MAYFIELD WEST PHASE 2 - STAGE 3 LANDS TOWN OF CALEDON



PRELIMINARY FUNCTIONAL SERVICING STUDY

PREPARED FOR
CALEDON DEVELOPMENT GENERAL PARTNER LTD.
SCHOOL WEST INVESTMENTS INC.
SCHOOL VALLEY DEVELOPMENTS INC.
SCHOOL VALLEY SOUTH LTD
BROOKVALLEY DEVELOPMENTS (HWY 10) LTD.
(C/O BROOKVALLEY PROJECT MANAGEMENT INC.)

JULY 15TH 2022





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REFERENCE DRAWINGS

Urbantech Consulting Drawing No. 801...Sanitary Trunk Sewers (Functional Servicing Study, dated August 2017)

APPENDICES

APPENDIX "A" Figures 4, 6 and 7 of The Municipal Infrastructure Group Water and Wastewater Servicing Study dated January 2016

APPENDIX "B" Urbantech Consulting, Sanitary Sewer Design Sheets 1 and 2 of Appendix 8 of

FSR dated August 2017

1. INTRODUCTION

Brookvalley is proposing an Official Plan Amendment to the Town of Caledon Official Plan to include the Mayfield West Phase 2 Stage 3 Lands (which are the residual lands in the Mayfield West Study Area west of Hurontario Street) within the Mayfield West Rural Service Centre boundary and re-designate them for urban land uses within the Mayfield West Phase 2 Secondary Plan. The Official Plan Amendment application is required to determine land use designations, along with population, employment, and density targets for the Mayfield West Phase 2 Stage 3 Lands prior to the submission of development applications. The proposed amendment will designate the lands for a range of uses, including low and medium density residential, commercial, institutional, parks and open space uses and a public road network.

The Mayfield West Phase 2 Stage 3 Lands are shown on Figure 1 and comprise a total area of approximately 270 hectares generally bounded by Chinguacousy Road to the west, Old School Road to the north, Hurontario Street (Highway 10) to the east and the Etobicoke Creek to the south

This study, which addresses water, wastewater and storm water management servicing, is one of several Technical Studies that have been prepared to fulfil the Growth Plan requirements for a Settlement Boundary expansion northerly to Old School Road. The purpose of the Study is to provide a high-level evaluation and identification of the sanitary, water and storm water management servicing infrastructure that will be required to accommodate the urban development of the subject lands, and to facilitate the Region of Peel to include the required infrastructure improvements in its Capital Works Planning Process.

2. RELATED TECHNICAL STUDIES

The following Water and Wastewater Studies have been completed over the last ten years which relate to the servicing of the subject lands.

2.1 R.J. Burnside & Associates Limited

Mayfield West Phase 2 Secondary Plan Water and Wastewater Servicing Study Town of Caledon

- Part A Report dated May 2009
- Part B Report dated October 8th 2010

The Study, which was commissioned by the Town of Caledon, was one of several component studies prepared in support of the Mayfield West Phase 2 (MW2) Secondary Plan.

The Study Area comprised the lands bounded by Chinguacousy Road to the west, Old School Road to the north, Dixie Road to the east and Mayfield Road to the south.

The Part B report evaluated water and wastewater servicing for three (3) Community Development Scenarios that were under consideration and also identified potential external regional servicing improvements that would be required to service the Community Development Scenarios.

2.2 The Municipal Infrastructure Group Ltd.

Mayfield West - Phase 2 Secondary Plan Water and Wastewater Servicing Study, January 2014

The Study, which was commissioned by the Mayfield Station Landowners Group, was prepared in support of the Mayfield West Phase 2 Secondary Plan, and was undertaken to address servicing requirements as a result of changes to the MW2 Plan through OPA 226 (dated September 11th 2012) and the Planning Report DP-2013-092 dated September 3rd 2013.

The purpose of the study was to:

- Identify existing and planned water and wastewater infrastructure;
- Provide a summary of proposed water and wastewater demands;
- Identify proposed water and wastewater infrastructure to support the Study Area;
- Identify possible interim servicing opportunities utilizing existing water and wastewater infrastructure, and
- Identify potential development planning limits based on planned and proposed Infrastructure timing.

The proposed water and wastewater network/routing design addressed the servicing requirements for three (3) areas as follows:

- Stage 1:Lands within the Town of Caledon Council Endorsed Framework Plan;
- Stage 2:Potential development lands beyond the Council Endorsed Framework

 Plan and south of the Etobicoke Creek
- North Lands: Potential development lands north of Etobicoke Creek having an approximate gross area of 325 ha.

Note: The ANorth Lands@ are the subject lands in this (Candevcon=s) report i.e. AStage 3 Lands@.

Copies of Figures 4, 6 and 7 of the report showing the Servicing Areas and the Recommended Water and Wastewater Servicing Plans are included in Appendix AA@ for reference.

2.3 Urbantech Consulting

Functional Servicing Reports - Mayfield West Phase 2

- May 2016 and August 2017

The Town of Caledon Council adopted the Mayfield West Phase 2 Secondary Plan (MW2) Official Plan Amendment OPA 222 on November 10th 2015. The approved MW2 Secondary Plan included the Stage 1 Area only.

The Study, which was prepared for the Mayfield West Landowners Group, along with companion reports (EIR, Transportation) was intended to support the individual Draft Plans of Subdivision within the MW2 Phase 2 Stage 1 lands and to demonstrate how the Stage 2 lands would be integrated into the Stage 1 development.

The Study report (August 2017) includes the preliminary design of the sanitary sewer system which included the MW2 Phase 2 Stage 1 and Stage 2 lands as well as future development north of the Etobicoke Creek/Green Belt to Old School Road (i.e. Mayfield West Phase 2 Stage 3 Lands). The relevant Sanitary Sewer Design Sheets are included in Appendix AB@ and a print of the Sanitary Sewer Plan (Drawing 801) is included as a Reference Drawing to this report. As shown on the Sanitary Sewer Design Sheets, the sanitary sewers in the Stage 1 and Stage lands are designed to accommodate the future development of the Stage 3 lands at a population density of 80 persons/ha.

The Study report (August 2017) also included the future/planned trunk watermain infrastructure on Chinguacousy Road (600mm diameter) and on McLaughlin Road (400mm diameter) which will accommodate development of the Stage 3 lands.

2.4 **GM Blueplan**

Settlement Area boundary expansion (SABE)

Water and wastewater servicing Analysis.

