



October 6, 2025

File No.: 51-115-007-0275

Nathan Eriksson, P.Eng.
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Suite #300, 10220 103 Avenue NW
Edmonton AB T5J 0K4

**RE: Acceptance - MacEwan Lands - 11520 Ellerslie Road SW Drainage Servicing
Report - 4th Submission**

Planning Coordination (Drainage) has reviewed the 11520 Ellerslie Road SW Drainage Servicing Report, dated September 30, 2025 and has no further requirements regarding the sanitary and stormwater servicing for the subject lot.

If you have any questions or comments, please contact Eric Cheung at 587-944-1955 or at eric.cheung@edmonton.ca.

Sincerely,

A handwritten signature in green ink, appearing to read "Eric Cheung".

Eric Cheung, P.Eng.
Development Engineer,
Development Services, Urban Planning and Economy

EC

Cc: Syeda Khan, Urban Planning and Economy



Drainage Servicing Report

MacEwan Lands

11520 Ellerslie Road SW,
Plan 1548MC LotB

Streetside Development Corp.

September 30, 2025

Prepared for:

City of Edmonton

Prepared by:

Stantec Consulting Ltd.
Suite #300, 10220 – 103 Ave NW
Edmonton, AB, T5J 0K4

1161-112445



DRAINAGE SERVICING REPORT

MacEwan Lands

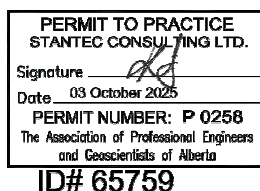
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Prepared by  Digitally signed by Annett, Miranda
Reason: I am the author of this document
Date: 2025.10.01 07:34:45-06'00'
(signature)

Miranda Annett, E.I.T.

Reviewed by 
(signature)

Nathan Eriksson, P. Eng



DRAINAGE SERVICING REPORT

MacEwan Lands

September 30, 2025

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1.0 INTRODUCTION

1.1 SITE INFORMATION AND PURPOSE OF REPORT

The purpose of this storm and sanitary servicing study completed for Streetside Development Corp. is to provide support for the proposed redevelopment of a former church site in the MacEwan neighbourhood. Streetside is proposing rezoning and subdividing the lot at 11520 Ellerslie Road SW into two medium scale residential lots: Lot 1 (south, RMh23) and Lot 2 (north, RMh16). The subject area is bordered by Ellerslie Road SW to the south, McLean Crescent to the west, MacEwan Road to the north and McMullen Place and McMullen Green to the west. The total redevelopment area is 8.11 ha, of which 2.04 ha will become Lot 1 and 6.07 ha will become Lot 2. **Figure 1.0** identifies the location of the proposed redevelopment and is shown on the following page as well as in **Appendix A**. The existing site drainage plan is shown in **Figure 2.0** in **Appendix A**.

The servicing of this site was previously accounted for in the MacEwan Neighbourhood NDR. As such, the downstream storm and sanitary systems in existing MacEwan stages were designed to accommodate flows from the subject lands and are sized to accommodate future residential development. The servicing of the site was reviewed, including downstream capacity, in this report to ensure that the existing systems can support the proposed subdividing and rezoning. As proposed in the MacEwan NDR, the intended tie-in points for the study area for both storm and sanitary were in the north, in proposed Lot 2. This report still proposes that the original tie-in points will be utilized for both lots, but there are two different options that have been explored to connect Lot 1's services to the existing connections. Option 1 has storm and sanitary services for Lot 1 running along the east property line in an easement, whereas Option 2 has storm and sanitary services following the proposed private internal road network of Lot 2 south to Lot 1. **Figures 3.0** and **4.0** in **Appendices B** and **C** respectively show the proposed layouts for each option.

1.2 EXISTING CONDITIONS

The proposed Lots 1 and 2 are surrounded by existing single family residential as well as multi-family developments, with a commercial development just to the east at Ellerslie Road and 111th Street. Currently, the south part of the site has one large building and a parking lot, and the north portion of the site is grassed field. See **Figure 1.0** for an aerial image of the area and site location plan.

1.3 BACKGROUND INFORMATION

The information presented in this report is based on the review of the following information:

- As-built drawings on file with the City of Edmonton (COE) for the external services on bordering roads (MacEwan Road, McMullen Green, McMullen Place, and Ellerslie Road SW)
- EPCOR Design Standards and Specifications
- Drainage Servicing Report – Terms of Reference

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Figure 1.0 – Site Location Plan

2.0 EXISTING SERVICES AND CAPACITY

2.1 APPROACH TO DOWNSTREAM STORM AND SANITARY CAPACITY REVIEW

Below is an analysis of the existing storm and sanitary systems for the subject area. This report outlines the anticipated changes in flows to the system, provides context for future discussions and recommendations for site servicing based on an interpretation of the downstream capacity.

2.2 EXISTING STORM SERVICES AND DESIGN FLOWS

The existing site is pre-serviced by a 750mm storm pipe through an easement in the northeast corner. This service ties into storm sewer laterals under MacEwan Road and was constructed with MacEwan Stage 2. This 750mm storm service is sized to accommodate flows of 1,104 L/s, based on 7.90ha with a combined runoff coefficient of 0.65. The existing service stub has an invert elevation of 682.000m and connects to existing MH 145 in the easement. **Table 2.1** summarizes the capacity of the service and the downstream pipes.

Table 2.1 – Existing Storm Sewer Capacity

Location	From MH	To MH	Length (m)	Pipe Dia. (mm)	Slope (%)	Cap. (L/s)
Easement at Northwest corner	Ex. Plug A	Ex 145	6.37	750	1.00	1,161
	Ex 145	Ex 126	39.75	750	1.00	1,161
Downstream Storm on MacEwan Drive	Ex 126	Ex 127	48.12	1050	0.65	2,298
	Ex 127	Ex 128	124.47	1200	0.22	1,907

As-built drawings of the existing infrastructure in **Appendix A** show the existing sewer locations and profiles.

2.3 EXISTING SANITARY SERVICES AND NETWORK

Sanitary flows for the subject site were accounted for in the existing sanitary sewer system under McMullen Place, and were constructed with MacEwan Stage 13. The existing sanitary sewer terminates at MH32B, at the west end of the road, 1.5m from the property line. The invert elevation of this manhole is 681.463m **Table 2.2** summarizes the capacity of the existing pipes. As-built drawings in **Appendix A** show the existing sewer locations and profiles.

Table 2.2 – Existing Sanitary Sewer Capacity

Location	From MH	To MH	Length (m)	Pipe Dia. (mm)	Slope (%)	Cap. (L/s)
Existing Sanitary - McMullen Place	Ex 32B	Ex 32A	114.24	200	0.89	30.9
	Ex 32A	Ex Plug	40.69	200	0.48	22.7
	Ex Plug	Ex 32	23.83	200	1.00	32.8

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3.0 COMMON DESIGN CRITERIA

An analysis of the proposed storm and sanitary servicing of the site was conducted, using the updated total development area of 8.11ha and the proposed zonings of RMh23 (Lot 1) and RMh16 (Lot 2).

