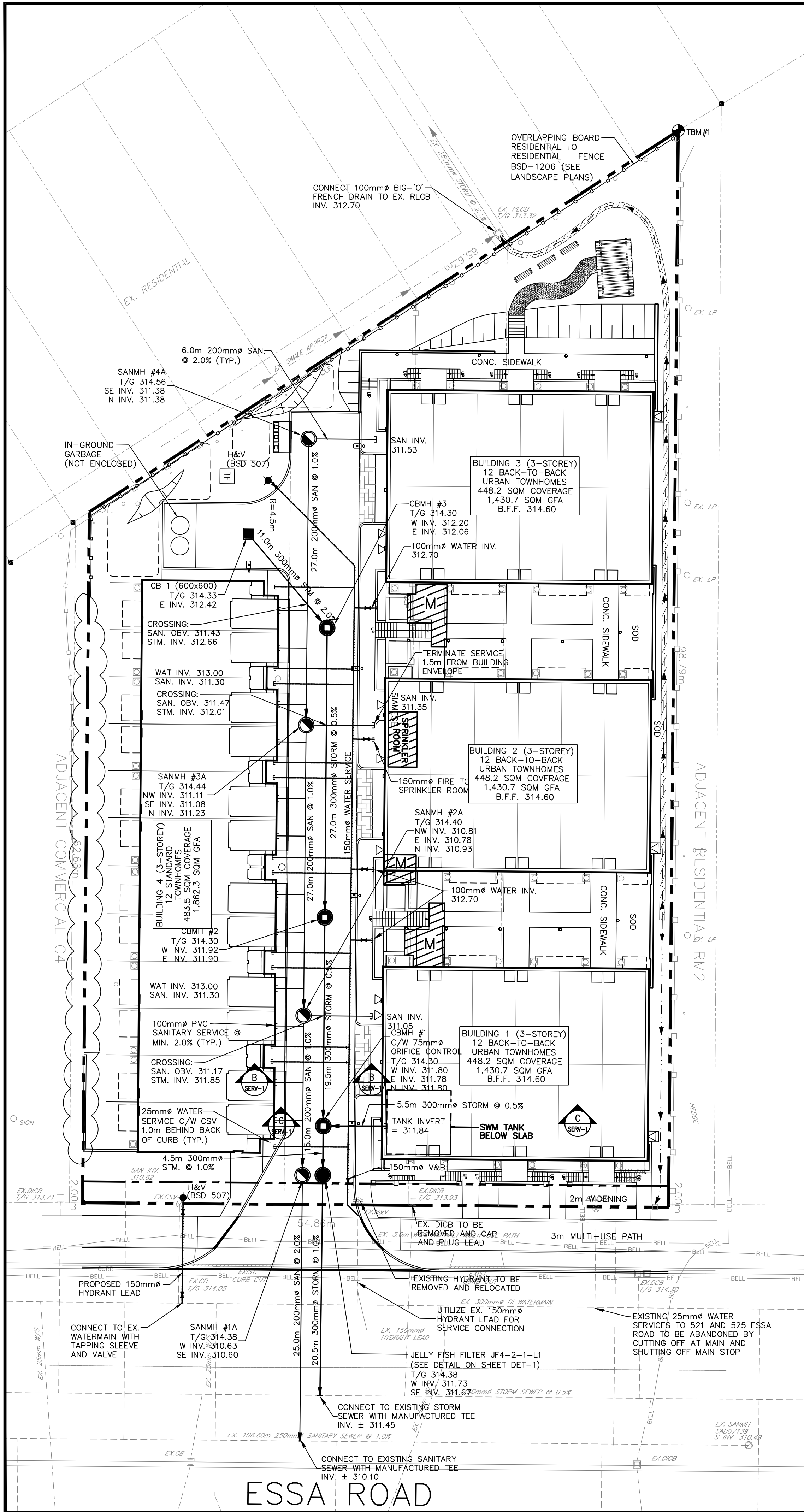
DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED:	J.V.
DATE:	SEPT. 2018
SCALE:	1:250

CLIENT/PROJECT

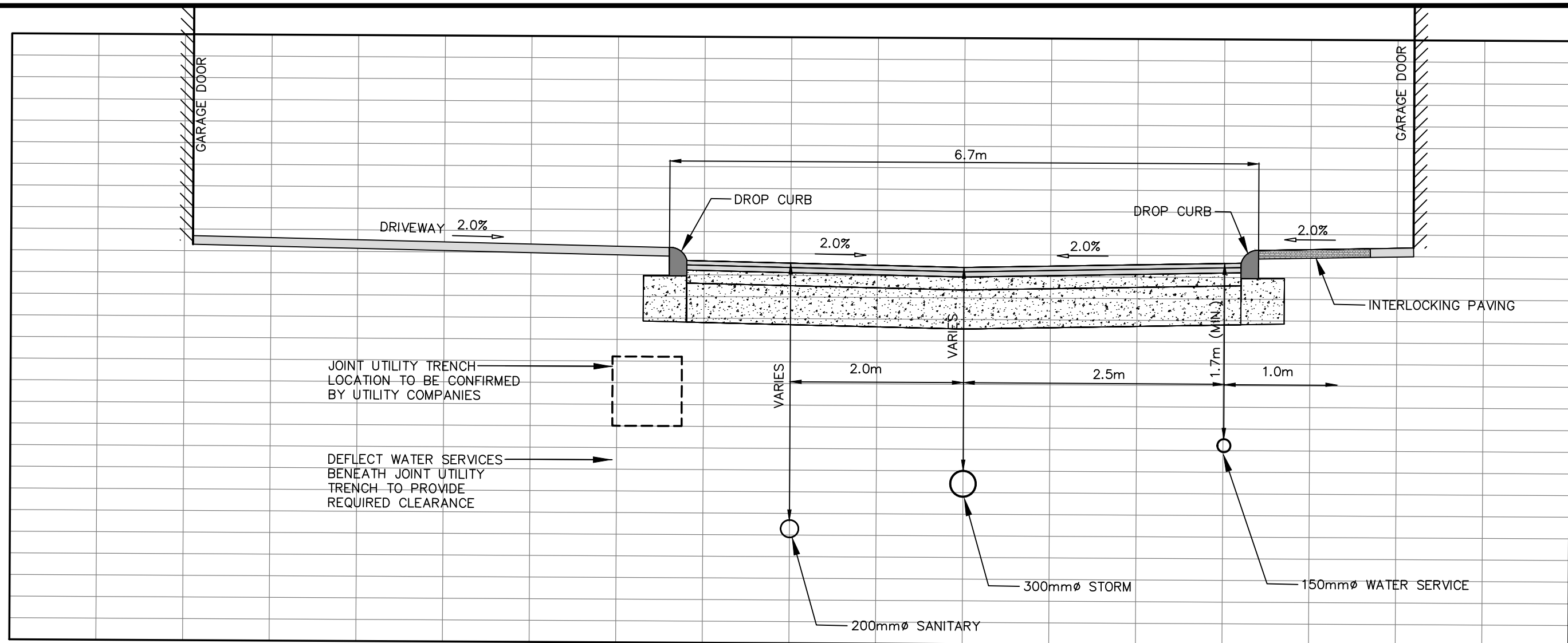
521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT

DRAWING TITLE
EROSION AND SEDIMENT
CONTROL PLAN

PROJECT NO. 17-113061-B	DRAWING NO. ESC-1	REVISION 1
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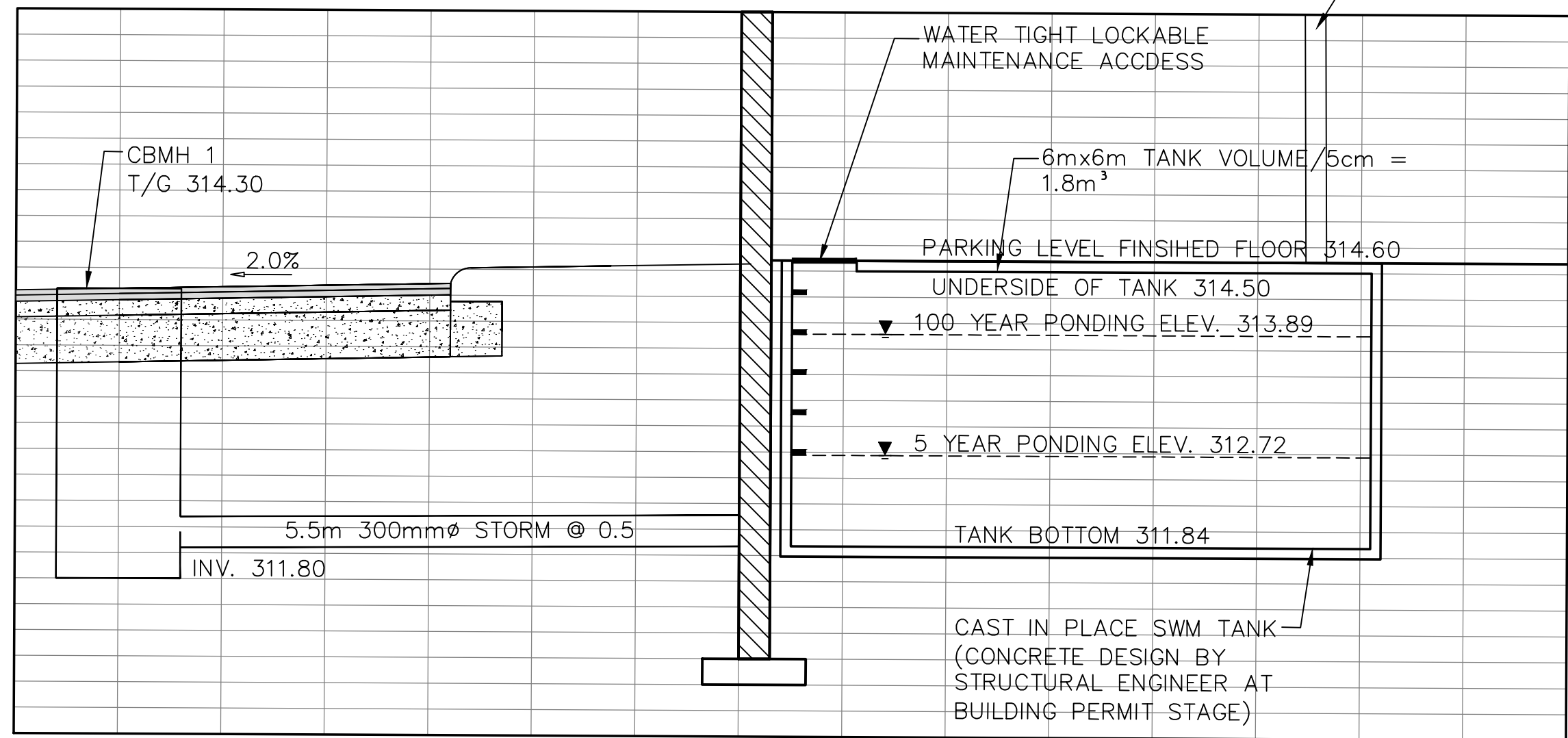
317.00
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310.50



SECTION B-B
H 1:50 V 1:50

317.00
316.50
316.00
315.50
315.00
314.50
314.00
313.50
313.00
312.50
312.00
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SECTION C-C
TYPICAL SWM TANK SECTION
H 1:50 V 1:50

317.00
316.50
316.00
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315.00
314.50
314.00
313.50
313.00
312.50
312.00
311.50
311.00
310.50

NOTE:
REFER TO TREE PROTECTION PLAN FOR
TREE REMOVALS AND PRESERVATION
AREAS.

HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83
ELEVATIONS SHOW GEODETIC DRIVEN FROM CITY OF
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KEY MAP

NOTES

1. TOPOGRAPHIC SURVEY AND LEGAL INFORMATION COMPLETED BY AZIZ SURVEYORS INC. APRIL 6 2017.
2. SITE PLAN PREPARED BY PATRICK MARCUS LUCKIE, ARCHITECT APRIL 10TH 2017.
3. LOCATE CURB STOP (CSV'S) WITHIN LANDSCAPE AREAS WHERE POSSIBLE.
4. 100mm WATER SERVICES C/W BYPASS PER CITY STANDARD BSD-533 AND BACK-FLOW PREVENTION PER CITY BY-LAW 2017-121.
5. PRIVATE HYDRANT SHALL BE PAINTED RED.

LEGEND

- PROPOSED CATCHBASIN
- PROPOSED JELLYFISH FILTER MODEL NO. JF4-2-1-L1
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED HYDRANT
- WATER METER LOCATION
- LIGHT STANDARDS
- FRENCH DRAIN
- SIDE YARD SWALE

BENCHMARK

TBM#1
TOP OF IB IN NORTHWEST CORNER OF PROPERTY
ELEVATION 314.30

NO.	YY.MM.DD	REVISION	BY
1	19.06.06	REVISED PER CITY COMMENTS	G.N.

NORTH ARROW

DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED:	J.V.
DATE:	SEPT. 2018
SCALE:	1:250

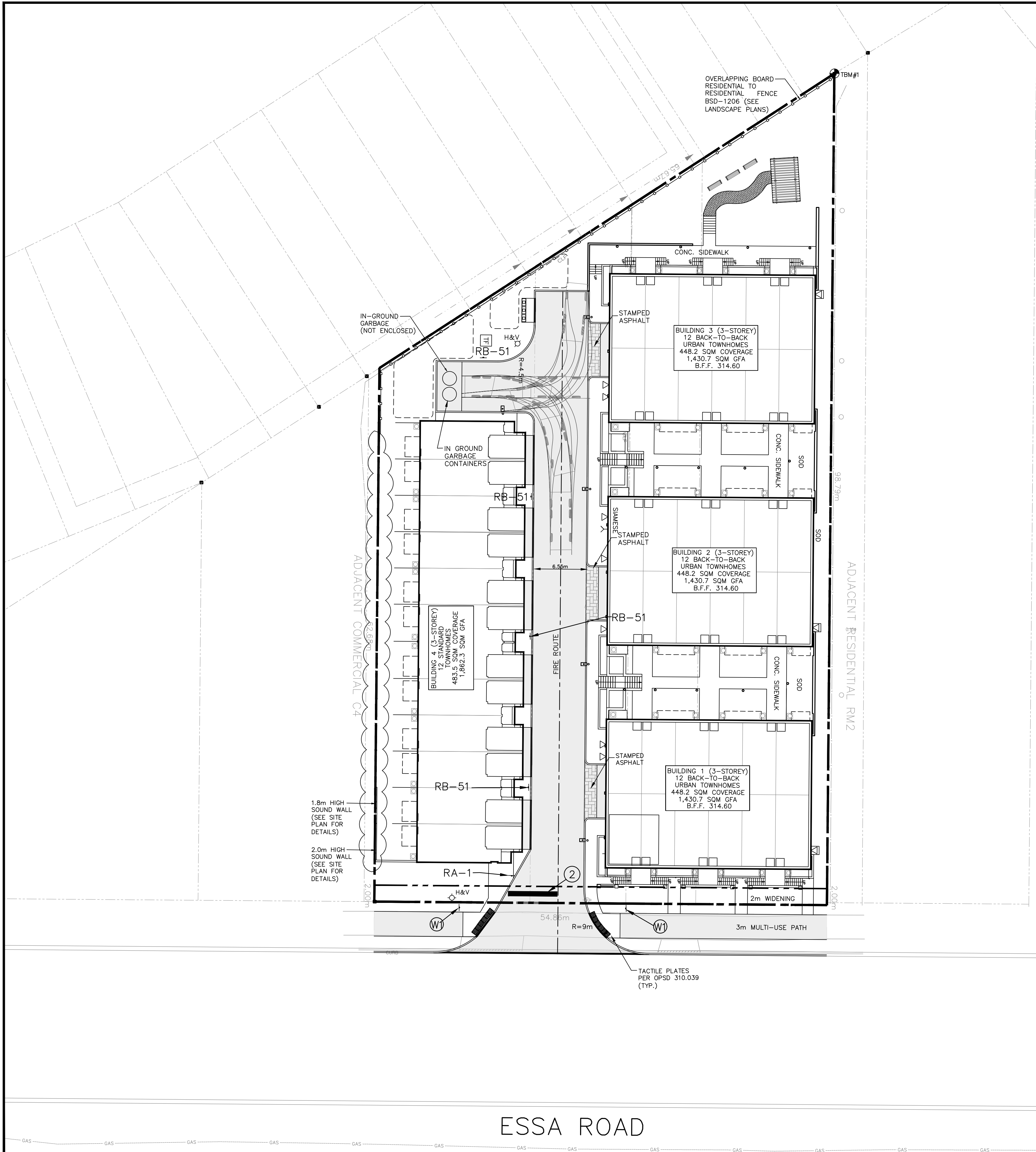
CLIENT/PROJECT

**521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT**

DRAWING TITLE

GENERAL SERVICING PLAN

PROJECT NO.	DRAWING NO.	REVISION
17-11306.1-B	SERV-1	1

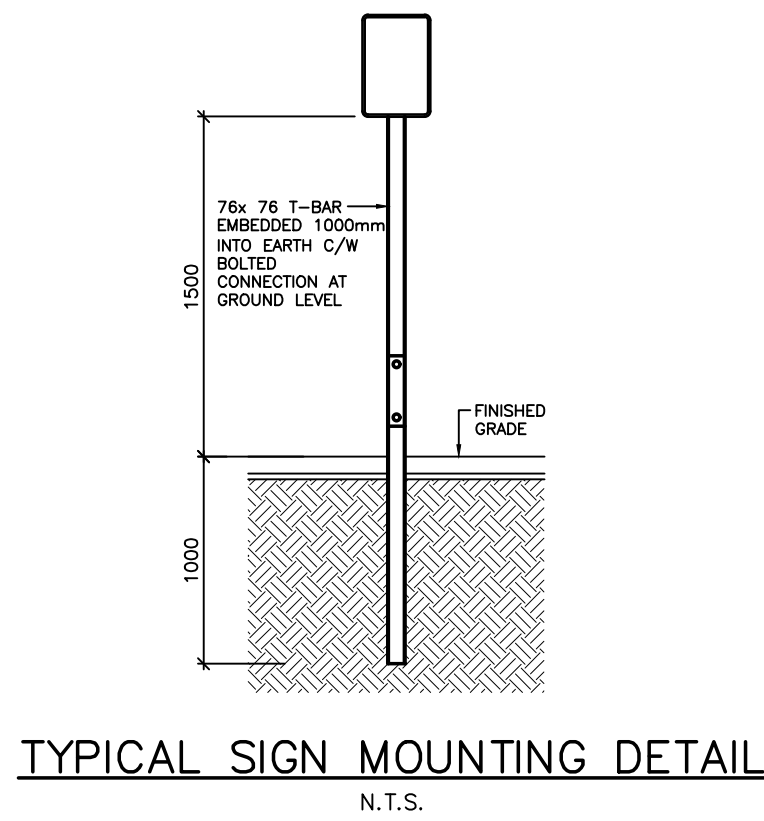


PAVEMENT MARKING AND SIGNAGE NOTES:

1. PROVIDE ALL SITE SIGNAGE AND PAVEMENT MARKINGS AS SHOWN ON SITE PLAN AND PAVEMENT MARKING AND SIGNAGE PLAN.
2. FINAL LOCATION OF FIRE ROUTE SIGNAGE TO BE DETERMINED IN FIELD BY LOCAL FIRE DEPARTMENT.
3. SAIGNAGE AND LINE PAINTING TO BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. REFER TO SITE PLAN FOR BARRIER FREE PARKING SIGNAGE DETAILS.
5. PAVEMENT MARKING TO CONFORM WITH OPSS.710 AND 1712.
6. W1 SIGN TO BE APPROVED BY CITY OF BARRIE PRIOR TO CONSTRUCTION. SIGN TO MATCH EXISTING SIGNS USED AT RIGHT IN RIGHT OUT ENTRANCE LOCATED BETWEEN MAPLETON AVE. AND COUGHLIN ROAD, ON THE WEST SIDE OF ESSA ROAD.
7. ALL STRIPPING TO BE 100mm WIDE AND WHITE.

