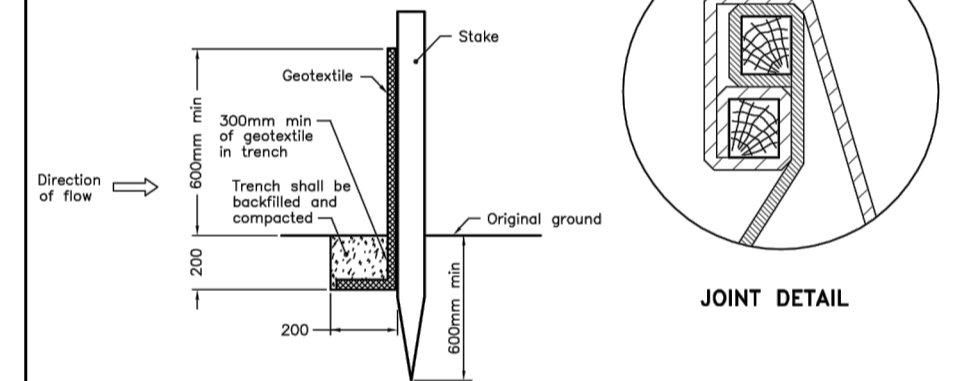
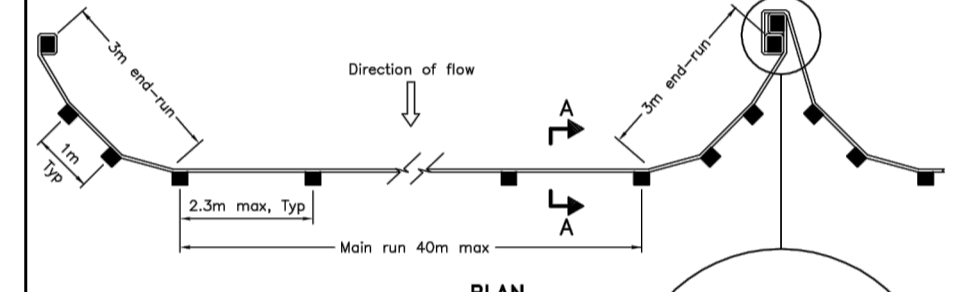
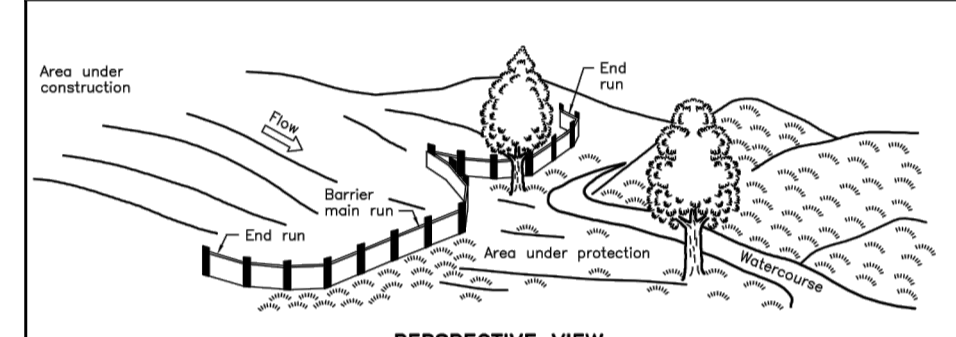


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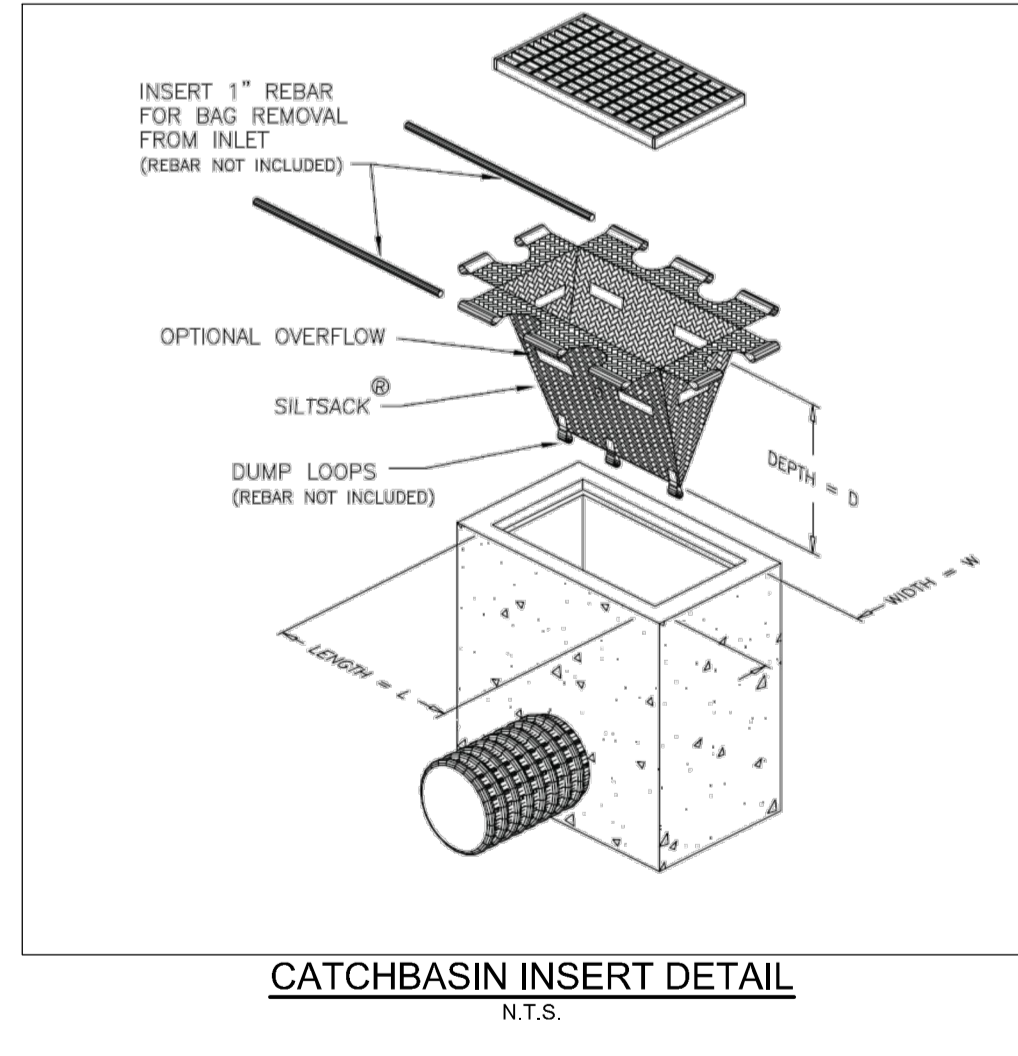
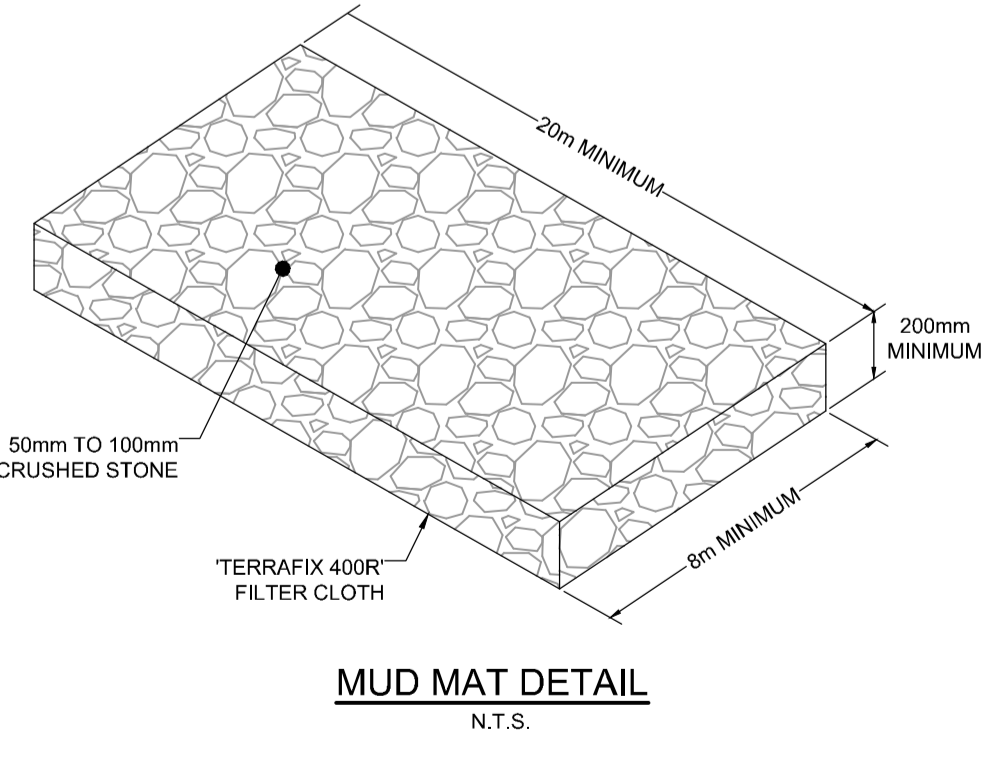
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--- (dotted line)	MAXIMUM 3:1 SIDESLOPE	⊗ (circle with cross)	PROPOSED CATCHBASIN INSERT
--- (dashed line with dots)	PROPOSED CENTRELINE SWALE	⊗ (circle with cross)	PROPOSED SILT FENCE (SEE OPSD 219.110)
○ (circle)	PROPOSED HYDRANT LOCATION	⊗ (circle with cross)	PROPOSED MUD MAT
○ (circle)	PROPOSED SANITARY MANHOLE	⊗ (circle with cross)	
○ (circle)	PROPOSED STORM MANHOLE	⊗ (circle with cross)	
○ (circle)	PROPOSED CATCHBASIN MANHOLE	⊗ (circle with cross)	
○ (circle)	PROPOSED CATCHBASIN	⊗ (circle with cross)	
○ (circle)	EXISTING SANITARY MANHOLE	⊗ (circle with cross)	
○ (circle)	EXISTING STORM MANHOLE	⊗ (circle with cross)	
○ (circle)	EXISTING CATCHBASIN MANHOLE	⊗ (circle with cross)	
○ (circle)	EXISTING CATCHBASIN	⊗ (circle with cross)	