For the storm analysis, RMh16 and RMh23 have runoff coefficients (c) of 0.7 and 0.75, respectively, according to Addendum #2 to Volume 3-02 of EPCOR's Stormwater Management and Design manual. To be conservative, a c value of 0.75 has been used in this analysis.

For the sanitary analysis, RMh16 and RMh23 zoned lots have a net units per hectare of 80 and 125 respectively. The number of people per unit was set at 2.98 based on the MacEwan NASP (Office Consolidation, June 2021).

4.0 PROPOSED STORM AND SANITARY SERVICING – OPTION 1

4.1 PROPOSED MINOR STORM SERVICING – OPTION 1

In Option 1, existing stub A will be replaced by a manhole, designated as MH A. Lot 2 storm will be serviced by a 750mm stub off proposed MH A at the northeast corner of the lot, at the lot. Lot 1 will be serviced via an easement that runs along the east property line of Lot 2, which is the shortest possible run to service this lot. A 525mm service will be installed for Lot 1 and will continue north in the easement for 302m where it will connect to proposed MH A in the northeast corner. **Table 4.1** summarises the internal pipe network calculations, and the detailed calculations are included in **Appendix B**.

Table 4.1 – Proposed Storm Sewer Flow – OPTION 1

From MH	To MH	Area Added (ha)	Length (m)	Pipe Dia. (mm)	Slope (%)	Des. (L/s)	Cap. (L/s)	Des/Cap	Sub/Super critical
Lot 1	D	2.04	10.00	525	1.00	326	448	0.73	Sub
D	C	0.00	92.87	600	0.30	324	351	0.92	Sub
C	B	0.00	89.17	600	0.30	304	351	0.87	Sub
B	Ex. Stub A	0.00	120.03	600	0.30	288	351	0.82	Sub
Lot 2	Ex. Stub A	6.07	16.27	750	1.00	970	1,161	0.83	Super
Ex Stub A	Ex 145	0.00	6.37	750	1.00	1,066	1,161	0.92	Super

The storm servicing of the site in Option 1 meets the minimum slope and cover requirements in EPCOR's Design and Construction Standards. **Figure 3.0** in **Appendix B** shows an overview of Option 1 storm servicing.

It should be noted that the existing pipes from existing stub A through MH 145 to MH 126 are supercritical. This is because the existing pipes were set at a 1% slope. As this is existing and provides sufficient capacity, EPCOR and the COE will need to confirm if this is acceptable. The existing pipes downstream of MH 126 are subcritical. It should also

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be noted that the proposed design flow of 1,066 L/s is lower than what the downstream system was designed to accommodate (1,104 L/s).

4.2 PROPOSED MAJOR STORM DRAINAGE – OPTION 1

In Option 1, the major drainage for the proposed development will be directed to the two existing roads on the east side of the lot that were constructed with MacEwan Stage 13. The elevations along the west, north and east property lines of Lot 2 are set because of the existing homes and this dictates the general major drainage flow direction. Major storm will therefore be directed from west to east via the internal roadways until it reaches the proposed access point off McMullen Place. Lot 1 major drainage will be directed to the east to a swale within the proposed drainage easement. The swale will run along the eastern property line from Lot 1 north until it is discharged at McMullen Green. **Figure 3.1** in **Appendix B** shows an example of the major drainage for Option 1.

4.3 PROPOSED SANITARY SERVICING – OPTION 1

In Option 1, Lot 2 sanitary will be serviced by a 200mm stub into a new manhole, designated as MH 10, inside the property line adjacent adjacent to existing MH 32B in McMullen Place. A 200mm sewer line will tie MH 10 to existing MH32B. Similar to storm, Lot 1 will be serviced via an easement that runs along the east property line of Lot 2, which is the shortest possible run to service this lot. A 200mm service will be installed for Lot 1 and will continue north in the easement for 182m where it will connect to MH 10. **Table 4.2** summarises the internal pipe network calculations, and the detailed calculations are included in **Appendix B**.

Table 4.2 – Proposed Sanitary Sewer Flow – OPTION 1

From MH	To MH	Area Added (ha)	Length (m)	Pipe Dia. (mm)	Slope (%)	Design Flow (L/s)	Cap. (L/s)	Design/Cap	Full Velocity (m/s)
Lot 1	30	2.04	6.00	200	1.00	4.0	32.8	0.12	1.044
30	20	0.00	97.63	200	0.40	4.0	20.7	0.20	0.660
20	10	0.00	84.02	200	0.40	4.0	20.7	0.20	0.660
Lot 2	10	6.07	6.00	200	1.00	7.6	32.8	0.23	1.044
10	Ex 32B	0.00	7.00	200	0.40	11.0	20.7	0.53	0.660

The sanitary servicing of the site in Option 1 meets the minimum slope and cover requirements in EPCOR's Design and Construction Standards. **Figure 3.0** in **Appendix B** shows an overview of Option 1 sanitary servicing. The proposed design flow of 11.0 L/s at MH 32B is less than what the system was designed for (12.9 L/s).

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5.0 PROPOSED STORM AND SANITARY SERVICING – OPTION 2

5.1 PROPOSED MINOR STORM SERVICING – OPTION 2

In Option 2, the two new lots will be serviced by pipes which follow the proposed private internal road alignment of the future development. This option results in longer pipe runs to reach the existing service stub in the northeast corner. By running the pipes under the proposed roads, there is more flexibility in building configuration by eliminating the need for an easement along the east property line; however, easements within the roadway will be required to facilitate the cross-lot servicing. The storm network within the internal private road layout of Lot 2 that services Lot 1 will be subject to EPCOR standards and will pick up Lot 2's flows at various manholes before connecting to the existing stub. **Table 5.1** summarises the internal pipe network calculations, and the detailed calculations are included in **Appendix C**.

Table 5.1 – Proposed Storm Sewer Flow – OPTION 2

From MH	To MH	Area Added (ha)	Length (m)	Pipe Dia. (mm)	Slope (%)	Des. (L/s)	Cap. (L/s)	Des/Cap	Sub/Super critical
Lot 1	H	2.04	8.20	525	1.00	326	448	0.73	Sub
H	G	0.00	76.38	600	0.30	325	351	0.92	Sub
G*	F	0.90	74.38	675	0.30	444	481	0.92	Sub
F*	E	0.90	100.08	750	0.30	554	636	0.87	Sub
E*	C	1.79	97.80	750	0.45	771	779	0.99	Sub
C*	B	2.48	24.19	750	0.9	1,071	1,102	0.97	Super
B	Bend @ ex. Stub**	0.00	22.19	750	0.9	1,064	1,102	0.97	Super
Bend @ ex. Stub**	Ex 145	0.00	6.37	750	1.00	1,058	1,161	0.91	Super

*Storm pick-up from internal areas @ MHs are approximate and will be confirmed at the detailed design stage.

