

**FUNCTIONAL SERVICING AND
STORMWATER MANAGEMENT REPORT
ELM ROAD
MADORI LIMITED
TOWN OF WHITCHURCH-STOUFFVILLE**

ELM ROAD FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT REPORT

Prepared for: Madori Limited

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File: 10:228

Date: February 2026



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1 INTRODUCTION

Sabourin Kimble & Associates Ltd. has been retained by Madori Limited to carry out a Functional Servicing and Stormwater Management assessment for the proposed development along Elm Road in the Town of Whitchurch-Stouffville. This report has been prepared in support of the Draft Plan of Subdivision for the proposed development.

This investigation includes an examination of site grading, water supply, storm and sanitary drainage, and stormwater management, including detailed design for each service.

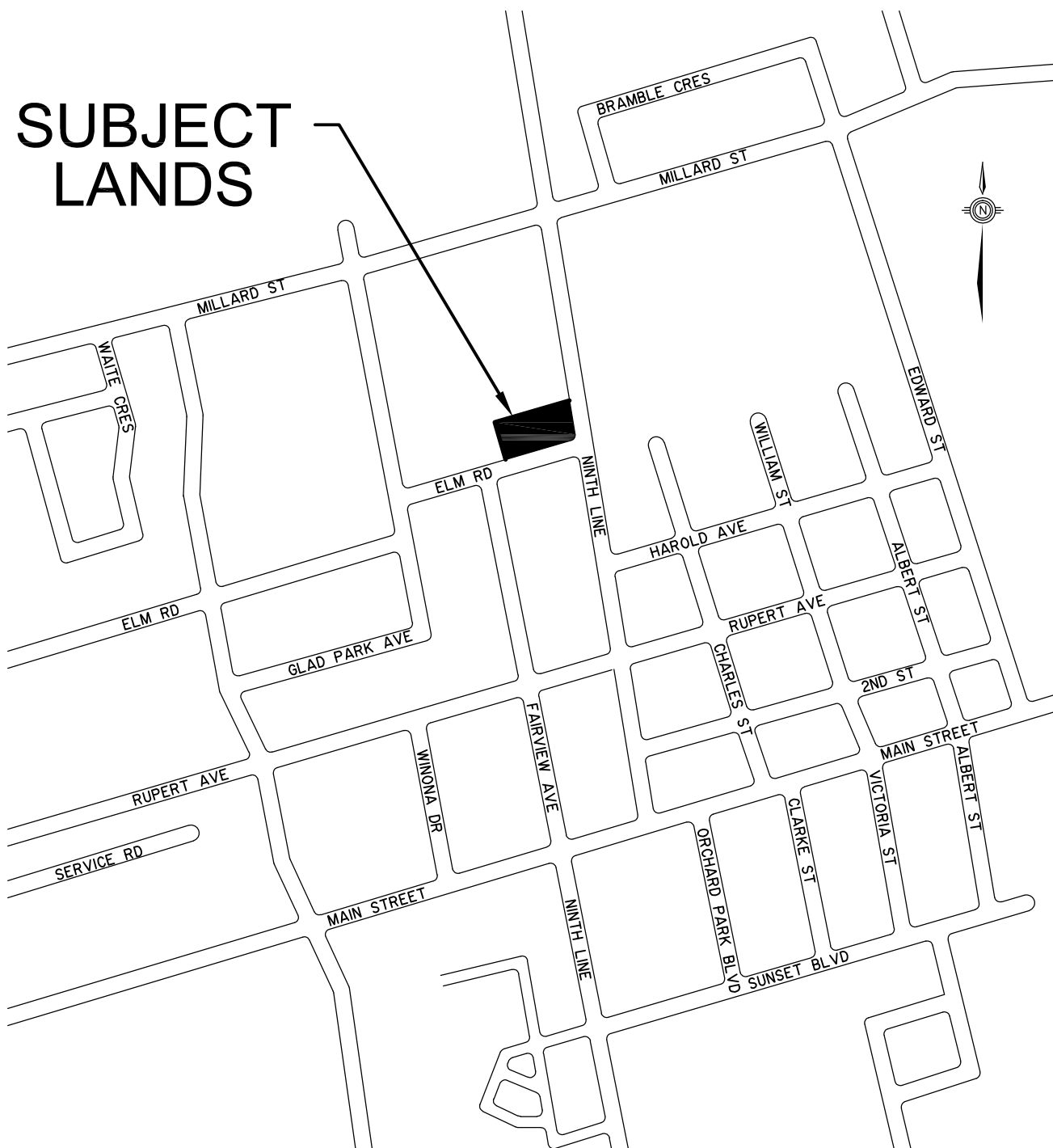
2 STUDY AREA

The proposed site plan is located in the Town of Whitchurch-Stouffville and has an area of approximately 0.36ha. As shown in Figure 1, the subject lands are bound by Elm Road to the south, a residential building to the west, Glad Park Public School to the north, and Ninth Line to the east.

3 DEVELOPMENT CONCEPT

As shown in the enclosed engineering drawings, a draft plan of subdivision has been prepared which contemplates three townhouse Blocks, consisting of 20 units total. A municipal laneway is proposed between the townhouse blocks with connections to Elm Road to the south and Ninth Line to the East.

SUBJECT LANDS



SUBJECT LANDS ELM ROAD MADORI LIMITED



**SABOURIN KIMBLE
& ASSOCIATES LTD.**
CONSULTING ENGINEERS

PROJECT NUMBER

10.228

FIGURE NO.

1

5 MUNICIPAL SERVICES

5.1 Site Grading

The existing site is generally flat, with grades slightly falling from east to west. As shown in Figure SG (back pocket), the site will be graded to accommodate residential uses, with the majority of the site in fill. Permission to grade will be requested from the school to the North to avoid retaining walls between the two properties. The grading approach has been designed to satisfy the Town of Whitchurch-Stouffville grading criteria and respect drainage boundaries.

