



FUNCTIONAL SERVICING REPORT

Water, Sanitary, and Stormwater Management

MACDONALD ROSE INC. SUBDIVISION

358 REYNOLDS STREET
TOWN OF OAKVILLE

OUR FILE: 1816

PREPARED FOR MACDONALD ROSE INC.

NOVEMBER 10, 2023

REVISION HISTORY

DATE	REVISION	SUBMISSION
November 10, 2023	2	Revised for 1 st Pre-Submission Comments
June 27, 2023	1	Issued for Rezoning/ Draft Plan of Subdivision Application

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- Architectural Site Plan

APPENDIX 'B'

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1.0 INTRODUCTION

1.1 Scope of Functional Servicing Report

This report has been prepared in support of the Rezoning and Draft Plan of Subdivision Application for a proposed residential development located at 358 Reynolds Street in Oakville.

The Draft Plan of Subdivision for the subject lands was prepared by *SGL Planning & Design Inc.* dated *November 6, 2023* and can be found in Appendix 'A'. The Draft Plan of Subdivision consists of 3 blocks. Block 1 and 2 are development blocks, while Block 3 is a road widening for MacDonald Road and includes a daylighting triangle at the southwest corner of MacDonald Road and Reynolds Street. The topographic survey prepared by R-PE Surveying Ltd. can also be found in Appendix 'A'.

This report outlines how the subdivision can be serviced by the existing and proposed infrastructure for water, wastewater, and storm drainage. This report should be read in conjunction with the other plans and reports submitted in support of the planning approvals being sought for the project.

For the purposes of this report, north is defined as running parallel to Reynolds Street.

1.2 Reference Documents

The following studies/reports/documents were reviewed in the preparation of this report.

- *Drawing 7.3 to 7.4 - "Stormwater Management Master Plan, Town of Oakville"*
- Development Engineering Procedures & Guidelines Manual, Town of Oakville, May 2023 (**Town's Manual**)
- Stormwater Management Planning and Guidelines Manual, Ministry of Environment, March, 2003 (**MOE Manual**).
- "Water and Wastewater Linear Design Manual", Region of Halton October, 2019. (**Region's Manual**)

Furthermore, Trafalgar Engineering prepared plans and reports to support previous planning applications for the subject lands.

1.3 Site Location and Description

As previously mentioned, the site is known municipally as 358 Reynolds Street. The 0.283ha property is located on the south-west corner of MacDonald Road and Reynolds Street. The west and south sides of the property abut existing low density residential uses. The subject lands were the previous home of the Oakville Medical Arts building. An existing three storey building is located at the east side of the property and is currently vacant. South and west of the building is a large parking lot with a fringe of landscaping along its boundary. Driveway accesses are provided to both Reynolds Street and MacDonald Road. The existing site is relatively flat.

1.4 Proposed Development

The development blocks created by Plan of Subdivision will be further divided into 11 parcels/units and developed with two three-storey townhouse blocks consisting of 6 street townhomes for the west block (Block 1) and 5 street townhomes for the east block (Block 2). Building construction is slab on grade hence no basements are proposed. Each townhouse will have its own driveway entrance off of McDonald Road, with the exception of the corner unit on the east which will have a driveway entrance off of Reynolds Street. Pedestrian access will be provided by a new sidewalk proposed along MacDonald Road. A copy of the preliminary site plan is included in Appendix 'A' for reference.

2.0 MUNICIPAL WATER AND WASTEWATER

Municipal water and wastewater services for the subject site are to be designed in accordance with the Region of Halton Design Manual.

Per the Halton Water & Wastewater Linear Design Manual, for townhouses, the equivalent population density is 135 persons per hectare. Based on this density, the site would have an equivalent of 38 persons ($135 \text{ persons/ha} \times 0.283 \text{ ha}$).

2.1 Water

There is an existing 300mm diameter watermain along MacDonald Road and an existing 300mm diameter watermain along Reynolds Street. The existing building is connected to the MacDonald Road watermain. See the engineering record drawings in Appendix 'B' for further detail.

Using the development area and Region of Halton design criteria, the domestic water usage is estimated and summarized below (see Appendix 'A' for supporting calculations). The fire flow is estimated for demand purposes only using the Fire Underwriter's Survey methodology and should be confirmed at the building permit stage.

Table 1 – Estimated Water Demands

Average Daily Demand	5.0	(L/min)
Minimum Hourly Demand	5.0	(L/min)
Maximum Hourly Demand	20.0	(L/min)
Maximum Daily Demand	11.0	(L/min)
Estimated Fire Demand (FUS 1999)	8,000	(L/min)
Maximum Daily Plus Fire Demand	8,011	(L/min)

A flow test was undertaken (June 9, 2023) using the base hydrant at the east side of the site and the test hydrant at the north side of the site. The results of the flow test are included in Appendix 'C' and are summarized as follows:

Base Hydrant at 358 Reynolds Street

Static Pressure;	57 psig
Flow 1,353 usgpm (5,100 L/min)	residual 56 psig
Flow 2,372 usgpm (10,320 L/min)	residual 54 psig
Theoretical Flow 3,560 usgpm (13,500 L/min)	residual 20 psig
Estimated Max. Daily Plus Fire Service Pressure	56 psig

Based on the hydrant flow test, there is enough pressure and flow to meet the required demands.

The locations of the nearby hydrants on Reynolds Street and MacDonald Road provide adequate coverage for the proposed development and are within 90 metres of all principal entrances.

The subject site will be serviced using the existing 300mm local watermain on MacDonald Road for domestic water. Each townhouse will have typical 25mm individual service connections. The existing water connection to MacDonald Road will be disconnected.

2.2 Wastewater

There are existing 200mm diameter sanitary sewers along MacDonald Road and Reynolds Street. The two sanitary sewers on MacDonald Road flow west to Trafalgar Road and are about 2m *deep* to the invert. The sanitary sewer on Reynolds Street flows south and is approximately 2m *deep* to the invert. Records show that the existing building is connected to the existing sewer along MacDonald Road. Record drawings also show a second sewer lateral was provided to the property as part of the sewer reconstruction along Reynolds Street that was undertaken in 2006. See Appendix 'B' for further detail. The sewage flows were calculated for the development and the results are as summarized below. Further detail can be found in Appendix 'C'.

Table 2 – Estimated Sanitary Demands

Average Daily Dry Weather Flow	0.12	(L/s)
Modified Harmon Peaking Factor	4.34	
Infiltration Allowance (0.26 L/s-ha)	0.08	(L/s)
Peak Daily Flow	0.61	(L/s)

The subject site will be serviced using the existing 200mm diameter sanitary sewers on MacDonald Road and Reynolds Street. Each townhouse will have typical 125mm individual service connections. The existing sanitary service to the building will be disconnected.

The MacDonald Road sewer is tributary to the Trafalgar Road/Rebecca Street Trunk sewers. *An analysis of the downstream sewer system can be provided once the Region's Infoworks model is available.*

3.0 STORM DRAINAGE AND STORMWATER MANAGEMENT

3.1 Existing Storm Drainage

3.1.1 Minor System

There is a 975mm diameter sewer running along Reynolds Street adjacent to the subject site. The sewer system is tributary to the Sixteen Mile Creek. The record drawings also indicate that there is an abandoned 450mm diameter sewer along Reynolds Street (See Appendix 'B'). Adjacent to the site, along MacDonald Road, is a flat roadside ditch draining from west to east to the Reynolds Street sewer.

Based on a review of Oakville's Stormwater Master Plan (Drawing 7.3 and 7.4 – see Appendix 'B' for further detail), the storm sewer on Reynolds Street in the vicinity of the site is identified as *unsurcharged during the 5-year event and ½ surcharging depth and above the obvert during the 100-year storm in the existing condition.*

The topographic survey indicates that the majority of the parking lot west of the existing building drains towards the existing ditch along MacDonald Road. A small fringe strip along the southern part of the parking lot drains towards the adjacent lands to the south.

The driveway south of the existing building is drained by two catchbasins that collect drainage from the driveway. The rainwater leaders from the roof run along the outside face of the building and are connected to an underground drainage system. Both above items indicate that there is an onsite storm sewer system, however we have not been able to determine the connectivity of the existing sewer system.

3.1.2 Major System

Based on a review of Oakville's Stormwater Master Plan (*Drawing 7.7 – See Appendix 'B' for further detail*), the flow is contained within the curb during the 100-year storm in the existing condition.

A review of the existing major overland flow along MacDonald Road indicates that the elevation at the corner of Reynolds and MacDonald prevents overland flow from being directed along the municipal right-of-way. Flow analysis in HEC-RAS was undertaken to assess the existing conditions, and the results showed that the major overland flow route is through the subject lands.

The area draining towards the existing ditch on the south side of the roadway includes the entire MacDonald Road right-of-way, the residential lots on the north side of the roadway, parts of the lots on the south side of MacDonald Road west of the site, and the site itself. Using existing topographic mapping, a drainage area was estimated to be 1.04 ha as shown in the Storm Drainage Area Plan (Appendix 'D').

3.2 Proposed Storm Drainage

3.2.1 Minor and Major System

The Town's Stormwater Management Master Plan sets out evaluation criteria and hierarchy for conveyance capacity improvements (major systems) within the Town's network. Figure 8.2.1 from the Master Plan provides a flow chart for making those evaluations. When greater than 50% of the major overland flow is outside the ROW and toward the buildings, the evaluation indicates the need to increase the pipe size within the minor system and to re-profile the road where offline storage is unavailable. Since there are no opportunities for offline storage, we propose removal of the existing ditch, re-profiling the south edge, introducing a curb, gutter, and boulevard (urbanization), and a municipal storm sewer on MacDonald Road.

With the urbanization of MacDonald Road across the subject land's frontage, the existing ditch will be replaced with a storm sewer and a series of catchbasins and connected to the existing 975mm diameter storm sewer on Reynolds Street. The proposed storm sewer will be 450mm in diameter and has been designed for the 100-year storm.

Flows from the existing ditch west of the site will be intercepted by a ditch inlet catchbasin and conveyed to the 525mm diameter storm sewer which will allow flows from the ditch to the west to enter the sewer system.

The front yards, driveways, and front roof areas will sheet flow from the buildings to MacDonald Road. The rear roof areas will splash to grade and be directed to a rear lot catchbasin and lead to the proposed 450mm storm sewer on MacDonald Road.

The overland flow route from the subject site will be directed east along MacDonald Road and ultimately south along Reynolds Street. Due to the grading conditions at the south end of the property, the rear lot catchbasin will require a lower top of grate elevation than the proposed catchbasins on MacDonald Road. To avoid the potential of the storm sewer backing up and spilling from the rear lot catchbasin, a backflow preventer is proposed in the catchbasin lead directly north of the catchbasin. This will ensure that stormwater is self-contained and that there is safe conveyance to municipal lands. Further detail on the 100-year ponding level of the rear lot catchbasin will be provided at the site plan stage.

3.3 Stormwater Management

The Town of Oakville requirements for stormwater management are as follows:

1. Stormwater Quantity Control (Peak Flow Control)

The minimum control is to maintain post-development peak runoff rates to pre-development levels for all events up to and including the 100-year storm.

2. Stormwater Runoff Volume Reduction (Water Balance)

As per the draft Oakville Development Engineering Procedures and Guidelines (May 2023), sites are to be designed such that the runoff from a 25 mm event shall be retained on site.

3. Stormwater Quality Control

i) Construction Phase (Erosion and Sediment Control)

ii) Post Construction: Achieve Enhanced Level 1 Protection, as per the Ministry of Environment's Stormwater Management Planning and Design Manual (March 2003).

3.3.1 Stormwater Quantity Control (Peak Flow Control)

The required quantity control for the site is to limit the peak post-development flows to the pre-development flows.

Based on the existing topographic survey, a pre-development composite runoff coefficient was determined for the subject site. In calculating the runoff coefficient, $C=0.25$ was used for pervious areas and $C=0.90$ used for impervious areas (building roof, parking lots, walkways).

Using a similar method, a post-development composite runoff coefficient was developed using the proposed site plan.

The overall post-development imperviousness of the site will be slightly less than in the pre-development condition given that the existing site mainly consists of an asphalt parking lot and building. The pre-development runoff coefficient was found to be $C=0.84$, while the post-development runoff coefficient was calculated as $C=0.71$. *As a conservative approach, a post-development runoff coefficient of $C=0.84$ was used to determine the allowable release rate in the post-development condition. With this approach, there is no change in flows when comparing the pre-development condition to the post development condition. Therefore, no quantity controls are proposed.*

3.3.2 Stormwater Runoff Volume Reduction (Water Balance)

As per the Town's Development Manual, it is recommended that 25 mm of water is retained across the site. This would result in 70.75 m^3 of retention volume. Given the tenure of the development, space limitation, and desired tree preservation, the opportunity for introduction of meaningful LID measures is limited. Notwithstanding, best efforts to address the volume control criteria should be made. We suggest the use of an infiltration strip across the rear yards outside the tree preservation zone. Further detail can be provided *once a hydrogeologic study is undertaken to determine if groundwater and soil conditions are suitable for infiltration.*

3.3.3 Stormwater Quality Control

Stormwater quality controls will need to be implemented during the construction phase as well as post-construction.

i) Construction Phase (Erosion and Sediment Control)

The primary source of sediment laden runoff will be as a result of vehicle mud tracking. In addition to on-site controls, off-site controls in the vicinity of the site will be required to mitigate sediment transport. Prior to any construction activity, all sediment and erosion control measures shall be implemented. These measures include sediment control fence, mud mat at construction entrance, catch basin sediment control and routine 'housekeeping' such as sweeping and flushing of the surrounding roads.