LEGEND

- STOP RA-1
- RB-51
- WATCH FOR VEHICLES TURNING
- SOLID WHITE 60cm WIDTH
- PROPOSED ASPHALT AREA
- PROPOSED SIGN
- PROPOSED SIGN FACE (DIRECTION)
- TACTILE PLATE PER OPSS 310.039 (TYP.)
- LIGHT STANDARDS
- WASTE DISPOSAL TRUCK TURNING PATH



PAVEMENT STRUCTURE		
MATERIAL		THICKNESS (mm)
ASPHALT	HL3 SURFACE	50
	HL8 BINDER	60
GRANULAR BASE (OPSS 1010)	GRANULAR 'A'	150
	GRANULAR 'B'	450

HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83
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KEY MAP

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2. SITE PLAN PREPARED BY PATRICK MARCUS LUCKIE, ARCHITECT APRIL 10th, 2018

BENCHMARK

TBM#1
TOP OF IB IN NORTHWEST CORNER OF PROPERTY
ELEVATION 314.30

1	19.06.06	REVISED PER CITY COMMENTS	G.N.
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NO.	YY.MM.DD	REVISION	BY
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SEAL

NORTH ARROW

DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED:	J.V.
DATE:	NOVEMBER 2018
SCALE:	1: 200

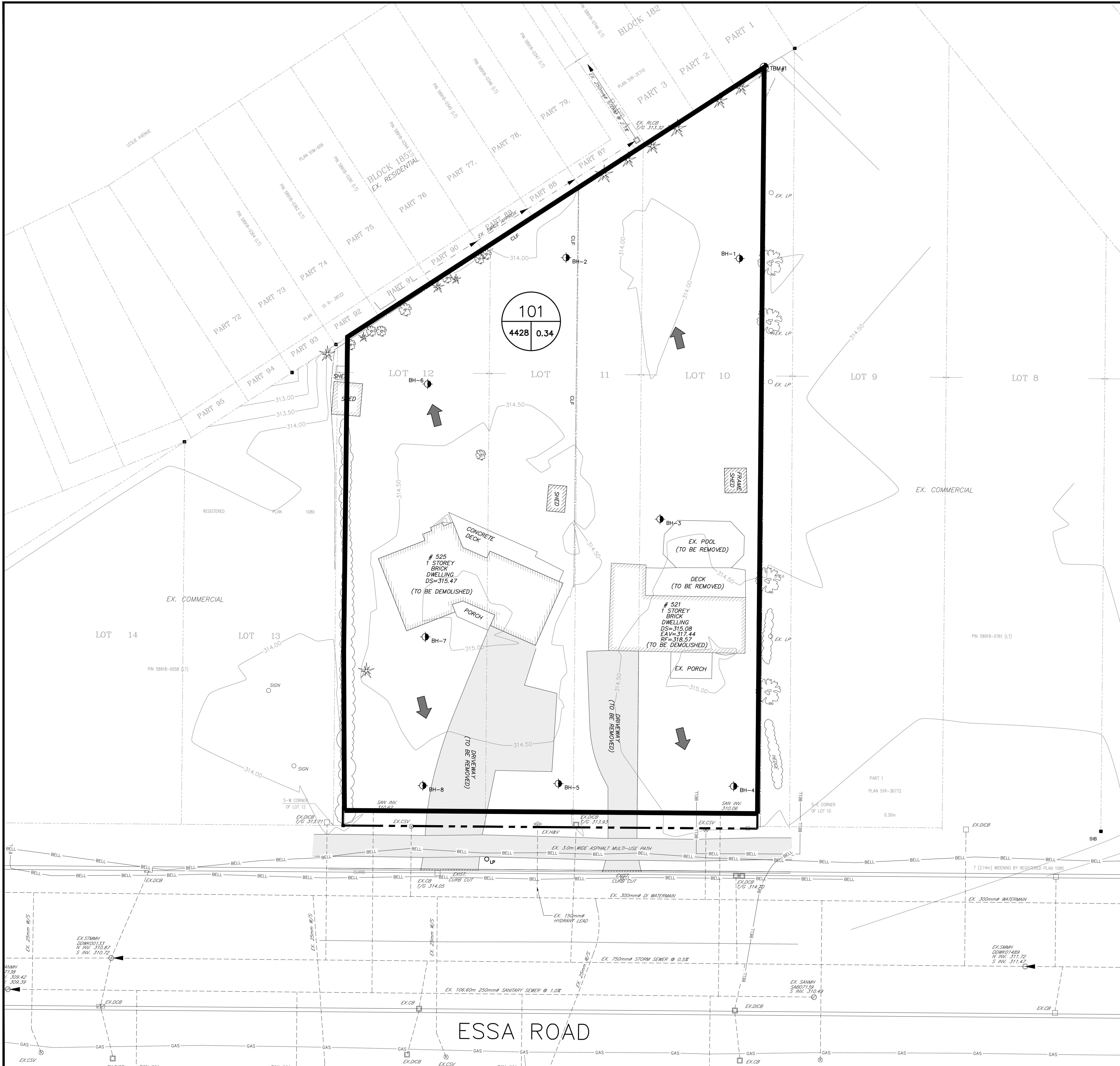
CLIENT/PROJECT

**521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT**

DRAWING TITLE

**PAVEMENT MARKINGS AND
SIGNAGE PLAN**

PROJECT NO. 17-11306.1-B	DRAWING NO. PM-1	REVISION 1
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LEGEND

- EX. HP/LS
- EX. CATCHBASIN
- EX. HYDRANT
- EX. VALVE AND BOX
- EX. SANITARY MANHOLE
- EX. STORM MANHOLE
- EX. TRAFFIC LIGHT
- EX. SIGN
- CONTOUR
- EXISTING ASPHALT
- EXISTING FENCE
- APPROXIMATE BOREHOLE LOCATION
- EXISTING TREE
- LIMIT OF EXISTING VEGETATION
- PRE-DEVELOPMENT CATCHMENT BOUNDARY
- PRE-DEVELOPMENT CATCHMENT NUMBER
- COEFFICIENT
- PRE-DEVELOPMENT CATCHMENT AREA(m)
- DIRECTION OF OVERLAND FLOW



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BENCHMARK

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CHECKED:	J.V.
DATE:	NOVEMBER, 2018
SCALE:	1:200

CLIENT/PROJECT

**521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT**

DRAWING TITLE

**PRE-DEVELOPMENT CATCHMENT
PLAN**

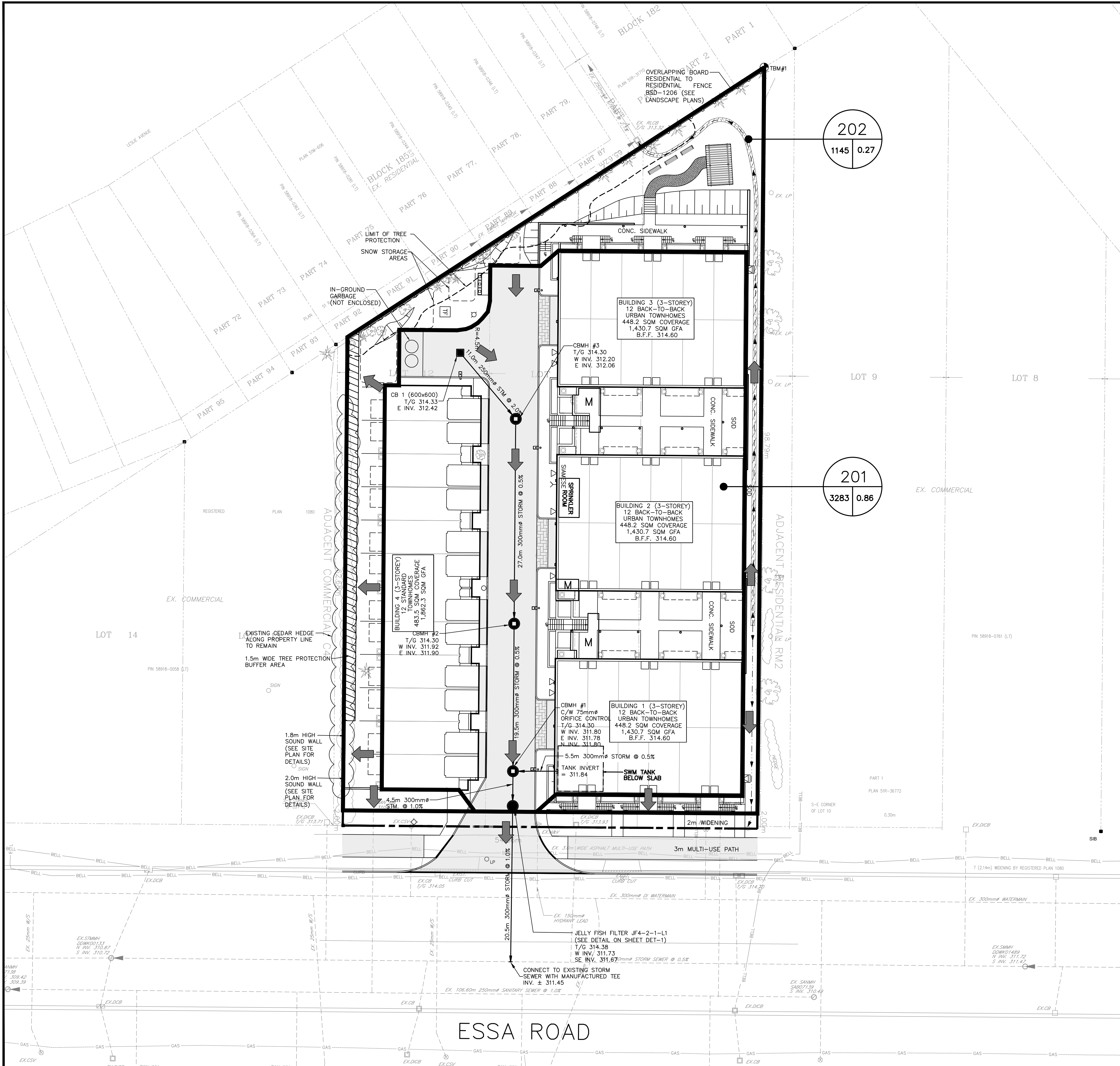
PROJECT NO. 17-113061-B	DRAWING NO. PRE-1	REVISION 1
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HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83

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LEGEND

- PROPOSED CATCHBASIN
- PROPOSED JELLYFISH FILTER
- PROPOSED CATCHBASIN MANHOLE
- DIRECTION OF OVERLAND FLOW
- 201
3283 0.00
POST-DEVELOPMENT CATCHMENT NUMBER
- COEFFICIENT
- 202
1145 0.27
POST-DEVELOPMENT CATCHMENT AREA (A)
- DIRECTION OF OVERLAND FLOW