August 12, 2021

The Region of Peel commissioned the SABE as a follow-up to the Region's 2020 Water and Wastewater Master Plan to review the servicing needs in the Caledon area including future growth north of Mayfield Road beyond the "2041 servicing boundary". The study confirmed the water and wastewater upgrades, required for the area, identified in the 2020 Water and Wastewater Masterplan

3. URBAN STRUCTURE CONCEPTUAL PLAN

The Urban Structure Conceptual Plan for the Phase 2 Stage 3 lands is illustrated on Figure 2 and identifies a range of residential densities as well as Commercial Nodes at key locations and employment uses. Community uses such as Schools and Parks, as well as infrastructure facilities such as stormwater management ponds, have been located.

4. EXISTING AND PLANNED WATER AND WASTEWATER INFRASTRUCTURE

4.1 Water

The subject Stage 3 lands are located in Region of Peel Pressure Zone 7W. The planned watermain infrastructure, based on the Region of Peel Water DC Map 2021, is shown on Figure 3 and includes the following trunk watermains which will service the Phase 2, Stage 3 lands.

- 600mm diameter main on Chinguacousy Road from the East-West Collector Road in the Phase 2 Stage 1/2 lands to Old School Road;
- 400mm diameter main on McLaughlin Road from East-West Collector Road in the Phase 2 Stage 1/2 lands to Old School Road;
- 600mm diameter main on Old School Road from Dixie Road to Creditview Road
- West Caledon Elevated Tank located on Chinguacousy, north of Airport Road
- 750mm watermain from the Alloa Pumping station to the west Caledon elevated tank

4.2 Wastewater

The planned wastewater infrastructure, based on the Region of Peel Wastewater DC Map 2020 is shown on Figure 4 and includes the following infrastructure which will service the Phase 2 Stage 3 lands:

- 450mm diameter trunk sanitary sewer on Chinguacousy Road from the East-West Collector Road in the MW Phase 2 Stage 1/2 lands to south of Old School Road Creek crossing. Note: Based on the Urbantech Functional Servicing Report (August 2017), this sewer is designed to accommodate a drainage area of 95.70 ha (at 80 p/ha) in the Phase 2 Stage 3 lands.
- 525mm diameter trunk sanitary sewer on McLaughlin Road from the East-West Collector Road in the MW Phase 2 Stage 1/2 lands to the south side of Old school road. Note: Based on the Urbantech Functional Servicing Report (August 2017), this sewer is designed to accommodate a drainage area of 151.5 ha (at 80 p/ha) in the Stage 3 lands. A pumping station (and forcemain) will be required

to service the Stage 3 lands.

- 375mm diameter sanitary sewer serving the lands west of McLaughlin Road between Etobicoke Creek and Old School road, to the 450mm sanitary sewer on Chinguacousy Road
- 525mm diameter sanitary sewer serving the lands east of McLaughlin Road between Old School Road and Etobicoke Creek to the 525mm sanitary sewer on Mclaughlin Road

5. FUTURE/REQUIRED WATER, WASTEWATER AND STORM WATER MANAGEMENT INFRASTRUCTURE

5.1 Water

The conceptual configuration of the required water infrastructure to service the Phase 2 Stage 3 lands is shown on Figure 5 and generally will comprise:

- 600mm diameter main on Chinguacousy Road from the East-West Collector Road in the Phase 2 Stage 1/2 lands to Old School Road;
- 400mm diameter main on McLaughlin Road from East-West Collector Road in the Phase 2 Stage 1/2 lands to Old School Road;
- 600mm diameter main on Old School Road from Airport Road to Creditview Road

For the purpose of this report, it is assumed that all infrastructure within Stage 2 will be completed to the northern development limit. The configuration of the trunk and sub-trunk mains, as well as the internal watermain network, will be determined as part of a future Functional Servicing Study for the Phase 2 Stage 3 lands.

5.2 Wastewater

For the purpose of this report, it is assumed that all infrastructure within Stage 2 will be completed to the northern development limit. The configuration of the sub-trunk and local sanitary sewers to service the Phase 2 Stage 3 lands will be determined as part of a future Functional Servicing Study for the Stage 3 lands. The conceptual configuration of the required wastewater infrastructure is shown on Figure 6 and generally will comprise:

- Sub-trunk (375mm to 450mm diameter) sanitary sewers on a future East-West Collector Road connecting to the planned 450mm diameter trunk sewer on Chinguacousy Road, and to a future pumping station on McLaughlin Road;
- A pumping station to be located to the north of the Etobicoke Creek Greenland at McLaughlin Road, with a force main on McLaughlin Road draining to the planned 525mm diameter sanitary sewer on McLaughlin Road.

5.3 Storm Water Management

The configuration of the proposed storm water management concept is show on figure 7. The preliminary pond locations were determined based on existing contours and maintaining existing drainage boundaries. A total of 13 storm water management facilities are proposed to service Phase 2, Stage 3.

The location and preliminary drainage boundaries of the Storm Water Management facilities is shown on figure 7 and are summarized below

Pond Number	Drainage Area (ha)
1	19.4
2	19.4
3	3.6
4	11.7
5	38.4
6	20.3
7	15.3
8	19.3
9	30.7
10	17.5
11	8.8
12	3.5
13	6.6

The SWM facilities will be designed as part of a future Functional Servicing Study for the Phase 2, Stage 3 lands.

6. SUMMARY AND CONCLUSIONS

As summarized in Section 2 of this report, the Technical Studies (Water and Wastewater Servicing Studies and Functional Servicing Reports) which have been completed for the Mayfield West Phase 2 Secondary Plan as well as for the Mayfield West Phase 2 Stage 1/2 lands have consistently included for the future development of the Phase 2 Stage 3 (north) lands. The Region of Peel Water and Wastewater DC Maps have also identified the trunk services in the Mayfield West Phase 2 Secondary Plan area that will accommodate the future development of the Phase 2 Stage 3 lands.

Accordingly, the development of the Phase 2 Stage 3 Lands will utilize trunk water and wastewater infrastructure that will have been constructed and sized to accommodate the Phase 2 Stage 3 Lands.