All controls shall be inspected on a regular basis and after rainfall events that generate runoff. Of particular importance are the controls placed at catch basins. If not maintained, the tendency for these to become obstructed is high and hence there is a potential for localized pooling and/or drainage issues.

ii) Post Construction

The majority of the site's drainage will be from the roof of the buildings, which can be considered clean and will not require treatment. No measures are proposed for the driveways and front yards. All other drainage will be directed through grassed swales in the rear yards, which will help to trap and remove sediments prior to discharge into the rear lot catchbasin. No further quality control measures are proposed.

4.0 GRADING

The grading of the subdivision must take into account the boundary conditions that exist along all sides of the property such that existing drainage patterns are maintained. The grading to the north is controlled by the top of curb and boulevard gradient of the proposed urbanized roadway, while the grading to the east is controlled by the existing curb and sidewalk on Reynolds Street. The west and south sides of the site must match into the existing elevations along the adjoining properties. In addition, the south side of the site provides some further constraints due to several trees along the property line that are to be preserved. A 3:1 slope is proposed along the tree protection fence to avoid negative impact to the trees. Refer to the Engineering Drawings in Appendix 'D' for further information.

It is proposed that the lots follow a split drainage approach. The lots are sloped such that there will be a walkout condition from the ground floor level out to the rear yard, while the principal entrance is through the main floor level.

Between the two blocks, a swale is proposed to collect drainage. The swale will drain south into a proposed rear lot catchbasin. The south side of both townhouse blocks will also consist of shared swales to collect drainage from the rear yards of the townhouses.

The west side of the site will drain south through a proposed swale. A site visit has noted that the property to the west slopes away from the subject site with the front yard sloping towards the street and the rear yard towards the south.

The adjacent properties to the south drain away from the subject lands toward the south.

5.0 CONCLUSION

Adequate municipal infrastructure exists within the abutting road allowances to support the proposed Draft Plan of Subdivision and Rezoning Amendments being sought. The information in this report provides the framework from which detailed designs can evolve as the development progresses through the planning approval and permitting process.


A 525mm storm sewer will be constructed to collect the 100-year storm from the existing drainage area tributary to the ditch fronting the property.

The development proposal results in a minor decrease in impervious area and therefore a decrease in flows from the subject lands. *Using the pre-development runoff coefficient of $C=0.84$ as the post-development runoff coefficient, there is no increase in flows in the post-development condition.* No quality or quantity controls are proposed.

Implementation of the servicing and grading designs presented in this report will provide the normal expected level of service for the proposed development with no impact to the abutting properties.

PREPARED BY TRAFALGAR ENGINEERING LTD.


Mary Fornasier, EIT
Intermediate Designer


Paul Cifoni, P.Eng.
Consulting Engineer
Principal



APPENDIX 'A'

Draft Plan of Subdivision

Topographic Survey

Architectural Site Plan

PLAN OF SURVEY AND TOPOGRAPHY OF PART OF PARK LOT "O" REGISTERED PLAN 1 TOWN OF OAKVILLE REGIONAL MUNICIPALITY OF HALTON



R-PE SURVEYING LTD., O.L.S.

METRIC
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

LEGEND

- BELLPED DENOTES BELL BOX
- BXC DENOTES COMMUNICATION CABLE BOX
- CB DENOTES CATCH BASIN
- CONC DENOTES CONCRETE
- FF DENOTES FINISHED FLOOR
- INV DENOTES CULVERT INVERT ELEVATION
- UP DENOTES UTILITY POLE
- TS DENOTES TRAFFIC SIGN
- HW DENOTES HANDWELL
- HV DENOTES HYDRANT VAULT
- MH DENOTES MANHOLE
- WV DENOTES WATER VALVE
- W- DENOTES OVERHEAD WIRE
- Ø DENOTES DIAMETER
- 0.50Ø DENOTES DECIDUOUS TREE
- 0.15Ø DENOTES CONIFEROUS TREE
- X DENOTES FENCE LINE
- HYDRANT DENOTES HYDRANT
- ⊙ DENOTES WELL

NOTES

- DENOTES MONUMENT FOUND
- SIB DENOTES STANDARD IRON BAR
- IB DENOTES IRON BAR
- PB DENOTES PLASTIC BAR
- P.I.N. DENOTES PROPERTY IDENTIFIER NUMBER
- PL1 DENOTES PLAN 20R-21965
- PL2 DENOTES PLAN OF SURVEY BY SEWELL AND SEWELL O.L.S., DATED MARCH 31, 1969
- (760) DENOTES McCONNELL MAUGHAN LIMITED, O.L.S.
- (WT) DENOTES WITNESS
- (NI) DENOTES NOT IDENTIFIED
- ORP DENOTES OBSERVED REFERENCE POINT

BENCHMARK NOTE

ELEVATIONS ARE REFERRED TO BENCHMARK No. 0011931U1999 HAVING AN ELEVATION OF 90.39 METRES.
TABLET IN THE TOP OF THE SQUARE PIER IN THE SOUTHWEST CORNER OF GEORGE'S SQUARE, 29.3 METRES NORTHWEST OF SUMNER AVENUE AND 12.5 METRES NORTHEAST OF TRAFALGAR ROAD.
ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD-1928:1978).

INTEGRATION NOTE

BEARINGS ARE GRID, UTM, NAD83 (CSRS:CBNv6:2010.0), DERIVED FROM OBSERVED REFERENCE POINTS FROM REAL TIME NETWORK STATION 20120110009 (NORTHING 4801633.529, EASTING 597944.44).

COORDINATES ARE UTM, ZONE 17, NAD83 (CSRS:CBNv6:2010.0), TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG. 216/10, AND CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

POINT	NORTHING	EASTING
ORP (A)	4812052.21	607160.68
ORP (B)	4811991.51	607114.55
ORP (C)	4812029.89	607190.11

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999732.

SURVEYOR'S CERTIFICATE

- I CERTIFY THAT:
- THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
 - THE SURVEY WAS COMPLETED ON THE 18th DAY OF JANUARY, 2023

DATE JANUARY 19th, 2023

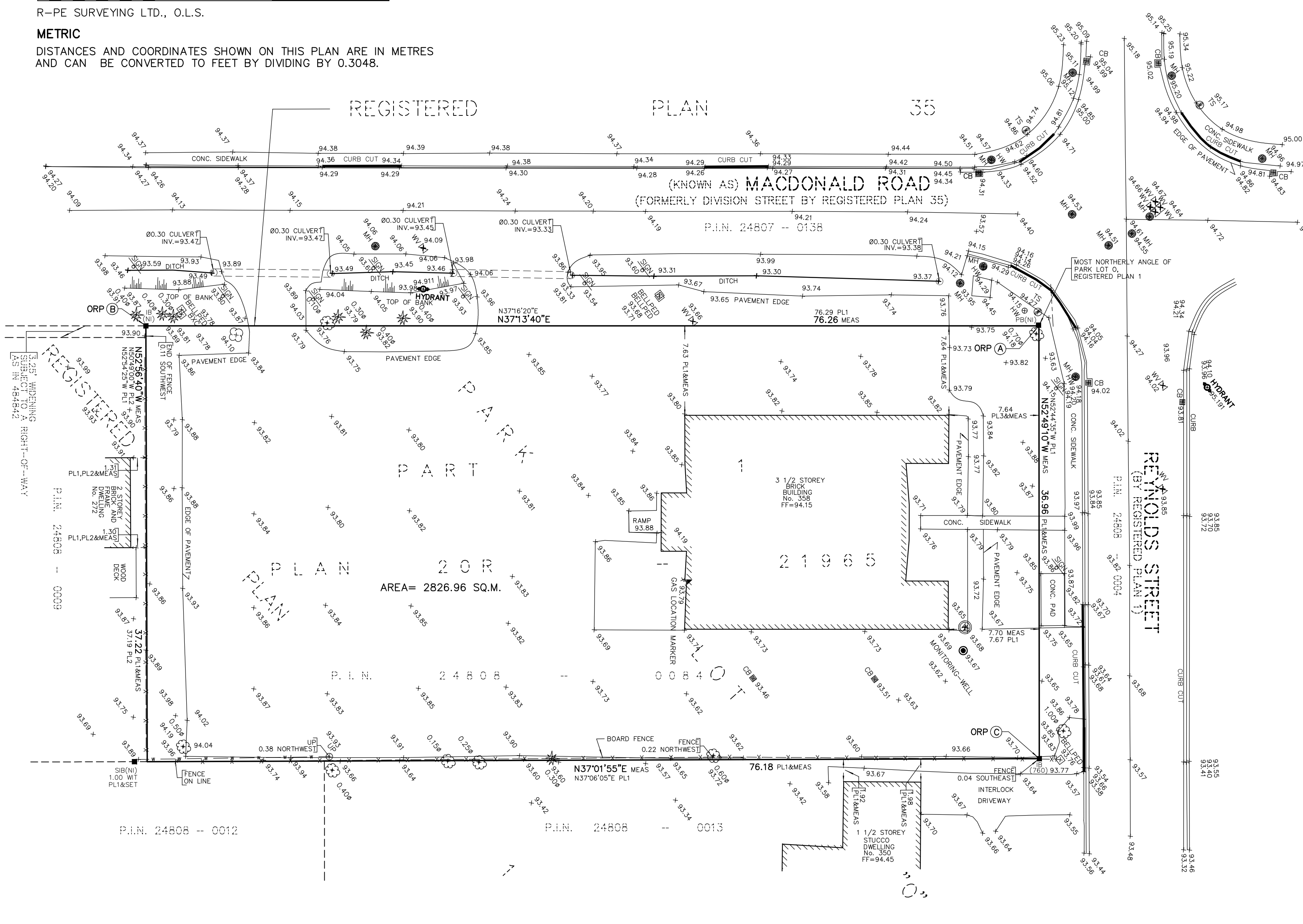
R. Denbroeder

R. DENBROEDER
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS
PLAN SUBMISSION FORM NUMBER 2203815.



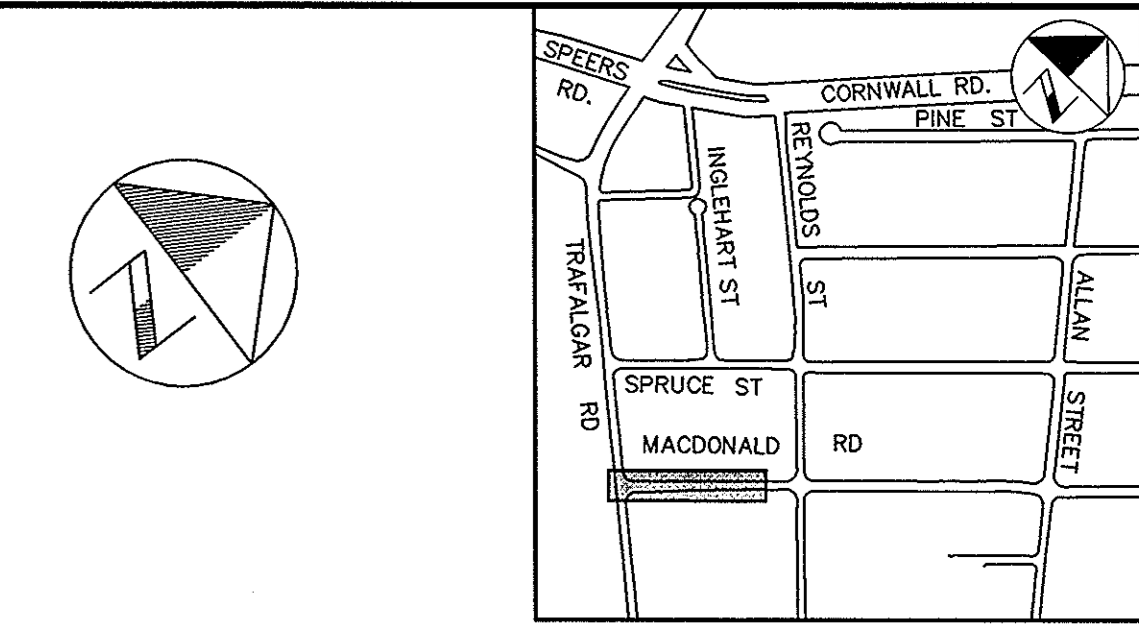
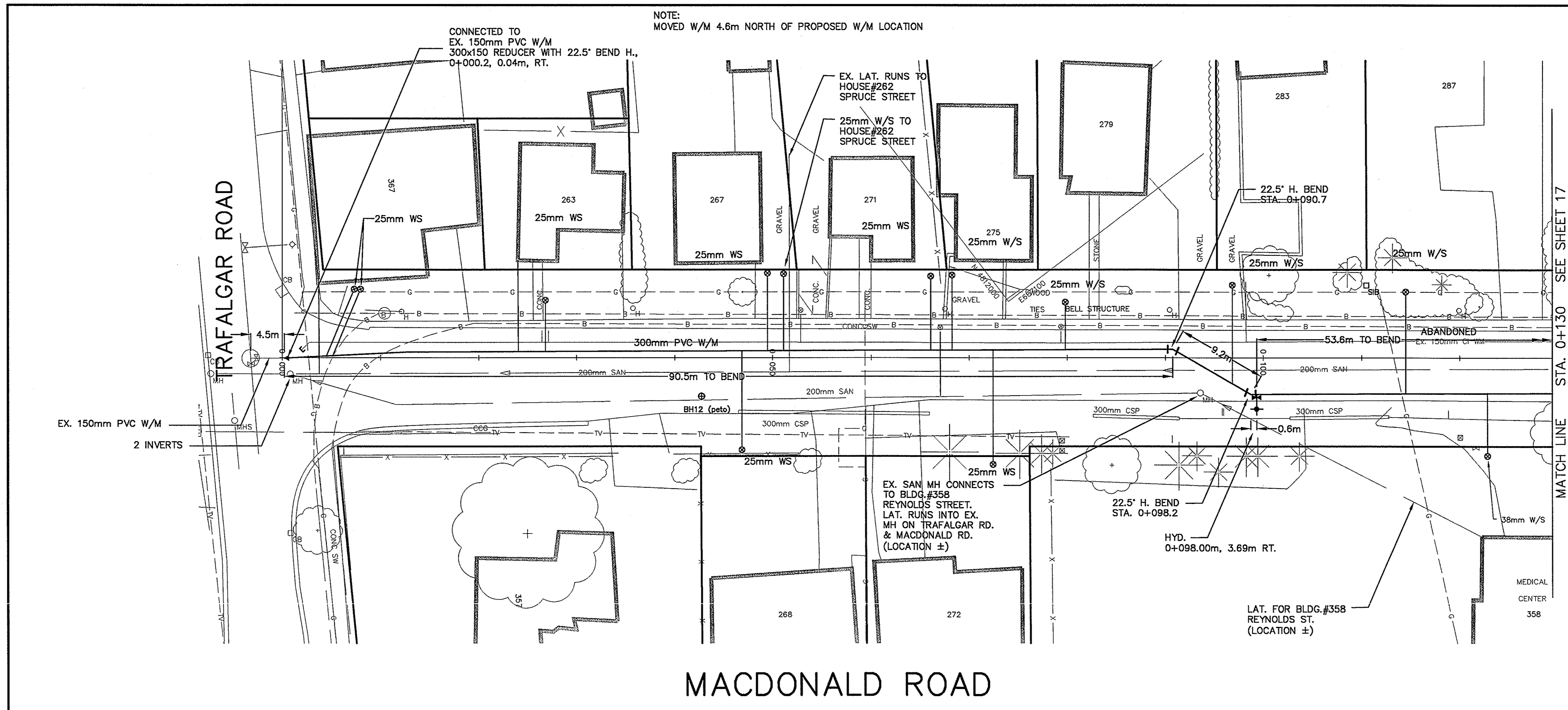
R-PE SURVEYING LTD.
ONTARIO LAND SURVEYORS
643 Chrislea Road, Suite 7
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Website: www.r-pe.ca
DRAWN: S.L. CHECKED: R.D.
JOB No. 22-388 CAD FILE No.22-388TP01A