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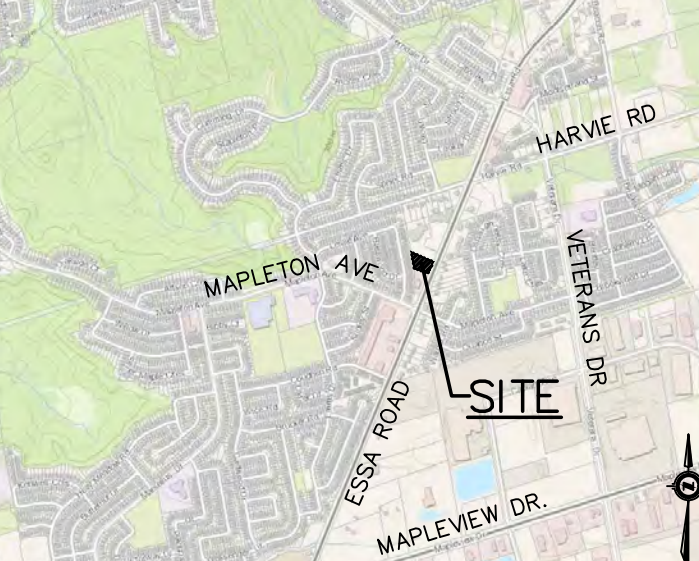


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BENCHMARK

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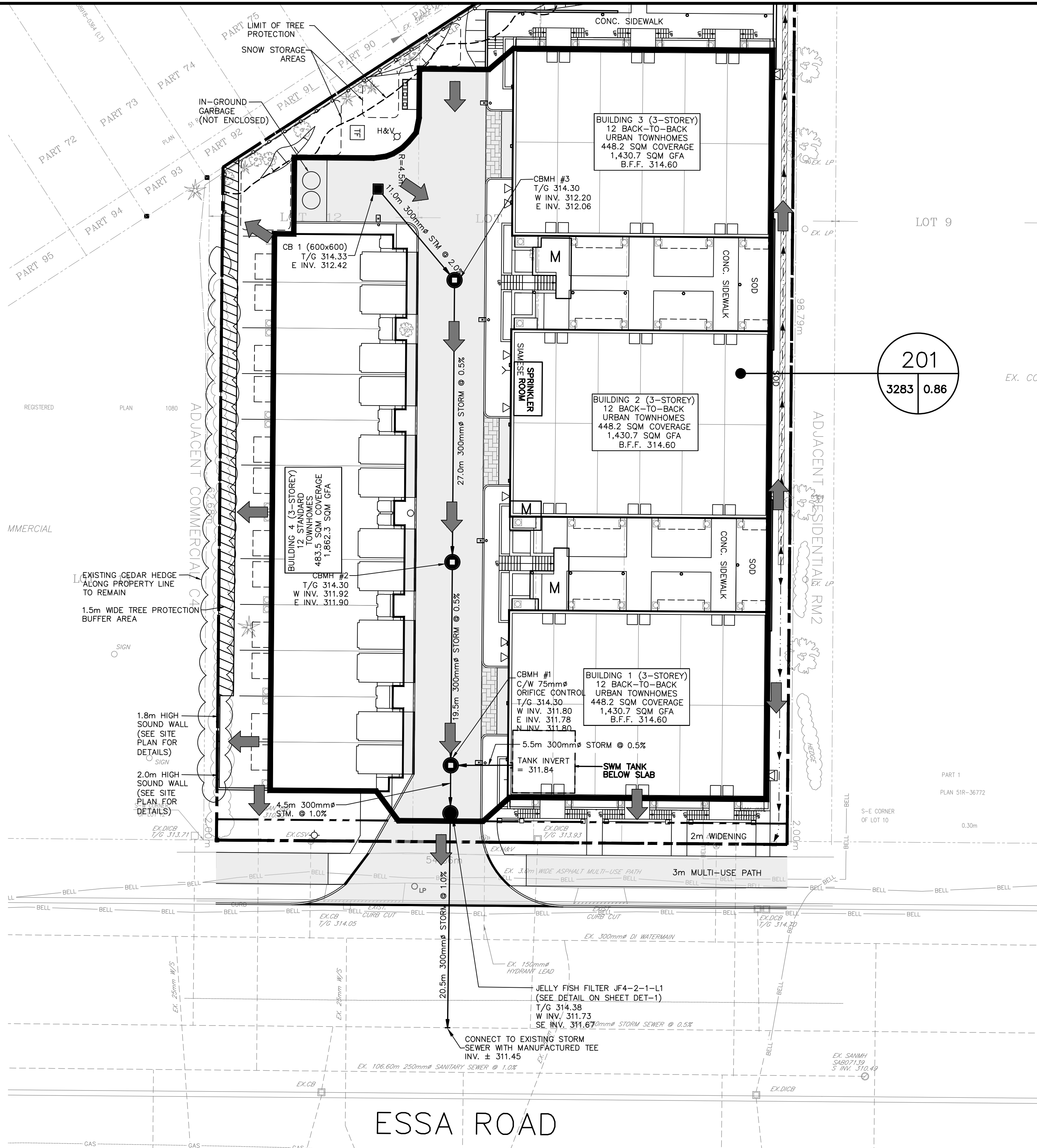
CLIENT/PROJECT

**521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT**

DRAWING TITLE

**POST DEVELOPMENT CATCHMENT
PLAN**

PROJECT NO. 17-113061-B	DRAWING NO. POST-1	REVISION 1
----------------------------	-----------------------	---------------



LEGEND

- PROPOSED CATCHBASIN
- PROPOSED JELLYFISH FILTER
- PROPOSED CATCHBASIN MANHOLE
- DIRECTION OF OVERLAND FLOW
- 201
- 3283 0.00
- STORM CATCHMENT NUMBER
- COEFFICIENT
- STORM CATCHMENT AREA(A_r)
- DIRECTION OF OVERLAND FLOW



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SEAL

NORTH ARROW

521-525 Essa Road City of Barrie				STORM SEWER DESIGN SHEET ENGINEERING AND PUBLIC WORKS				Design Parameters											
								100 YEAR STORM											
Project Number: 18-11306.1B Date: May 30, 2019 Design By: DPH Checked By: JHV File: \\PINESTONESERVER\Shared Folders\Company\Project Documents\11306B_521&525 Essa Road\11306.1B SITE PLAN APPROVAL\SWM REVISION MAY 2019\Storm Sewer Design Sheet (Barrie IDF).xls				Drainage Area Plan No: N/A				Q=kAIR, k=0.00278 Manning's "n" 0.013 Intensity (I) = a/(tc+b) ^c Min. Velocity 0.800 m/s a = 1426.408 Max. Velocity 6.000 m/s b = 5.273 c = 0.759											
LOCATION				STORMWATER FLOW								DESIGN							
STREET	AREA NUMBER	MANHOLE LOCATION		AREA (A)	RUNOFF COEFF. (C)	A x C	CUMUL. A x C	CONCENTRATION TIME		RAIN INTENSITY (I)	FLOW (Q)	PIPE SIZE	LENGTH	SLOPE	CAPACITY	FULL FLOW VELOCITY	ACTUAL VELOCITY		
		FROM MH	TO MH					TOTAL	IN PIPE									mm	m
Catchment 201	201	Jellyfish Filter	Ex. Storm Sewer	100 YEAR CONTROLLED DESIGN FLOW FROM MODIFIED RATIONAL METHOD CALCULATIONS								52.00000	300	20.5	1.00	96.70076	1.3680	1.3928	

HORIZONTAL CONTROL MONUMENTS
U.T.M. (ZONE 17) NAD 83

ELEVATIONS SHOW GEODETIC DRIVEN FROM CITY OF BARRIE BENCHMARK #03120030016 ELEVATION, 314.967.

BEARINGS HERE IN ARE GRID BEARINGS ARE DERIVED FROM CONTROL MONUMENTS 031950003 (N=4910748.411, E=603095.546) AND ARE REFERRED TO CENTRAL MERIDIAN (81 DEGREES OF LONGITUDE IN ZONE, 17 AND ARE BASED ON NAD83)

BENCHMARK V010865470 300.3254 - CONCRETE HEADWALL ON EASTSIDE OF RED FERN AVENUE, 0.15km NORTH OF DYER ROAD. TABLE IS SET HORIZONTALLY IN THE EAST FACE, 16.3m EAST OF CENTERLINE OF ROAD, 52cm WEST OF SOUTH END, 42 cm BELOW THE TOP