APPENDIX "A"

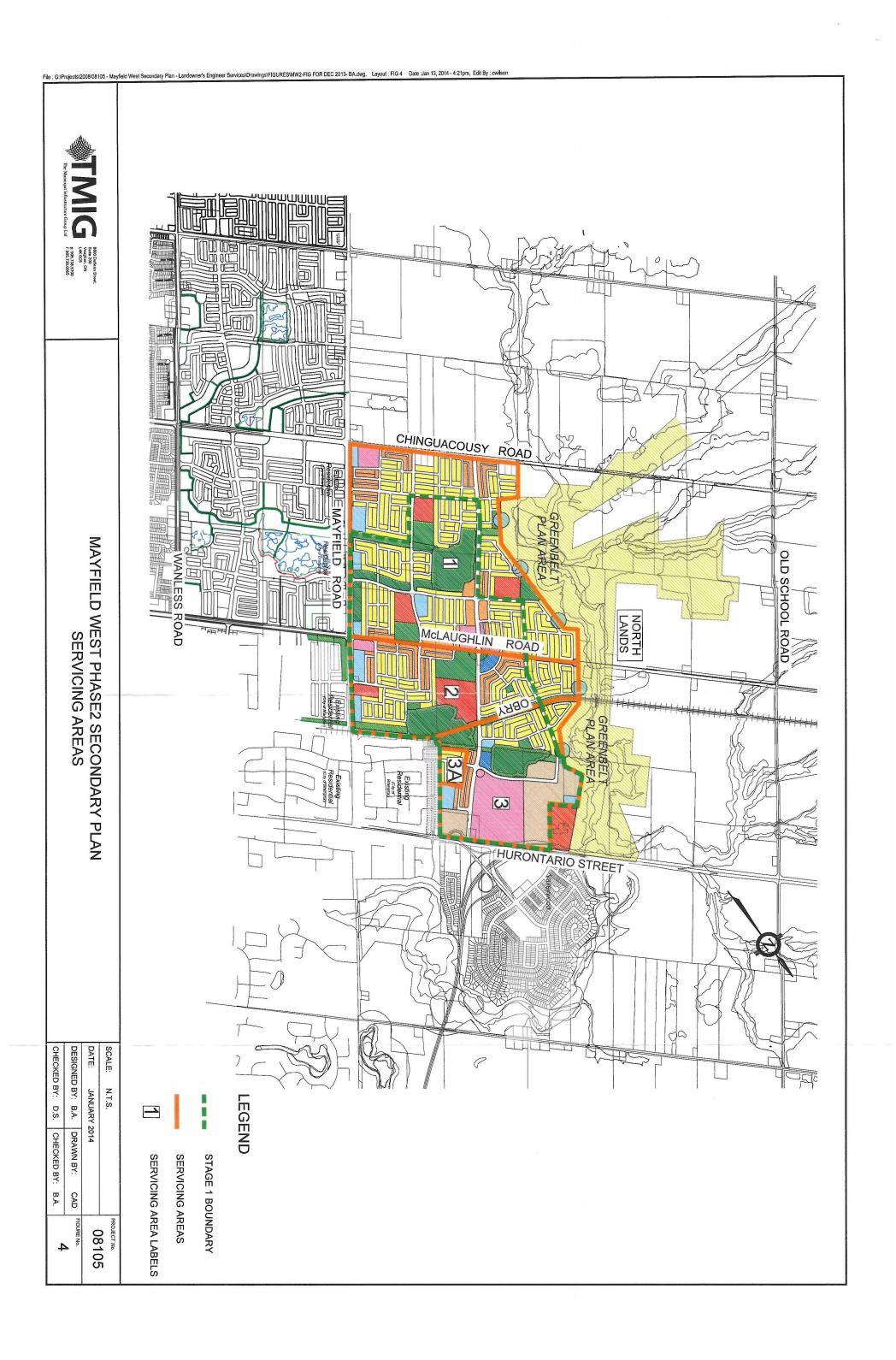
Figures 4, 6 and 7 of The Municipal Infrastructure Group Water and Wastewater Servicing Study dated January 2016

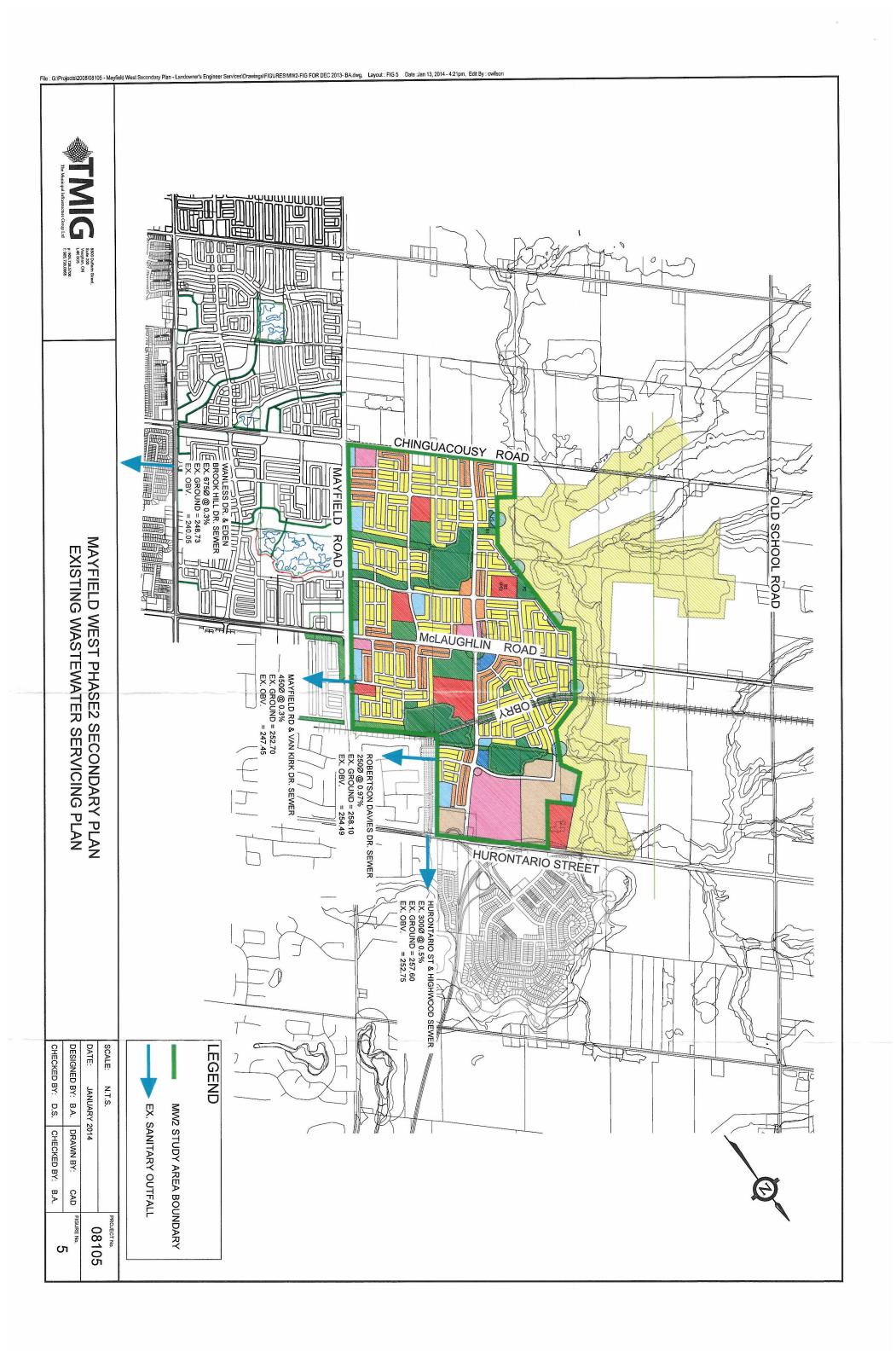
APPENDIX "B"