APPENDIX 'B'

Engineering Record Drawings

Town of Oakville Stormwater Management Master Plan, Drawings 7.3 - 7.4, 7.7



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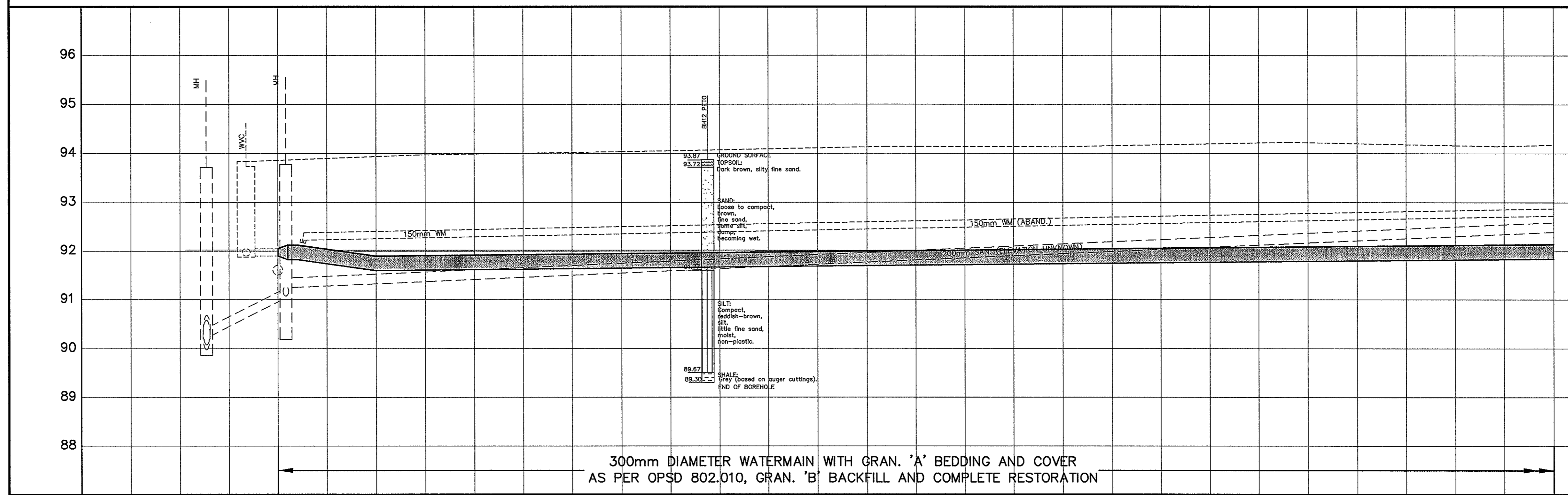
AS-CONSTRUCTED DRAWING

CONTRACTOR	D'ORAZIO CONSTRUCTION
WORK COMMENCED	SEPTEMBER 2002
WORK COMPLETED	AUGUST 2003
INSPECTOR	RON BAMFORD
INSPECTOR'S DIARIES	No. 807 & 823

The Regional Municipality of Halton makes no warranties with respect to the accuracy of this drawing and assumes no responsibility for its use. All information should be verified.

MACDONALD ROAD

SEE SHEET 1 FOR GENERAL NOTES & SHEET 10 FOR RESTORATION DETAILS. SEE SHEET 2 FOR RESTRAINT TABLES.



No.	Date	By	REVISIONS	MANU CAD
1	JAN '07	REJ	"AS CONSTRUCTED"	X

Design	M.B.	Ch'kd	Date
Drawn	D.M.S.	Ch'kd	DECEMBER, 2001

Scale: HOR. 1:250, VERT. 1:50

APPROVALS	Field Notes
Municipal	REGION BOOK
Regional	Stamp
Director, Engineering Services	
Manager, Design Services	

300mm DIAMETER WATERMAIN WITH GRAN. 'A' BEDDING AND COVER AS PER OPSPD 802.010, GRAN. 'B' BACKFILL AND COMPLETE RESTORATION

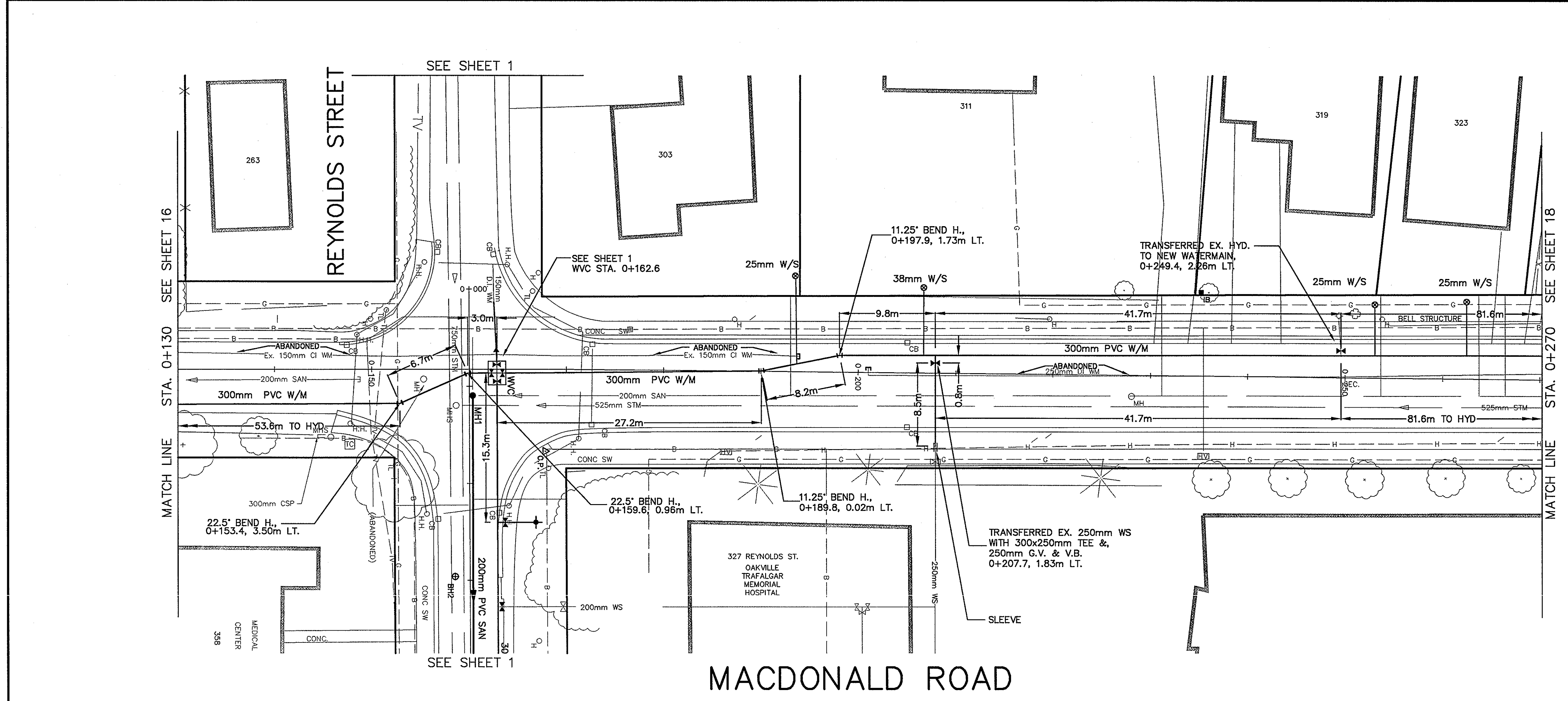
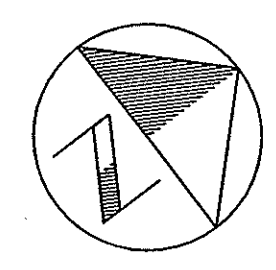
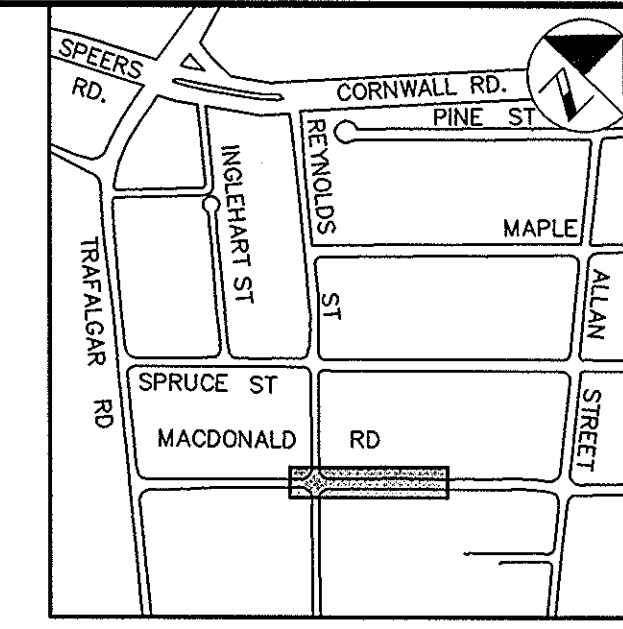
ELEVATIONS	91.83	91.60	91.87	91.89	94.05	94.13	94.14	94.22	94.16	ELEVATIONS
PROPOSED WATERMAIN INVERTS	<p>10m @ 2.30% 140.00m @ 0.20%</p>									PROPOSED WATERMAIN INVERTS
STATIONS	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+130	STATIONS	



WATERMAIN REPLACEMENT ON MACDONALD ROAD OAKVILLE FROM TRAFALGAR RD. TO 130m E.

Consultant File No	Req
CONTRACT No	Drawing No
WS-1986-02	O- 14049 SHEET 16 OF 20

WS-1986-02 O- 14049



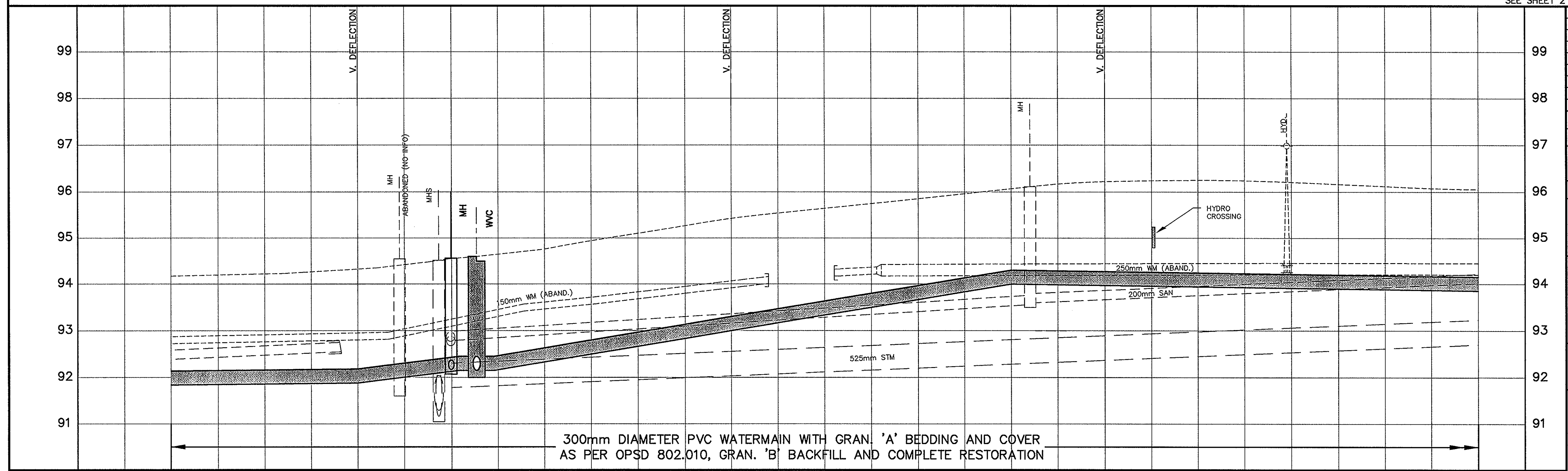
REGIONAL MUNICIPALITY OF HALTON, ITS EMPLOYEES, OFFICERS AND AGENTS ARE NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS OR INACCURACIES, WHETHER DUE TO THEIR NEGLIGENCE OR OTHERWISE. ALL INFORMATION SHOULD BE VERIFIED.