DESIGN BY: J.V.	
DRAWN BY: G.N.	
CHECKED: J.V.	
DATE: NOVEMBER 2018	
SCALE: 1:250	

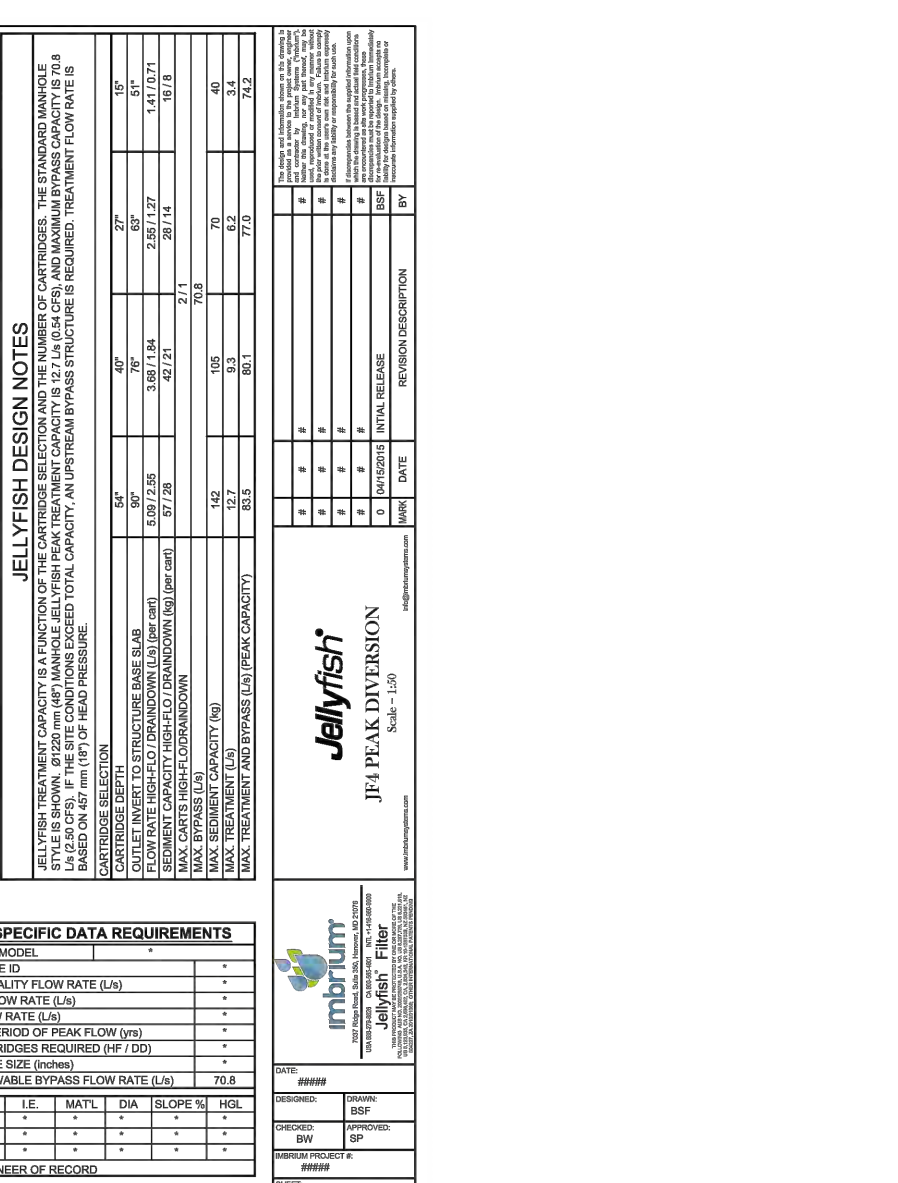
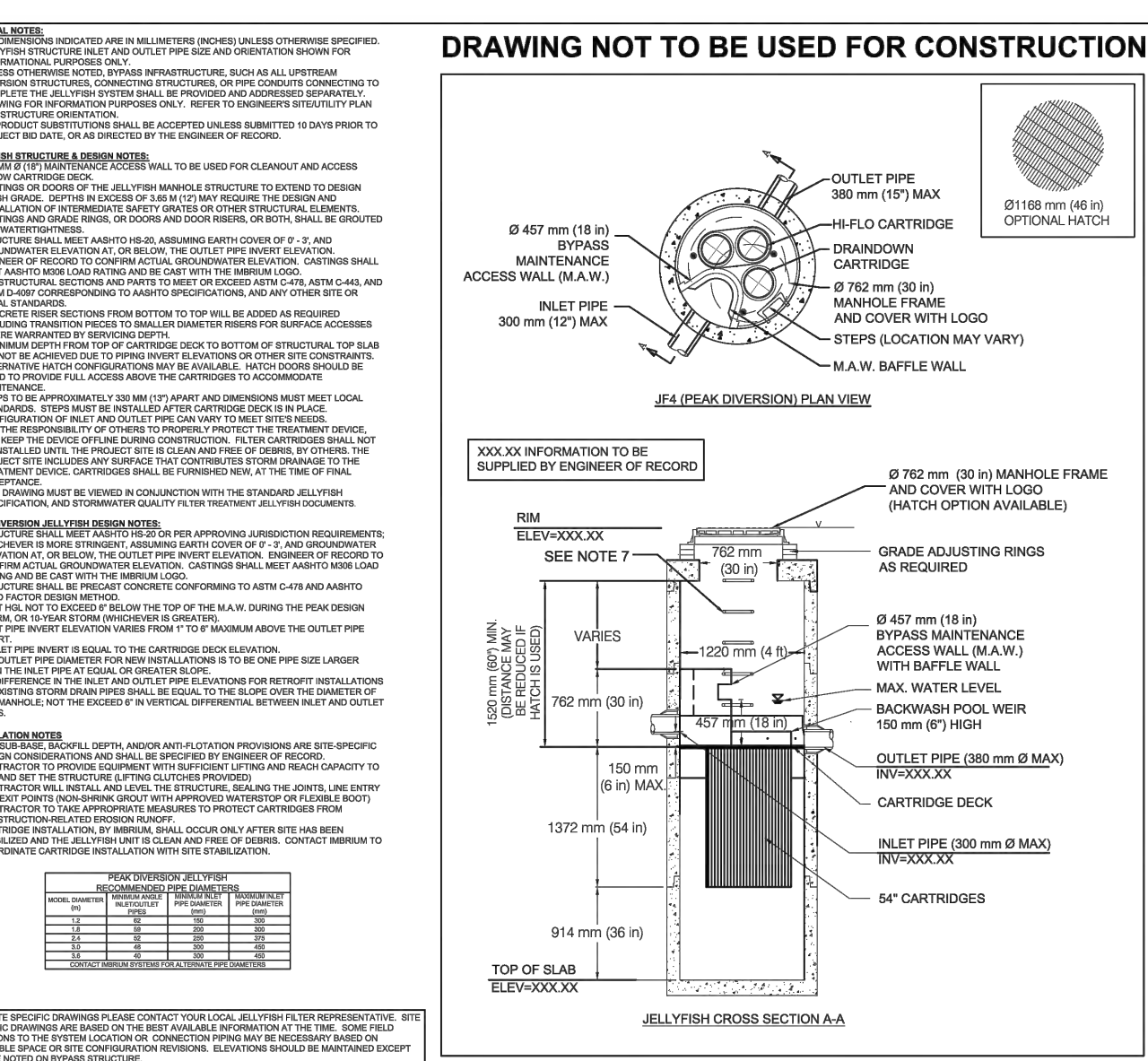