5.2 Storm Drainage

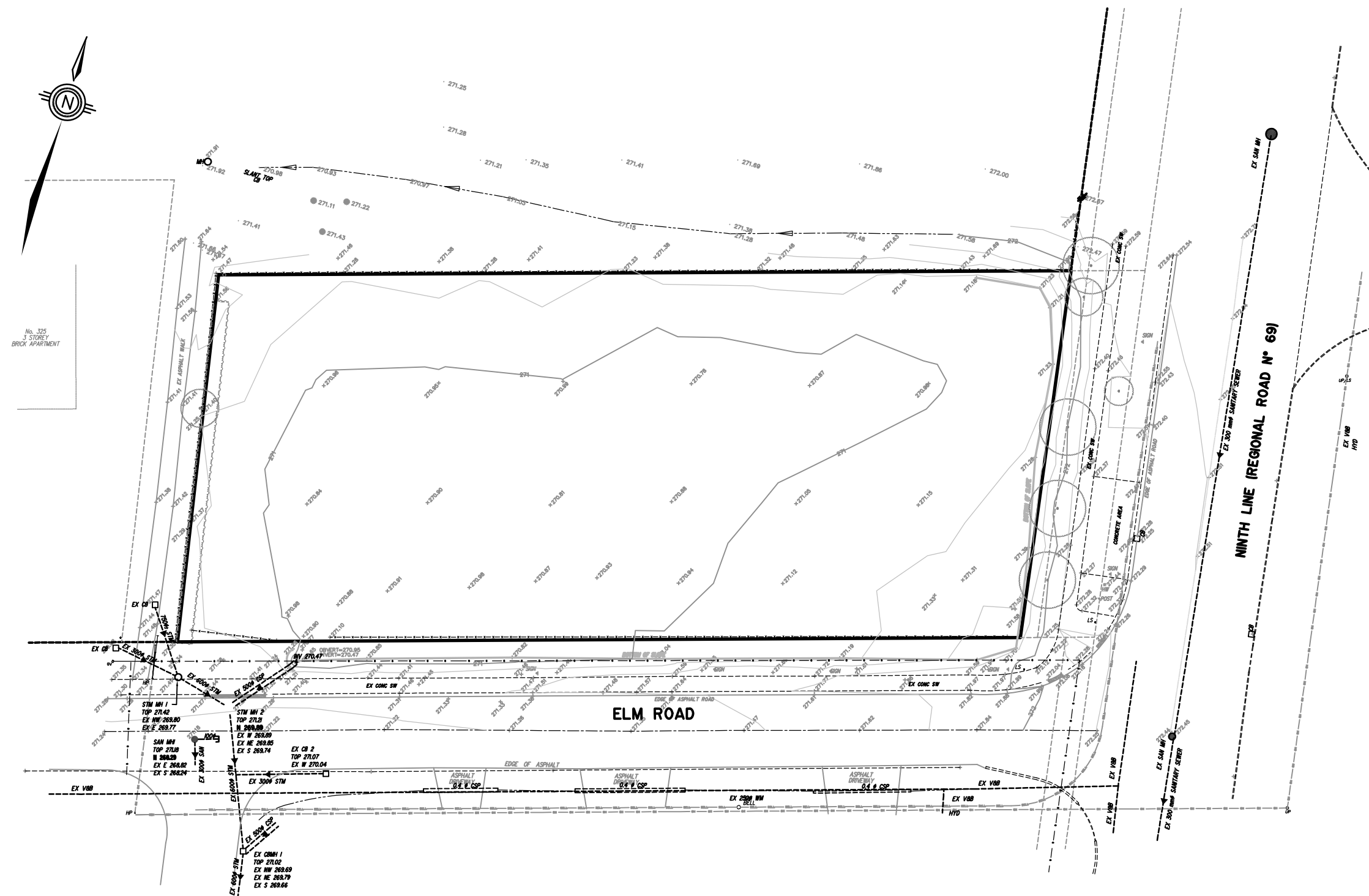
5.2.1 Existing Conditions

As shown in Figure 2, there are no existing storm sewers within the subject lands. The existing topography generally falls from east to west. Existing drainage generally ponds within the western half of the site and is directed towards an existing culvert at the south-west limit of the site. The existing culvert directs drainage southerly to the existing storm sewer system on Fairview Avenue, which has minimal cover. There are no stormwater management controls located within the site, or generally within this area of Town.

5.2.2 Proposed Storm Servicing

As shown in Figure SS (back pocket), storm flows from the subject site will be conveyed to the existing storm sewer located on Fairview Avenue to the south. An extension of the storm sewer will be constructed along the proposed laneway to accommodate minor system flows from the laneway and collect rooftop drainage. The storm sewer does not have sufficient cover to accept foundation drainage by gravity; therefore, it is proposed that the townhouse units be equipped with sump pumps which will discharge to the storm sewer. The proposed storm sewers will be designed according to Town of Whitchurch-Stouffville design criteria. Percent impervious calculations can be found on Figure IMP (back pocket).

As requested by the municipality, the conveyance capacity for the 8.0m laneway was reviewed and was found adequate to convey the anticipated major system flow. Conveyance calculations can be found in Appendix A.



5.3 Sanitary Drainage

5.3.1 Existing Conditions

As shown in Figure SS (back pocket) there are no existing sanitary sewers within the subject site. There is an existing 300mm diameter sanitary sewer located on Ninth Line to the east and an existing 200mm diameter sanitary sewer located on Fairview Avenue to the south.

5.3.2 Proposed Sanitary Servicing

As shown in Figure SS (back pocket), sanitary flows from the subject site will be conveyed to the existing sanitary sewer located on Fairview Avenue to the south. An extension of the sanitary sewer will be constructed along the proposed laneway to accommodate the flows from the townhouse blocks. The proposed sanitary sewers will be designed according to Town of Whitchurch-Stouffville design criteria and are sufficiently deep to service each residential unit by gravity.

5.4 Water Supply

5.4.1 Existing Conditions

As shown in Figure SS (back pocket), there are no existing watermains within the subject site. There are existing 250mm diameter watermains located along Ninth Line to the east and Elm Road to the south.

5.4.2 Proposed Water System

As shown in Figure SS (back pocket), a 150mm diameter watermain is proposed along the laneway. The townhouse units within the subject site will be serviced by connections to this proposed 150mm diameter watermain. A fire hydrant is proposed within the internal laneway to provide adequate fire coverage.

6 STORMWATER MANAGEMENT

6.1 Overall Stormwater Management Strategy

As previously mentioned, there are no stormwater management controls located within the site, or generally within this area of Town. The existing storm sewer system also has minimal cover, and as such, the existing homes are fitted with sump pumps. Given the lack of existing stormwater management controls and the shallow storm sewer system site outlet, stormwater management controls were not originally contemplated for the site. Through consultation with the Town of Whitchurch-Stouffville, the municipality is requesting quantity and quality controls, as well as runoff retention.

Given the existing conditions and constraints mentioned above, a best-efforts stormwater management approach has been proposed for the site with technical details provided in the following sections.

6.2 Quality Control

Although there are no existing stormwater quality controls within this area of Town, the municipality has requested runoff quality control meeting MECP “Enhanced” criteria. Given the lack of existing stormwater quality controls within the existing storm sewer system and surrounding area, there is minimal benefit to meeting this criteria as the site discharge would combine with uncontrolled drainage immediately downstream of the site outlet. As per the best-efforts approach mentioned above, certain quality control measures such as goss traps or extra deep sumps within catchbasins, can be implemented to reduce the total suspended solids. These measures will be investigated further during detailed design.

6.3 Quantity Control

Although there are no existing stormwater quantity controls within this area of Town, the municipality has requested post-development to pre-development peak flow control. Given the lack of existing stormwater quantity controls within the existing storm sewer system, a best-efforts stormwater quality control approach is proposed for the subject site to reduce the post-development flows. As such, it is proposed to control the 100-year post development flow to the 5-year post development flow, which is the typical criteria in many municipalities, as it is reasonable that the municipal storm sewers are sized to convey the 5-year post development flows from future sites. As shown below,

the 100-year post development flows will be controlled to the 5-year post development flows:

100-year post development flow	1.199	m ³ /s
5-year post development flow	0.0686	m³/s

This flow will be maintained with an orifice plate on the outlet of MH6. As detailed in Appendix A, an orifice plate with a 164mm diameter will be required. Oversized pipes within the site will provide storage to control the 100-year post development flows to the 5-year release rate specified. The total required volume was found to be 65m³ which will be provided with manhole and storage pipes. Calculations for controlled flows and the required storage volumes can be found in Appendix A.

6.4 Runoff Retention

The Municipality has requested runoff retention on site meeting the greater of the water budget infiltration deficit, or a volume of 5mm over the impervious area. Grounded Engineering has completed a Hydrogeological Assessment, including a water balance, for the site, in which they have noted a small infiltration deficit. Given the small development site area with many constraints, there is limited opportunity to balance this infiltration deficit on the subject site. As such, Grounded Engineering has met with the TRCA and have agreed that the small infiltration deficit can be managed off-site. Fieldgate is currently involved in the development of the Bethesda Road subdivision within the Town of Whitchurch Stouffville, which has a large infiltration surplus. As such, the small infiltration deficit for this site will be mitigated by the large infiltration surplus on the Bethesda Road subdivision. Please refer to the updated Hydrogeological Assessment prepared by Grounded Engineering.

7 EROSION AND SEDIMENTATION CONTROLS

Sedimentation control practices will be implemented for all construction activities within the subject site, including tree removal, topsoil stripping, underground sewer construction, road construction and house construction. Sedimentation control measures are to be installed and operational prior to any construction activity and are to remain in place until such time as the residential dwellings are constructed and the lot grading complete with established sod. In support of the detailed design for the development proposal, a comprehensive construction erosion and sedimentation control plan has been prepared.