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

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2015 | Rev | 2

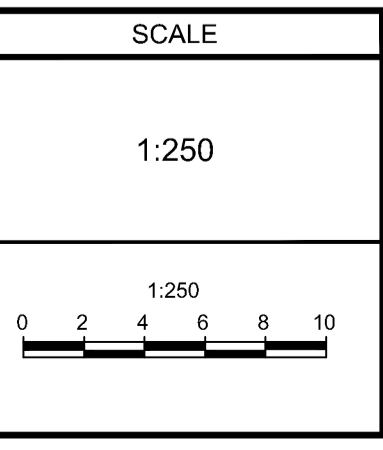
LIGHT-DUTY SILT FENCE BARRIER
OPSD 219.110



NOTE:
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3.	ISSUED FOR CITY OF OTTAWA REVIEW	JAN 27/23	DDB
2.	ISSUED FOR CITY OF OTTAWA REVIEW	MAY 8/22	DDB
1.	ISSUED FOR CITY OF OTTAWA REVIEW	DEC 23/21	DDB



DESIGN	DDB
CHECKED	DDB
DRAWN	MTM
CHECKED	DDB
APPROVED	DDB

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
D. D. BLAIR
100122737
Jan 27 2023
PROVINCE OF ONTARIO

NOVATECH
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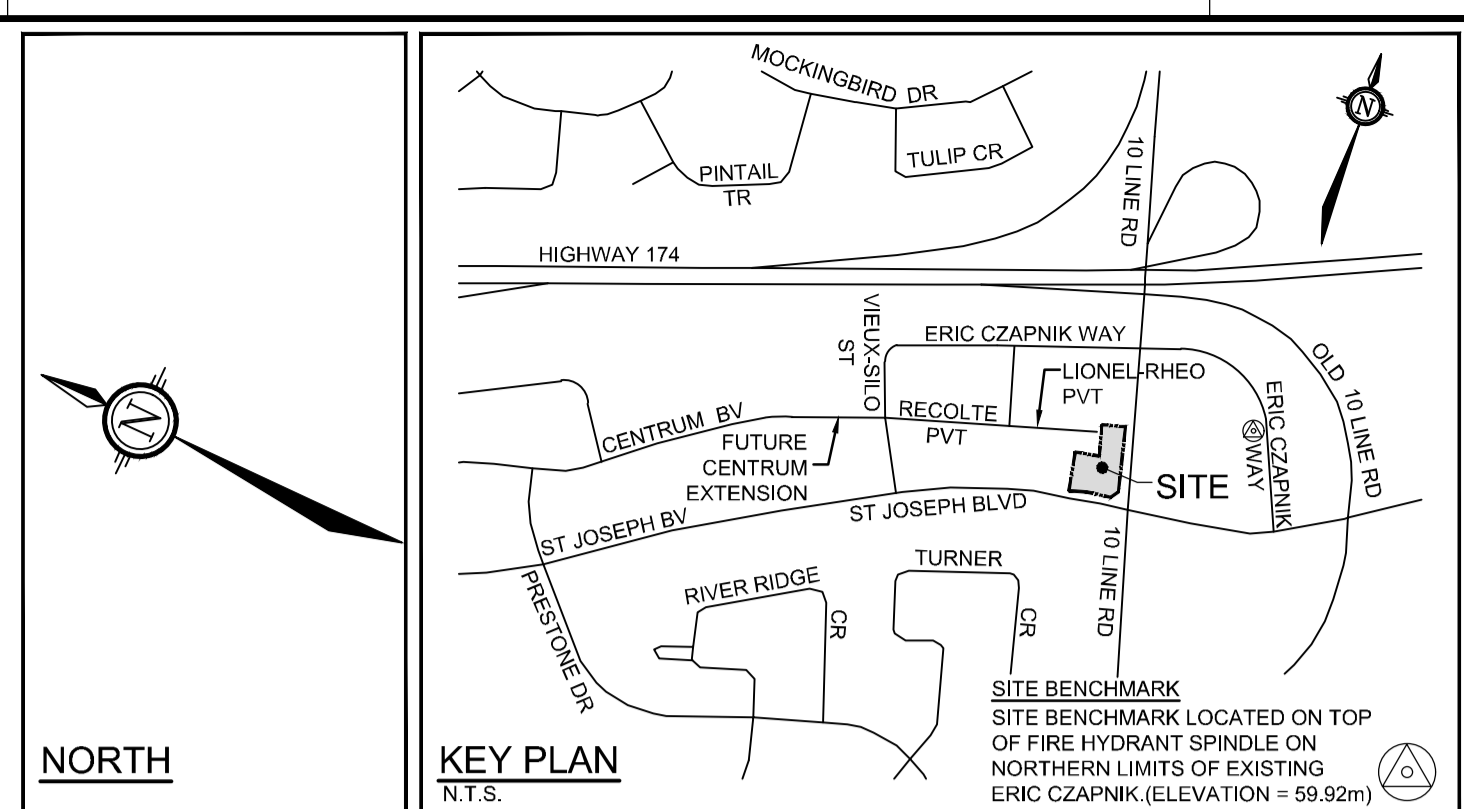
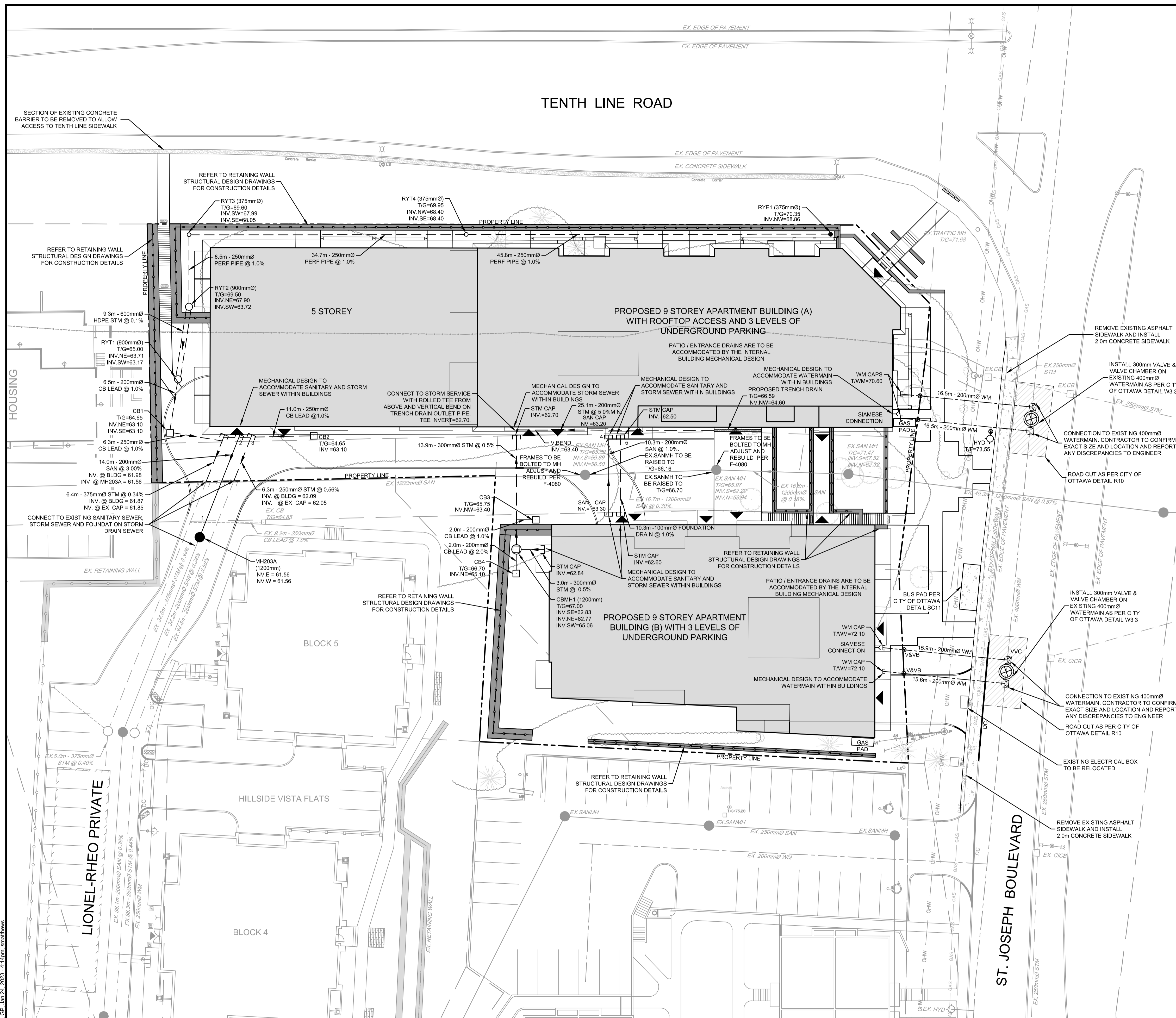
CITY OF OTTAWA
HILLSIDE COMMONS
ORLEANS TOWN CENTER

DRAWING NAME
EROSION & SEDIMENT CONTROL PLAN

PROJECT No. 120237-00
REV # 3
DRAWING No. 120237-ESC
#18628

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D07-12-21-0229



LEGEND

---	SITE BOUNDARY	---	EXISTING STORM MANHOLE AND SEWER
--->	PROPOSED STORM MANHOLE AND SEWER WITH DIRECTION OF FLOW	---	EXISTING SANITARY MANHOLE AND SEWER
--->	PROPOSED SANITARY MANHOLE AND SEWER WITH DIRECTION OF FLOW	---	EXISTING WATERMAIN
---	PROPOSED WATERMAIN	---	EXISTING OVERHEAD WIRES
---	PROPOSED VALVE AND VALVE BOX	---	EXISTING VALVE AND VALVE BOX
---	PROPOSED HYDRANT	---	EXISTING FIRE HYDRANT
---	PROPOSED RETAINING WALL	---	EXISTING CATCHBASIN
---	PROPOSED RETAINING WALL CW CHAIN LINK FENCE	---	EXISTING CURB INLET CATCHBASIN
---	PROPOSED CATCHBASIN MANHOLE	---	EXISTING ADJACENT LEGAL LINE
---	PROPOSED CATCHBASIN	---	EXISTING TREES
---	PROPOSED REAR YARD ELBOW	---	EXISTING STREETLIGHT
---	PROPOSED REAR YARD TEE	---	EXISTING UTILITY POLE
---	PROPOSED TRENCH DRAIN		
---	PROPOSED BUILDING ENTRANCE / EXIT		

PIPE CROSSING TABLE

CROSSING #	WATERMAIN	SANITARY	STORM
1	INV = 61.63 OBV = 61.83	INV = 61.63 OBV = 61.83	INV = 63.53 OBV = 63.78
2	INV = 61.97 OBV = 62.17	INV = 61.97 OBV = 62.99	INV = 63.24 OBV = 63.24
3	INV = 62.08 OBV = 62.33	INV = 62.08 OBV = 63.01	INV = 63.26 OBV = 63.26
4	INV = 63.90 OBV = 63.40	INV = 62.50 OBV = 64.10	INV = 64.00 OBV = 64.20
5	INV = 62.60 OBV = 62.60	INV = 62.60 OBV = 64.20	