AS-CONSTRUCTED DRAWING

CONTRACTOR	D'ORAZIO CONSTRUCTION
WORK COMMENCED	SEPTEMBER 2002
WORK COMPLETED	AUGUST 2003
INSPECTOR	RON BAMFORD
INSPECTOR'S DIARIES	No. 807 & 823

The Regional Municipality of Halton makes no warranties with respect to the accuracy of this drawing and assumes no responsibility for its use. All information should be verified.

SEE SHEET 1 FOR GENERAL NOTES & SHEET 18 FOR RESTORATION DETAILS. SEE SHEET 2 FOR RESTRAINT TABLES.

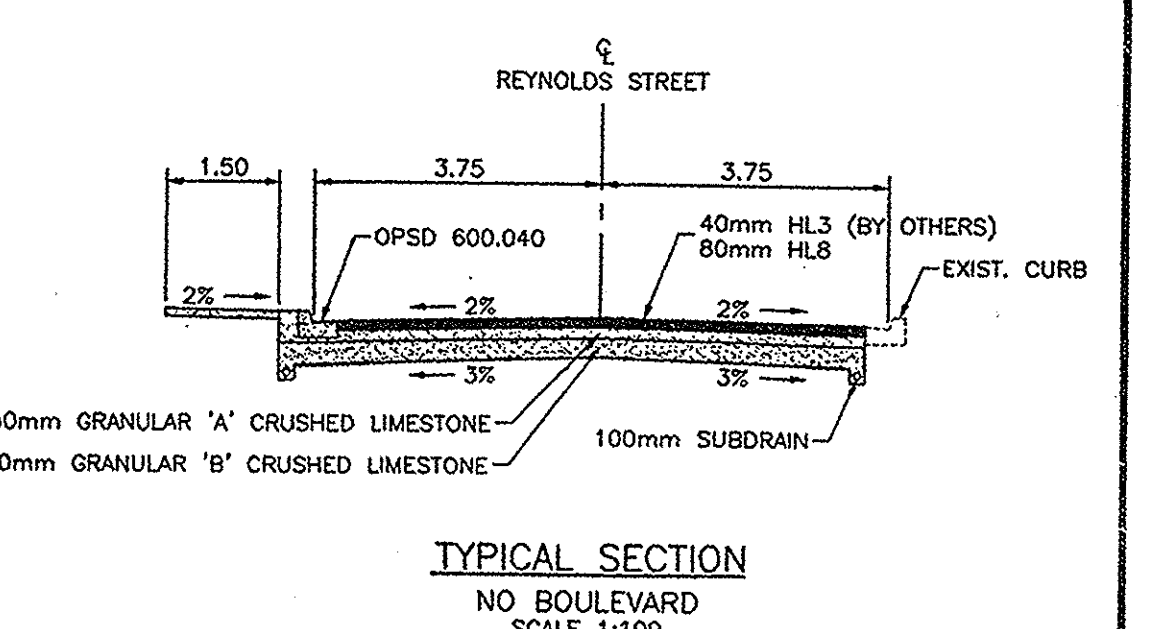
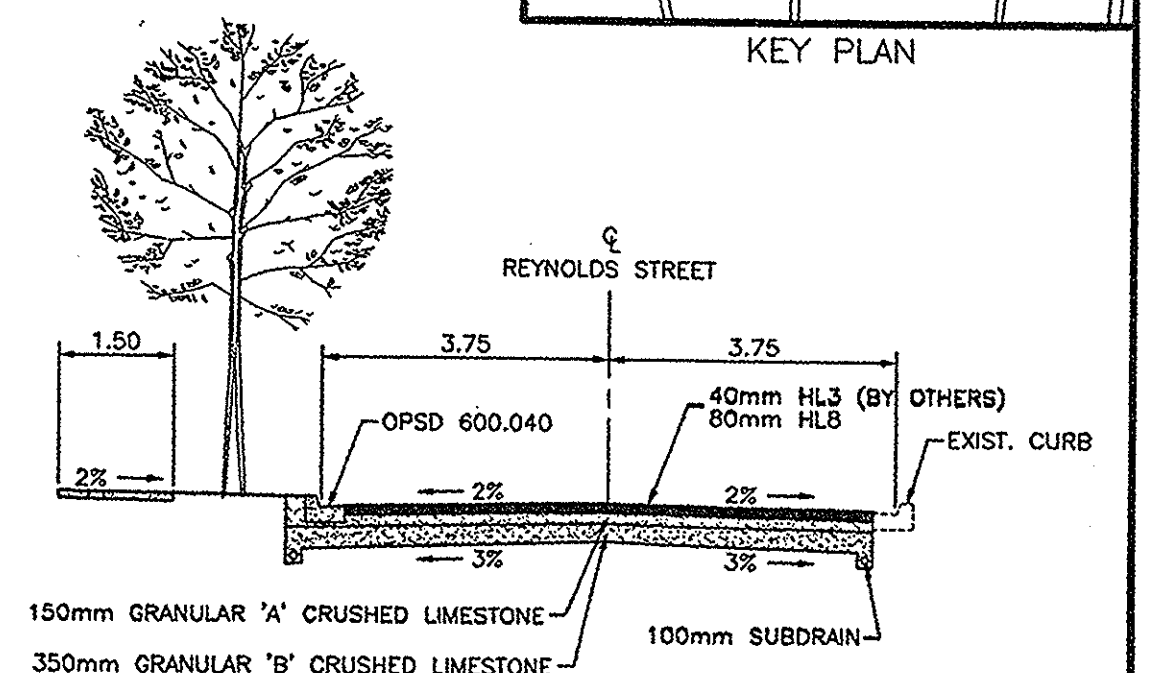
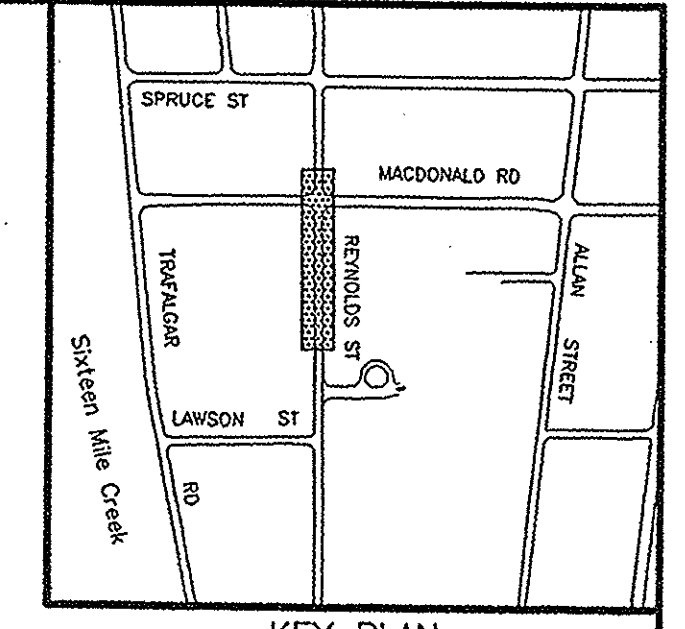
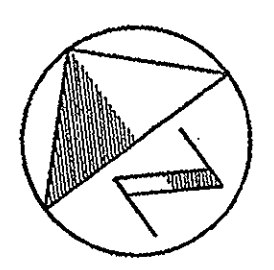
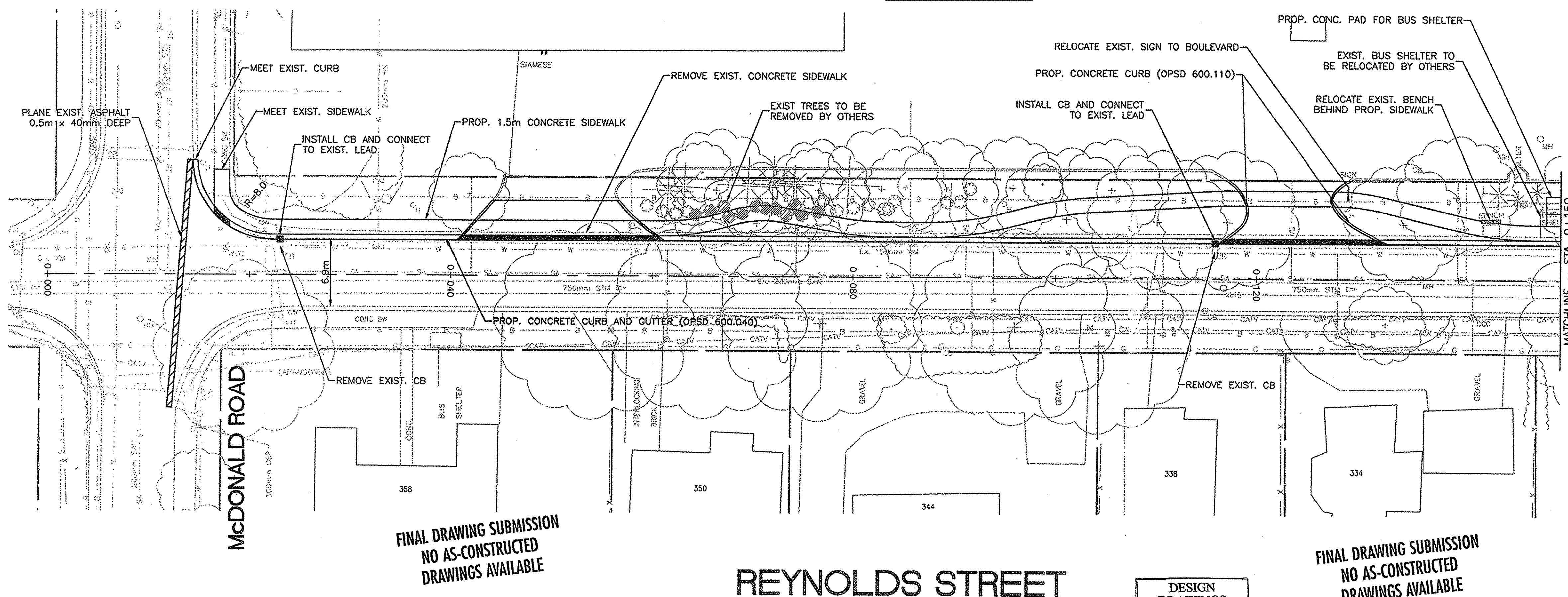


ELEVATIONS	94.22	94.56	95.09	95.64	96.07	96.25	96.12	ELEVATIONS				
PROPOSED WATERMAIN INVERTS	← 140.00m @ 0.20% →		91.88	12.67m @ 2.13%	92.15	← 57.33m @ 3.23% →		94.00	← 120.00m @ 0.29% →		PROPOSED WATERMAIN INVERTS	
STATIONS	0+130	0+140	0+150.0	0+160	0+162.7	0+180	0+200	0+220.0	0+240	0+260	0+270	STATIONS

1 JAN '07 REJ "AS CONSTRUCTED" X	
No	Date By REVISIONS MANU CAD
Design	M.B. Ch'kd Date
Drawn	D.M.S. Ch'kd DECEMBER, 2001
Scale	References
HOR. 1:250	
VERT. 1:50	
APPROVALS	
Municipal	Field Notes
Regional	Stamp
Director, Engineering Services	
Manager, Design Services	
Halton	
WATERMAIN REPLACEMENT ON MACDONALD ROAD OAKVILLE FROM 20m W. OF REYNOLDS ST. TO 110m E.	
Consultant File No	Rec O- 14050
CONTRACT No WS-1986-02	Drawing No SHEET 17 OF 20

WS-1986-02 C- 14050

REGIONAL MUNICIPALITY OF HALTON,
ITS EMPLOYEES, OFFICERS AND AGENTS
ARE NOT RESPONSIBLE FOR ANY ERRORS,
OMISSIONS OR INACCURACIES, WHETHER
DUE TO THEIR NEGLIGENCE OR OTHERWISE.
ALL INFORMATION SHOULD BE VERIFIED.