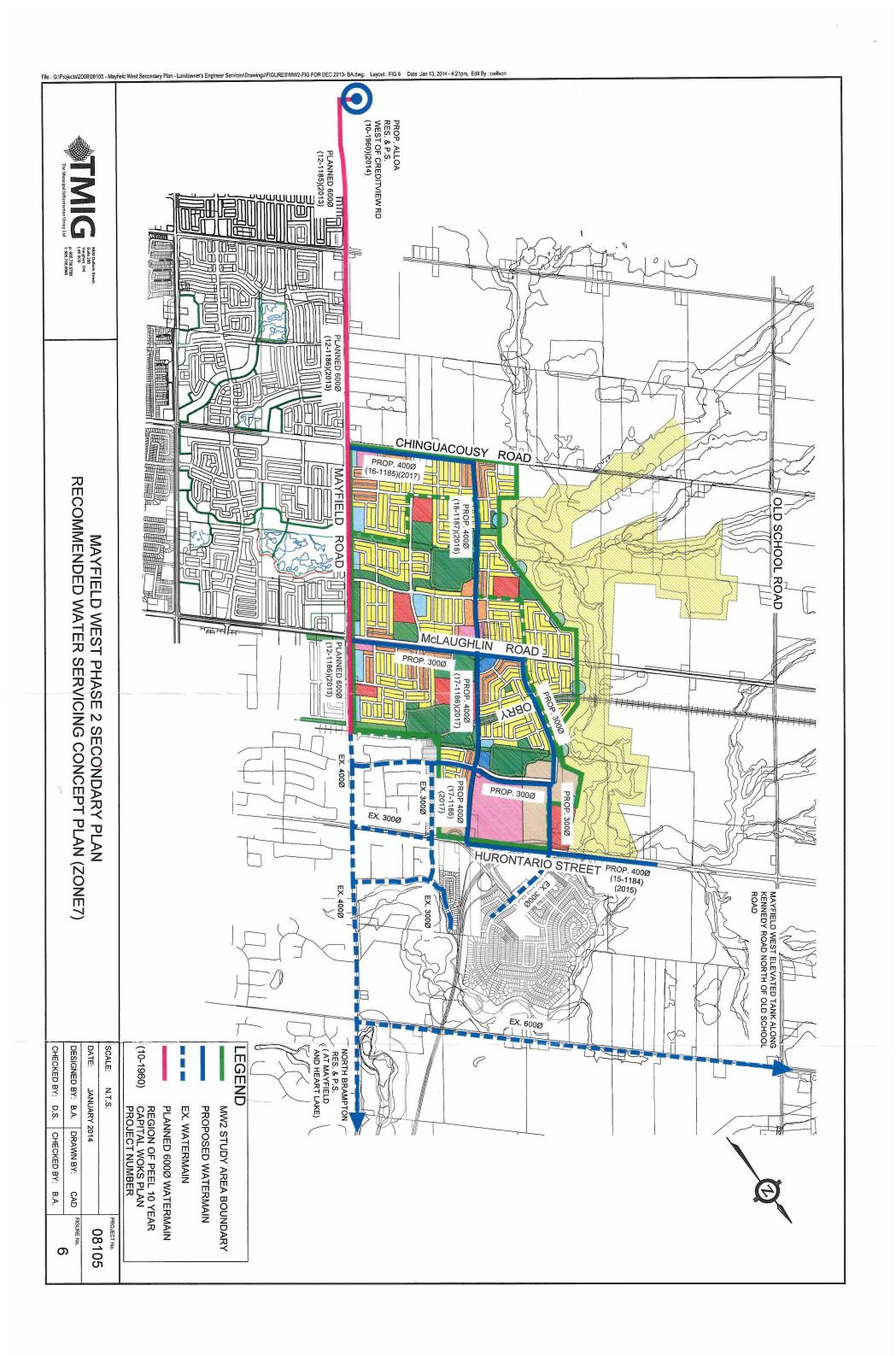
Urbantech Consulting, Sanitary Sewer Design Sheets 1 and 2 of Appendix 8 o9f FSR dated August 2017

APPENDIX "A"

Figures 4, 6 and 7 of The Municipal Infrastructure Group Water and Wastewater Servicing Study dated January 2016







APPENDIX "B" Urbantech Consulting, Sanitary Sewer Design Sheets 1 and 2 of Appendix 8 o9f FSR dated August 2017