**Bend @ ex. Stub in lieu of a MH at the direction of EPCOR

Some of the storm runs in Option 2 are slightly shallow, but they do meet or exceed the requirement of a minimum cover of 1.5m to obvert of pipe. **Figure 4.0** in **Appendix C** shows an overview of Option 2 storm servicing. Similar to Option 1, the last few runs of pipes are close to capacity and supercritical. This is due to the fact that the on-site pipes are limited to a maximum diameter of 750mm to tie into the existing stub, as such, they needed to run at steeper slopes to accommodate storm flows. It should also be noted that the proposed design flow of 1,059 L/s is lower than what the downstream system was designed to accommodate (1,104 L/s).

5.2 PROPOSED MAJOR STORM DRAINAGE – OPTION 2

The major drainage route for Lot 2 will be the same as in Option 1, where storm water will generally flow from west to east following the internal roadways to McMullen Place. The major drainage flows for Lot 1 will again follow the drainage easement for the minor storm and sanitary sewers but this time the easement is through the internal roadways of Lot

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2 to the same access point at McMullen Place. **Figure 4.1** in **Appendix C** shows an example of the major drainage for Option 2.

5.3 PROPOSED SANITARY SERVICING – OPTION 2

The sanitary network within the internal road layout of Lot 2 that services Lot 1 will be subject to EPCOR standards and will pick up Lot 2's flows at various manholes before connecting to the existing at MH 32B. **Table 5.2** summarises the internal pipe network and design capacities, and the detailed calculations are included in **Appendix C**.

Table 5.2 – Proposed Sanitary Sewer Flow – OPTION 2

From MH	To MH	Area Added (ha)	Length (m)	Pipe Dia. (mm)	Slope (%)	Design Flow (L/s)	Cap. (L/s)	Design/Cap	Full Velocity (m/s)
Lot 1	40	2.04	12.74	200	1.00	4.0	32.8	0.12	1.044
40	30	0.00	73.31	200	0.40	4.0	20.7	0.20	0.660
30*	20	0.90	74.07	200	0.40	5.1	20.7	0.25	1.044
20*	10	0.90	101.15	200	0.40	6.2	20.7	0.30	0.660
N. Lot 2	10	4.27	7.00	200	1.00	5.5	32.8	0.17	1.044
10	Ex 32B	0.00	15.98	200	0.50	11.0	23.2	0.47	0.738

*Sanitary pick-up from internal areas @ MH are approximate and will be confirmed at the detailed design stage.

The sanitary servicing of the site in Option 2 meets the minimum slope and cover requirements in EPCOR's Design and Construction Standards. **Figure 4.0** in **Appendix C** shows an overview of Option 2 sanitary servicing. The proposed design flow of 11.0 L/s at MH 32B is less than what the system was designed for (12.9 L/s).

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6.0 CONCLUSION

This report was prepared to provide an assessment of the post-development storm and sanitary servicing of the proposed rezoning of the lot at 11520 Ellerslie Road SW into two medium scale residential lots in the MacEwan area in Edmonton: Lot 1 (south, RMh23) and Lot 2 (north, RMh16).

The depths and capacity of the existing storm and sanitary sewer lines were reviewed based on existing infrastructure plans and profiles on file and were confirmed to meet the minimum slope and depth of cover requirements from EPCOR's Design and Construction Standards; however, it should be noted that the existing storm sewer from the stub to the roadway is supercritical due to a slope of 1%. EPCOR and the COE will need to review the results of this analysis to confirm if this will be acceptable.

The capacity in the existing downstream system is adequate to service the subject lands in both servicing options presented in this report.

Option 1 proposes services run in an easement along the eastern property boundary for both the storm and sanitary servicing of Lot 1. This option is the most direct and has the shortest service runs.

Option 2 proposes that the storm and sanitary servicing of Lot 1 connects to the existing systems by following the private internal road layout of Lot 2. This option results in slightly longer service runs and replaces the easement on the east property line with an easement following the private internal road layout. This allows for increased flexibility for the on-site layout, and a reduction of total storm and sanitary infrastructure required.

It is therefore Stantec's opinion that development of the former church site in MacEwan is feasible as it relates to the existing downstream drainage networks. Option 2 is the recommended option to service the site, due to the increased flexibility for layout and reduction in total drainage infrastructure required.

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Appendix A EXISTING PLAN AND RESOURCES

- Figure 1.0 – Site Location and Key Plan
- Figure 2.0 – Existing Drainage Site Plan
- As-Built Plans/Profiles on file with the City of Edmonton and Stantec
 - MacEwan Road
 - McMullen Place





Key Plan (N.T.S.)