FINAL DRAWING SUBMISSION
NO AS-CONSTRUCTED
DRAWINGS AVAILABLE

FINAL DRAWING SUBMISSION
NO AS-CONSTRUCTED
DRAWINGS AVAILABLE

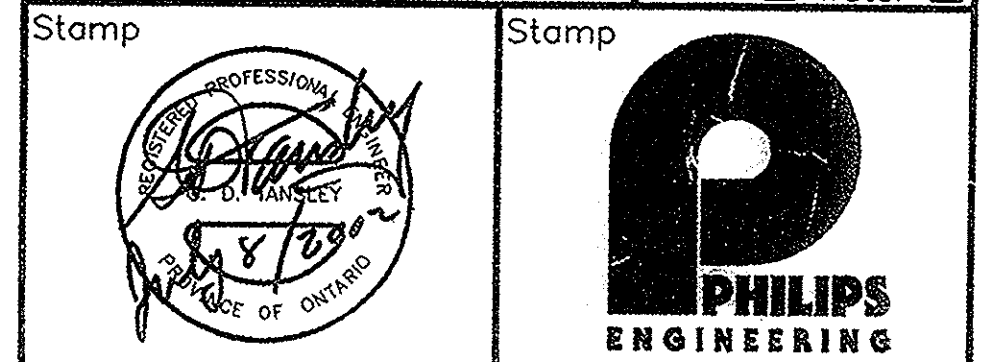
REYNOLDS STREET

DESIGN
DRAWINGS

FINAL DRAWING SUBMISSION
NO AS-CONSTRUCTED
DRAWINGS AVAILABLE

No.	Date	By	Revisions
Design:	P.C.P.	Chk'd: G.D.T.	Date
Drawn:	J.C.	Chk'd: P.G.P.	

Scale	HOR. 1 : 250 VER. 1 : 50	References
Approvals		
Municipal	Field Notes	
R. G. Green, P.Eng., Director of Public Works	Bell <input type="checkbox"/>	Hydro <input type="checkbox"/>
	Gas <input type="checkbox"/>	Cable <input type="checkbox"/>
	Traf. <input type="checkbox"/>	Water <input type="checkbox"/>

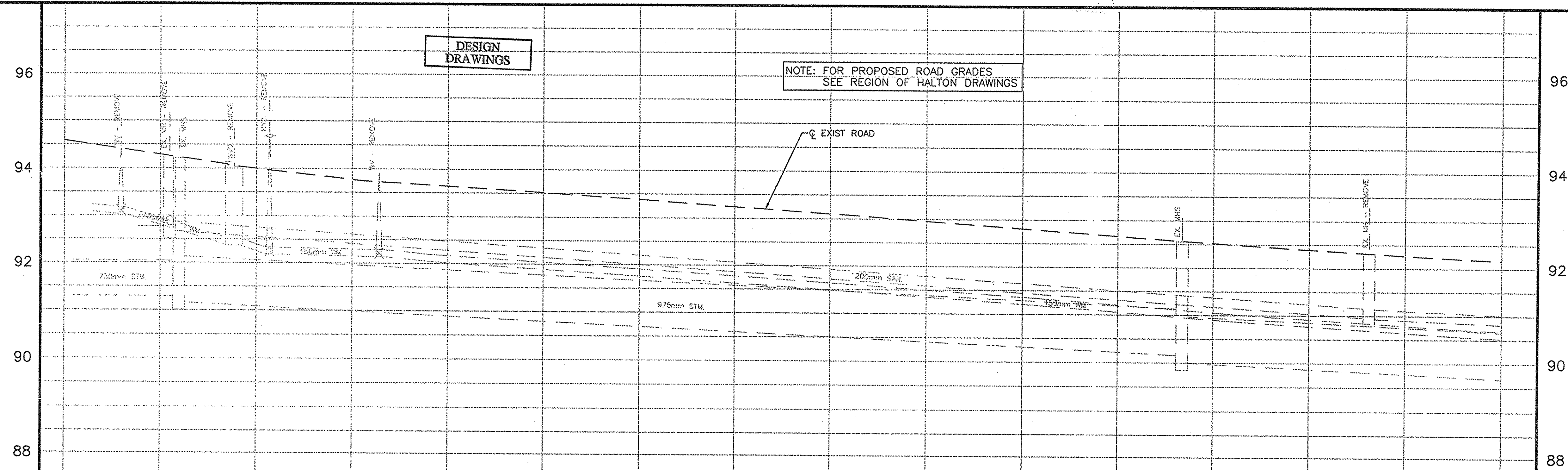


Municipality
Town of Oakville
Department of Public Works

Title
REYNOLDS STREET
McDonald Road to Lawson Street

SIDEWALK AND CURB RECONSTRUCTION

Municipal Drawing No. _____ Digital File Name _____
Contract No. **WS-1986-02** Sheet **1** of **2**



SANITARY SEWER INVERTS
STORM SEWER INVERTS
CHAINAGE/PROPOSED ELEVATION

0+020	94.27	0+040	93.76	0+060	93.51	0+080	96.62	0+100	92.95	0+120	92.65	0+140	92.38
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

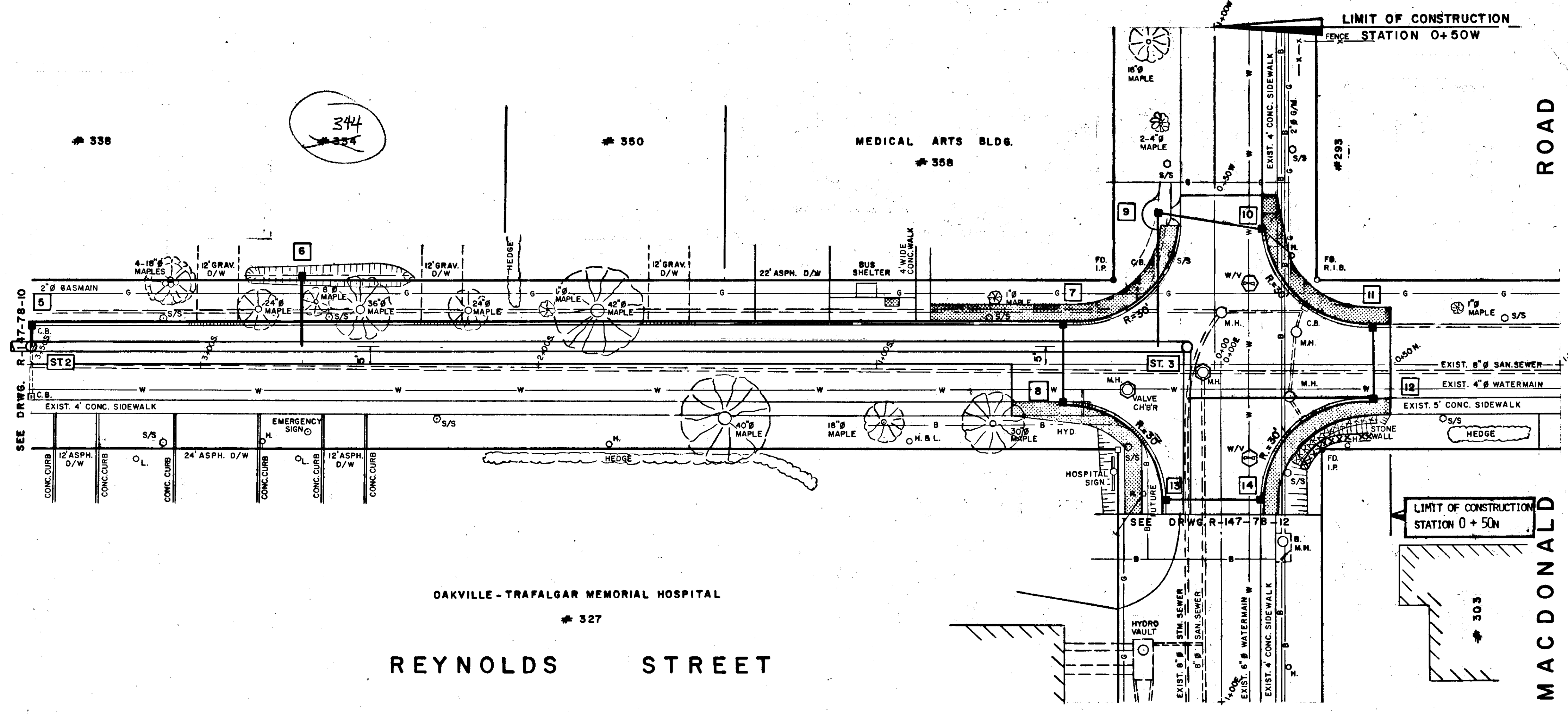
SANITARY SEWER INVERTS
STORM SEWER INVERTS
CHAINAGE/PROPOSED ELEVATION

0-14054

G:\Work\102051\Hwy\Draw\CONTRACT\02051-01.dwg

Dimensions in millimeters unless otherwise noted.
metric.

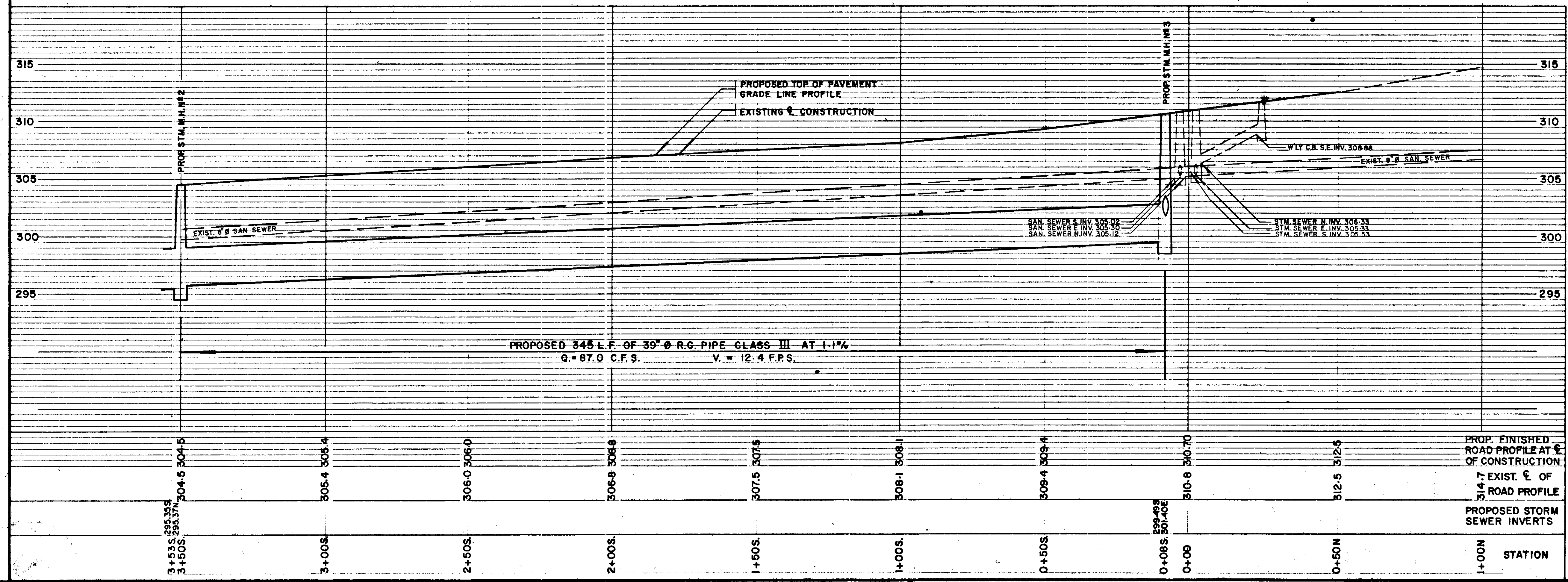
R-147-78
REYNOLDS ST.



STORM SEWER - SYMBOL					
NUMBER	STATION	OFFSET FROM	STRUCTURE	COVER	COMMENTS
2	3+50S.	5' RT.	2-3	5-1	FROM E. R.O.W.
3	0+08.36S.	5' RT.	2-3	5-1	FROM E. R.O.W.

CATCHBASIN DATA - SYMBOL					
NUMBER	STATION	OFFSET FROM	STRUCTURE	COVER	COMMENTS
5	3+50S.	IN CURB	3-1	5-4	
6	2+70S.	IN SWALE	3-1	5-3	
7	0+45S.	IN CURB	3-1	5-4	END OF RADIUS
8	0+45S.	IN CURB	3-1	5-4	END OF RADIUS
9	0+17S.	IN DITCH	3-1	5-2	BIRD CAGE
10	0+40W.	IN CURB	3-1	5-4	END OF RADIUS
11	0+45N.	IN CURB	3-1	5-4	BEG. OF RADIUS
12	0+45N.	IN CURB	3-1	5-4	BEG. OF RADIUS
13	0+40E.	IN CURB	3-1	5-4	END OF RADIUS
14	0+40E.	IN CURB	3-1	5-4	BEG. OF RADIUS

- NOTES: 1) ALL CATCHBASIN LEADS ARE TO BE 10" Ø E.S. CONCRETE PIPE AT 1% SLOPE UNLESS OTHERWISE NOTED.
 2) STREET SIGNS ARE TO BE RELOCATED BY OTHERS.
 3) ADJUST EXISTING MANHOLE FRAME AND COVER TO SUIT FINISHED GRADE - SYMBOL ○
 4) ALL DRIVEWAYS ARE TO BE PAVED AS SPECIFIED BETWEEN CURB AND GUTTER AND PROPOSED SIDEWALK OR PROPERTY LINE.
 5) PROPOSED CURB AND GUTTER WITH DROP CURB



GENERAL NOTES
 - ALL DRIVEWAYS GRAVEL UNLESS OTHERWISE NOTED.
 - ALL SERVICE LOCATIONS ARE APPROXIMATE AND MUST BE LOCATED ACCURATELY IN THE FIELD.