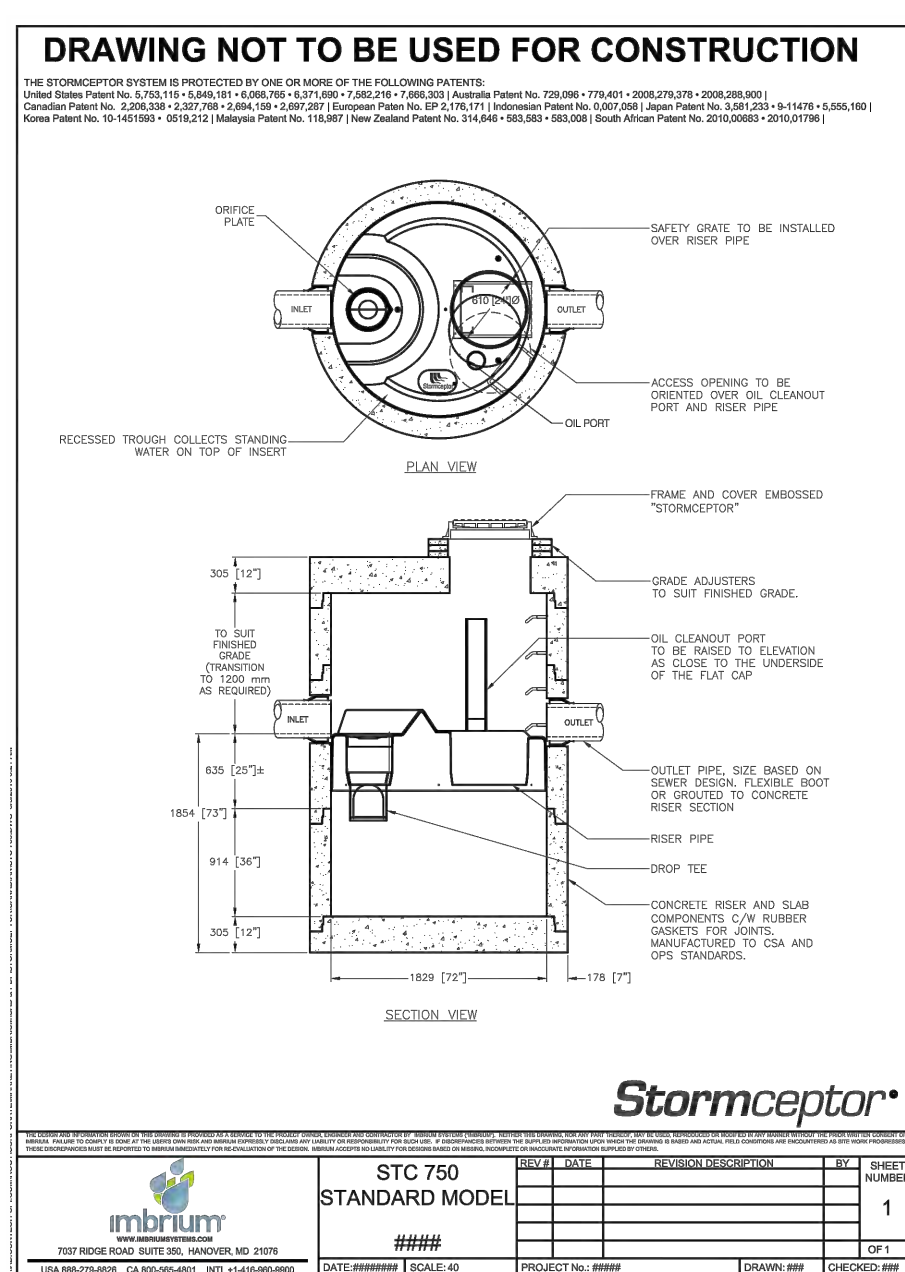
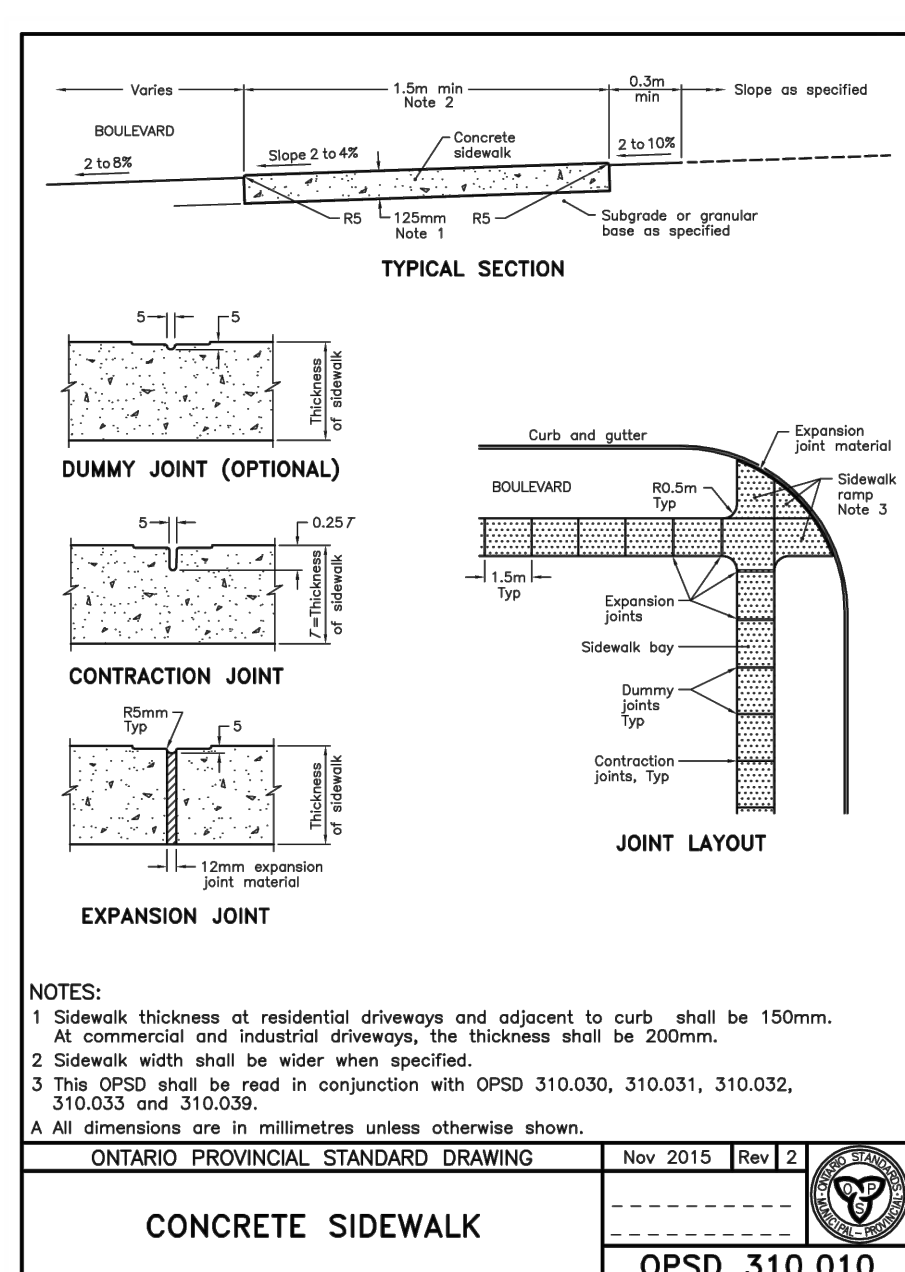
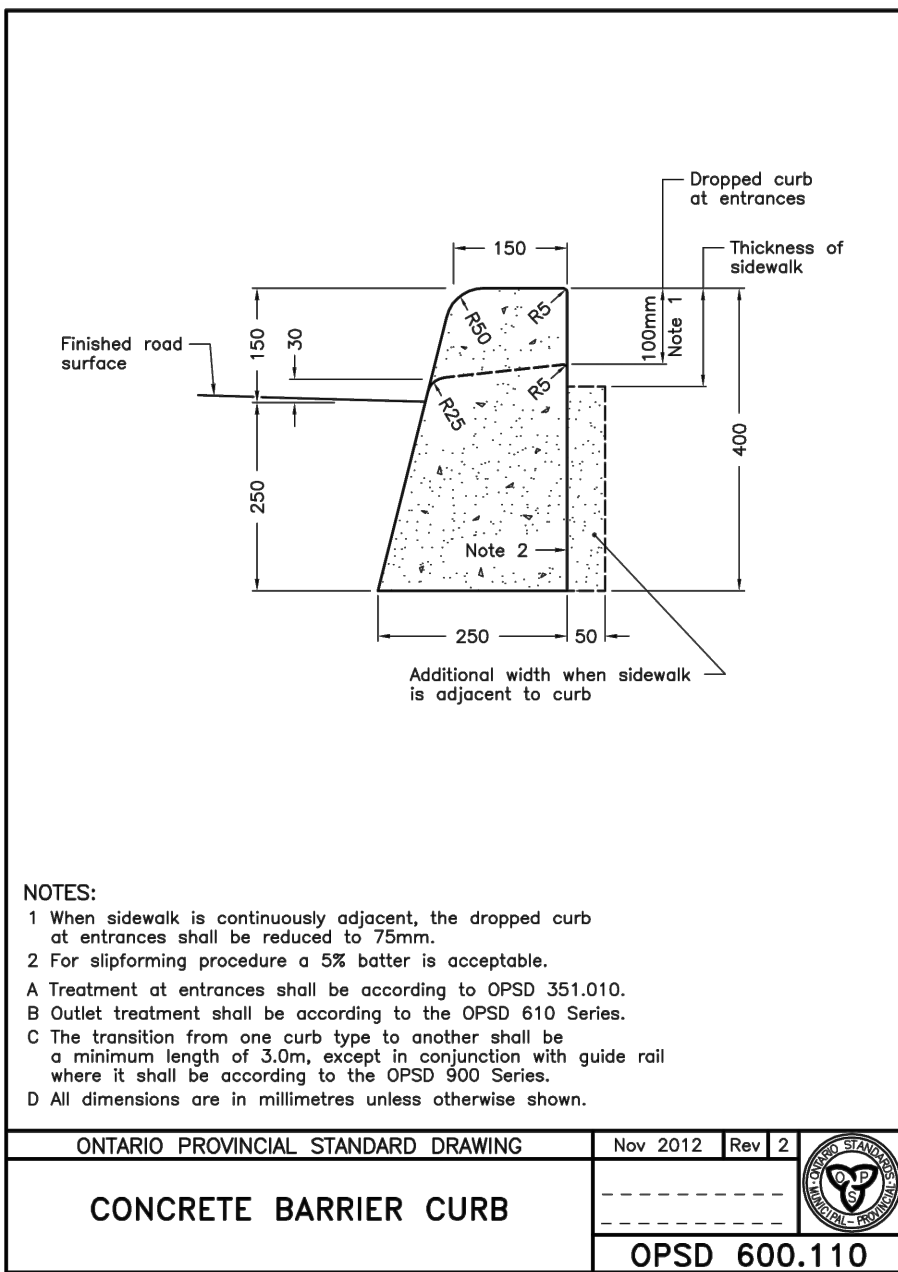
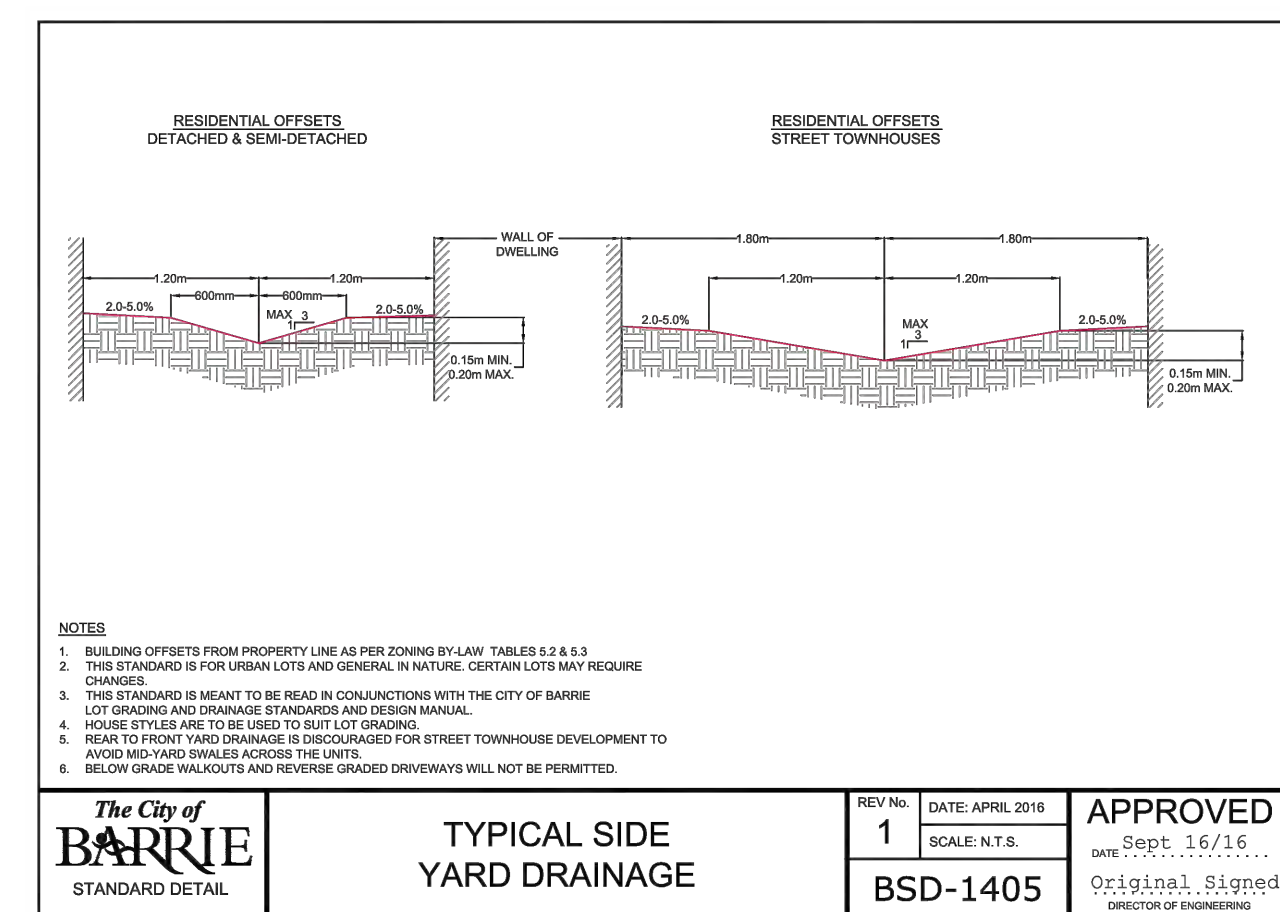
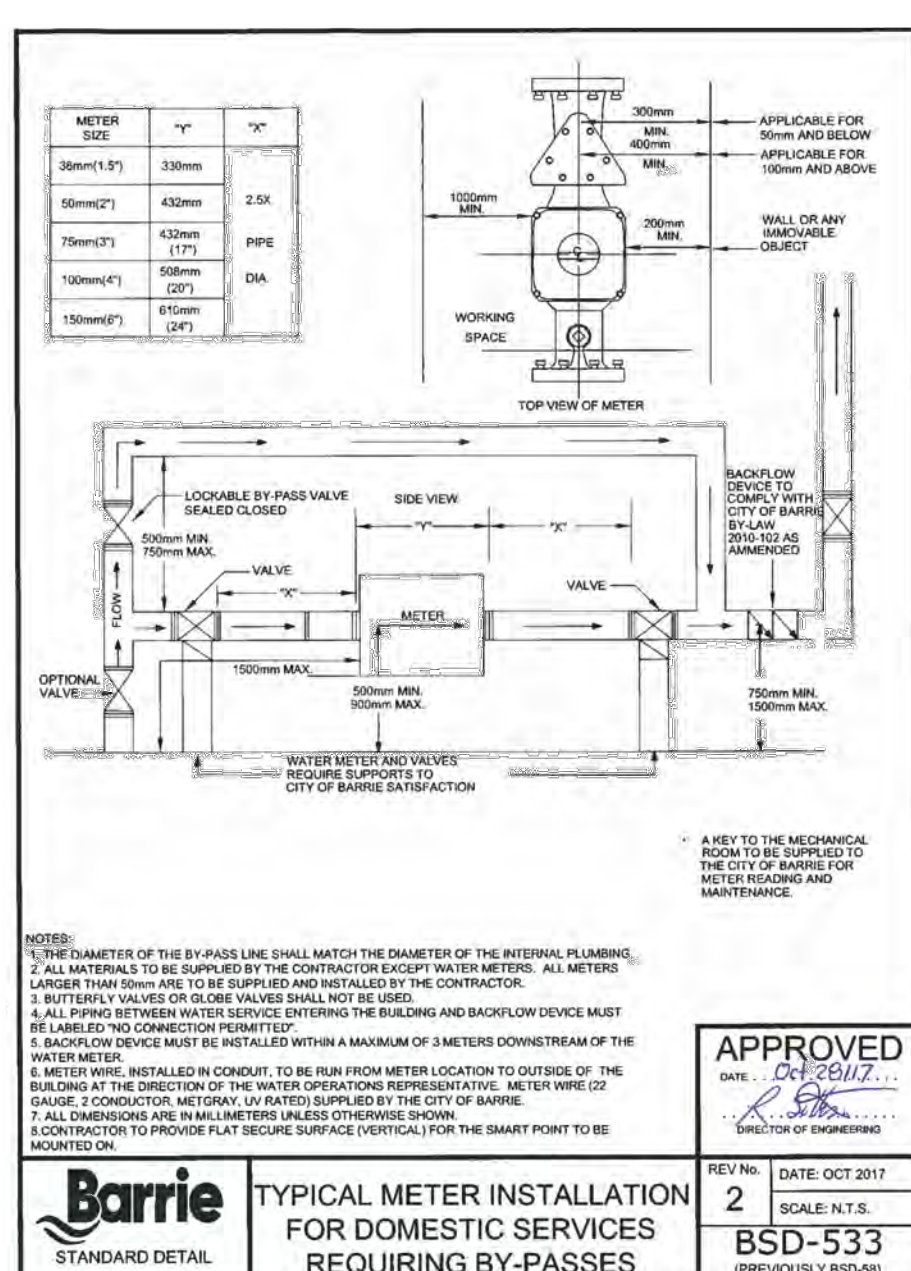