8 CONCLUSIONS

Based on the findings of this Servicing Report, the following conclusions are reached:

- The subject lands will be developed as residential land use.
- The site will be graded for residential uses with a “cut and fill” approach satisfying current Town of Whitchurch-Stouffville criteria.
- There are no stormwater management controls located within the site, or generally within this area of Town.
- As a best-efforts approach, stormwater quantity control will be provided for the site using an orifice plate and sewer and manhole storage. The storm sewers have been designed with sufficient storage volume to control the 100-year post development storm event to the 5-year post development release rate with an appropriately sized orifice plate.
- As a best-efforts approach, stormwater quality control measures such as goss traps and/or extra deep sumps within catchbasins will be explored to reduce the total suspended solids.
- For runoff retention, the small infiltration deficit for this site will be mitigated by the large infiltration surplus on the Bethesda Road subdivision.
- The rooftop drainage from the lots will be conveyed to a proposed storm sewer system, ultimately outletting to an existing storm sewer located on Elm Road which drains south along Fairview Avenue. This storm sewer system will also collect minor system drainage from the laneway.
- Sump pumps will be required for each lot as the depth of the existing storm sewer system is too shallow for gravity connections.
- The site will be serviced by a sanitary sewer system, ultimately outletting to an existing sanitary sewer located on Fairview Avenue, south of the subject site.
- The site will be serviced by a proposed watermain along the laneway, with connections to the existing watermain located on Elm Road and Ninth Line
- During each phase of construction, adequate erosion and sedimentation controls must be provided in accordance with TRCA's Sediment and Erosion Control guidelines.

APPENDIX A

STORMWATER MANAGEMENT CALCULATIONS

PROJECT TITLE:		Elm Road		STORM SEWER DESIGN SHEET																ENGINEER'S SEAL							PREPARED BY:			
PROJECT No.:		10-228		5 and 100 Year STORMS																										
CLIENT:		Madori Limited		TOWN OF WHITCHURCH-STOUFFVILLE - REGION OF YORK																										
ISSUED FOR:		February 2026																												
NOTES, STANDARDS AND DESIGN INPUT PARAMETERS																														
Inlet Time (mins):				10.00		IDF Parameters:				Storm: A B C				Formula:				Note:				PVC pipe is manufactured in metric dimensions, therefore, the pipe diameter stated is used to calculate capacity and velocity. However, since concrete pipe is manufactured in imperial dimensions, standard imperial equivalent sizes for the diameter stated have been used to calculate capacity and velocity.								
Run-off Coefficients:				Park/Open Space		0.20		5 - Year				1015.96		5.255		0.826		$I_{yr} = \frac{A}{(t + B)^C}$												
				Single Family		0.65		25 - Year				1546.81		5.746		0.845		where; $I_m =$												
				Townhouses		0.75		100 - Year				2051.71		6.230		0.860		$I_m =$												
				Institutional		0.75																								
				Commercial/Asphalt		0.90																								
				Other (if applicable)		0.76																								
Design Storm Return Period Run-off Coefficient Modification Factor																														
		5		1.00																										
		25		1.10																										
		100		1.25																										



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CONSULTING ENGINEERS

PROPERTY	STREET	Upstream Manhole	Downstream Manhole	A Park/Open Space (ha)	A Single Family Res. (ha)	A Multi- Family Res. (ha)	A Institutional (ha)	A Commercial / Asphalt (ha)	A Other - Specified Above (ha)	A x R This Section (ha)	Acc. AR (ha)	t (min)	I (5yr) (mm/hr)	Q (5yr) (l/s)	I (25yr) (mm/hr)	Q (25yr) (l/s)	I (100yr) (mm/hr)	Q (100yr) (l/s)	Captured Overland Flow (l/s)	Acc. Captured Overland Flow (l/s)	Q(design) (l/s)	Q OTTSWMM for HGL (l/s)	Type	Pipe (mm)	Grade (%)	Capacity (l/s)	Length (m)	Velocity (m/s)	Down- stream Velocity (m/s)	Change in Velocity (m/s)	Time (min)	Total Time (min)	Capacity (%)				
		1	2			0.04				0.030	0.030	10.00	107.00	8.92	150.60	12.55	186.74	15.56		0.00	8.92		CONC	600	0.30	350.85	74.0	1.20	1.39	0.19	1.03	11.03	3%				
		2	3							0.000	0.030	11.03	101.40	8.45	142.78	11.90	177.15	14.76		0.00	8.45		CONC	750	0.30	636.13	11.0	1.39	1.10	0.30	0.13	11.16	1%				
		3	4			0.10				0.075	0.105	11.16	100.73	29.38	141.84	41.37	176.00	51.33		0.00	29.38		CONC	525	0.30	245.74	18.4	1.10	0.99	0.11	0.28	11.44	12%				
		4	5			0.18				0.135	0.240	11.44	99.33	66.22	139.89	93.26	173.61	115.74		0.00	66.22		CONC	450	0.30	162.91	56.0	0.99	1.58	0.58	0.94	12.38	41%				
		5	6			0.03				0.023	0.263	12.38	94.94	69.23	133.73	97.51	166.03	121.07		0.00	69.23		CONC	900	0.30	1034.42	20.0	1.58	1.12	0.45	0.21	12.59	7%				
		6	Ex							0.000	0.263	12.59	94.01	68.55	132.43	96.56	164.43	119.90		0.00	68.55		PVC	375	0.50	123.98	4.0	1.12	N/A		0.06	12.65	55%				
TOTAL TRIBUTARY AREA				0.00	0.00	0.35	0.00	0.00	0.00	0.263																											

Manning's Calculator**(Right-of way Flow)****Right-of-way Geometry**

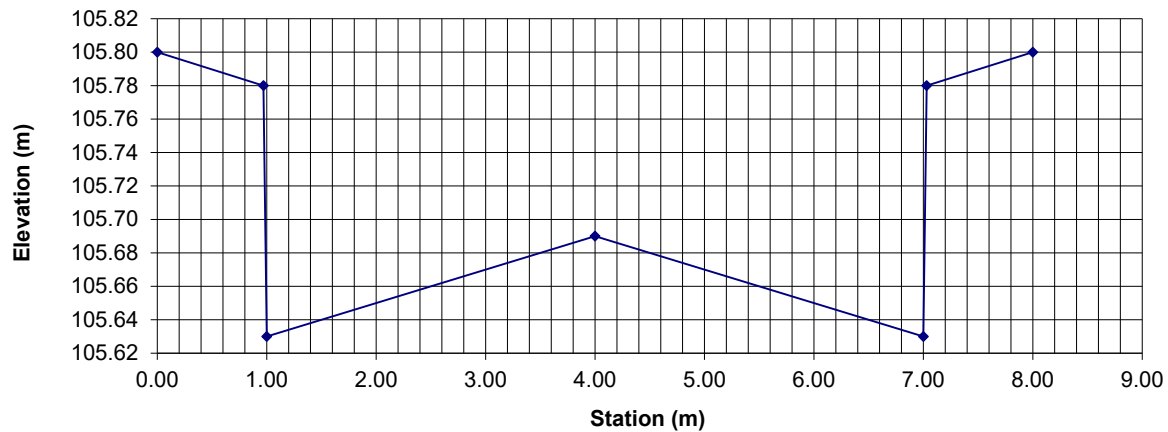
		Manning's	(composite)
Total ROW width =	8.00 m	0.016	
Pavement Width =	6.00 m	0.013	
Sidewalk width =	1.00 m	0.013	
Sidewalk BLVD width =	1.00 m	0.035	
Other BLVD width =	1.00 m	0.035	

Road Grade =	1.1100000%
Pavement Cross fall =	2.00%
Sidewalk BLVD slope =	2.00%
Other BLVD slope =	2.00%

Point	Station (m)	Elevation (m)
Sidewalk BLVD	0.00	105.80
Top of Curb	0.97	105.78
Bottom of Curb	1.00	105.63
Centerline	4.00	105.69
Bottom of Curb	7.00	105.63
Top of Curb	7.03	105.78
Other BLVD	8.00	105.80

Job Number: **10:228**

Description: Flow capacity calculations for a full 8.0m R.O.W. Max peak flow is taken from the storm design sheet as Q100-Q25.