* WATERMAIN CROSSING AS PER W25 & W25.2 PROVIDE THERMAL INSULATION AS PER W22 WHERE THERE IS LESS THAN 2.4m COVER

CATCHBASIN / ICD TABLE

CB No.	SIZE (mm)	MATERIAL	T/G ELEV (m)	INVERT (m)	ICD DIA. (mm) (EQUIVALENT)	IPEX TEMPEST LMF ICD MODEL
1	600x600	CONC	64.65	INV.SE=63.10 INV.NE=63.10	0.059	LMF 83
2	600x600	CONC	64.65	INV.SE=63.10	0.046	LMF 65
3	600x600	CONC	65.75	INV.SE=63.40 INV.NW=63.40	0.045	LMF 69
4	600x600	CONC	66.70	INV.NE=65.10	0.045	LMF 71
CBM1	1200	CONC	67.00	INV.SE=62.83 INV.NE=62.77		
RYT 1	900	HDPE	65.00	INV.NE=63.71 INV.SW=63.17		
RYT 2	900	HDPE	69.50	INV.NE=67.90 INV.SW=65.72		
RYT 3	375	HDPE	69.60	INV.SW=67.99 INV.SE=68.05		
RYT 4	375	HDPE	69.95	INV.NW=68.40 INV.SE=68.40		
RYE 1	375	HDPE	70.35	INV.NW=68.86		
TRENCH DRAIN			66.59	INV.NW=64.60		

RELEASE RATE TABLE

STRUCTURE	5-YEAR RELEASE RATE	100-YEAR RELEASE RATE
CB 1	4.9 L/S	7.5 L/S
CB 2	4.4 L/S	4.5 L/S
CB 3	4.9 L/S	6.4 L/S
CB 4	3.9 L/S	5.5 L/S
TRENCH DRAIN (UNCONTROLLED)	4.7 L/S	11.1 L/S
ROOF DRAINS BUILDING A	4.8 L/S	6.3 L/S
ROOF DRAINS BUILDING B	2.9 L/S	3.8 L/S
*STORM OUTLET TO EXISTING 375mmØ PIPE	*27.8 L/S	*42.0 L/S