Figure 1.0 - Site Location Plan

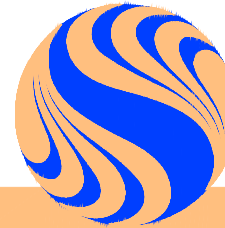
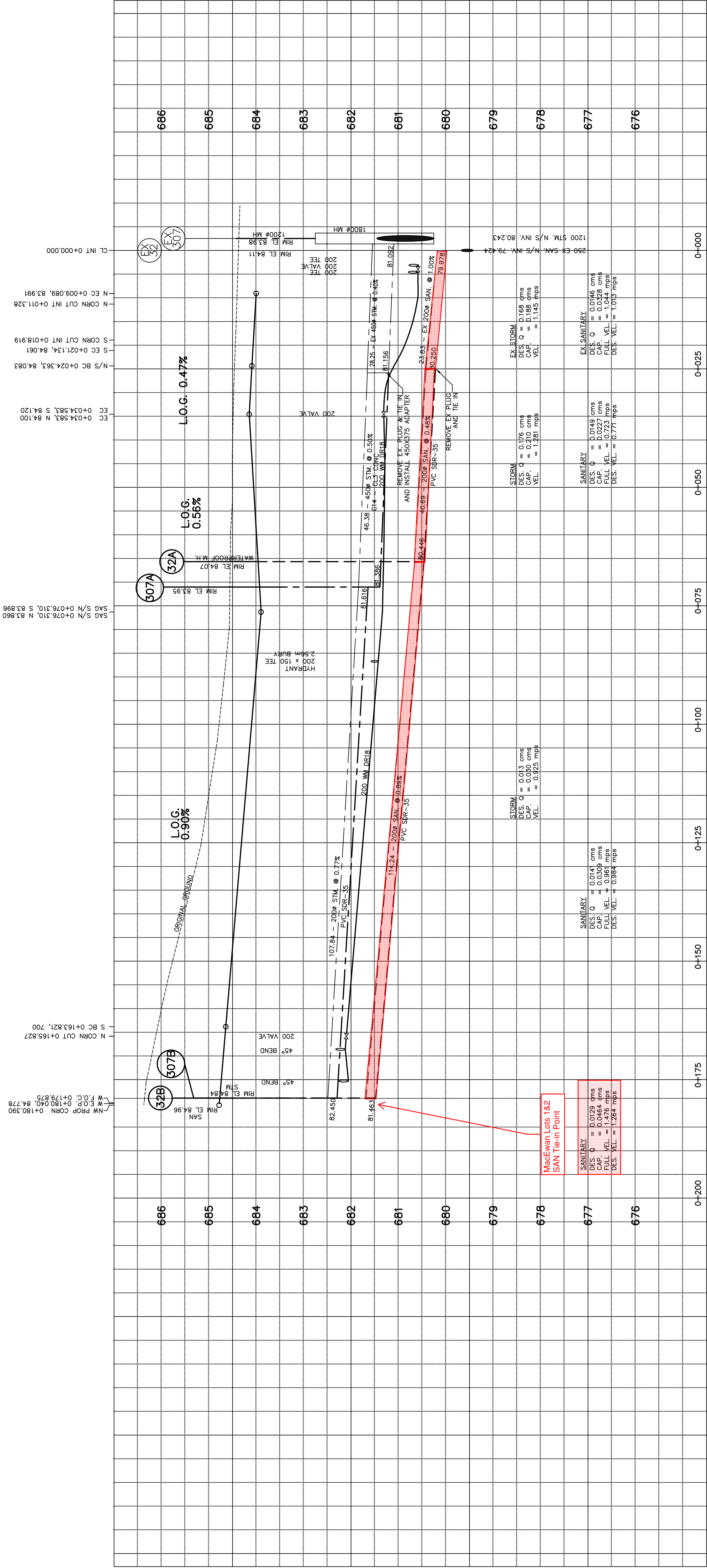
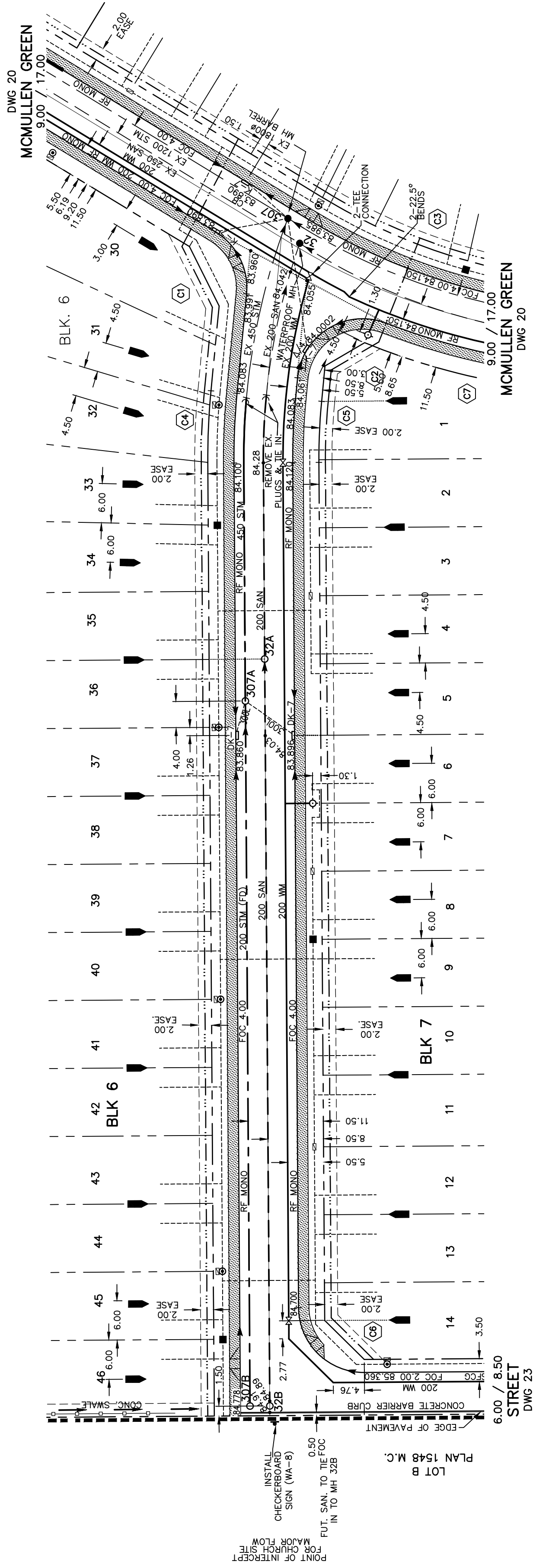
CURVE	RADIUS	ARC LENGTH	DELTA	TANGENT
C1	10.000	11.198	64°09'36"	6.268
C2	10.000	18.431	105°36'08"	13.175
C3	94.000	52.046	31°43'26"	26.709
C4	104.500	10.681	9°51'22"	5.345
C5	95.500	9.761	5°51'22"	4.885
C6	10.000	15.711	90°01'12"	10.003
C7	103.000	38.626	21°29'11"	19.543

DEPTH OF WATERMAIN INVERT FROM:	PIPE DIA. (L.O.G. H.F. L.O.G. S.F. L.O.C.)
150 mm	2.46
200 mm	2.53
250 mm	2.59
300 mm	2.65
350 mm	2.71
400 mm	2.77
450 mm	2.83

CURVE	RADIUS	ARC LENGTH	DELTA	TANGENT
C1	10.000	11.198	64°09'36"	6.268
C2	10.000	18.431	105°36'08"	13.175
C3	94.000	52.046	31°43'26"	26.709
C4	104.500	10.681	9°51'22"	5.345
C5	95.500	9.761	5°51'22"	4.885
C6	10.000	15.711	90°01'12"	10.003
C7	103.000	38.626	21°29'11"	19.543

WATER MAIN PLAN OF RECORD
LIST OF MATERIALS:
HYDRANTS CANADA VALVE
CONTROL VALVES. MUELLER
VALVES. MUELLER
TEES, PLUGS & BENDS NORWOOD FOUNDRY

PLAN OF RECORD	DATE : FROM - TO
SANITARY SEWER	JUL 2003 NOV 2003
STREAMLINE CONSTRUCTION CO. LTD.	
STORM SEWER	JUL 2003 NOV 2003
STREAMLINE CONSTRUCTION CO. LTD.	
WATER MAIN	JUL 2003 NOV 2003
STREAMLINE CONSTRUCTION CO. LTD.	
SURFACE IMPROVEMENTS	AUG 2003 OCT 2003
PARK PAVING LTD.	