LEGEND

- STM. M.H. DENOTES BENCH MARK ELEVATION
- STM. M.H. STORM SEWER & MANHOLE
- SAN. M.H. SANITARY SEWER & MANHOLE
- W-W-W-W WATERMAIN & VALVE
- G-G-G-G GASMAIN & VALVE
- B-B-B-B BELL TELEPHONE BURIED CABLE
- H.P.E. HYDRO POLE & GUY ANCHOR
- HYD. HYDRANT

TOWN OF OAKVILLE
 DEPARTMENT OF PUBLIC WORKS

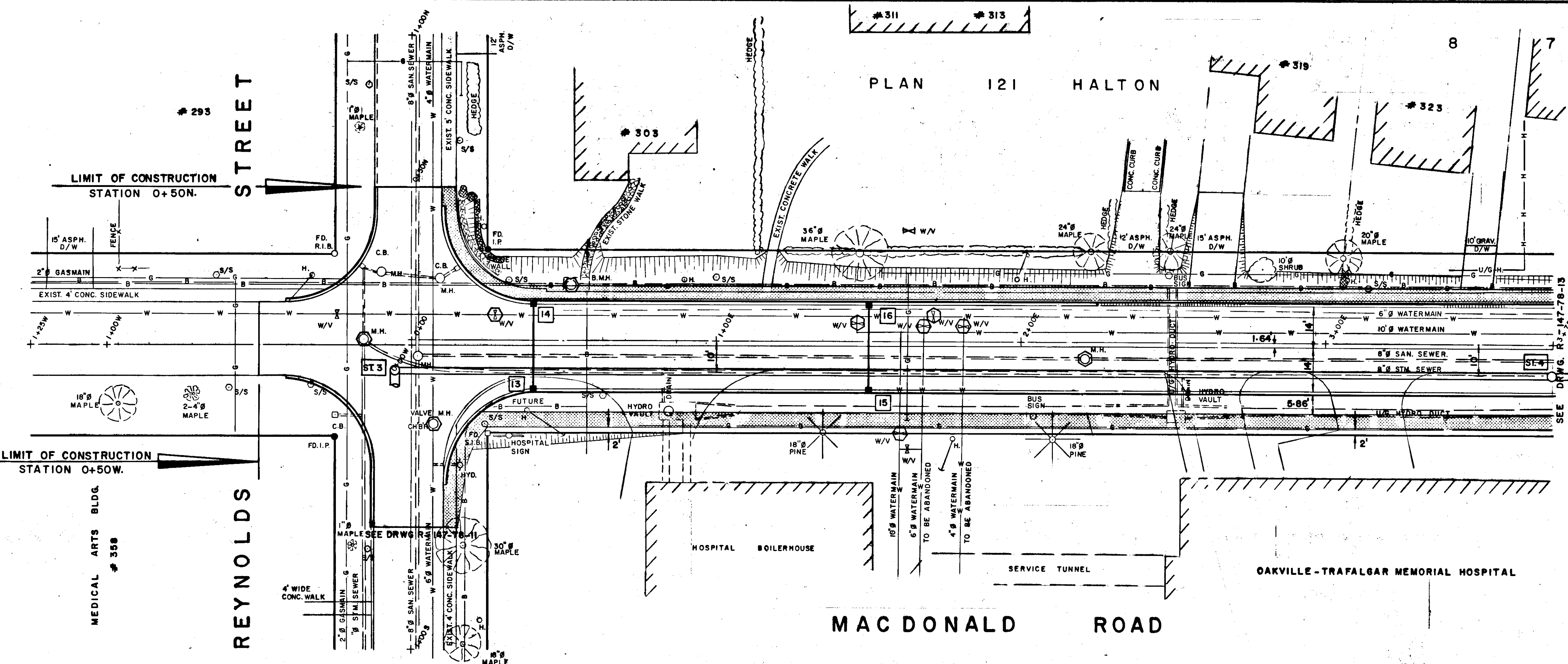
PROPOSED ROAD RECONSTRUCTION ON REYNOLDS STREET FROM STATION 0+50N TO STATION 3+50S

FLD. BK. No. _____
 SCALES - HOR: 1" = 20'
 VERT: 1" = 5'

DATE: APRIL/1978 DESIGN BY: R.G.H.
 DRAWN BY: D.A. SURVEY BY: R.P.
 CH'D BY: R.G.B. INSPECTOR: _____
 FILE NO.: R-147-78 CONTRACTOR: _____

PLAN N° R-147-78-11
 SHEET 11 OF 24

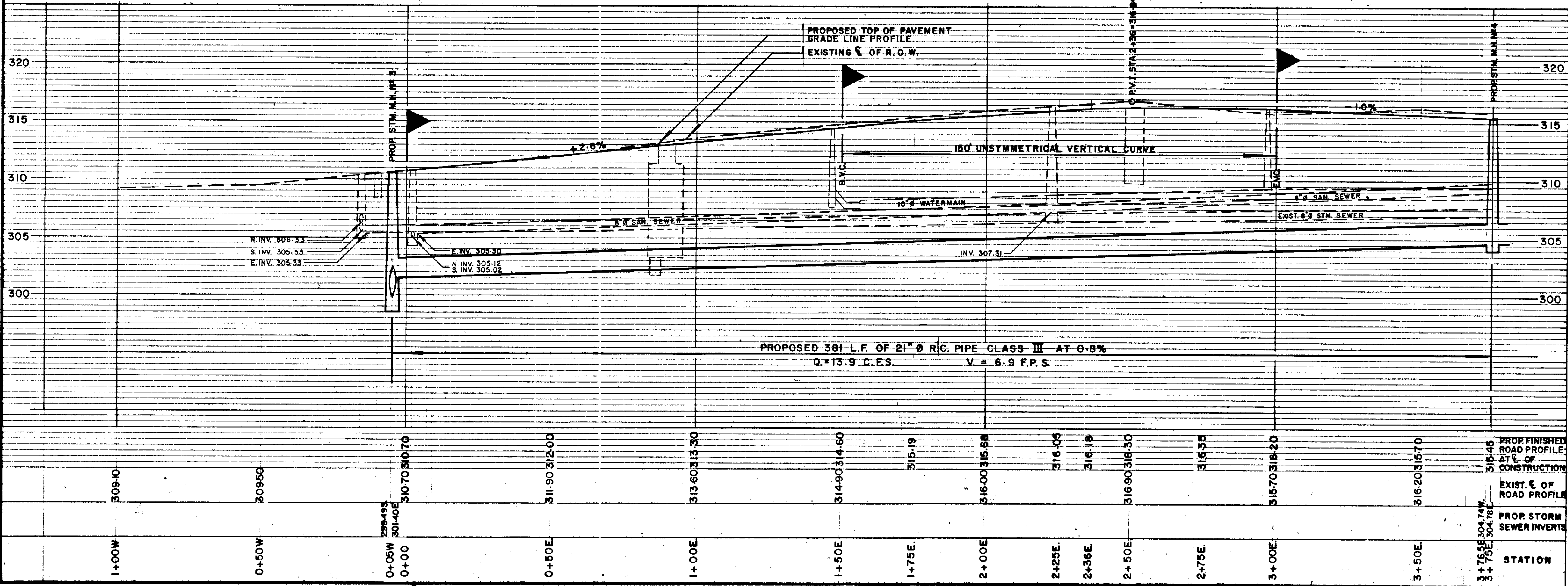
DATE: DEC. 18, 1978 REVISIONS: STM. SEWER INVERTS AS CONSTRUCTED
 JULY 24, 1979 ALL AS CONSTRUCTED BY: B.W.



STORM SEWER - SYMBOL [ST.]					
NUMBER	STATION	OFFSET FROM	STRUCTURE	COVER	COMMENTS
3	0+08.36S.	5' RT.	2-3	5-1	FROM E. R.O.W.
4	3+75E.	10' RT.	2-2	5-1	FROM E. R.O.W.

CATCHBASIN DATA - SYMBOL []					
NUMBER	STATION	OFFSET FROM	STRUCTURE	COVER	COMMENTS
13	0+40E.	IN CURB	3-1	5-4	END OF RADIUS
14	0+40E.	IN CURB	3-1	5-4	BEG. OF RADIUS
15	1+50E.	IN CURB	3-1	5-4	
16	1+50E.	IN CURB	3-1	5-4	

- NOTES:
- 1) ALL CATCHBASIN LEADS ARE TO BE 10" Ø E.S. CONCRETE PIPE AT 1% SLOPE UNLESS OTHERWISE NOTED.
 - 2) STREET SIGNS ARE TO BE RELOCATED BY OTHERS.
 - 3) ADJUST EXISTING MANHOLE FRAME AND COVER TO SUIT FINISHED GRADE - SYMBOL: []
 - 4) ALL DRIVEWAYS ARE TO BE PAVED AS SPECIFIED BETWEEN CURB AND GUTTER AND PROPOSED SIDEWALK OR PROPERTY LINE.
 - 5) PROPOSED CURB AND GUTTER WITH DROP CURBS []



GENERAL NOTES

- ALL DRIVEWAYS GRAVEL UNLESS OTHERWISE NOTED.
- ALL SERVICE LOCATIONS ARE APPROXIMATE AND MUST BE LOCATED ACCURATELY IN THE FIELD.

LEGEND

- ST. MK. DENOTES BENCH MARK ELEVATION
- STM. MH. STORM SEWER & MANHOLE
- SAN. MH. SANITARY SEWER & MANHOLE
- W-W-W-W WATERMAIN & VALVE
- G-G-G-G GASMAIN & VALVE
- B-B-B-B BELL TELEPHONE BURIED CABLE
- H-H-H-H HYDRO POLE & GUY ANCHOR
- HYD. HYDRANT

TOWN OF OAKVILLE
DEPARTMENT OF PUBLIC WORKS

PROPOSED ROAD RECONSTRUCTION OF MACDONALD ROAD FROM STATION 0+50W TO STATION 3+75E

FLD. BK. No. []

SCALES - HOR: 1" = 20'
VERT: 1" = 5'

DATE: MARCH/1978 DESIGN BY: R.G.H.
DRAWN BY: D.A. SURVEY BY: R.P.P.
CHKD BY: R.G.G. INSPECTOR:
FILE NO.: CONTRACTOR:

PROPOSED FINISHED ROAD PROFILE AT E. OF CONSTRUCTION

EXIST. E. OF ROAD PROFILE

PROPOSED STORM SEWER INVERTS

STATION

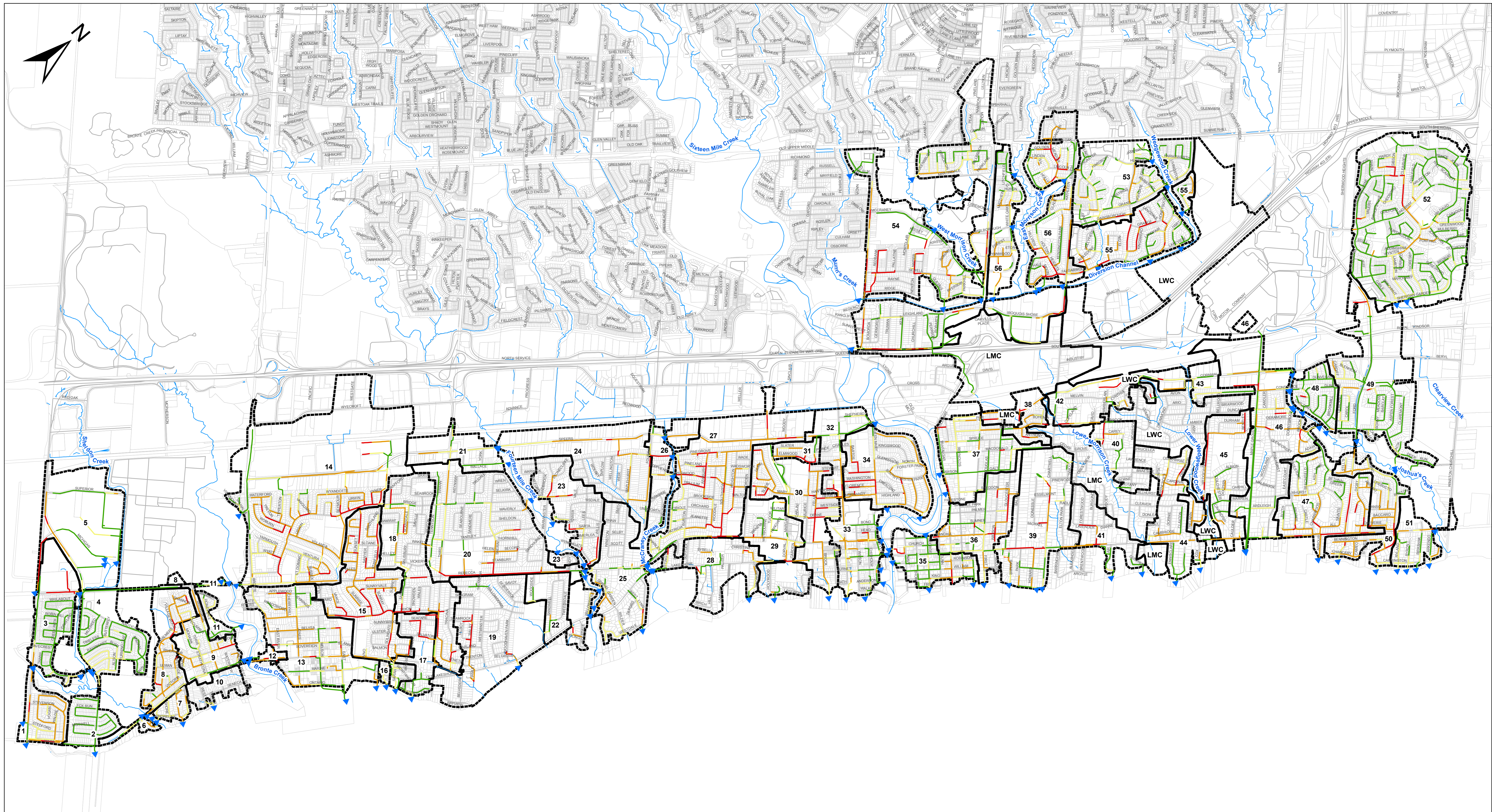
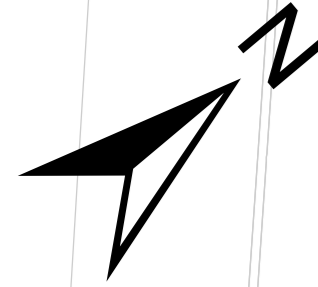
DATE: DEC. 18, 1978 REVISIONS: STM. SEWER INVERTS AS CONSTRUCTED
JULY 17, 1979 ALL AS CONSTRUCTED

BY: B.W. B.W.