UNCONTROLLED OFFSITE FLOWS	8.1 L/S	14.5 L/S
TOTAL CALCULATED SITE RELEASE RATE	35.9 L/S	56.5 L/S
TOTAL ALLOWABLE RELEASE RATE FROM SITE	56.6 L/S	56.6 L/S

SAN MANHOLE TABLE

MANHOLE ID	SIZE (mm)	T/G ELEV (m)	INVERT (m)
MH203A	1200	64.70	INV.E = 61.56 INV.W = 61.56

* THE TOTAL MODELLED FLOW TO THE EXISTING STORM OUTLET PIPE IS SLIGHTLY LESS THAN SIMPLY ADDING UP THE INDIVIDUAL AREAS AS THERE IS FLOW ATTENUATION PROVIDED BY THE PIPE NETWORK ITSELF, BASED ON TIME OF FLOW IN THE PIPE AS WELL AS FRICTION/HEAD LOSSES.

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5.	ISSUED FOR CITY OF OTTAWA REVIEW	JAN 27/23	DDB
4.	ISSUED FOR CITY OF OTTAWA REVIEW	MAY 06/22	DDB
3.	ISSUED FOR COORDINATION	APR 6/22	DDB
2.	ISSUED FOR CITY OF OTTAWA REVIEW	MAR 22/22	DDB
1.	ISSUED FOR CITY OF OTTAWA REVIEW	DEC 23/21	DDB

SCALE

1:250

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DESIGN: DDB
CHECKED: DDB
DRAWN: MTM / SM
CHECKED: DDB
APPROVED: DDB



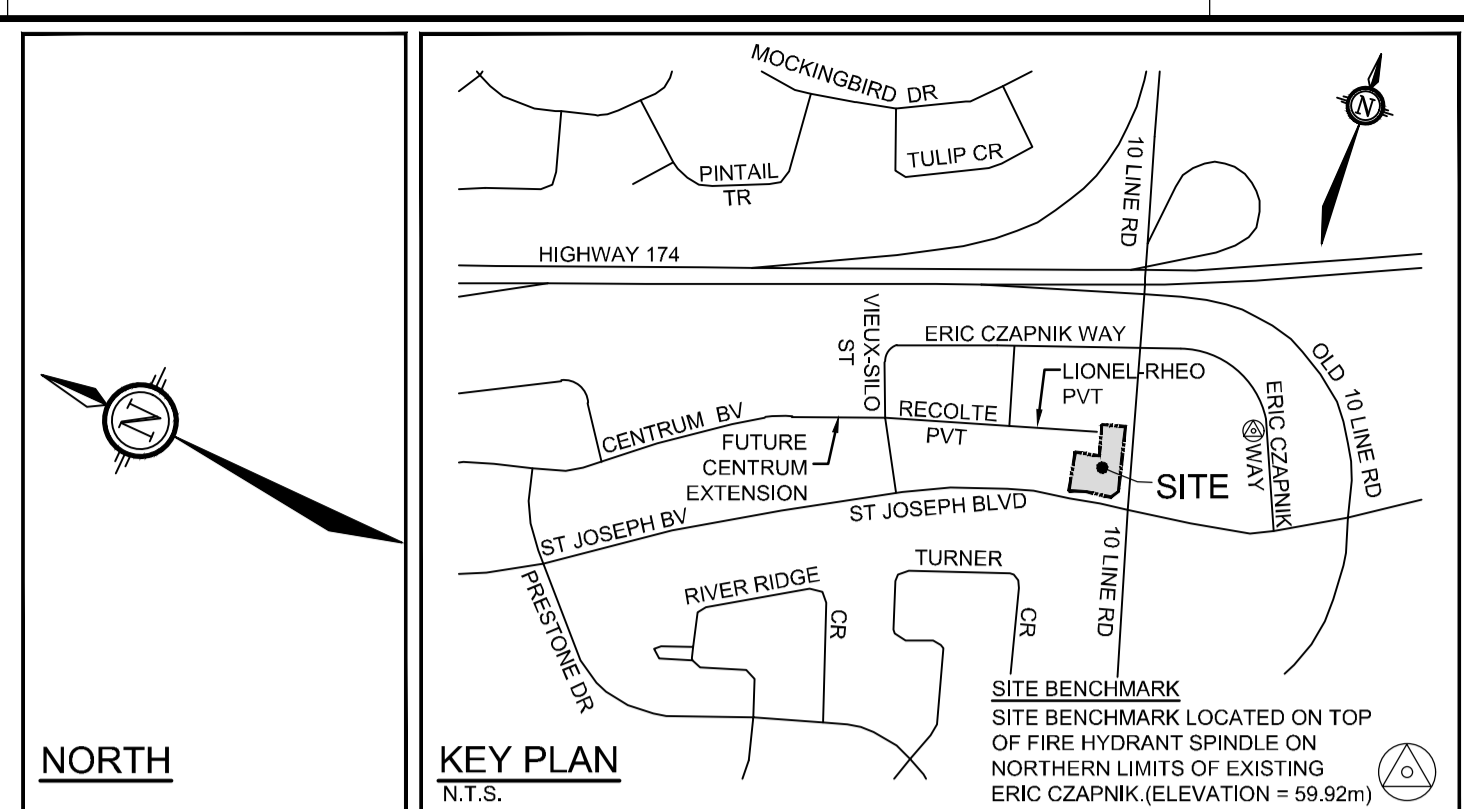
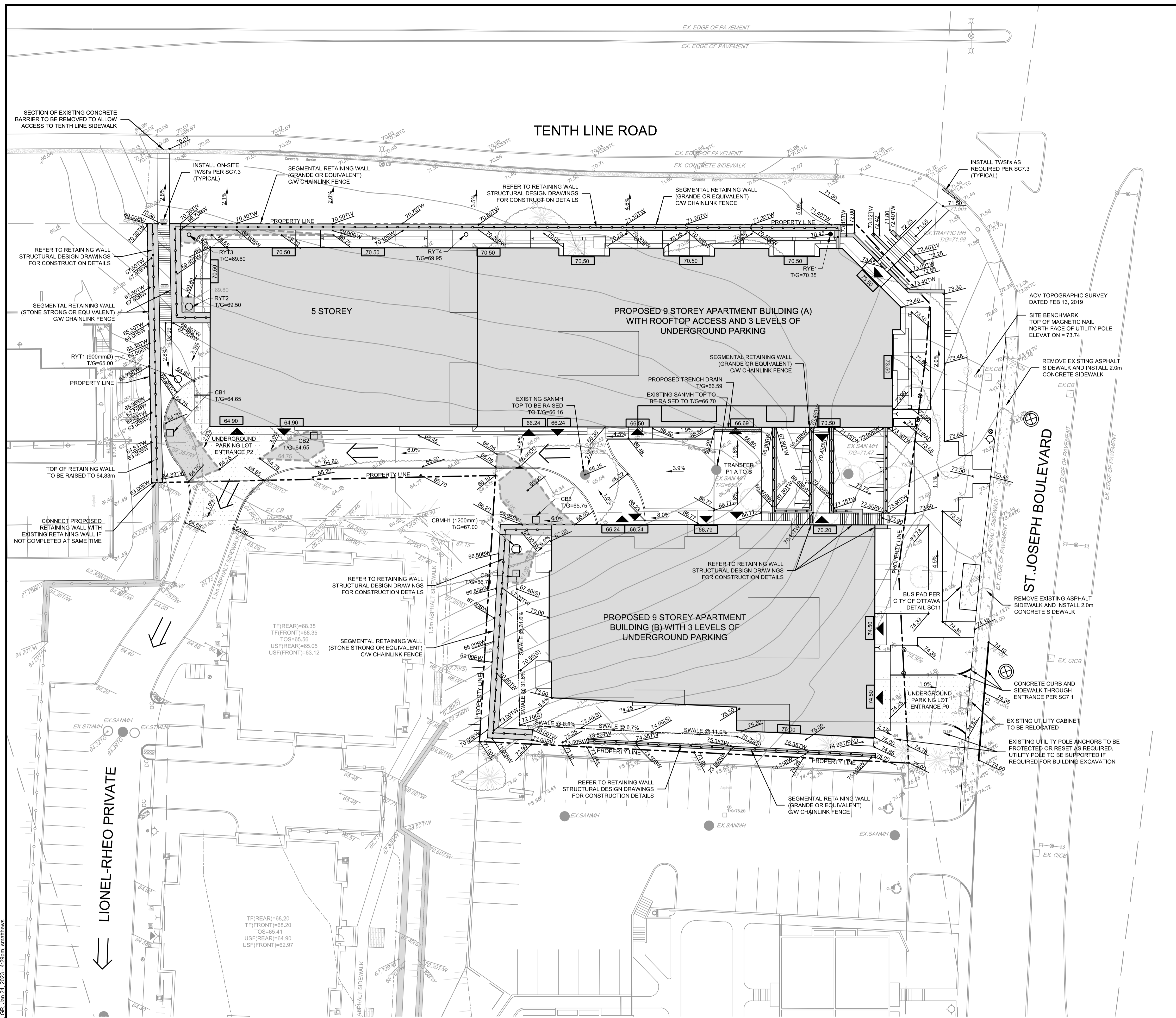
CITY OF OTTAWA
HILLSIDE COMMONS
ORLEANS TOWN CENTER