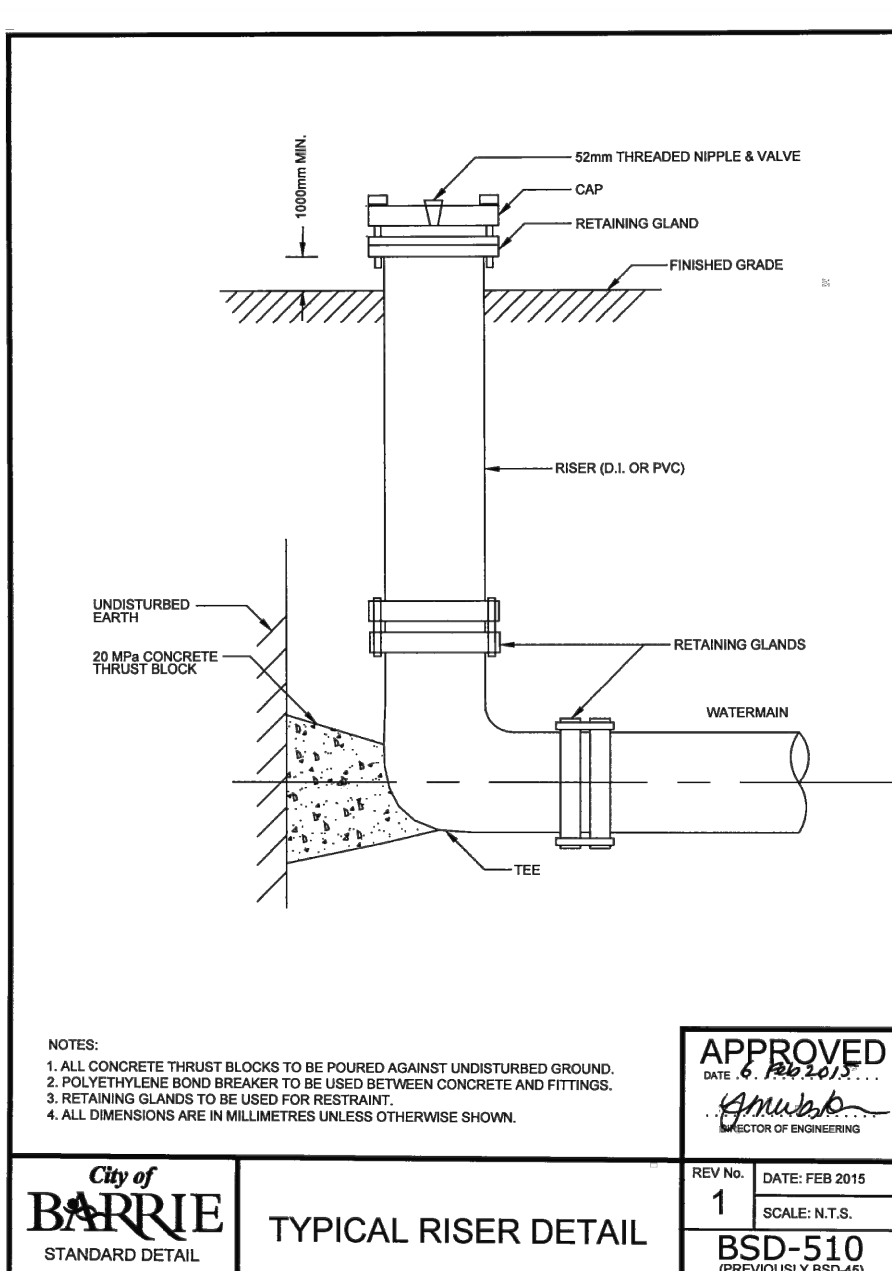
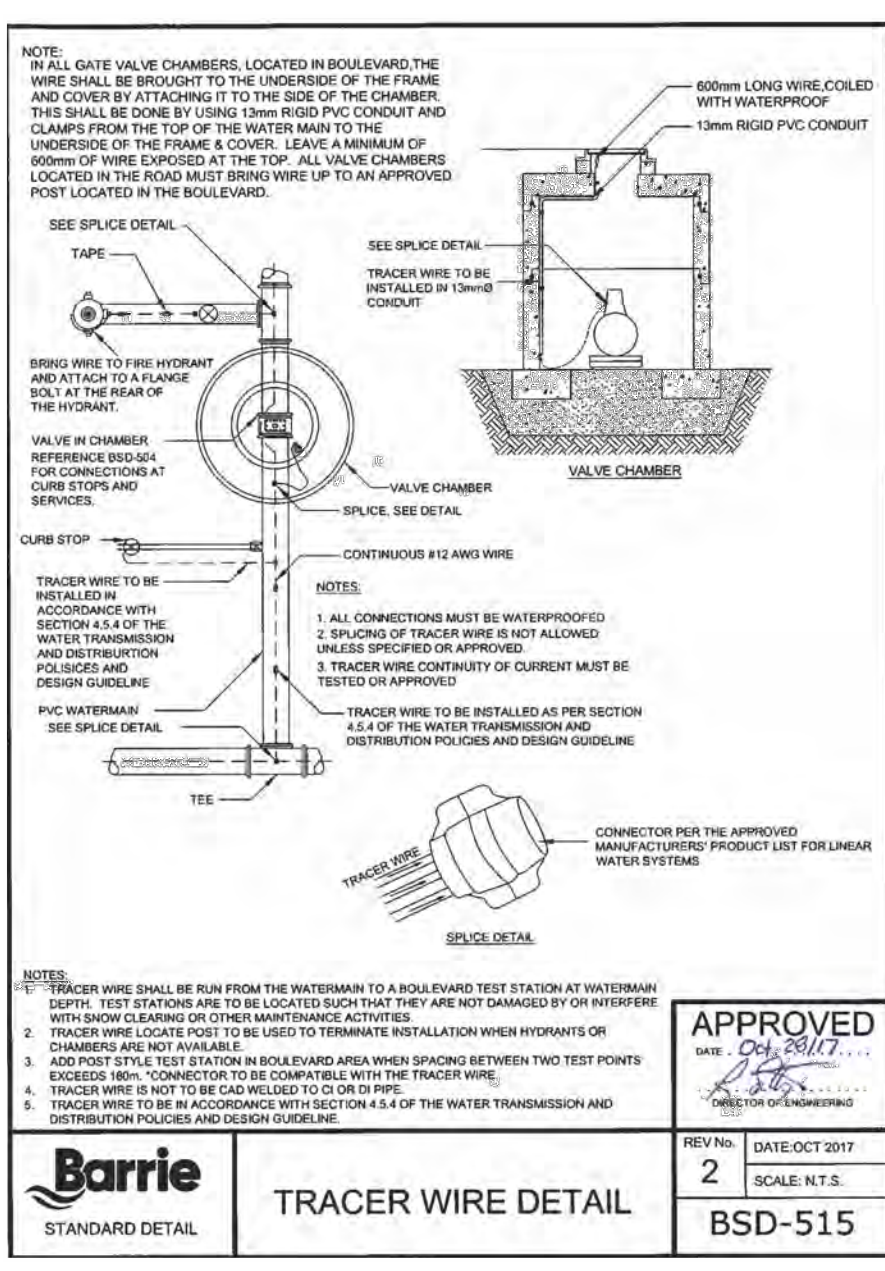
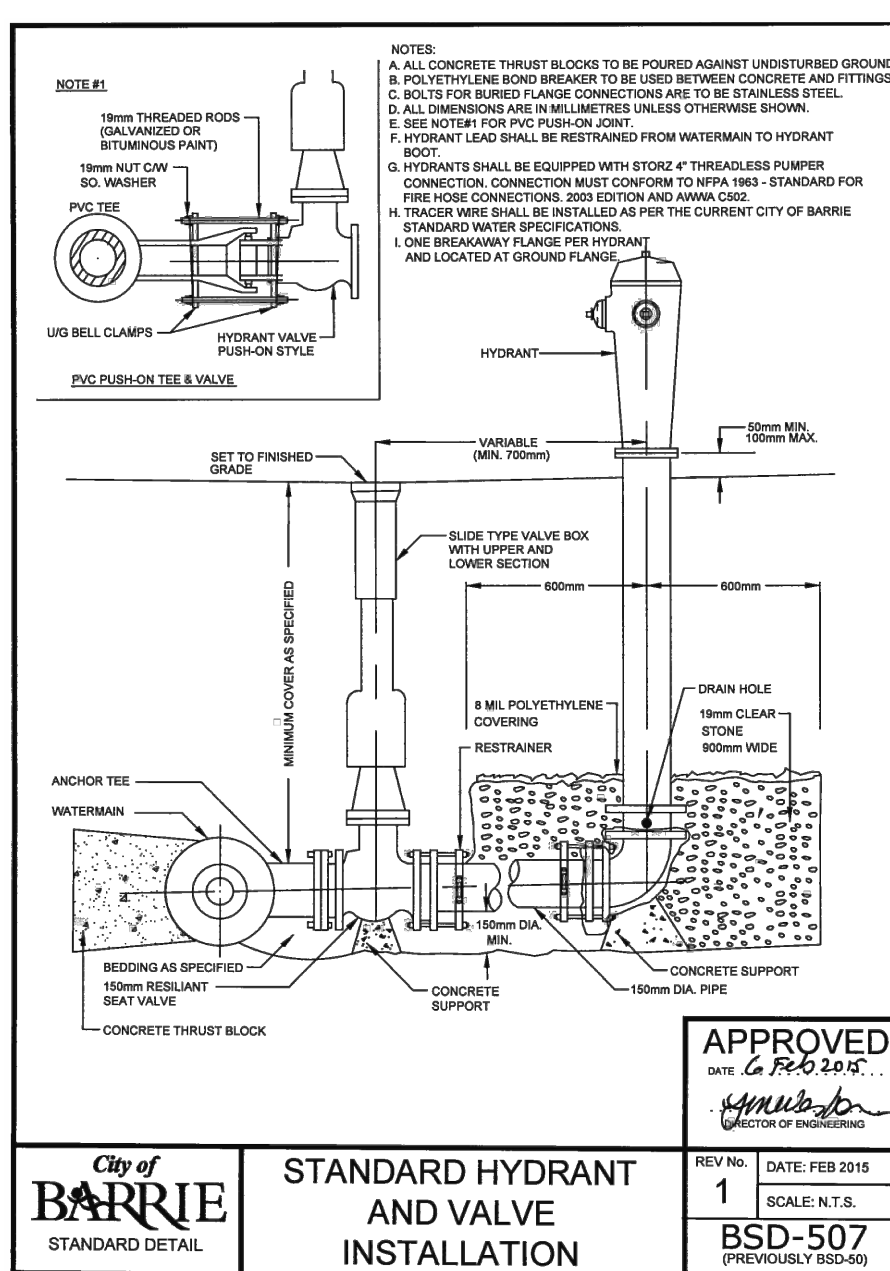
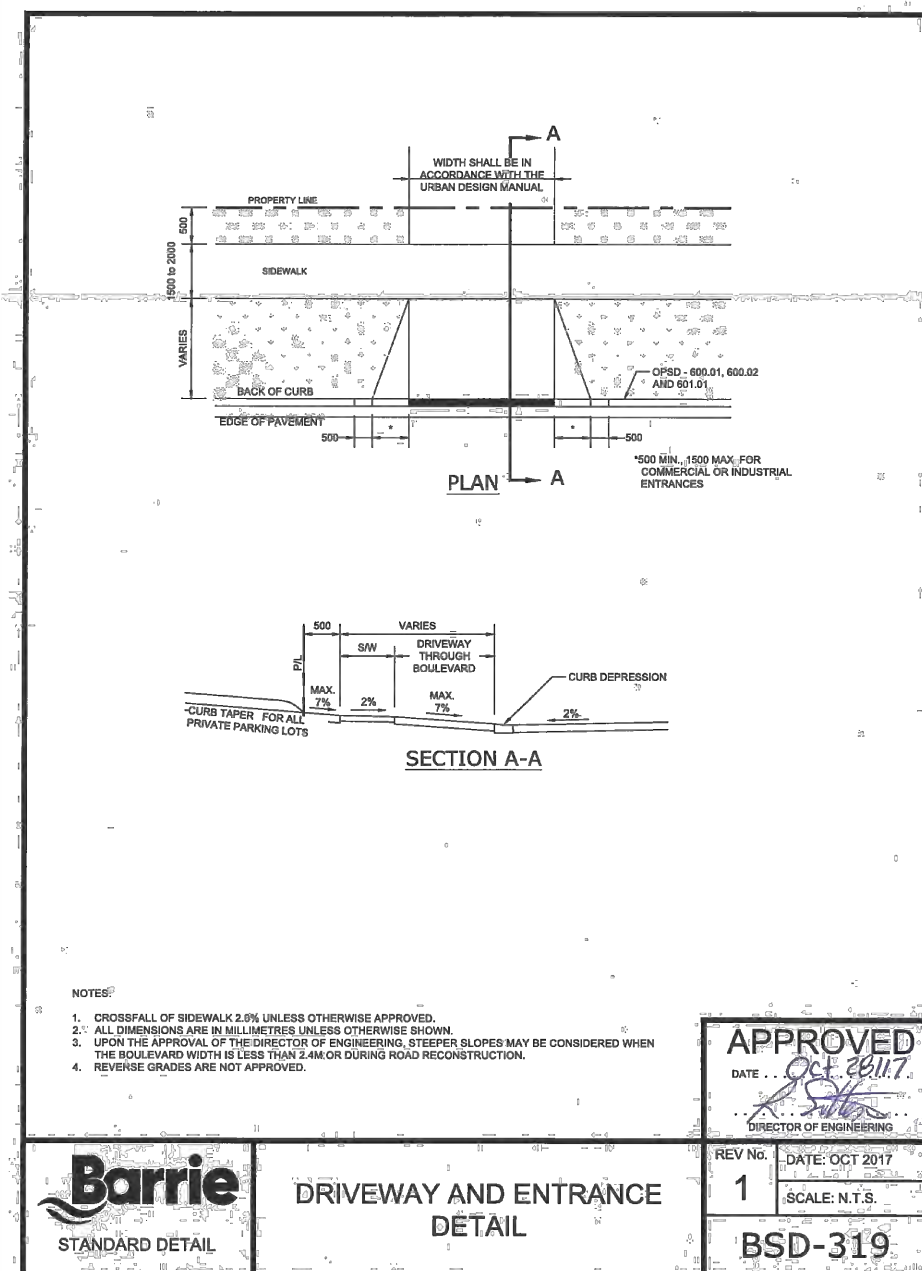
CLIENT/PROJECT