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Legend
● LOT
○ ON R
○ EXISTING SERVICE
○ WATER & SANITARY SERVICE ONLY
○ WATER, SANITARY & FOUNDATION DRAIN SERVICE (FOUNDATION DRAINS & ROOF LEADERS)

LIMIT OF CONSTRUCTION
DEVELOPMENT BOUNDARY

NOTES (* - UNLESS OTHERWISE NOTED)

1. WATERMANS 150mm AND LARGER ARE AWWA C-300 CL1035Pa DR-18
2. PVC PIPE WITH CLASS 'B' BEDDING *
3. 50mm WATERMANS TO BE CSA B137.3 SERIES 200 SDR 21 PVC PIPE.
4. SERVICE TUBING WITH HORIZONTAL JOINTS OR BLUE WATER
5. APPLY APPROVED PVC WATER PIPE JOINT LUBRICANT FOR POTABLE WATER
6. ALL INSTALLATIONS OF WATERMAIN AND WATERMAIN FITTINGS MUST CONFORM TO THE CITY OF EDMONTON DESIGN AND CONSTRUCTION STANDARDS.
7. SANITARY SEWER PIPE SDR 35 CONFORMING TO ASTM D3034, INSTALLED ACCORDING TO ASTM D2222. ALL EMBEDED MATERIALS SHALL BE CLASS 'B' BEDDING.
8. STORM SEWER PIPE ALTERNATES:
A) CONCRETE PIPE
B) PVC PIPE (SEE NOTE 7 FOR BEDDING REQUIREMENTS)
C) 450mm DIA ASTM C14-C11
9. ALL SEWER SERVICES ARE ASTM D3034 SDR 35 PVC PIPE.
10. SERVICE LEADS ARE ON & OF LOT AT 2.75m BELOW LOT GRADE. *
11. ALL CB LEADS ARE 250mm DIA. SDR 35 PVC WITH MIN. SLOPE OF 1.00% *
12. ALL OTHER CATCHBASINS ARE 600mm DIA. OR UN-7 FRAME & COVER ARE 900mm.
13. GAS LINES ARE LOCATED 1.0m OFF PROPERTY WITHIN A 2.0m EASEMENT. *
14. ALL ROAD ELEVATIONS ARE UP OF CUTTER. *
15. IE INTO EXISTING, RESTORE ALL DISTURBED AREAS TO THE SATISFACTION OF THE CITY OF EDMONTON.
16. ALL MANHOLES AND CATCHBASINS TO BE SULPHATE RESISTANT CONCRETE.

Director of Drainage Pl., A.M. & P.W.
Dir. of Eng., Envor Water Services Inc.
Director of Roadways Design, T. & S.
Director of Roadways Construction, T. & S.
Development Engineer, Pl. & Dev.

Approvals - Originally Approved By

3	WATER MAIN TO PLAN OF RECORD	P.M.M.	04/12/02
2	STM & SAN SEWERS TO PLAN OF RECORD	C.L.B.	04/10/15
1	SURFACE TO PLAN OF RECORD	C.L.B.	04/10/15
Revision		By	Appd. Yr Mo Dy
Issued		By	Appd. Yr Mo Dy
File Name:	MAC13.D21.dwg	P.M.M.	03/03/28
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K. SHILLINGTON
03/08/13

Client/Project

746915 ALBERTA LTD.

MACEWAN
STAGE 13
Edmonton, Alberta

Title

McMULLEN PLACE

Project No. 1-60-08510
Scale 1:500H
Drawing No. 21

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2004-12-06 08:54AM By: kshillington

DRAINAGE SERVICING REPORT

MacEwan Lands

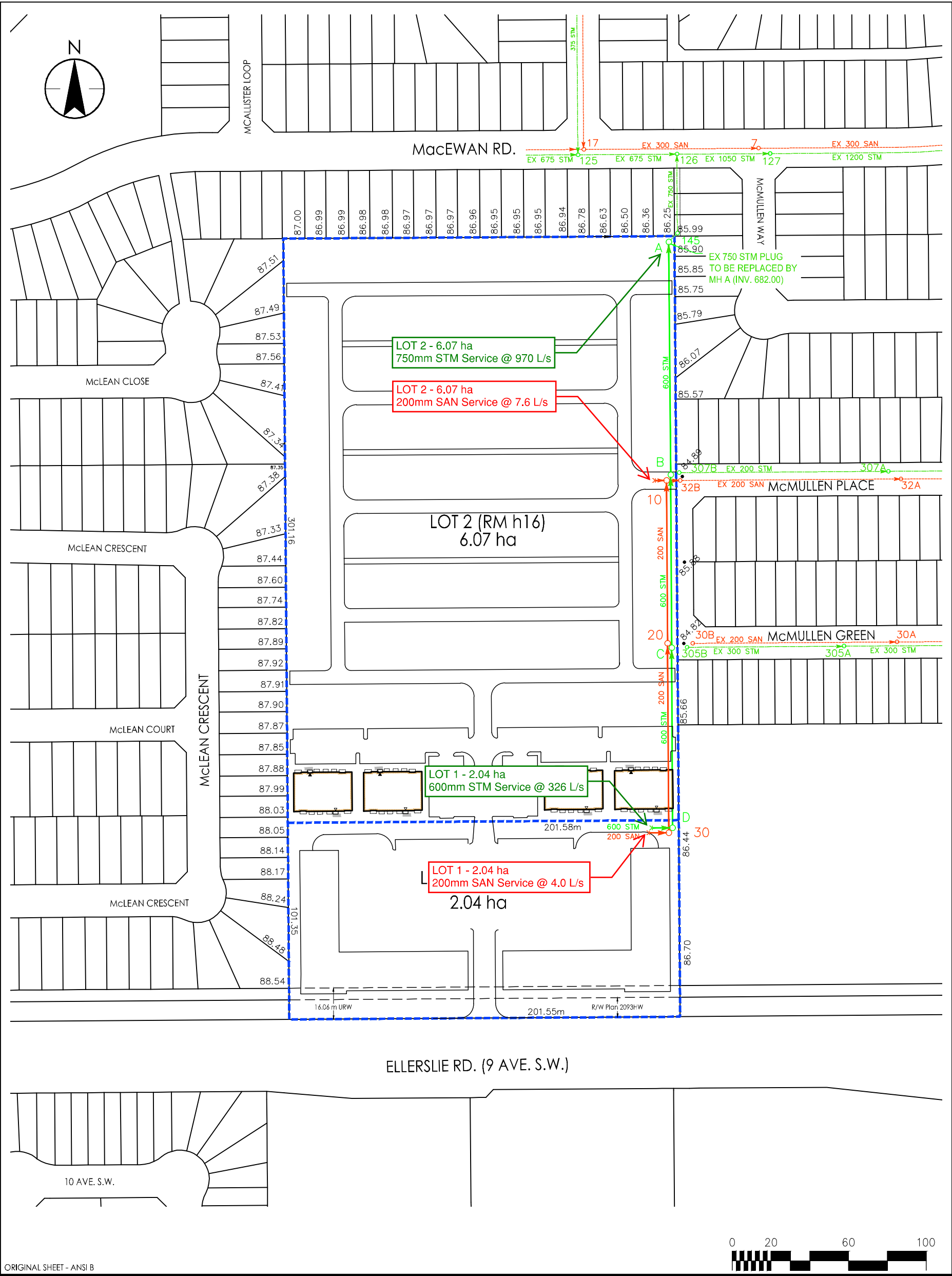
September 30, 2025

Appendix B OPTION 1 STORM AND SANITARY SERVICING

- Figure 3.0 – Proposed Servicing – OPTION 1
- Option 1 Minor Storm Calculations
- Option 1 Sanitary Calculations
- Figure 3.1 – Proposed Major Drainage – OPTION 1



\\Cd1001-c2001\shared_projects\116112445\project_resource\ Preliminary Engineering\Review_STM&SAN Option 1.dwg
2025/07/04 3:01 PM By: Alireza, Miranda



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Notes

All distances are expressed in metres and decimals thereof.
Area to be subdivided outlined thus ■■■■ and contains approximately 8.11 hectares, including 2 Multi-family lots.