Spine Road Spine Road Spine Road	Spine Road Spine Road	Spine Road	McLaughlin Road McLaughlin Road McLaughlin Road McLaughlin Road	Spine Road Spine Road Spine Road Spine Road Spine Road	Local Local Local Local Local Local Local	Spine Road Spine Road	Local Local Local Local Local Local Local Local	Spine Road Spine Road Spine Road Spine Road	Local Local Local Spine Road	Local Local Local	Collector Road 'A'	OUTLET 1 - EDENBROOK HILL DRIVE OUTFALL McLaughlin Road 100A McLaughlin Road 101A McLaughlin Road 101A McLaughlin Road 102A McLaughlin Road 103A McLaughlin Road 104A McLaughlin Road 105A McLaughlin Road 105A	STREET	SANIT
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													AREA (ha)	PROJECT DETAILS ect No: 15-483 Date: 13-Jul-17 ned by: T.L. ked by: J.O.
													ACC. AREA (ha)	
													/INDUSTRIAL, EQUIV. F POP. I (p/ha) (l	
													EQUIV. FLOW EQUIV. POP. RATE POP. (p/ha) (l/s/ha)	
													AL ACCUM. P. EQUIV. POP.	
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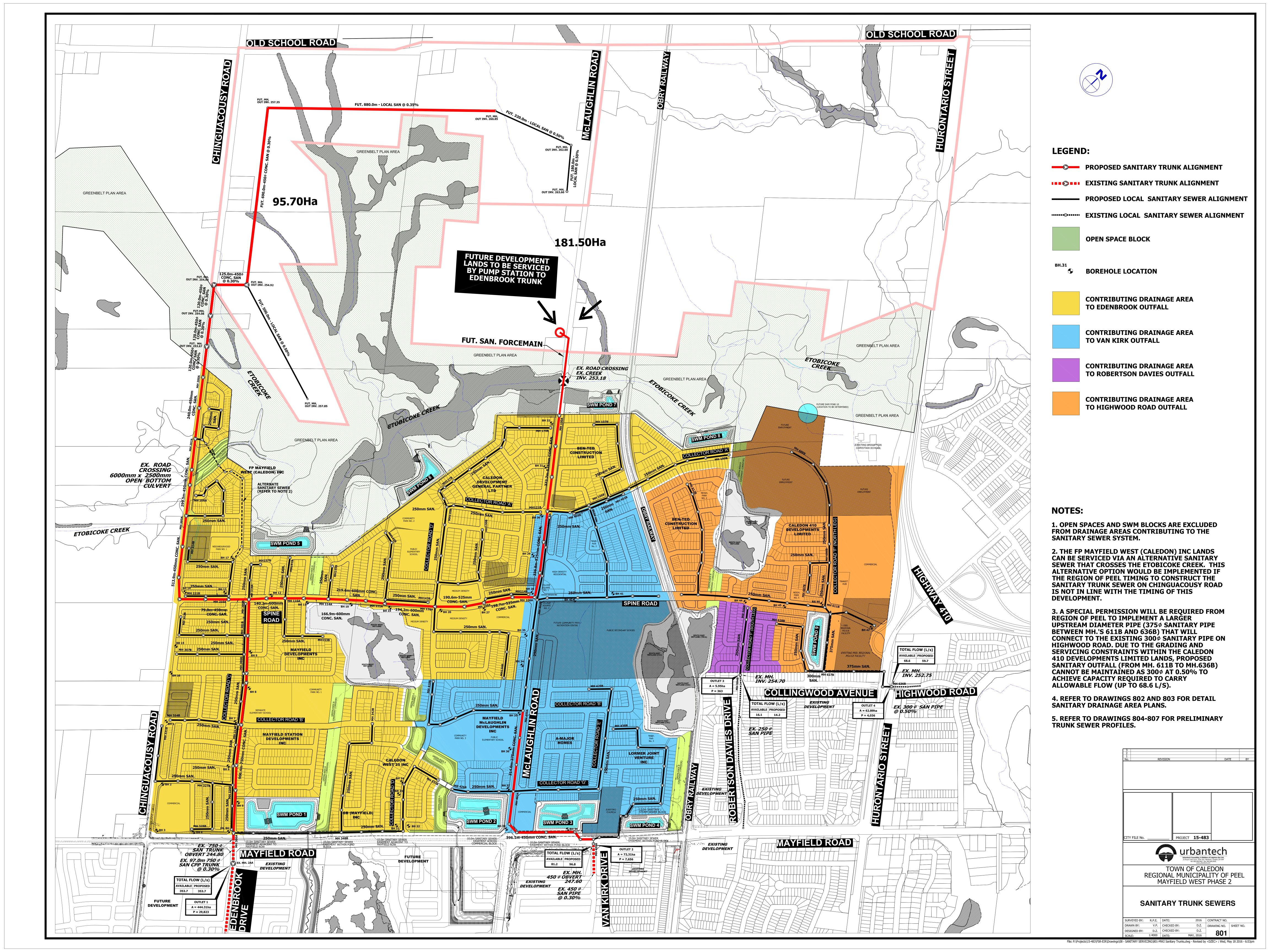
Urbantech Consulting, A Division of Leighton-Zec Ltd. 25 Royal Crest Court, Suite 201 Markham, Ontario L3R 9X4 TEL: 905.946.9461 FAX: 905.946.9595 www.urbantech.com