Max peak flow = 0.020 m³/s**Right-of-way Cross Section****Flow Capacity**Gutter Flow

Area = 0.725 m²
Wetted Perimeter = 6.30 m
Hydraulic Radius = 0.115 m
Velocity = 1.918 m/s
Flow = 1.3914054 m³/s

One Lane

Area = 0.70610947 m²
Wetted Perimeter = 15.0162 m
Hydraulic Radius = 0.04702312 m
Velocity = 1.05582626 m/s
Flow = 0.746 m³/s

Right-of-way Flow

Area = 0.866 m²
Wetted Perimeter = 8.240 m
Hydraulic Radius = 0.105 m
Velocity = 1.490 m/s
Flow = 1.29 m³/s

The flattest segment of the 8.0m R.O.W has a capacity of 1.29 m³/s, therefore the R.O.W has sufficient capacity to convey the major overland flow of 0.02 m³/s.

For CONTROL MH6

ORIFICE PLATE CALCULATOR

Normal Operating Conditions

Req. Flow	0.069	m ³ /s	Input Variables
H _{max}	271.38	m	
Pipe Invert	269.87	m	
C	0.62		
Head	1.43	m	
Diameter	164	mm	

$$Q = CA\sqrt{2gh}$$

$$Q = \left[0.620 \right] \left[0.021 \right] \left[2 \times 9.81 \times 1.43 \text{ m} \right]^{1/2}$$

$$Q = 0.069 \text{ m}^3/\text{s}$$

STORM STORAGE QUANTITY REQUIREMENTS
100-YEAR POST To 5-YEAR POST
Storage Requirements
Town of Whitchurch-Stouffville
2026-02-04

Storm Intensity Curve	2-year	100-year
A	696.679	2051.707
B	4.957	6.230
C	0.811	0.860
Intensity (mm/hr)	77.67	186.74

Time of Concentration = 10.0 minutes

Existing Conditions	Area (ha)	Runoff Coefficient
Pervious	0.36	0.20
Total AR	0.072	

5-year post flow = 0.069 m³/s

Proposed	Area (ha)	Runoff Coefficient
	0.36	0.75
Total AR	0.270	

ENTRY TIME: 5.0 min
TIME STEP 1.0 min

S.F. 1.25

TIME	INTENSITY (mm/hr)	*PEAK DISCHARGE (m ³ /s)	RUNOFF VOLUME (m ³)	RELEASE VOLUME (m ³)	STORAGE VOLUME (m ³)
5.0	256.3	0.240	72.1	20.6	51.5
6.0	238.2	0.223	80.4	24.7	55.7
7.0	222.6	0.209	87.7	28.8	58.9
8.0	209.1	0.196	94.1	32.9	61.2
9.0	197.2	0.185	99.9	37.0	62.8
10.0	186.7	0.175	105.1	41.1	63.9
11.0	177.4	0.166	109.8	45.2	64.5
12.0	169.0	0.158	114.1	49.4	64.7
13.0	161.4	0.151	118.0	53.5	64.6
14.0	154.5	0.145	121.7	57.6	64.1
15.0	148.2	0.139	125.1	61.7	63.4
16.0	142.5	0.134	128.2	65.8	62.4
17.0	137.2	0.129	131.2	69.9	61.3
18.0	132.3	0.124	134.0	74.0	59.9
19.0	127.8	0.120	136.6	78.1	58.4
20.0	123.6	0.116	139.0	82.3	56.8
21.0	119.7	0.112	141.4	86.4	55.0
22.0	116.0	0.109	143.6	90.5	53.1
23.0	112.6	0.106	145.7	94.6	51.1
24.0	109.4	0.103	147.7	98.7	49.0
25.0	106.4	0.100	149.6	102.8	46.8
26.0	103.5	0.097	151.4	106.9	44.5
27.0	100.8	0.095	153.2	111.1	42.1
28.0	98.3	0.092	154.8	115.2	39.7
29.0	95.9	0.090	156.4	119.3	37.2
30.0	93.6	0.088	158.0	123.4	34.6
31.0	91.4	0.086	159.5	127.5	32.0
32.0	89.4	0.084	160.9	131.6	29.3
33.0	87.4	0.082	162.3	135.7	26.6
34.0	85.5	0.080	163.6	139.8	23.8
35.0	83.8	0.079	164.9	144.0	21.0
36.0	82.1	0.077	166.2	148.1	18.1
37.0	80.4	0.075	167.4	152.2	15.2
38.0	78.8	0.074	168.6	156.3	12.3
39.0	77.3	0.073	169.7	160.4	9.3
40.0	75.9	0.071	170.8	164.5	6.3
41.0	74.5	0.070	171.9	168.6	3.2
42.0	73.2	0.069	172.9	172.7	0.2
43.0	71.9	0.067	173.9	176.9	-2.9
44.0	70.7	0.066	174.9	181.0	-6.0
45.0	69.5	0.065	175.9	185.1	-9.2
46.0	68.3	0.064	176.9	189.2	-12.3
47.0	67.2	0.063	177.8	193.3	-15.5
48.0	66.2	0.062	178.7	197.4	-18.7
49.0	65.1	0.061	179.6	201.5	-22.0
50.0	64.1	0.060	180.4	205.7	-25.2
51.0	63.2	0.059	181.3	209.8	-28.5
52.0	62.2	0.058	182.1	213.9	-31.8
53.0	61.3	0.058	182.9	218.0	-35.1
54.0	60.5	0.057	183.7	222.1	-38.4
55.0	59.6	0.056	184.4	226.2	-41.8
56.0	58.8	0.055	185.2	230.3	-45.1
57.0	58.0	0.054	185.9	234.4	-48.5
58.0	57.2	0.054	186.7	238.6	-51.9
59.0	56.5	0.053	187.4	242.7	-55.3
60.0	55.7	0.052	188.1	246.8	-58.7

THEREFORE THE MAXIMUM VOLUME REQUIRED = 65 m³
TIME DURATION REQUIRED TO OBTAIN MAXIMUM STORAGE = 12 min

MANHOLE AND PIPE STORAGE
MADORIA LIMITED
TOWN OF WHITCHURCH-STOUFFVILLE
2026-02-04

Total Required Volume = 65 m³ (From Underground Storage Requirements)
Ponding Elevation = 271.38 m (Refer to Orifice Calculation)

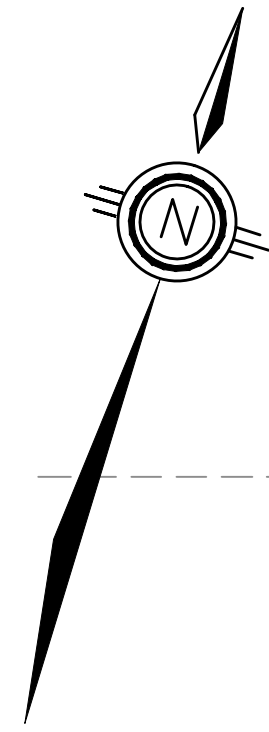
Manhole Storage						
Manhole Number	1	2	3	4	5	6
Manhole Diameter (mm)	1200	1800	1500	1200	1800	1800
Lowest Invert Elevation (m)	270.70	270.40	270.31	270.20	269.97	269.87
Depth of Storage (m)	0.68	0.98	1.07	1.18	1.41	1.51
Storage Volume (m³)	0.8	2.5	1.9	1.3	3.6	3.8