Revision	By	YY.MM.DD

Client/Project

Streetside Development Corp.

PLAN SHOWING PROPOSED SUBDIVISION
OF PORTION OF PLAN 1548MC, LOT B

Edmonton, AB

Title

FIG 3.0 PROPOSED SERVICING - OPTION 1
11520 - ELLERSLIE ROAD

Project No.

1161 112445
July 3, 2025

Scale

1:2000

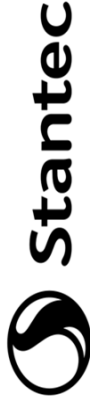
STORM SEWER - OPTION 1

PROJECT :
JOB No. :
DATE :
DES. BY :

MacEwan Church Redevelopment
1161-112445
26-Aug-25
M. Annett

Manning's n = 0.013

From MH	To MH	Storm Event	Area Added (ha)	Area Total (ha)	C	Design Flow (m³/s)	Length (m)	Pipe Diameter (mm)	Slope %	Cap. (m³/s)	Vel. (m/s)	Froude Number	Supercritical or Subcritical	Subsequent Depth y2 (mm)	Y2<80% Pipe Diameter	Surf. Elev.	Invert Out	Invert In	Avg. Depth Range
Lot 1 plug D C B Lot 2 plug A	D	5-yr	2.04	2.04	0.75	0.326	10.00	525	1.00	0.448	2.007					686.65	683.550	683.450	3.13
	C	5-yr	0.00	2.04	0.75	0.324	92.87	600	0.30	0.351	1.203	0.66	Subcritical			686.60	683.375	683.096	2.54
	B	5-yr	0.00	2.04	0.75	0.304	89.17	600	0.30	0.351	1.203	0.69	Subcritical			684.95	683.036	682.768	2.18
	A	5-yr	0.00	2.04	0.75	0.288	120.03	600	0.30	0.351	1.203	0.70	Subcritical			685.22	682.708	682.348	3.18
	A	5-yr	6.07	6.07	0.75	0.970	16.270	750	1.00	1.161	2.547	1.32	Supercritical	733	Review	686.22	682.720	682.557	3.57
	ex 145	5-yr	0.00	8.11	0.75	1.066	6.37	750	1.00	1.161	2.547	1.25	Supercritical	740	Review	686.20	682.000	681.936	4.13

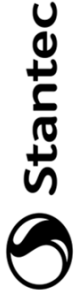


SANITARY SEWER - OPTION 1

PROJECT : MacEwan Church Redevelopment
JOB No. : 1161-112445
DATE : 26-Aug-25
DES. BY : M. Annett

General Inflow/Infiltration = 0.00014 m³/s/ha
Area Sag MH Inflow = 0.00000 m³/s/ha
Sag MH Inflow = 0.00000 m³/s/MH
Manning's n = 0.013
Per Capita Consumption = 160 l/p/day

From MH	To MH	Residential										Design Flow (m³/s)	Pipe			Req'd Cap. (m³/s)	Cap. (m³/s)	Ratio of Design vs Cap. Vel. (m/s)	Design Flow Vel. (m/s)	Full Vel. (m/s)	Surf. Elev.	Invert Out	Invert In	Avg. Depth Range
		Zoning	Added Area (ha)	Total Area (ha)	Area Den. (p/ha)	Area Pop.	Added Pop.	Total Pop.	Peak Factor	Peak Flow (m³/s)	Length (m)		Diameter (mm)	Slope (%)										
Lot 1 Plug 30 20 10 Lot 2 Plug 10	30 20 10 ex 32B	RM-h23	2.04	2.04	373	760	760	2.67	0.004	6.00	200	1.00	0.0047	0.0328	0.12	0.71	1.044	686.65	682.650	682.590	4.01			
		RM-h23	0.00	2.04	373	0	0	760	2.67	0.004	97.63	200	0.40	0.0047	0.0207	0.20	0.51	0.660	686.60	682.540	682.149	3.43		
		RM-h23	0.00	2.04	373	0	0	760	2.67	0.004	84.02	200	0.40	0.0047	0.0207	0.20	0.51	0.660	684.95	682.099	681.763	3.07		
		RM-h16	6.07	6.07	238	1447	1447	1447	2.51	0.007	6.00	200	1.00	0.0088	0.0328	0.23	0.85	1.044	685.10	681.610	681.550	3.49		
		RM-h16	0.00	8.11	238	0	0	2207	2.40	0.010	7.00	200	0.40	0.0127	0.0207	0.53	0.67	0.660	685.05	681.500	681.472	3.48		



DRAINAGE SERVICING REPORT

MacEwan Lands

September 30, 2025

Appendix C OPTION 2 STORM AND SANITARY SERVICING

- Figure 4.0 – Proposed Servicing – OPTION 2
- Option 2 Minor Storm Calculations
- Option 2 Sanitary Calculations
- Figure 4.1 – Proposed Major Drainage – OPTION 2
- Figure 4.2 – Proposed Utility Access Plan



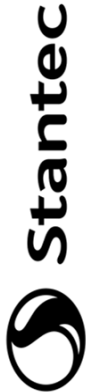
STORM SEWER - OPTION 2

PROJECT :
JOB No. :
DATE :
DES. BY :