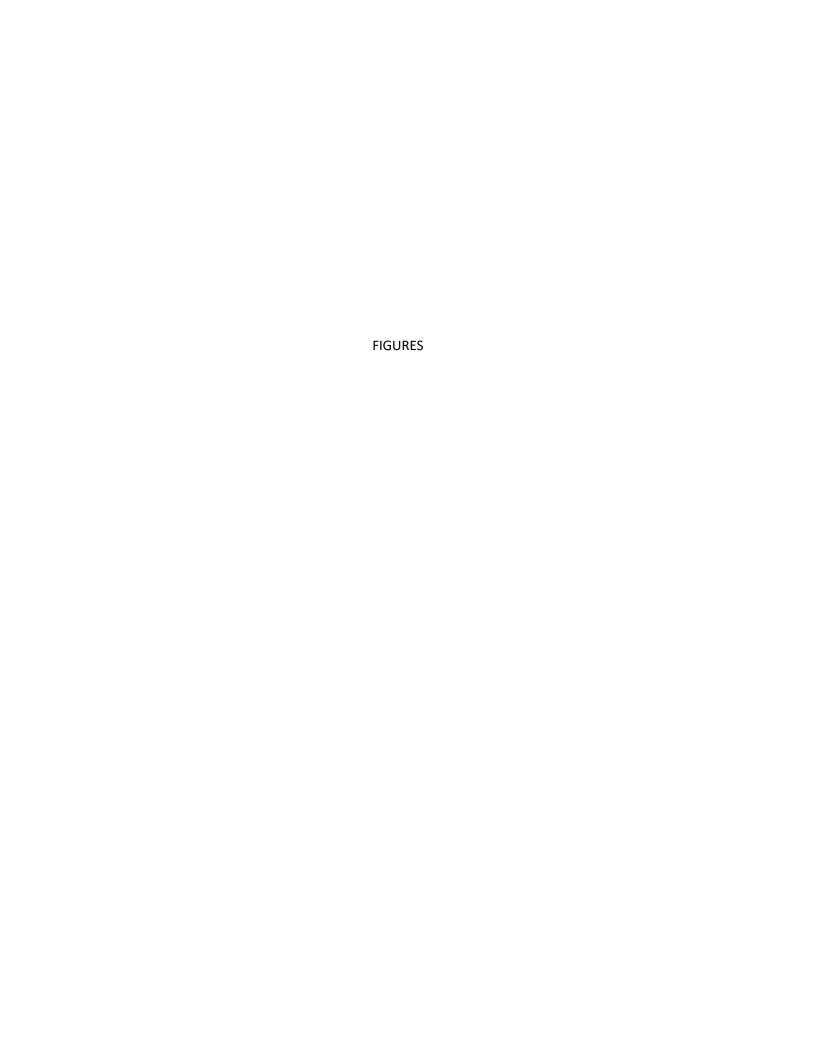


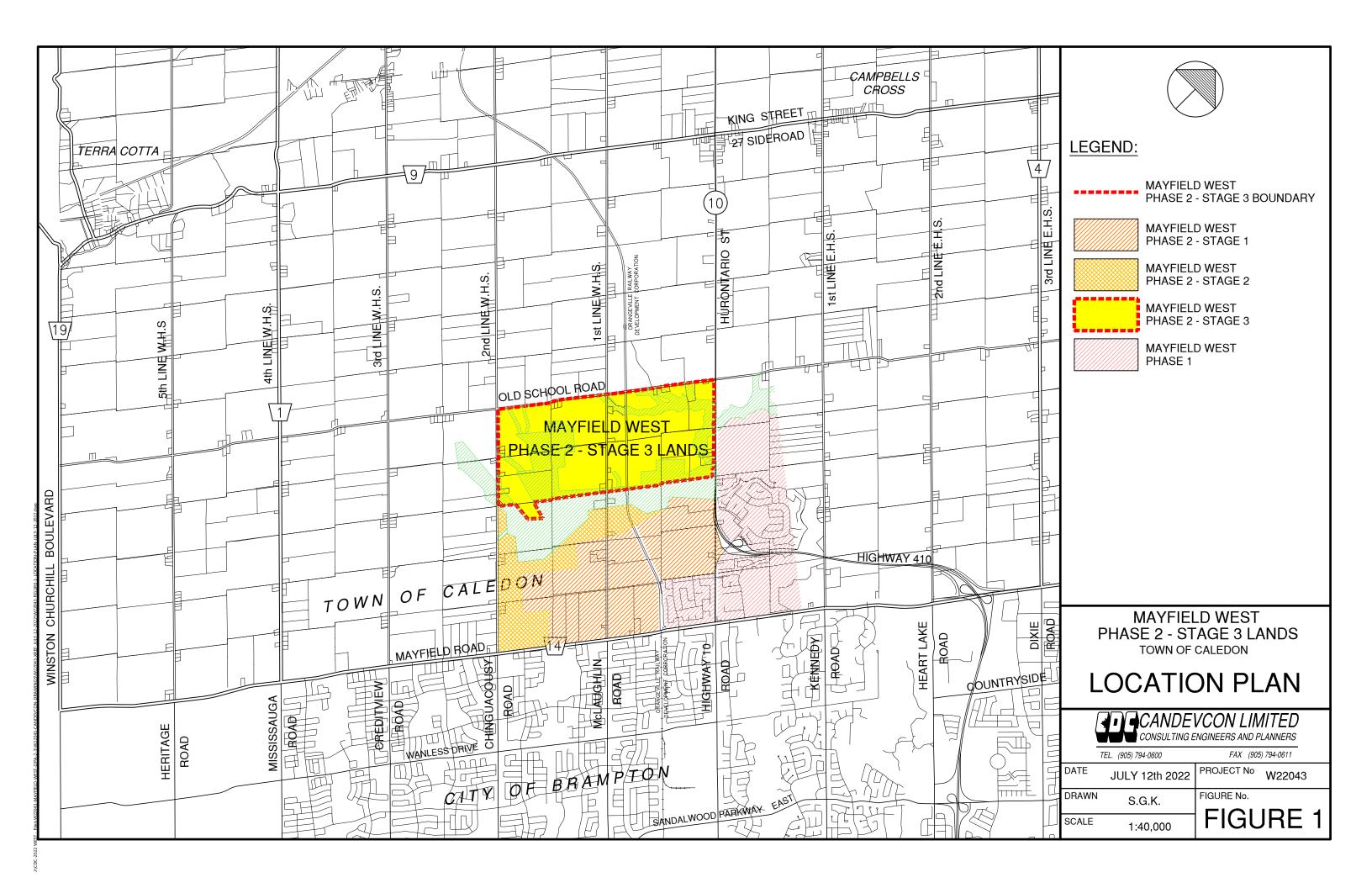
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					COMM. CO	Avg. Domestic Flow = 302.4 Avg. Domestic Flow = 0.200 Infiltration = 0.200 Max. Peaking Factor = 4.00 Min. Peaking Factor = 1.50 Domestic Sewage flow for < (Region of Peel Std. 2-5-2)
11: 12: 13: 14: 15: 16: 17: 17: 17: 17: 17: 17: 17: 17: 17: 17	25 25 26 26	25 3.1.1.	222 2222	22	ACCUM. TO COMM. FLOW F	1. <
1.00 13.4 0.50 13.5 0.50 13.5 0.50 13.5 0.30 270.8 0.30 101.5 0.30 104.8 0.30 104.8 0.30 104.8 0.30 110.2 0.30 110.2 0.30 110.2 0.30 110.2 0.30 110.2 0.30	1.00 0.50 258.0 0.30 258.0 0.30 265.6 0.30 265.6 0.30 267.3 0.30	0.50 0.50 0.50 0.50 0.50 0.50 13.5 0.50 38.8 0.50 258.0 0.30	0.50 0.50 0.50 0.50 20.1 1.00 20.1 1.00 20.1 0.50 20.1 0.50 20.1 0.50 20.1 0.50 20.1 0.50 20.1 0.50	0.50 226.5 0.30 226.5 0.30 1.00 0.50	TOTAL SLOPE FLOW (1/5) (%)	1A 302.8 /c/d 0.200 /s/ha 4.00 1.50 for < 1000 ppi =
250 250 250 250 250 250 250 600 600 600 450 450 450 450 450 450 450	250 250 250 250 0 600 0 600 600 600	0 250 0 250 0 250 0 250 0 250 0 250 0 250 0 300 0 300			PIPE PE DIAMETER (mm)	1 1 0 = 0.013m³/s
					PIPE R LENGTH	
59.5 42.0 42.0 336.3 336.3 336.3 336.3 156.2 156.2 156.2 156.2 156.2 156.2 156.2 156.2 156.2 156.2 156.2 156.2 156.2 156.2 156.2	59.5 42.0 336.3 336.3 336.3 336.3 336.3	42.0 42.0 42.0 42.0 42.0 42.0 42.0 42.0	42.0 42.0 42.0 42.0 59.5 42.0 42.0 42.0 42.0 42.0	42.0 336.3 336.3 59.5	PIPE DATA FULL FLOW CAPACITY (I/s)	
1.21 0.86 0.86 0.86 1.19 1.19 1.19 0.98 0.98 0.98 0.98 0.98	1.21 0.86 1.19 1.19 1.19 1.19 1.19	1.21 0.86 0.86 0.86 0.86 0.86 0.86	0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86	0.86 1.19 1.19 1.19 1.21 0.86	FULL FLOW VELOCITY (m/s)	SIGNATURA SIGNATURA
0.31 0.22 0.25 0.25 1.31 1.31 1.31 1.31 1.03 1.03 1.03 1.03	0.31 0.22 1.30 1.30 1.30 1.30	0.22 0.22 0.22 0.22 0.22 0.22 0.22 0.22	0.22 0.22 0.22 0.22 1.05 1.05 0.82 0.82 0.82 0.82 0.82	0.22 1.25 1.25 1.25 0.31	W ACTUAL PERCENT Y VELOCITY FULL (m/s) (%)	Sign of the control o
32% 80% 81% 65% 67% 67% 67% 71% 71% 71%	77% 77% 79% 79% 79%	57%	34% 48% 48% 48% 48% 48%	67% 67%	PERCENT FULL (%)	