DRAWING NAME: GENERAL PLAN OF SERVICES

PROJECT No.: 120237-00
REV: REV # 5
DRAWING No.: 120237-GP

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D07-12-21-0229



LEGEND

V&VB	PROPOSED VALVE AND VALVE BOX	→	DIRECTION OF MAJOR OVERLAND FLOW ROUTE
HYD	PROPOSED HYDRANT	VVB	EXISTING VALVE AND VALVE BOX
—	PROPOSED RETAINING WALL	EX HYD	EXISTING FIRE HYDRANT
—	PROPOSED RETAINING WALL C/W CHAIN LINK FENCE	EX CB	EXISTING CATCHBASIN
70.00	PROPOSED ELEVATION	EX C/CB	EXISTING CURB INLET CATCHBASIN
72.00TW	PROPOSED TOP OF WALL ELEVATION	—	EXISTING ADJACENT LEGAL LINE
70.00BW	PROPOSED BOTTOM OF WALL ELEVATION	—	EXISTING TREES
70.00(S)	EXISTING SWALE ELEVATION	—	EXISTING STREETLIGHT
—	PROPOSED SWALE	—	EXISTING UTILITY POLE
VVB	PROPOSED VALVE AND VALVE BOX	—	EXISTING STORM MANHOLE
HYD	PROPOSED HYDRANT	—	EXISTING SANITARY MANHOLE
CBMH	PROPOSED CATCHBASIN MANHOLE		
CB1	PROPOSED CATCHBASIN		
RYE1	PROPOSED REAR YARD ELBOW		
RYT1	PROPOSED REAR YARD TEE		
▲	PROPOSED TRENCH DRAIN		
▲	PROPOSED BUILDING ENTRANCE / EXIT		

PAVEMENT STRUCTURE:

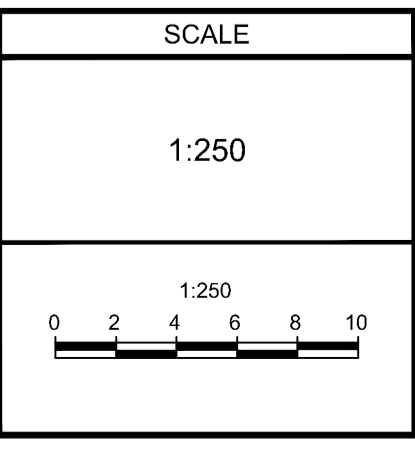
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[Symbol]	HEAVY DUTY 40mm SUPERPAVE 12.5 (PG 58-34) 50mm SUPERPAVE 19.0 (PG 58-34) 150mm GRAN 'A' 400mm GRAN 'B' TYPE II

* GRANULAR BASE TO BE COMPACTED TO 99% STANDARD PROCTOR DRY DENSITY.