Manhole Storage available = 13.9 m³

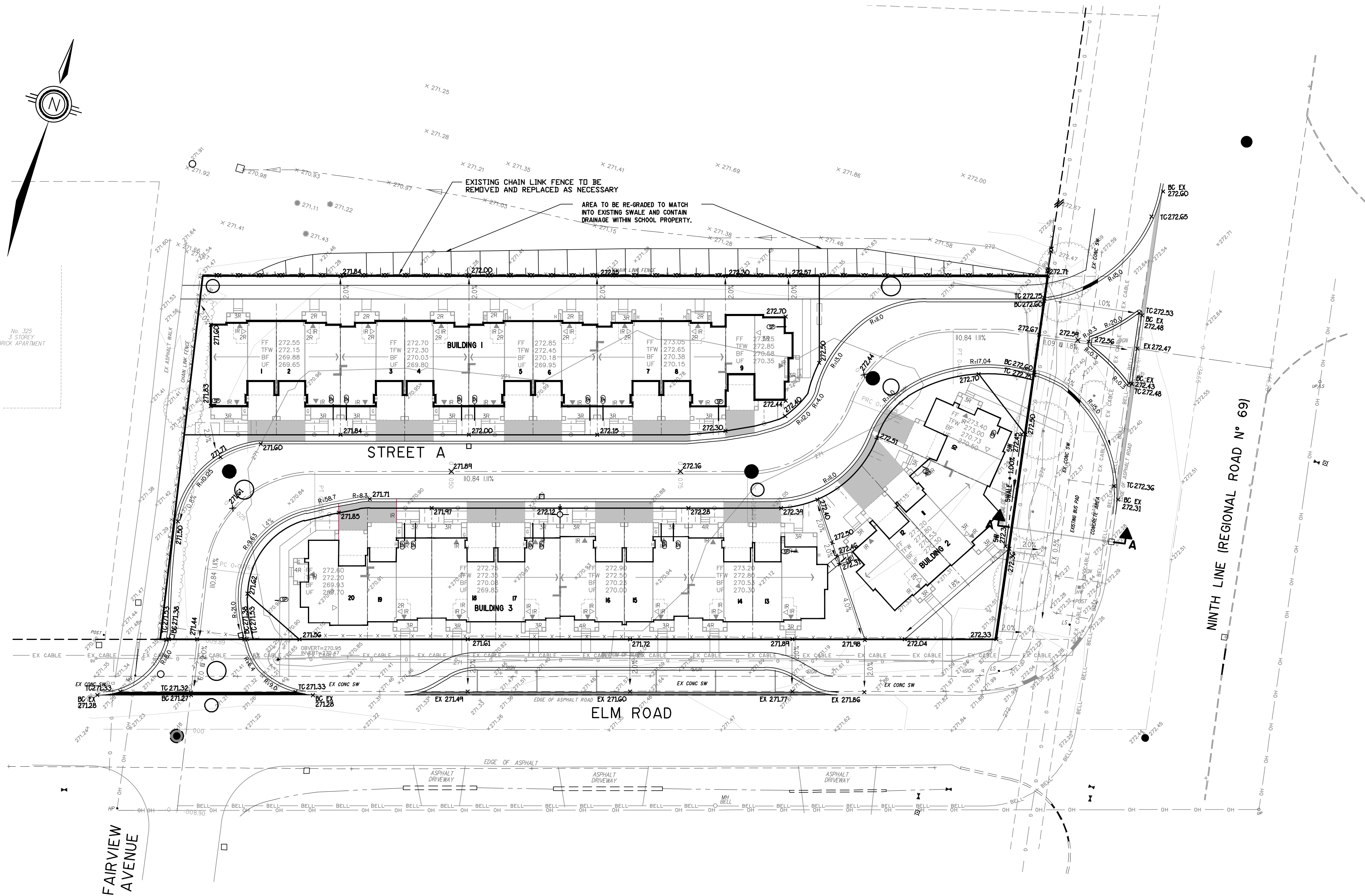
Pipe Storage					
	1-2	2-3	3-4	4-5	5-6
Nominal Diameter (mm)	600	750	525	450	900
Actual Diameter (mm)	600	750	525	450	900
Length of pipe (m)	74.0	11.0	18.4	56.0	20.0
Available Storage Length (m)	74.0	11.0	18.4	56.0	20.0
Depth at Upstream manhole (m)	270.970	270.660	270.560	270.330	269.970
Pipe Fully Submerged	NO	YES	YES	YES	YES
Volume/m (m²)	0.283	0.442	0.216	0.159	0.636
Storage Volume (m³)	20.9	4.9	4.0	8.9	12.7

Pipe Storage available = 51.4 m³

Total Pipe and Manhole Storage = 66.0 m³



No. 329
3 STOREY
BRICK APARTMENT



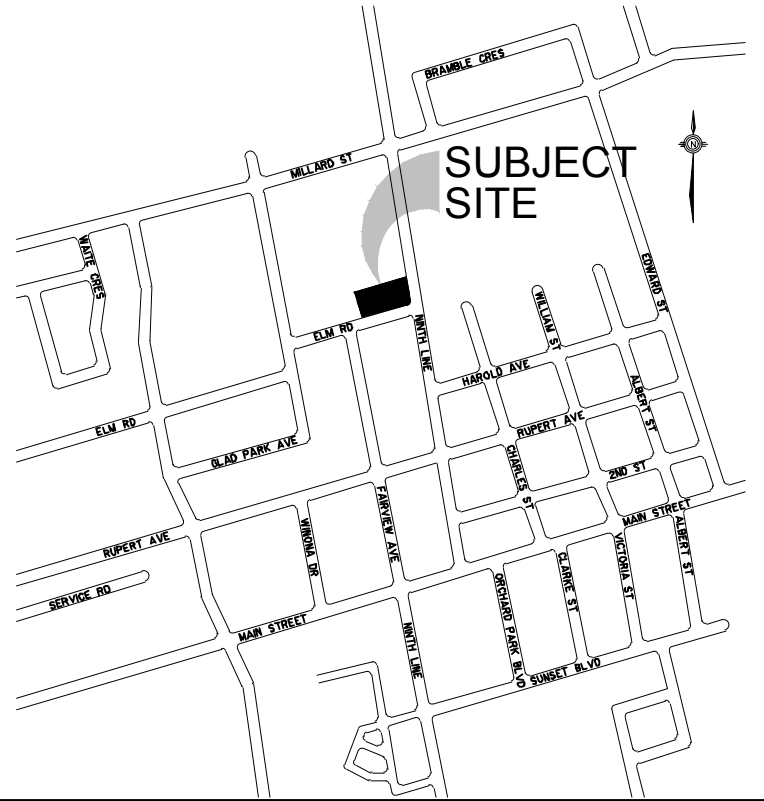
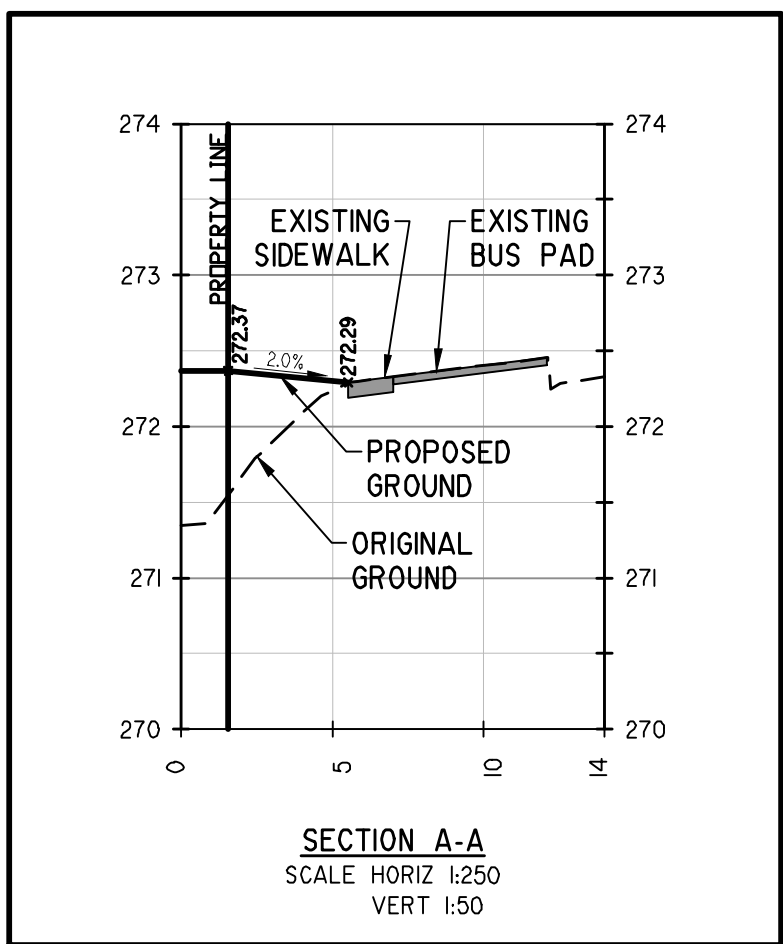
FAIRVIEW AVENUE