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LAND USE

Mayfield West Phase 2 - Stage 3 Secondary Plan Boundary

Low Density Residential

Medium Density Residential

General Commercial

Institutional

Open Space Policy Area

Stormwater Pond Facility

---- Collector Roads

Future Trail System

Environmental Policy Area

Boundary of Greenbelt Plan Area

Elementary School

NOTE:

PROPOSED LAND USES BASED ON MALONE GIVEN PARSONS FILE No. 21-3130 MAYFIELD WEST - URBAN STRUCTURE PLAN 2022 06 30 Land Use Plan-FINAL.dwg DATED JUNE 30 2022

> MAYFIELD WEST PHASE 2 - STAGE 3 LANDS TOWN OF CALEDON **URBAN STRUCTURE** CONCEPTUAL PLAN

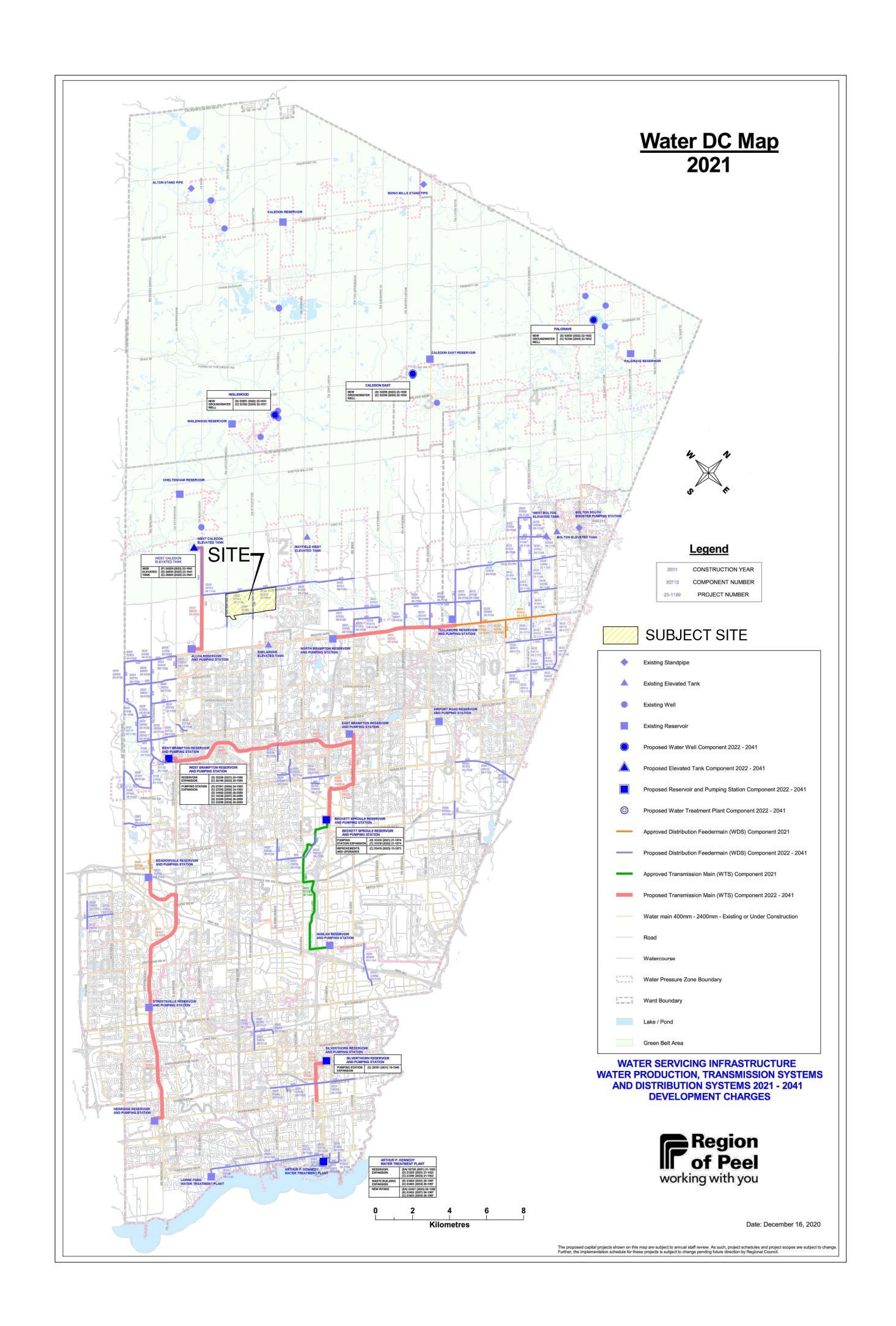


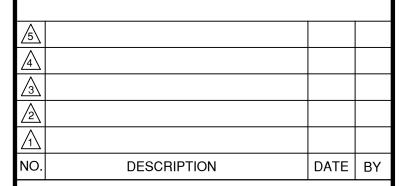
FAX (905) 794-0611 TEL. (905) 794-0600

PROJECT No. W22043 DATE JULY 12th 2022 FIGURE No.

DRAWN S.G.K.