PLAN N° R-147-78-12

SHEET 12 OF 24





REGISTERED PROFESSIONAL ENGINEER
O. H. ELLIS
CIVIL



Legend

-  Network
-  Parcels
-  Streams
-  Roads
-  Outfalls

Minor System Performance

-  Unsurcharged
-  Below 1/2 Surcharging Depth and Above Obvert
-  Above 1/2 Surcharging Depth and Below Rim Elevation
-  Surcharged Above Rim Elevation

**Stormwater Management
Master Plan**

Phase 2

Town of Oakville

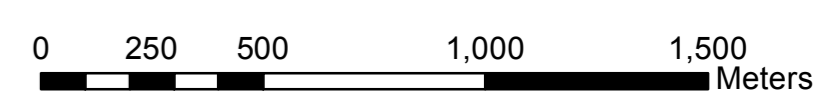
**5 Year Storm Event
Urban and Hybrid
Performance Assessment**

-

Existing Condition

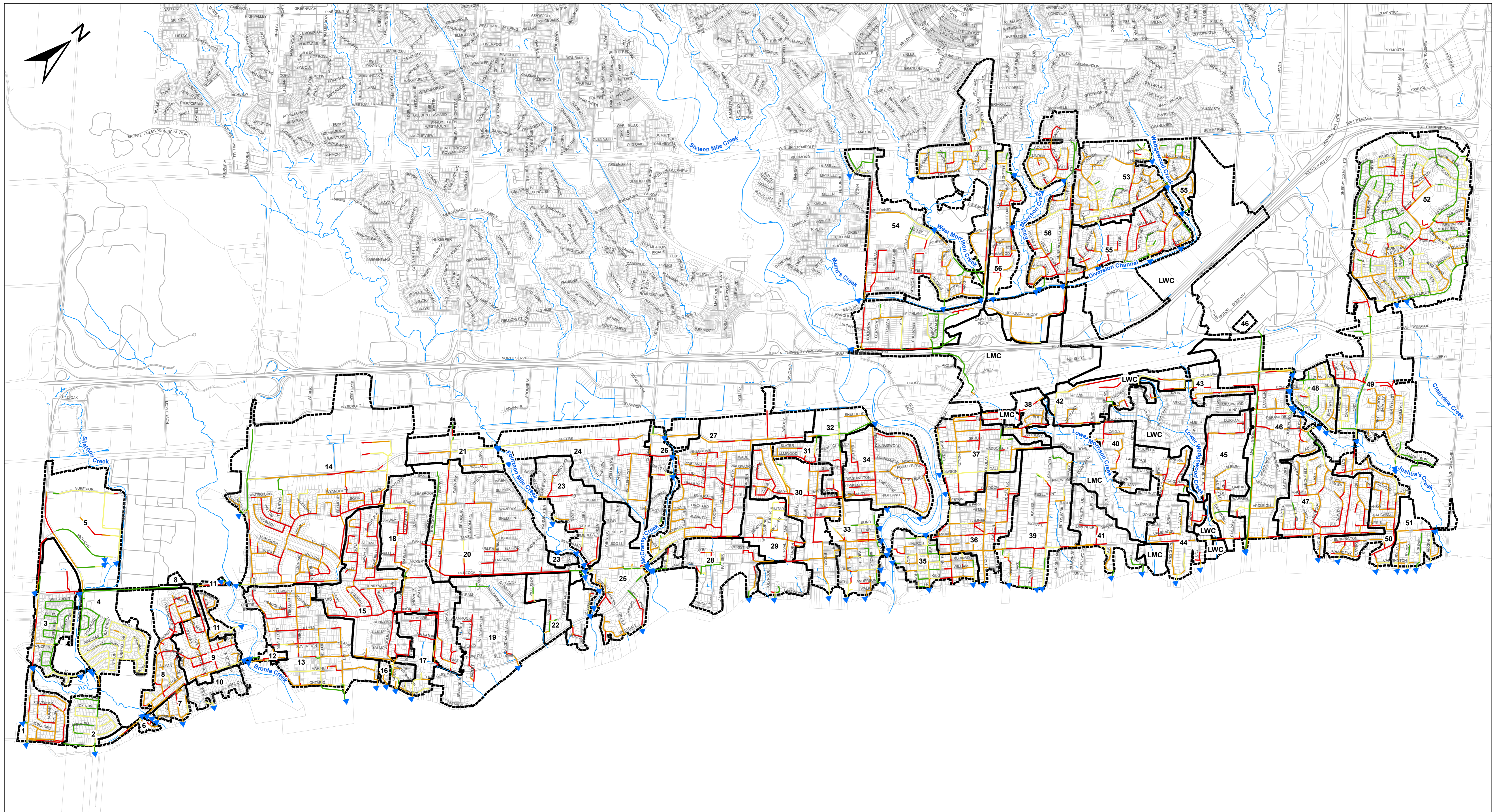
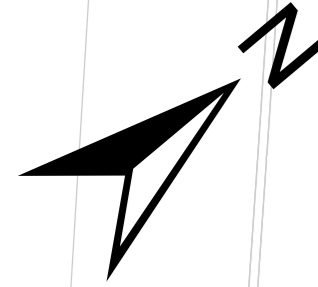


Scale **1:17,000**












Project No.
TP 115045

Drawing No.
7.3



Legend

-  Network
 -  Parcels
 -  Streams
 -  Roads
 -  Outfalls
- Minor System Performance**
 -  Unsurcharged
 -  Below 1/2 Surcharging Depth and Above Obvert
 -  Above 1/2 Surcharging Depth and Below Rim Elevation
 -  Surcharged Above Rim Elevation

**Stormwater Management
Master Plan**

Phase 2

Town of Oakville

**100 Year Storm Event
Minor System
Performance**

**-
Existing Condition**

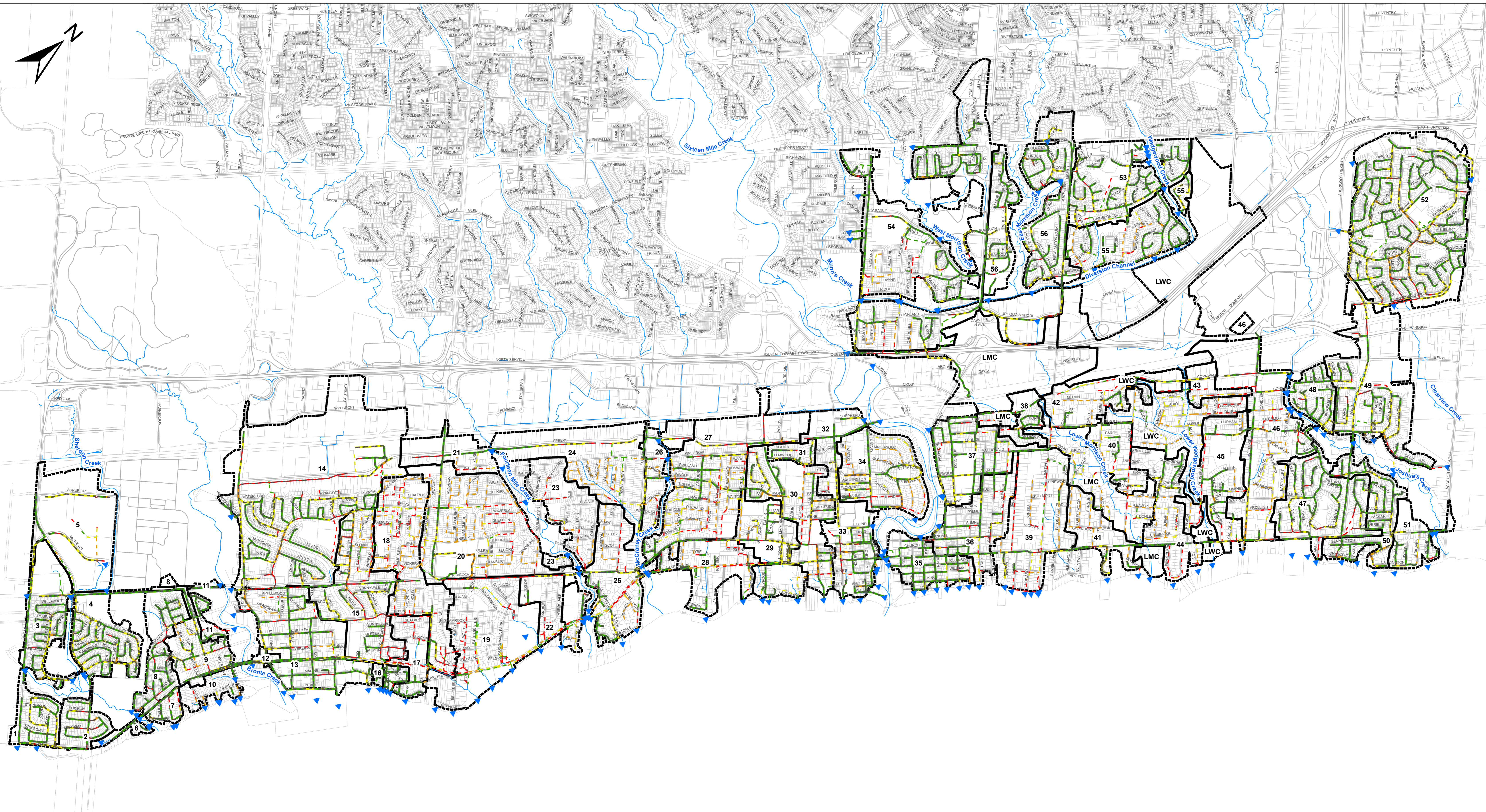
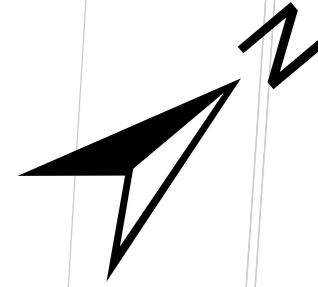


Scale **1:17,000**

0 250 500 1,000 1,500 Meters

Project No.
TP 115045

Drawing No.
7.4



Legend		Major System Performance	
	Network		Flow Contained Within Ditch
	Parcels		Flow Contained Within Curb
	Roads		Flow Above Ditch But Contained Within ROW
	Streams		Flow Beyond ROW (Greater Than 50% to Building) - Ditches
	Culverts		Flow Beyond ROW (Less Than 50% to Building) - Curbed
	Outfalls		Flow Beyond ROW (Greater Than 50% to Building) - Ditches
			Flow Beyond ROW (Less Than 50% to Building) - Curbed
			Flow Beyond ROW (Greater Than 50% to Building) - Ditches
			Flow Beyond ROW (Greater Than 50% to Building) - Curbed

**Stormwater Management
Master Plan**

Phase 2

Town of Oakville

**100 Year Storm Event
Major System
Performance Assessment**

**-
Existing Condition**



Scale **1:17,000**

0 250 500 1,000 1,500 Meters

Project No.
TP 115045

Drawing No.
7.7

APPENDIX 'C'

Estimated Water Demand

Estimated Sanitary Flow

Stormwater Calculations

TRAFALGAR ENGINEERING LTD.

ESTIMATED WATER DEMAND

Project: 358 Reynolds Street
Desc: Townhouse Units

Project No.: 1816
Prepared By: MF
Checked By: PC

Occupancy Data					Peaking Factors			Demand Flow			
Land Use / Occupancy Type	Area (ha)	Population		Per Cap. Demand (L/cap. Day)	Average Daily Demand (L/min)	Min. Hour	Peak Hour	Max. Daily	Min. Hour Demand (L/min)	Max. Hour Demand (L/min)	Max. Daily Demand (L/min)
		Density Eq. (pers/ha)	Population (cap.)								
Townhouse Units	0.283	135.0	38	191	5	1.00	4.00	2.25	5	20	11
*Per Cap. Demand based on O.B.C. Table 8.2.1.3.B. – 5 L/1.0m ² Stores					5				5	20	11
TOTAL	0		38		5				5	20	11

Fire Flow

Using Fire Underwriters Survey Methodology:

Average Daily Demand: 5 (L/min)
Minimum Hourly Demand: 5 (L/min)
Maximum Hourly Demand: 20 (L/min)
Maximum Daily Demand: 11 (L/min)
Max. Daily Plus Fire: 8011 (L/min)

1. **An estimate of the fire flow is given by the formula** $F = 220C\sqrt{A}$
 Where:
 F = The required fire flow in litres per minute
 C = Coefficient related to the type of construction
 A = The total floor area in square metres (including all storeys but excluding basements at least 50% below grade)

Type of Construction: Coefficient: 1.00 Total Floor Area: (m²)
 F = **4000 (L/min)** Adequately Protected Vertical Openings:

Area Note: For fire resistive buildings, consider the two largest adjoining floors plus 50% of the remaining floors up to eight, when openings are inadequately protected. For adequately protected vertical openings consider only the area of the largest floor plus 25% of each of the two immediately adjoining floors

2. **Adjust the value in No. 1 for occupancy surcharge/reduction**
 Occupancy Contents: Factor: 15%
 F = **4600 (L/min)**

3. **Adjust the value in No. 2 for sprinkler**

NFPA 13 Sprinkler:	<input type="text" value="No"/>	Reduction:	<input type="text" value="0%"/>
Standard Water Supply:	<input type="text" value="No"/>	Reduction:	<input type="text" value="0%"/>
Fully Supervised:	<input type="text" value="No"/>	Reduction:	<input type="text" value="0%"/>

Total Reduction: 0%
Sprinkler Reduction: 0 (L/min)

4. **Adjust the value in No. 2 for exposure**

	Separation (m)	Charge
North	<input type="text" value="25"/>	10%
East	<input type="text" value="0"/>	25%
South	<input type="text" value="9"/>	20%
West	<input type="text" value="0"/>	25%
Total Charge:		75%
Exposure Charge:		3450 (L/min)

5. **Estimated Fire Flow is value in No. 2 less Sprinkler Reduction plus Exposure Charge, rounded to the nearest 1000**

F = **8000 (L/min)**

TRAFALGAR ENGINEERING LTD.