STREET A

ELM ROAD

NINTH LINE (REGIONAL ROAD N° 69)

EXISTING CHAIN LINK FENCE TO BE
REMOVED AND REPLACED AS NECESSARY.
AREA TO BE RE-GRADED TO MATCH
INTO EXISTING SWALE AND CONTAIN
DRAINAGE WITHIN SCHOOL PROPERTY.



KEYMAP N.T.S.

- LEGEND:
- 306.80
 - EX 306.80
 - 4.3%
 - PROPOSED GRADING
 - EXISTING GRADE
 - PROPOSED SLOPE
 - PROPOSED SWALE
 - PROPOSED 3:1 SLOPE
 - PROPOSED STORM MANHOLE
 - PROPOSED SANITARY MANHOLE
 - PROPOSED CATCHBASIN MANHOLE
 - EXISTING SANITARY MANHOLE
 - EXISTING CATCHBASIN MANHOLE
 - EXTENTS
 - PROPOSED SUMP PUMP

BENCHMARK NOTE:
ELEVATIONS SHOWN ARE RELATED TO GEODETIC DATUM,
DERIVED FROM MTC PRECISE BENCHMARK No. 778474.
ELEVATION 268.917 METRES

NOTE: ALL DIMENSIONS AND ELEVATIONS IN METRES
UNLESS NOTED OTHERWISE. ALL PIPE SIZES IN MILLIMETRES.

No.	REVISIONS TO DRAWING	BY	DATE	APPR.
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ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

CLIENT

MADORI LIMITED

MUNICIPALITY
TOWN OF WHITCHURCH-STOUFFVILLE
REGIONAL MUNICIPALITY OF YORK

PROJECT TITLE

ELM ROAD

SHEET TITLE

SITE GRADING PLAN

SKA SABOURIN KIMBLE
& ASSOCIATES LTD.
CONSULTING ENGINEERS



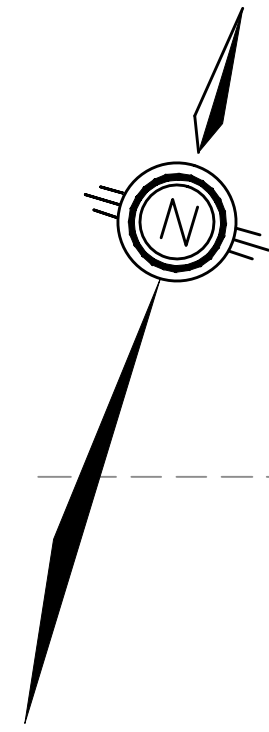
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SCALE 1:250 DATE FEBRUARY 2026