MacEwan Church Redevelopment
1161 112445
30-Sep-25
M. Annett

Manning's n = 0.013

From MH	To MH	Storm Event	Area Added (ha)	Area Sub-Total (ha)	Area Total (ha)	C	Design Flow (m³/s)	Length (m)	Pipe Diameter (mm)	Slope %	Cap. (m³/s)	Vel. (m/s)	Froude Number	Supercritical or Subcritical	Subsequent Depth y2 (mm)	Y2<80% Pipe Diameter	Surf. Elev.	Invert Out	Invert In	Avg. Depth Range
Lot 1 plug H Lot 2 con1 G Lot 2 con2 F F Lot 2 con3 E Lot 2 con 4 C B B bend @ NE corner bend @ NE corner	H	5-yr	2.04	2.04	2.04	0.75	0.326	8.20	525	1.00	0.448	2.007					686.90	684.350	684.268	2.54
	G	5-yr	0.00	2.04	2.04	0.75	0.325	76.38	600	0.30	0.351	1.203	0.66	Subcritical			686.80	684.193	683.964	2.50
	G	5-yr	0.90	0.90	0.90	0.75	0.144	6.00	600	1.00	0.642	2.196	1.49	Supercritical	301	Acceptable	686.45	683.850	683.790	2.58
	F	5-yr	0.00	2.94	2.94	0.75	0.444	74.38	675	0.30	0.481	1.301	0.67	Subcritical			686.35	683.715	683.492	2.52
	F	5-yr	0.90	0.90	0.90	0.75	0.144	6.00	600	1.00	0.642	2.196	1.49	Supercritical	301	Acceptable	686.00	683.650	683.590	2.33
	E	5-yr	0.00	3.84	3.84	0.75	0.554	100.08	750	0.30	0.636	1.395	0.71	Subcritical			685.90	683.417	683.117	2.46
	E	5-yr	1.79	1.79	1.79	0.75	0.286	6.00	600	1.00	0.642	2.196	1.45	Supercritical	441	Acceptable	685.65	683.250	683.190	2.38
	C	5-yr	0.00	5.63	5.63	0.75	0.771	97.80	750	0.45	0.779	1.708	0.77	Subcritical			685.55	683.040	682.600	3.08
	C	5-yr	2.48	2.48	2.48	0.75	0.396	10.70	525	1.00	0.448	2.007					686.35	683.350	683.243	3.00
	B	5-yr	0.00	8.11	8.11	0.75	1.067	24.19	750	0.90	1.102	2.416	1.14	Supercritical	687	Review	686.25	682.540	682.322	3.64
	B bend @ NE corner	5-yr	0.00	8.11	8.11	0.75	1.060	22.19	750	0.90	1.102	2.416	1.14	Supercritical	687	Review	685.90	682.262	682.062	3.90
	ex 145	5-yr	0.00	8.11	8.11	0.75	1.054	6.370	750	1.00	1.161	2.547	1.25	Supercritical	740	Review	686.22	682.000	681.936	4.14

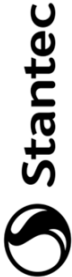


SANITARY SEWER - OPTION 2

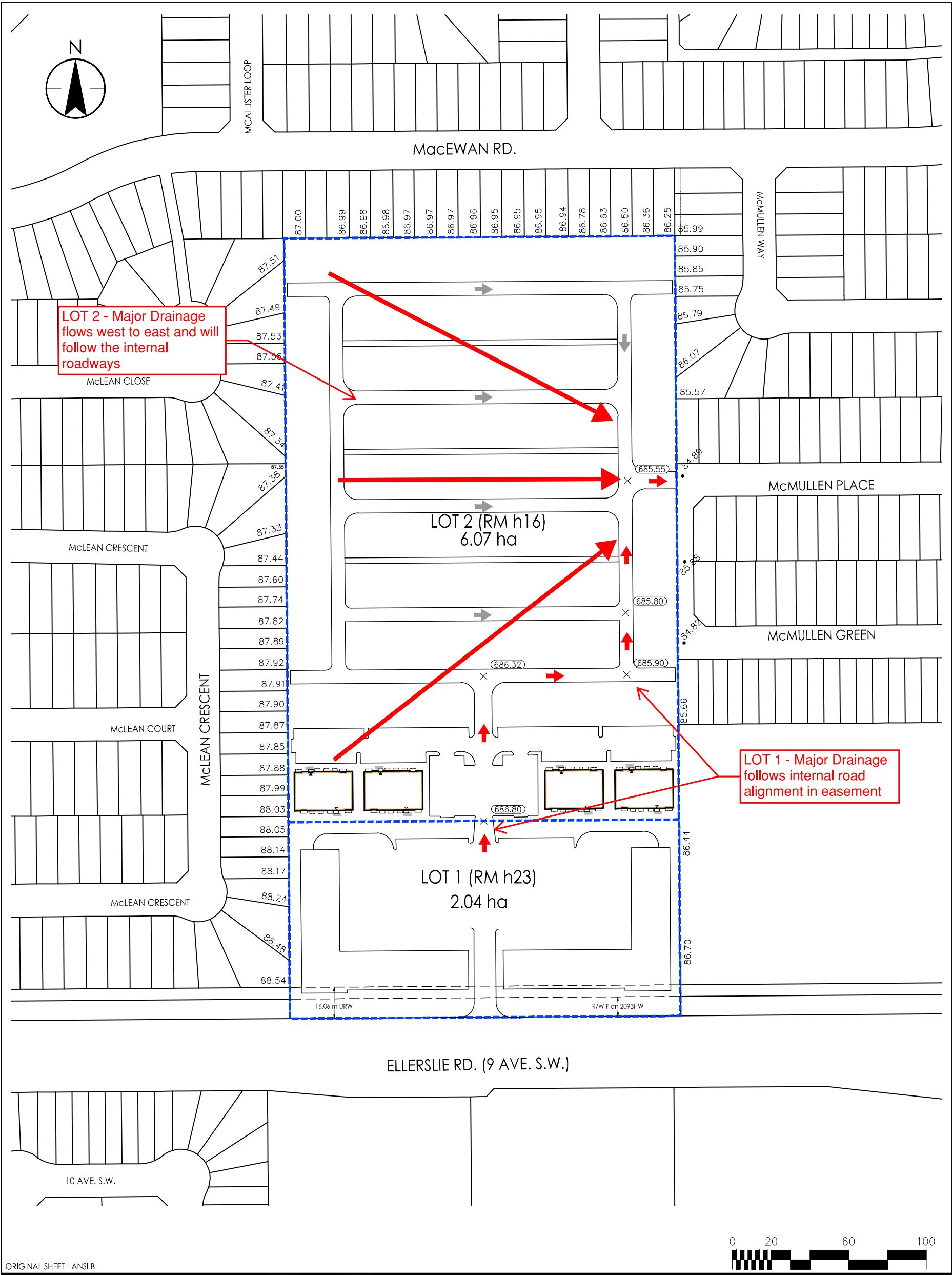
PROJECT : MacEwan Church Redevelopment
JOB No. : 1161 112445
DATE : 26-Aug-25
DES. BY : M.Annett

General Inflow/Infiltration = 0.00014 m³/s/ha
Area Sag MH Inflow = 0.00000 m³/s/ha
Sag MH Inflow = 0.00000 m³/s/MH
Manning's n = 0.013
Per Capita Consumption = 160 l/p/day