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1.	ISSUED FOR CITY OF OTTAWA REVIEW	DEC 23/21	DDB



DESIGN	DDB
CHECKED	DDB
DRAWN	MTM / SM
CHECKED	DDB
APPROVED	DDB

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NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com

CITY OF OTTAWA HILLSIDE COMMONS ORLEANS TOWN CENTER	
DRAWING NAME	GRADING PLAN
PROJECT No.	120237-00
REV	REV # 3
DRAWING No.	120237-GR

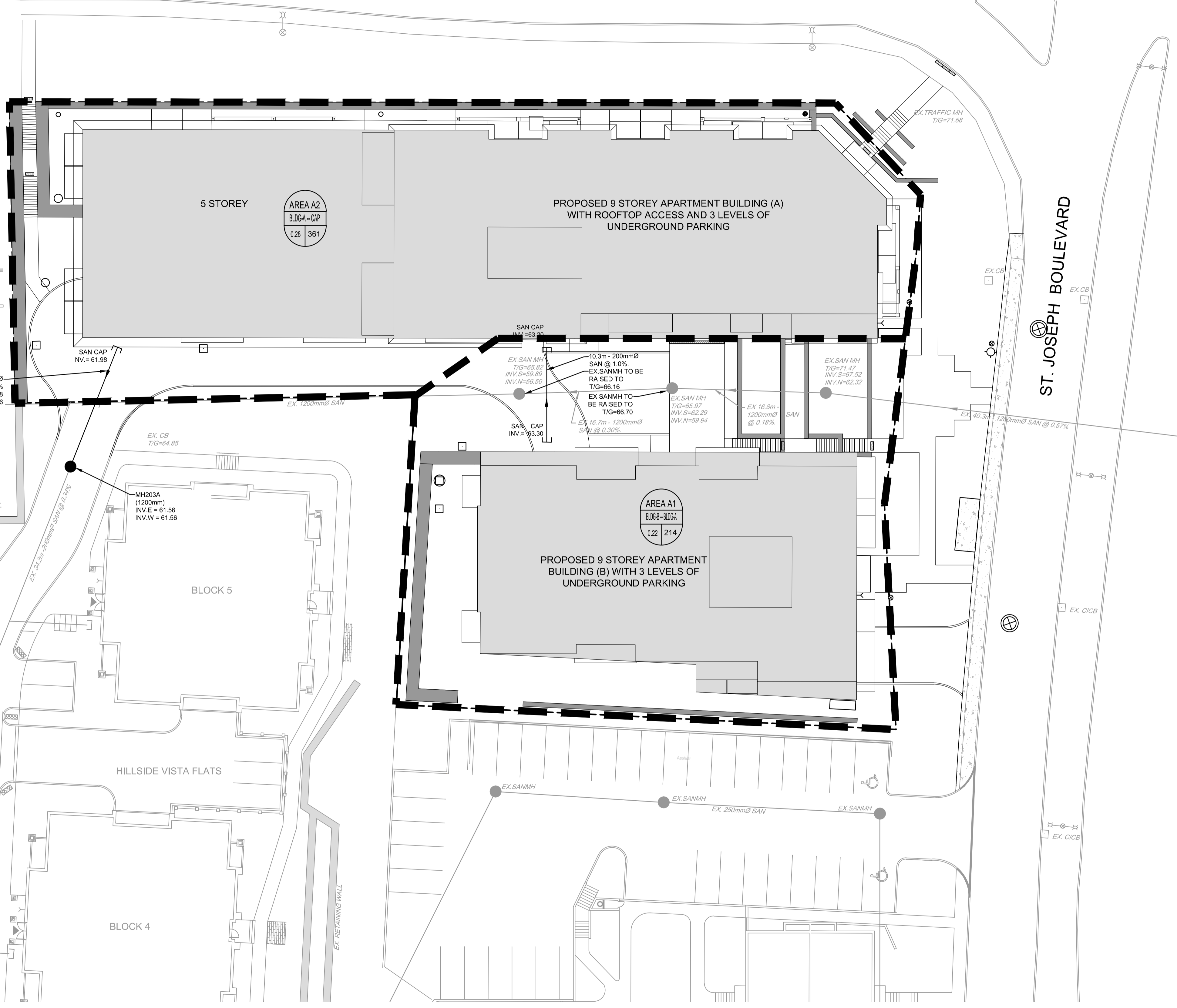
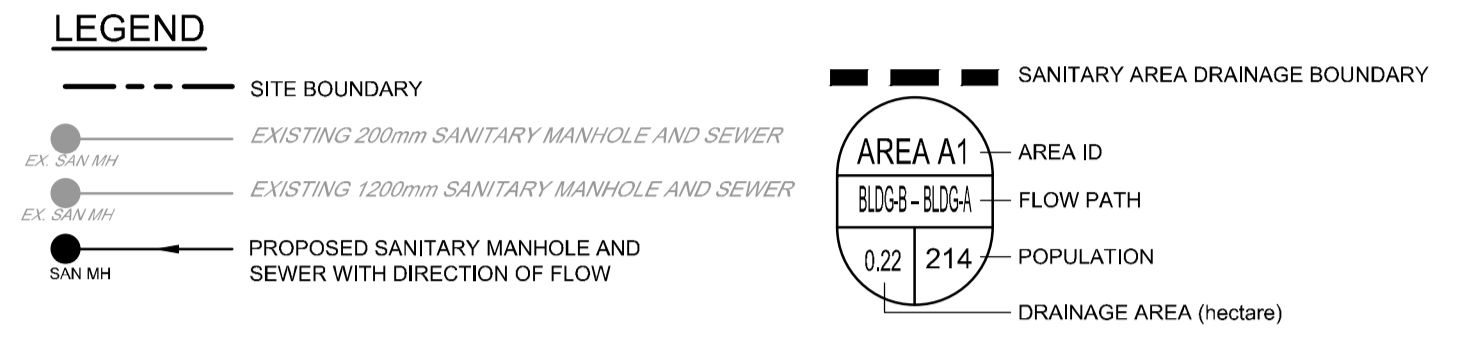
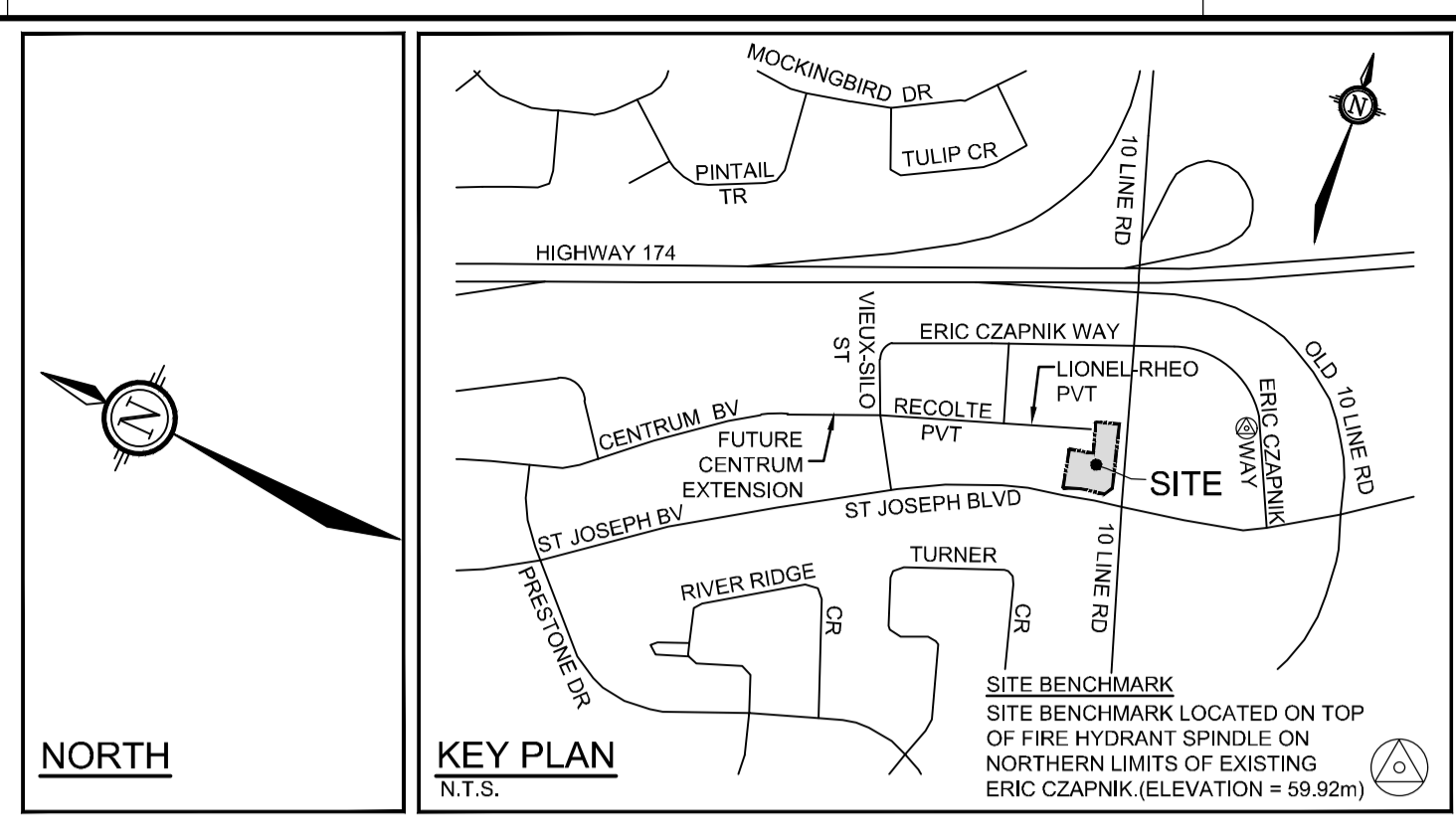
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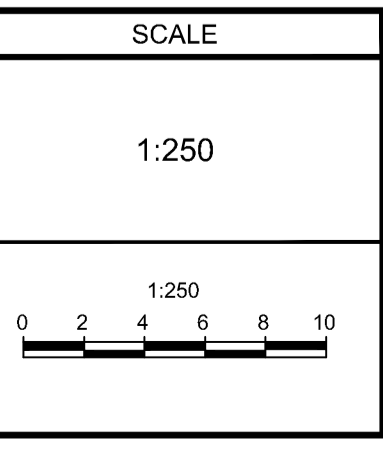
TENTH LINE ROAD