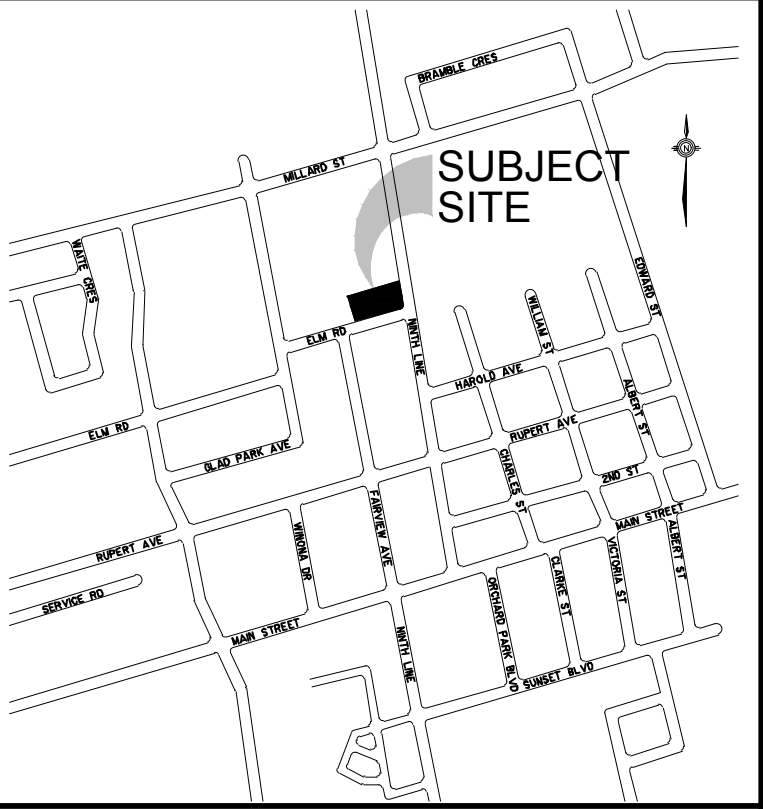
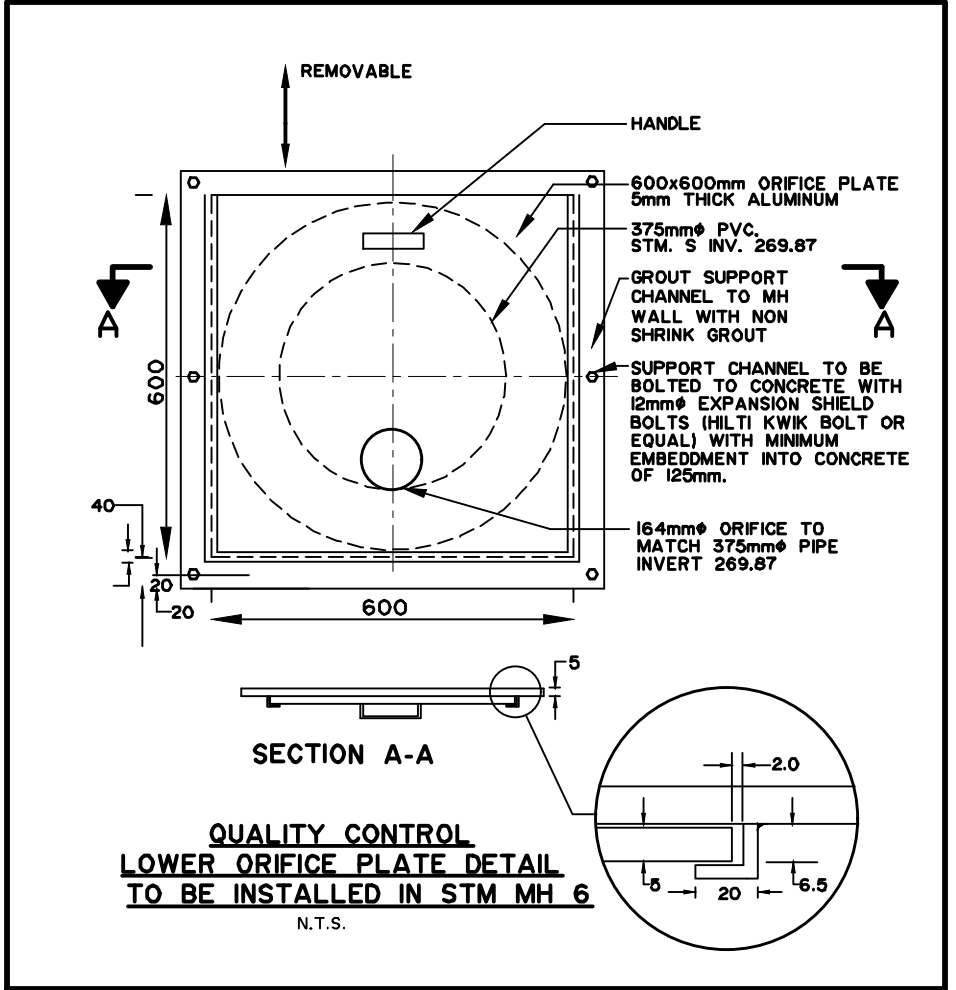
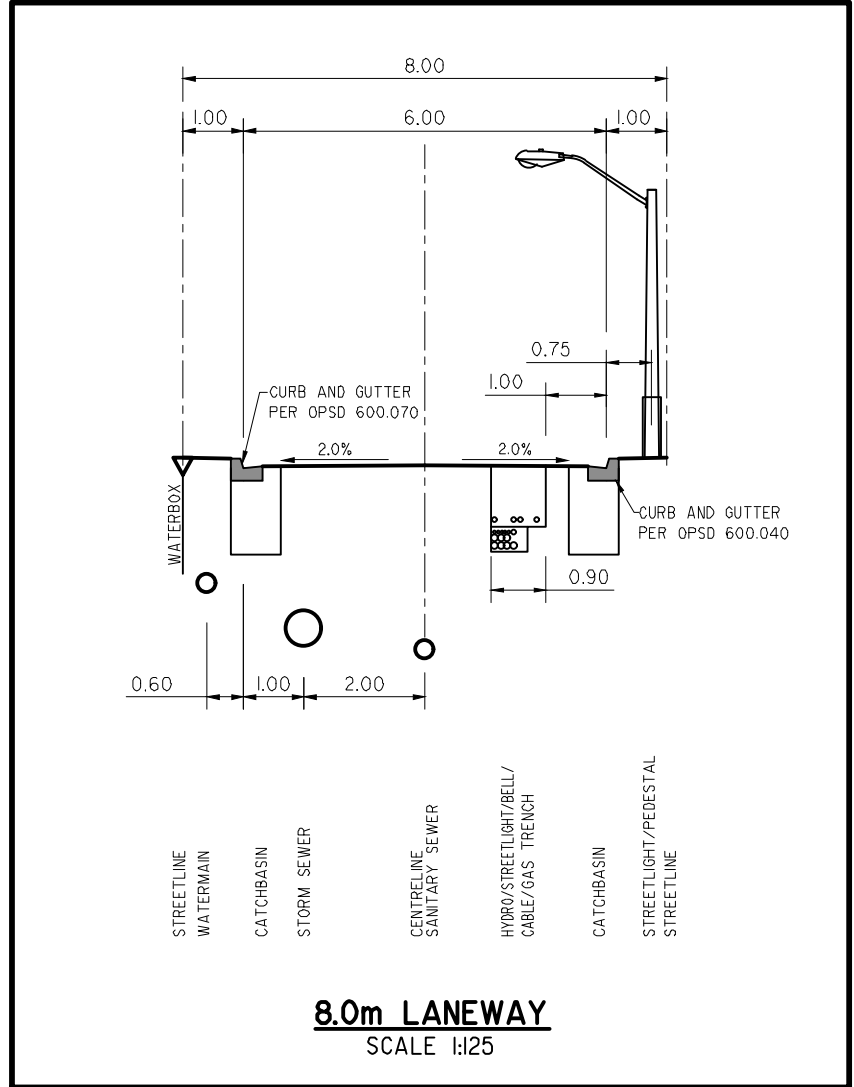
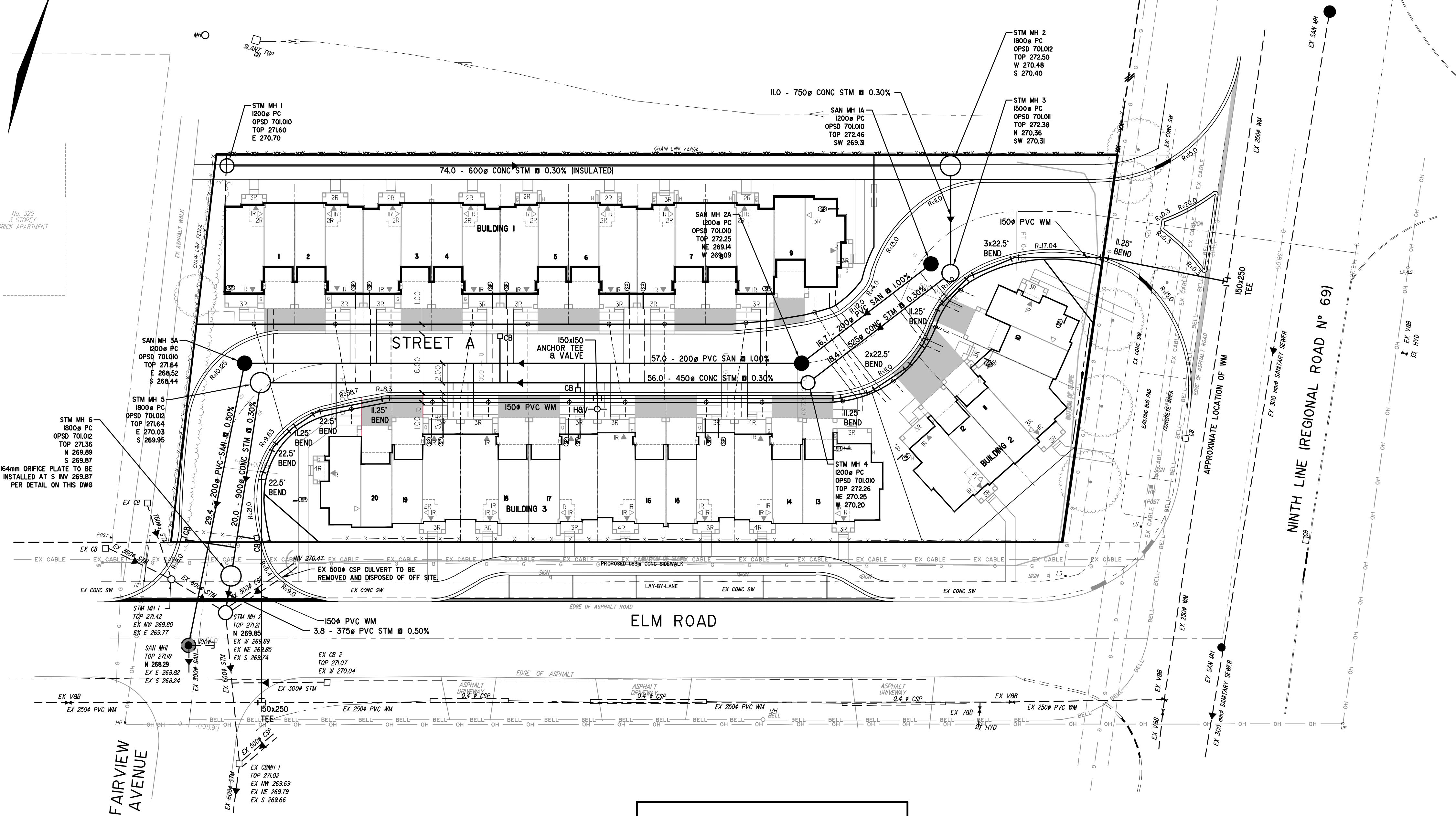
PROJECT NUMBER DWG. NUMBER

10:228

SG



No. 329
3 STOREY
BRICK APARTMENT



KEYMAP N.T.S.