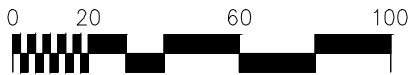
From MH	To MH	Zoning	Residential						Design DWF (L/s)	Design Flow (m³/s)	Pipe		Req'd Cap. (m³/s)	Cap. (m³/s)	Ratio of Design vs Cap.	Design Flow Vel. (m/s)	Full Vel. (m/s)	Surf. Elev.		Invert Out	Invert In	Avg. Depth Range
			Added Area (ha)	Total Area (ha)	Area Pop. Den. (p/ha)	Added Pop.	Total Pop.	Peak Factor			Peak Flow (m³/s)	Length (m)						Diameter (mm)	Slope (%)			
Lot 1 Plug 40	40	RM-h23	2.04	2.04	373	760	760	2.67	0.004	3.76	12.74	200	0.0047	0.0328	0.12	0.71	1.044	686.90	683.000	682.873	3.91	
				2.04		760	760	2.67	0.004	3.76	73.31	200	0.0047	0.0207	0.20	0.51	0.660	686.80	682.823	682.529	3.90	
			0.90	0.90	238	215	215	3.03	0.001	1.21	0.0013	6.00	200	0.0016	0.0328	0.04	0.51	1.044	686.45	682.550	682.490	3.88
				2.94		975	975	2.61	0.005	4.71	0.0051	74.07	200	0.0060	0.0207	0.25	0.55	0.660	686.35	682.479	682.183	3.79
			0.90	0.90	238	215	215	3.03	0.001	1.21	0.0013	6.00	200	0.0016	0.0328	0.04	0.51	1.044	686.00	682.200	682.140	3.78
			3.84	3.84		1190	1190	2.56	0.006	5.63	0.0062	101.15	200	0.0072	0.0207	0.30	0.58	0.660	685.90	682.133	681.728	3.79
Lot 2 Plug 10	10	RM-h16	4.27	4.27	238	1018	1018	2.60	0.005	4.89	7.00	200	0.0064	0.0328	0.17	0.77	1.044	685.65	681.750	681.680	3.88	
				8.11		2208	2208	2.40	0.010	9.82	0.0110	15.98	200	0.0127	0.0232	0.47	0.73	0.738	685.55	681.630	681.550	3.16



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2025/08/05 9:22 AM By: Aimee, Miranda



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Notes

All distances are expressed in metres and decimals thereof.

Area to be subdivided outlined thus ■■■■ and contains approximately 8.11 hectares, including 2 Multi-family lots.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
Revision	By	YY.MM.DD

Client/Project

Streetside Development Corp.

PLAN SHOWING PROPOSED SUBDIVISION
OF PORTION OF PLAN 1548MC, LOT B

Edmonton, AB

Title

FIG 4.1 MAJOR STORM - OPTION 2
11520 - ELLERSLIE ROAD

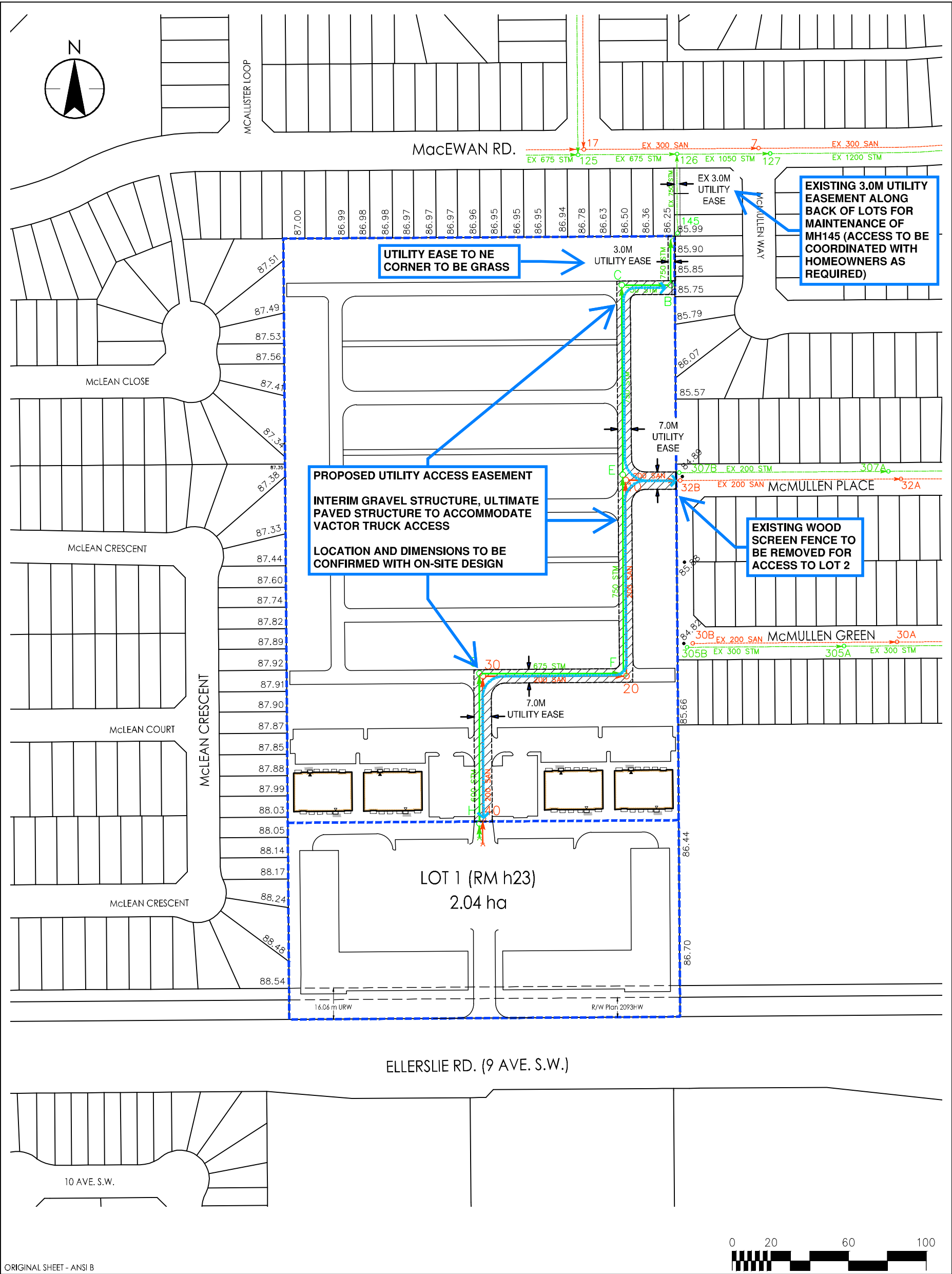
Project No.

1161 112445
July 25, 2025

Scale

1:2000

UA 116112445\project_resource\ Preliminary Engineering\ Drainage Servicing Report\ 4th Sub\ drawings\ Preliminary Engineering Review_STM&SAN Option 2_Utility Access.dwg
2025/09/30 7:17 PM By: Arnett, Miranda



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Area to be subdivided outlined thus ■■■■ and contains approximately 8.11 hectares, including 2 Multi-family lots.

Revision	By	YY.MM.DD

Client/Project

Streetside Development Corp.

PLAN SHOWING PROPOSED SUBDIVISION
OF PORTION OF PLAN 1548MC, LOT B

Edmonton, AB

Title

FIG 4.2 PROPOSED UTILITY ACCESS PLAN
11520 - ELLERSLIE ROAD

Project No.

1161 112445
September 30, 2025

Scale

1:2000