SCALE OM 100 200 300 FIGURE 2



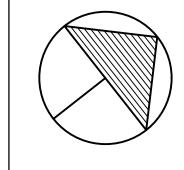


REVISIONS

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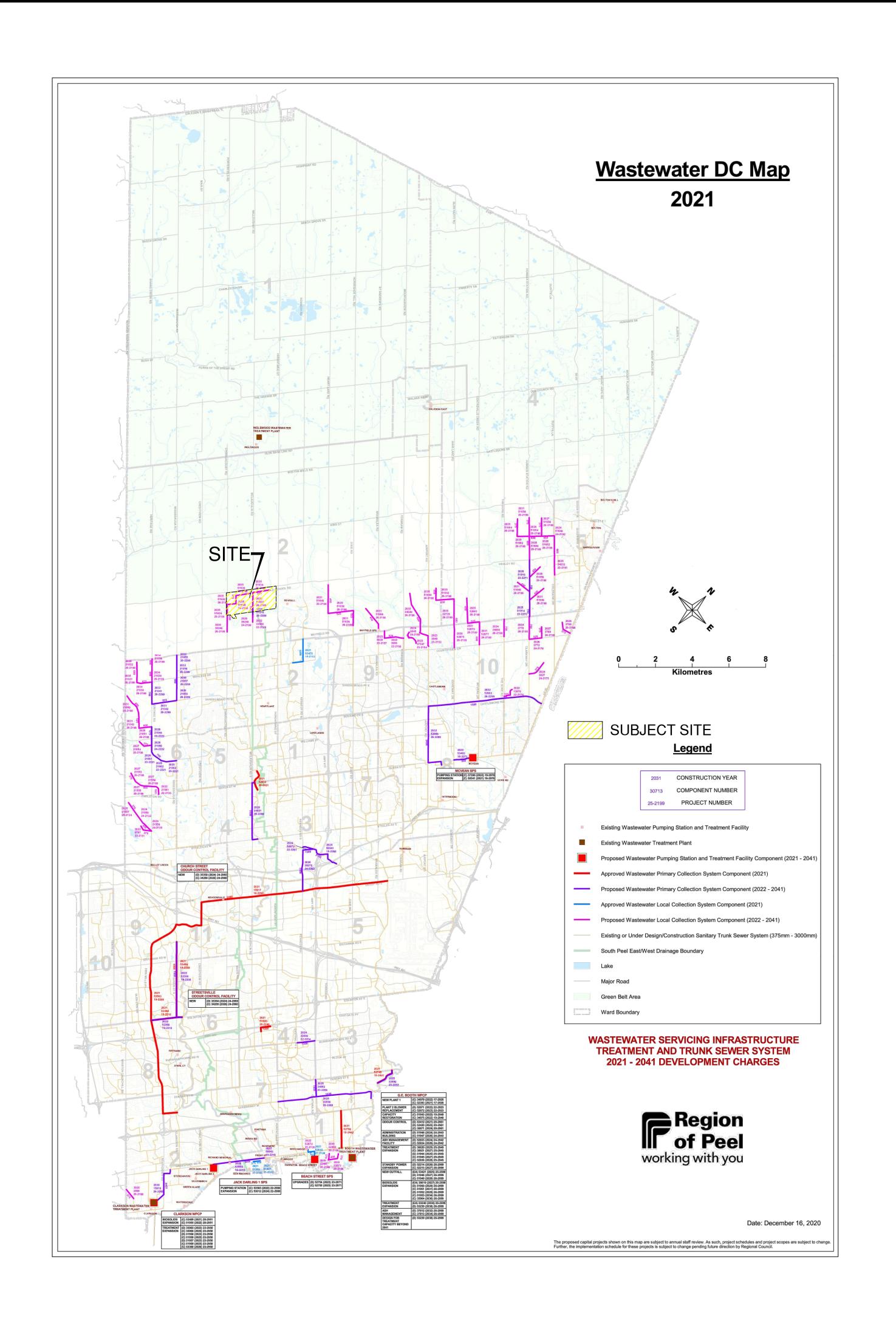
MAYFIELD WEST PHASE 2 - STAGE 3 LANDS

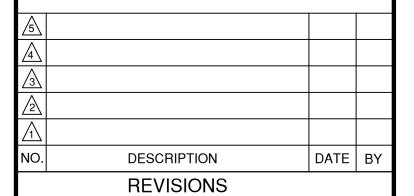
TOWN OF CALEDON

SHEET TITLE:

REGION OF PEEL 2021- 2041 WATER DC MAP

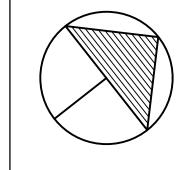
DRAWN BY: S.G.K.	PROJECT No. W22043
CHECKED BY: D.K.H.	DRAWING No.
SCALE: 1:125,000	
DATE: JULY 12th 2022	





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MAYFIELD WEST PHASE 2 - STAGE 3 LANDS

TOWN OF CALEDON

REGION OF PEEL

2021-2041
WASTEWATER DC MAP

DRAWN	S.G.K.	PROJECT No. W22043	
CHECKE	D.K.H.	DRAWING No.	
SCALE:	1:125,000		
DATE:	JULY 12th 2022	FIG.4	



LAND USE

Mayfield West Phase 2 - Stage 3 Secondary Plan Boundary

Low Density Residential

Medium Density Residential

General Commercial

Institutional

Open Space Policy Area

Stormwater Pond Facility

---- Collector Roads

Future Trail System

Environmental Policy Area

Boundary of Greenbelt Plan Area

Elementary School

EXISTING WATERMAIN

PROPOSED WATERMAIN

NOTE:

PROPOSED LAND USES BASED ON MALONE GIVEN PARSONS FILE No. 21-3130 MAYFIELD WEST - URBAN STRUCTURE PLAN 2022 06 30 Land Use Plan-FINAL.dwg DATED JUNE 30 2022

MAYFIELD WEST
PHASE 2 - STAGE 3 LANDS
TOWN OF CALEDON
EXISTING AND PLANNED

WATER INFRASTRUCTURE PLAN

CANDEVCON LIMITED

CONSULTING ENGINEERS AND PLANNERS

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DATE JULY 12th 2022 PROJECT No. W22043

DRAWN S.G.K. FIGURE No.

SCALE Om 100 200 300 FIGURE 5

SCHOOL

ROAD



LAND USE

Mayfield West Phase 2 - Stage 3 Secondary Plan Boundary

Low Density Residential

Medium Density Residential

General Commercial

Institutional

Open Space Policy Area

Stormwater Pond Facility

---- Collector Roads

Future Trail System

Environmental Policy Area

Boundary of Greenbelt Plan Area

Elementary School

EXISTING SANITARY

PROPOSED SANITARY

NOTE:

PROPOSED LAND USES BASED ON MALONE GIVEN PARSONS FILE No. 21-3130 MAYFIELD WEST - URBAN STRUCTURE PLAN 2022 06 30 Land Use Plan-FINAL.dwg DATED JUNE 30 2022

> MAYFIELD WEST PHASE 2 - STAGE 3 LANDS TOWN OF CALEDON

EXISTING AND PLANNED WASTEWATER INFRASTRUCTURE PLAN



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PROJECT No. W22043 DATE JULY 12th 2022 FIGURE No. DRAWN S.G.K.

SCALE Om 100 200 300 FIGURE 6