ST. JOSEPH BOULEVARD



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CITY OF OTTAWA HILLSIDE COMMONS ORLEANS TOWN CENTER		PROJECT No. 120237-00
DRAWING NAME SANITARY DRAINAGE AREA PLAN		REV # 3
		DRAWING No. 120237-SAN

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D07-12-21-0229

Building A Tower Roof Drain Calculations Summary

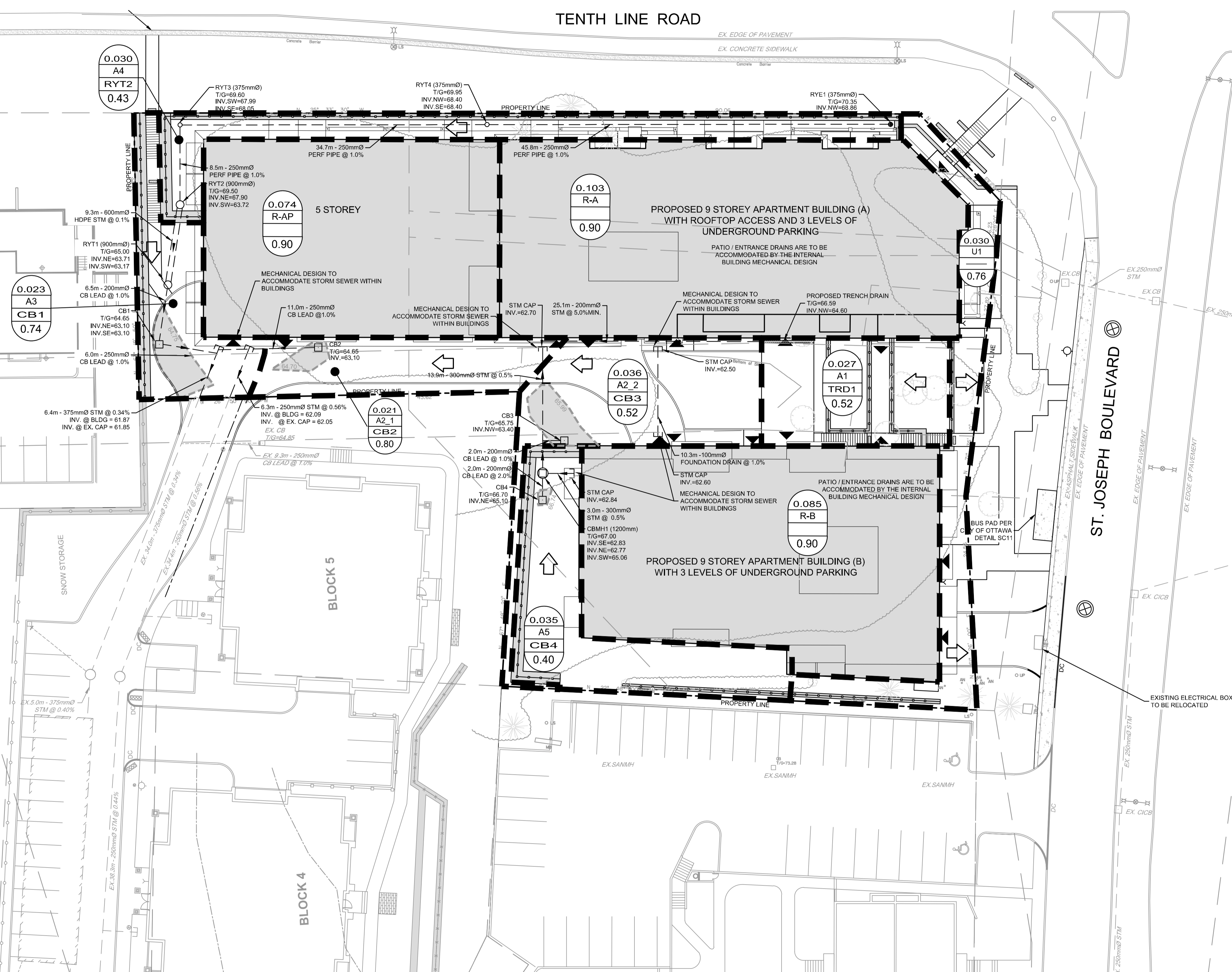
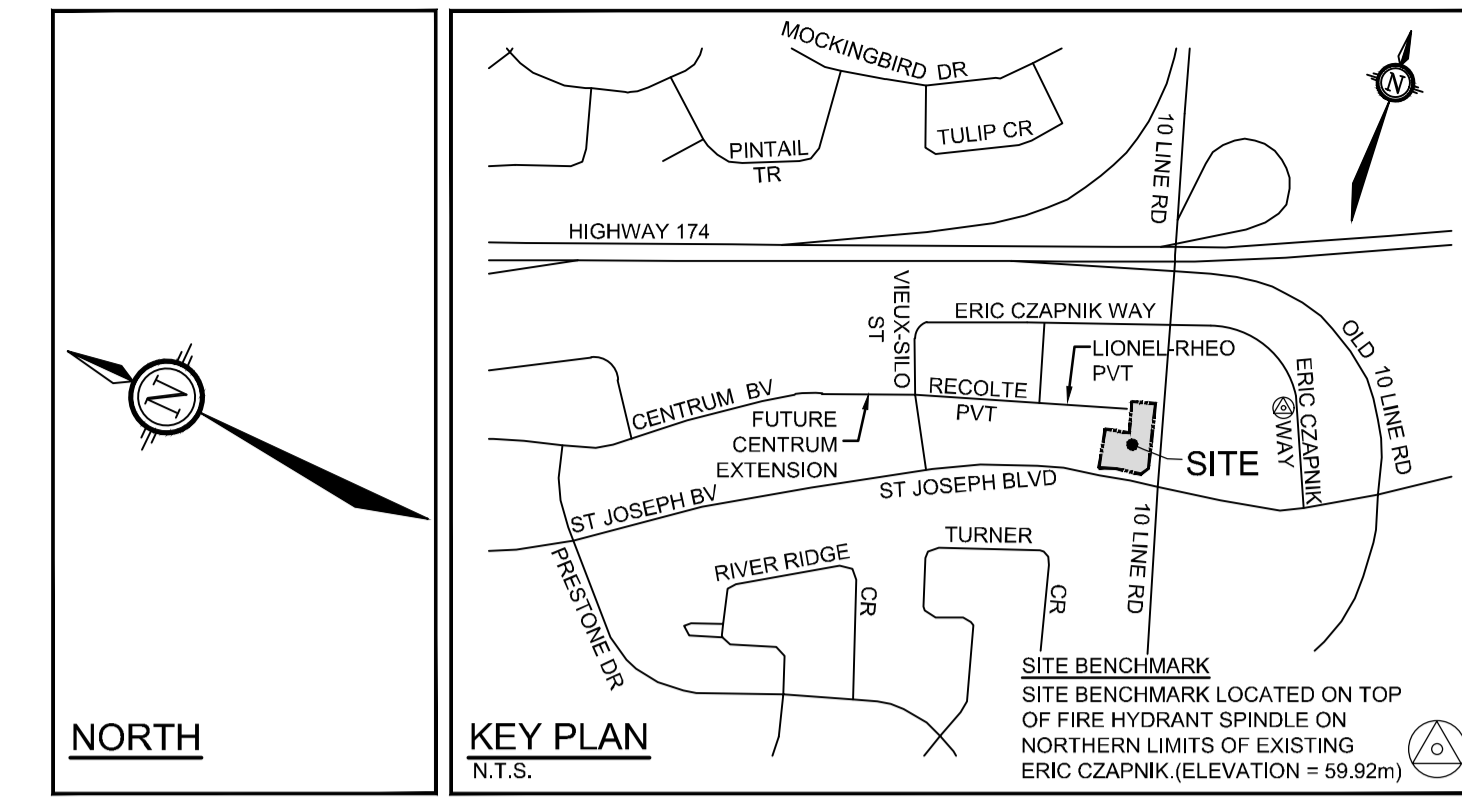
Area ID	Static Ponding Area (m ²)	Drainage Area (ha)	Runoff Coef. (R)	Time-of-Conc. (min)	Rainfall Intensity (mm/hr)	Uncontrolled Peak Flow (L/s)	Roof Drain Flow Control System	Controlled Peak Flow (L/s)	Flow Depth (mm)	Storage Required (m ³)	Storage Available (m ³)
B-A1	305.2	0.036	0.90	10.00	104.19	9.4	Watts Flow Control	1.02	0.11	7.34	18.03
B-A2	325.5	0.037	0.90	10.00	104.19	8.6	Watts Flow Control	1.02	0.11	8.48	18.48
B-A3	352.7	0.040	0.90	10.00	104.19	9.9	Watts Flow Control	1.02	0.11	6.94	17.14
TOTAL	1013	0.113				26.9		3.06	0.33	29.76	53.64