- LEGEND:
- PROPOSED STORM MANHOLE
 - PROPOSED SANITARY MANHOLE
 - PROPOSED CATCHBASIN MANHOLE
 - PROPOSED PIPE FLOW DIRECTION
 - EXISTING PIPE FLOW DIRECTION
 - ⊥ PROPOSED VALVE AND BOX
 - ⊥ PROPOSED HYDRANT AND VALVE
 - ⊥ PROPOSED SUMP PUMP

BENCHMARK NOTE:
ELEVATIONS SHOWN ARE RELATED TO GEODETIC DATUM,
DERIVED FROM MTC PRECISE BENCHMARK NO. 778474.
ELEVATION 268.917 METRES

NOTE: ALL DIMENSIONS AND ELEVATIONS IN METRES
UNLESS NOTED OTHERWISE, ALL PIPE SIZES IN MILLIMETRES.

No.	REVISIONS TO DRAWING	BY	DATE	APPR.

ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

CLIENT
MADORI LIMITED

MUNICIPALITY
TOWN OF WHITCHURCH-STOUFFVILLE
REGIONAL MUNICIPALITY OF YORK

PROJECT TITLE
ELM ROAD

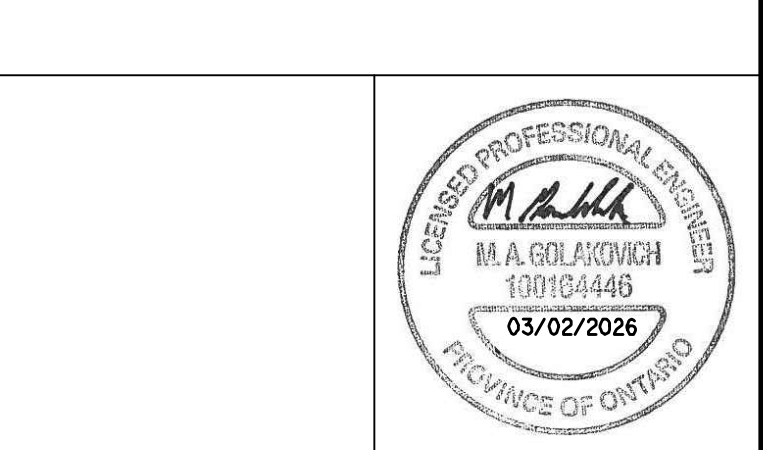
SHEET TITLE
SITE SERVICING PLAN

DESIGNED **MAG** DRAWN **SWS** CHECKED **MAG**

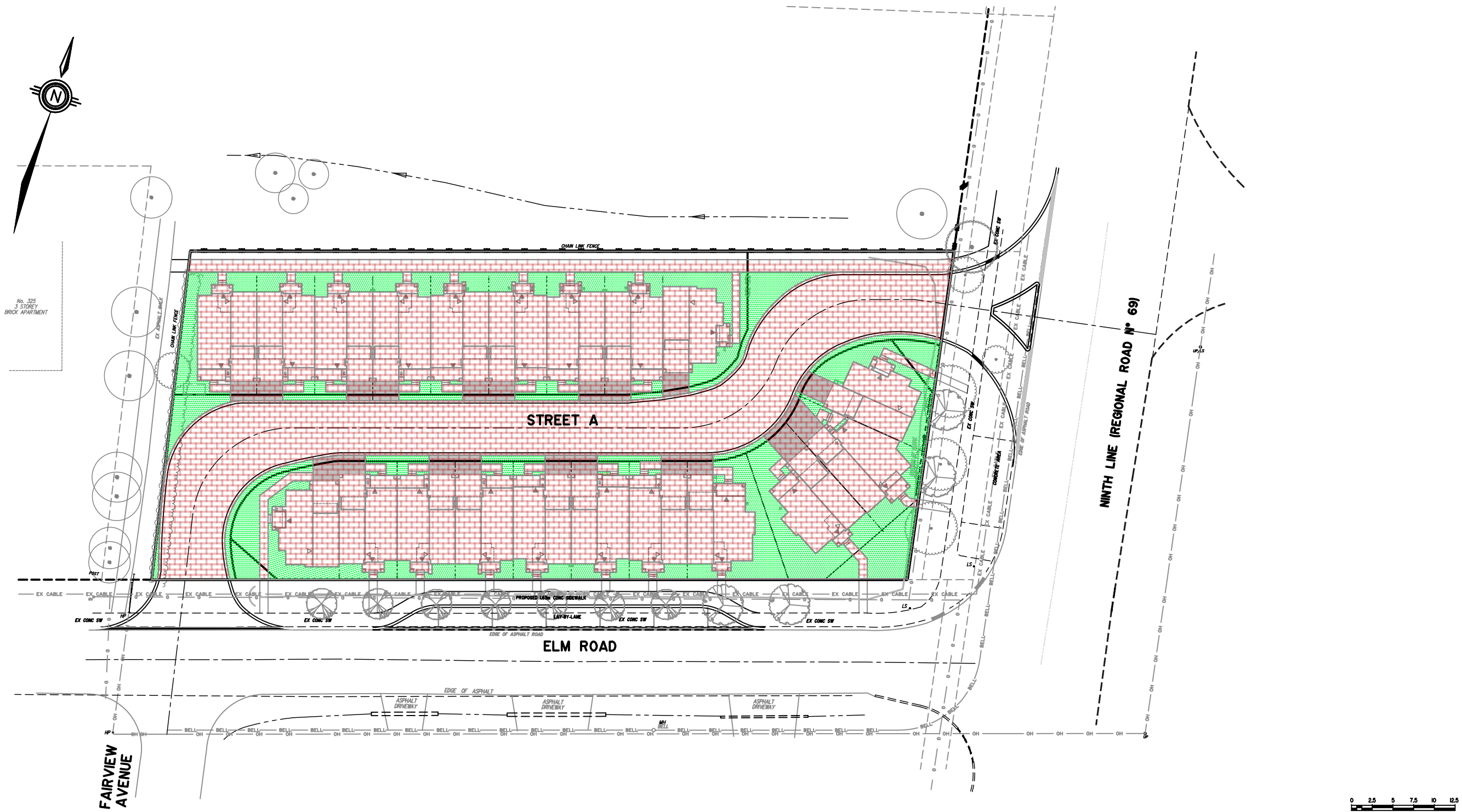
SCALE **1:250** DATE **FEBRUARY 2026**

PROJECT NUMBER **10:228** DWG. NUMBER **SS**

SKA SABOURIN KIMBLE & ASSOCIATES LTD. CONSULTING ENGINEERS



CAD FILE: P:\NO\228\Drawing Files\Phase 1\Figures\228 Percent Impervious Calc.dwg



AREAS

PERVIOUS AREA	= 0.075 ha	0.2
IMPERVIOUS:		
BUILDING AREA	= 0.113 ha	
ROAD AREA	= 0.085 ha	
WALKWAY/DRIVEWAY	= 0.081 ha	
TOTAL	= 0.279 ha	0.9

TOTAL: 0.354 ha 0.75

**RUNOFF
COEFFICIENT**

LEGEND:

-  PERVIOUS AREA
-  IMPERVIOUS AREA

1:500

**PERCENT IMPERVIOUS
CALCULATIONS**



PROJECT NUMBER
10,228

FIGURE NO.
IMP