521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT

DRAWING TITLE

STORM SEWER CATCHMENT PLAN

PROJECT NO. 17-11306.1-B	DRAWING NO. STM-1	REVISION 1
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The position of existing above ground and underground utilities and facilities are not necessarily shown on the drawings, and where shown, the accuracy of the position of such utilities and facilities is not guaranteed. Before starting work, the contractor shall confirm the exact location of all existing utilities and facilities, and shall assume all liability for damage to them.

Drawings shall not be used for construction unless sealed and signed. All work to be performed in accordance with the Occupational Health & Safety Act 1990.

Any errors and/or omissions shall be reported to Pinestone Engineering Ltd. without delay.



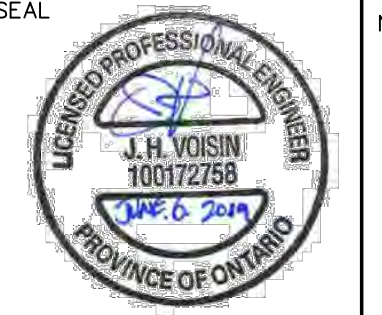
KEY MAP

NOTES

- TOPOGRAPHIC SURVEY AND LEGAL INFORMATION COMPLETED BY AZIZ SURVEYORS INC. APRIL 6 2017.
- SITE PLAN PREPARED BY PATRICK MARCUS LUCKIE, ARCHITECT APRIL 10th, 2018

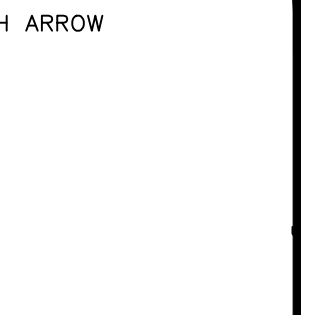
NO.	YY.MM.DD	REVISION	BY
1	19.06.06	REVISED PER CITY COMMENTS	G.N.

SEAL



J.H. VOISIN
100172758
PROVINCE OF ONTARIO

NORTH ARROW



DESIGN BY:	J.V.
DRAWN BY:	G.N.
CHECKED:	J.V.
DATE:	NOVEMBER 2018
SCALE:	N.T.S.

CLIENT/PROJECT

**521 AND 525 ESSA ROAD
RESIDENTIAL DEVELOPMENT**

DRAWING TITLE

**STANDARD AND CONSTRUCTION
DETAILS**

PROJECT NO.	DRAWING NO.	REVISION
17-11306.1-B	DET-1	1