Building A Podium Roof Drain Calculations Summary

Area ID	Static Ponding Area (m ²)	Drainage Area (ha)	Runoff Coef. (R)	Time-of-Conc. (min)	Rainfall Intensity (mm/hr)	Uncontrolled Peak Flow (L/s)	Roof Drain Flow Control System	Controlled Peak Flow (L/s)	Flow Depth (mm)	Storage Required (m ³)	Storage Available (m ³)
B-AP-1	370	0.042	0.90	10.00	104.19	9.6	Watts Flow Control	1.02	0.11	7.81	18.50
B-AP-2	370	0.042	0.90	10.00	104.19	9.6	Watts Flow Control	1.02	0.11	7.81	18.50
TOTAL	740	0.084				19.2		2.04	0.22	15.62	37.00

Building B Tower Roof Drain Calculations Summary

Area ID	Static Ponding Area (m ²)	Drainage Area (ha)	Runoff Coef. (R)	Time-of-Conc. (min)	Rainfall Intensity (mm/hr)	Uncontrolled Peak Flow (L/s)	Roof Drain Flow Control System	Controlled Peak Flow (L/s)	Flow Depth (mm)	Storage Required (m ³)	Storage Available (m ³)
B-B1	271.3	0.030	0.90	10.00	104.19	7.4	Watts Flow Control	1.02	0.11	6.10	13.57
B-B2	283.3	0.032	0.90	10.00	104.19	7.4	Watts Flow Control	1.02	0.11	6.10	13.57
B-B3	295.3	0.034	0.90	10.00	104.19	7.7	Watts Flow Control	1.02	0.11	5.98	14.78
TOTAL	850	0.096				22.5		3.06	0.33	26.12	42.12



LEGEND

- SITE BOUNDARY
- PROPOSED STORM SEWER AND DIRECTION OF FLOW
- PROPOSED RETAINING WALL
- PROPOSED RETAINING WALL C/W CHAINLINK FENCE
- PROPOSED BUILDING ENTRANCE
- PROPOSED SIAMESE CONNECTION
- STORM DRAINAGE AREA
- EXISTING STORM MANHOLE AND SEWER
- EXISTING SANITARY MANHOLE
- EXISTING VALVE AND VALE BOX
- EXISTING FIRE HYDRANT
- EXISTING CATCHBASIN
- EXISTING TOP OF GRATE
- EXISTING UTILITY POLE C/W GUY WIRES
- EXISTING LIGHT STANDARD

PONDING¹

CB No.	RIM ELEV. (m)	EVENT	WATER LEVEL ELEV. (DEPTH) (m)
CB1	64.65	2yr	(0.00) 63.97
		5yr	(0.00) 64.16
		100yr	(0.09) 64.75
		Static	(0.10) 64.75
		100yr + 20%	(0.11) 64.76

CB No.	RIM ELEV. (m)	EVENT	WATER LEVEL ELEV. (DEPTH) (m)
CB2	64.65	2yr	(0.00) 63.97
		5yr	(0.00) 64.16
		100yr	(0.09) 64.75
		Static	(0.30) 69.80
		100yr + 20%	(0.00) 64.79

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SCALE

1:250

0 2 4 6 8 10

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1.	ISSUED FOR CITY OF OTTAWA REVIEW	DEC 23/21	DDB

DESIGN

BM

DDB

SAB / SM

DDB

DDB

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LOCATION
CITY OF OTTAWA
HILLSIDE COMMONS
ORLEANS TOWN CENTER

DRAWING NAME
STORMWATER MANAGEMENT PLAN

PROJECT No.
120237-00

REV #3
REV #1

DRAWING No.
120237-STM

D07-12-21-0229