ESTIMATED DEMAND PRESSURE (AT MAIN)

Project: 358 Reynolds Street
Desc: Townhouse Units

Project No.: 1816
Prepared By: MF
Checked By: PC

Hydrant Residual Flow (Refer to Attached Flow Test Results)

Coefficient	$C =$	0.9
Port Diameter	$D =$	2.5 (inch)
Pitot Pressure	$P_{pit} =$	45 (psig)
Residual Flow	$Q_R =$	1126 (us gpm)
Residual Flow	$Q_R =$	4262 (L/min)

Hydrant Theoretical Flow (Refer to Attached Flow Test Results)

Static Pressure	$P_{stat} =$	57 (psig)
Residual Pressure	$P_{res} =$	56 (psig)
Theoretical Pressure	$P_{theo} =$	20 (psig)
Theoretical Flow	$Q_T =$	7913 (us gpm)
Theoretical Flow	$Q_T =$	29951 (L/min)

Max. Demand Pressure

Maximum Demand	$Q_D =$	5136 (L/min)
Maximum Demand	$Q_D =$	1357 (us gpm)
Calculated Pressure	$P =$	56 (psig)

Where:

$$Q_R = 29.84 \times C \times D^2 \times P_{pit}^{0.5}$$

$$Q_T = Q_R \times [(P_{stat} - P_{theo}) / (P_{stat} - P_{res})]^{0.54}$$

$$P = P_{stat} - (Q_D / Q_R)^{1.852} \times (P_{stat} - P_{res})$$

Notes:

Refer to attached hydrant flow test results for 300mm main on Church Street prepared by Jackson Waterworks dated May 2, 2016.

TRAFALGAR ENGINEERING LTD.

ESTIMATED SANITARY FLOW

Project: 358 Reynolds St
Desc: Townhouses

Project No.: 1816
Prepared By: MF
Checked By: PC

Residential

Land Use / Occupancy Type	Area (ha)	Population Density (pers/ha)	Eq. Population (cap.)	Per Cap. Demand (m ³ /cap-day)	Average Daily Dry Weather Flow (L/s)
Townhouse, Maisonette - 6 storey or less	0.283	135.0	38	0.275	0.12
TOTAL	0.283		38		0.12

Industrial / Commercial / Institutional

Land Use / Occupancy Type	GFA	Population Density (pers/ha)	Eq. Population (cap.)	Per Cap. Demand (L/Ha. Day)	Average Daily Dry Weather Flow (L/s)
TOTAL	0.000		0		0

Residential Peaking Factor: 4.34
 ICI Peaking Factor: 4.50
 Include ICI Peaking?

 Tributary Area: (ha)
 Infiltration Allowance: (L/s ha)

 Residential Average Daily Flow: 0.12 (L/s)
 ICI Average Daily Flow: 0.00 (L/s)
Total Average Flow: 0.12 (L/s)

 Residential Peak Flow: 0.53 (L/s)
 ICI Peak Flow: 0.00 (L/s)
 Infiltration: 0.08 (L/s)
Design Flow: 0.61 (L/s)

TRAFALGAR ENGINEERING LTD.

RATIONAL METHOD FLOWS

Based on Town of Oakville IDF Data

Project: Reynolds Townhouses
Desc: 358 Reynolds Street

Project No.: 1816
Prepared By: MF
Checked By: PC

Pre-Development Parameters

	Site	External	Total
'C'	0.835	0.000	0.835
'A' (ha)	0.283	0.000	0.283
'AC'	0.236	0.000	0.236

Pre-Development Flow

Return	Intensity (mm/hr)	Site Flow (L/s)	External Flow (L/s)	Total Flow (L/s)
2-yr	82.2	54	0	54
5-yr	114.2	75	0	75
10-yr	134.8	88	0	88
25-yr	162.2	117	0	117
50-yr	182.1	143	0	143
100-yr	200.8	158	0	158

Flows have been adjusted using 25-, 50-, and 100-yr factors of 1.1, 1.2, and 1.25 (To a maximum C of 1.0)

Post-Development Parameters

	Controlled	Uncontrolled	External	Total
'C'	0.840	0.000	0.000	0.840
'A' (ha)	0.283	0.000	0.000	0.283
'AC'	0.237	0.000	0.000	0.237

Post-Development Flow

Return	Intensity (mm/hr)	Peak Inflow (L/s)	Uncontrolled Flow (L/s)	Peak Rooftop Flow (L/s)	External Flow (L/s)	Total Flow (L/s)
2-yr	82.2	54	0	0	0	54
5-yr	114.2	75	0	0	0	75
10-yr	134.8	88	0	0	0	88
25-yr	162.2	117	0	0	0	117
50-yr	182.1	143	0	0	0	143
100-yr	200.8	158	0	0	0	158

Flows have been adjusted using 25-, 50-, and 100-yr factors of 1.1, 1.2, and 1.25 (To a maximum C of 1.0)

Post-to-Pre Comparison*

Return	Pre-Dev Total (L/s)	Post-Dev Total (L/s)	Percent Change
2-yr	54	54	0%
5-yr	75	75	0%
10-yr	88	88	0%
25-yr	117	117	0%
50-yr	143	143	0%
100-yr	158	158	0%

*Storage may be required, refer to Modified Rational Method Storage Calculation and Summary sheets if applicable

Prepared By: MF
 Checked By: PC
 Project No.: 1816

STORM SEWER DESIGN SHEET
 Town of Oakville
 100-Year Storm

Project Name: 358 Reynolds Street
 Municipal Number:
 Date: 2023-11-08
 Sheet: 1 of 1

LOCATION	FROM MH	TO MH	DRAINAGE AREA				FLOW			SEWER DESIGN				PIPE HYDRAULICS					
			Area, A (ha)	Runoff Coeff., C	A x C (ha)	Accum. A x C (ha)	Time of Conc., T _c (min)	Intensity, I (mm/h)	Expected Flow, Q (L/s)	Length, L (m)	Gradient, s (%)	Pipe Dia., D (mm)	Manning's Coeff., n	Full Flow Capacity, Q _F (L/s)	Full Flow Velocity, V _F (m/s)	d/D	Actual Velocity, V (m/s)	Time of Flow (min)	Q/Q _F
	DICB	MH2	0.460	0.65	0.299	0.299													
			0.037	0.84	0.031	0.330	10.00	201.4	185	2.5	2.0	450	0.013	421	1.12	0.46	2.50	0.02	0.44
			0.197	0.65	0.128	0.458													
			0.052	0.84	0.044	0.502													
			0.033	0.84	0.028	0.530													
			0.103	0.65	0.067	0.596													
MacDonald Road	MH2	MH1	0.143	0.84	0.120	0.717	10.02	201.2	400	66.0	1.0	525	0.013	449	1.79	0.73	2.29	0.48	0.89
	MH1	MH3	0.000	0.70	0.000	0.717	10.50	196.0	390	13.0	1.0	525	0.013	449	1.75	0.72	2.27	0.10	0.87

Notes:
 1) Pipe diameter is nominal
 2) Capacity and velocity are based on Imperial I.D. (Nom. Dia x 25.4/25)
 3) Time of Flow is based on Actual Velocity

Intensity, $I = A / (T_c + B)^C$ where:
 A= 2150
 B= 5.7
 C= 0.86
 T_c= Time of Concentration in minutes

Expected Flow, $Q = 2.778 \times C \times I \times A$
 Full Flow Capacity (Manning's Equation), Q_F
 $Q_F = (1/n) \times A \times R^{2/3} \times s^{1/2}$
 $= (1/n) \times 311.7 \times D^{8/3} \times s^{1/2}$

APPENDIX 'D'

Cover Sheet

Erosion and Sediment Control Plan

General Servicing Plan

Storm Drainage Area Plan

Sanitary Drainage Area Plan

Composite Utility Plan

Grading Plan

Plan Profile (STA 0+000 to 0+120)

Standard Notes

MACDONALD ROSE INC. SUBDIVISION

24T-XXXXXX/XXX

20M-XXXX

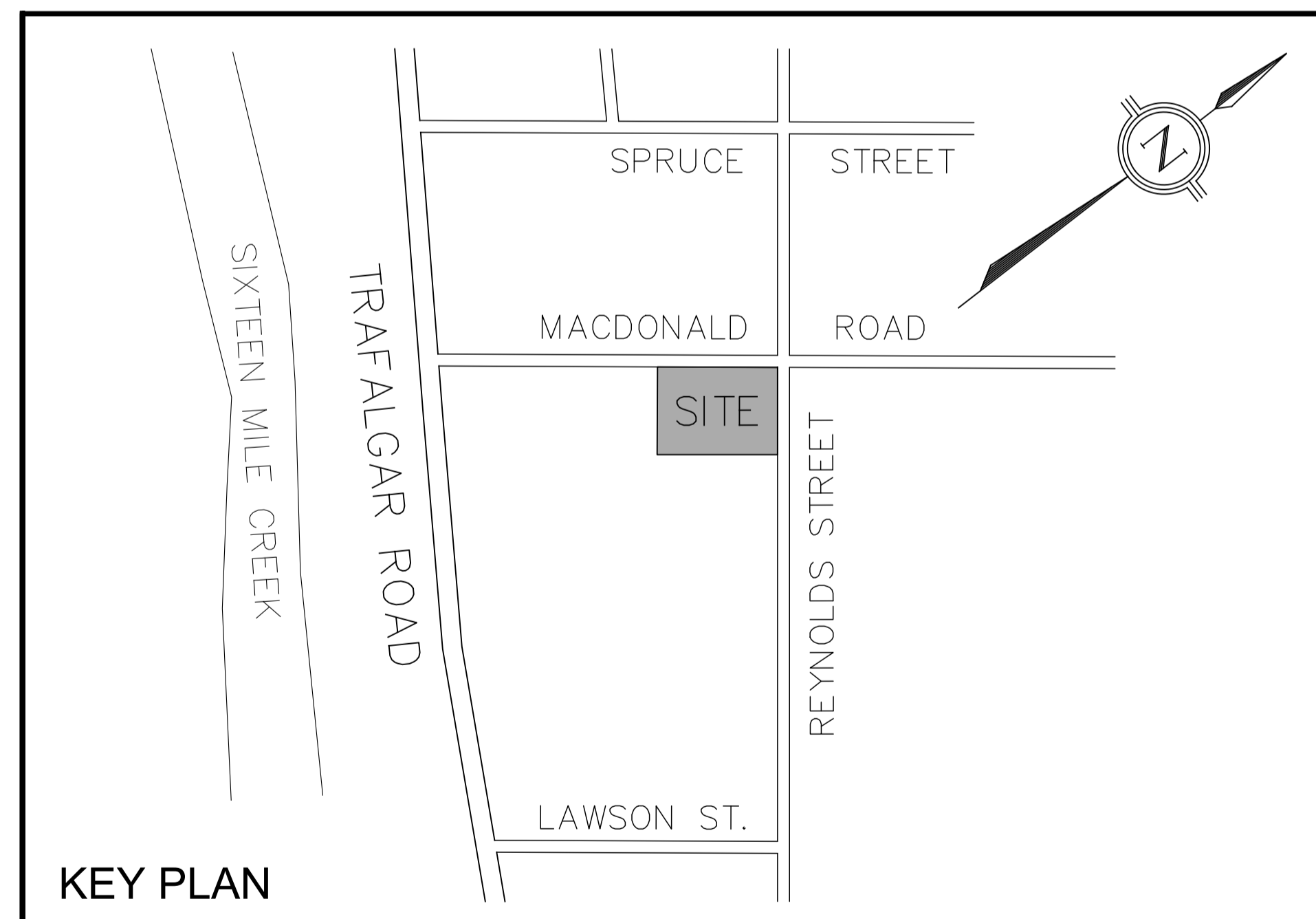
358 REYNOLDS STREET

TOWN OF OAKVILLE



DRAWING INDEX

Sheet	Title
E1	EROSION AND SEDIMENT CONTROL PLAN
S1	GENERAL SERVICING PLAN
S2	STORM DRAINAGE AREA PLAN
S3	SANITARY DRAINAGE AREA PLAN
CU1	COMPOSITE UTILITY PLAN
G1	GRADING PLAN
P1	PLAN PROFILE (STA 0+000 TO 0+120)
N1	STANDARD NOTES



#1-481 MORDEN ROAD, OAKVILLE, ON, L6K 3W6
www.trafalgareng.com

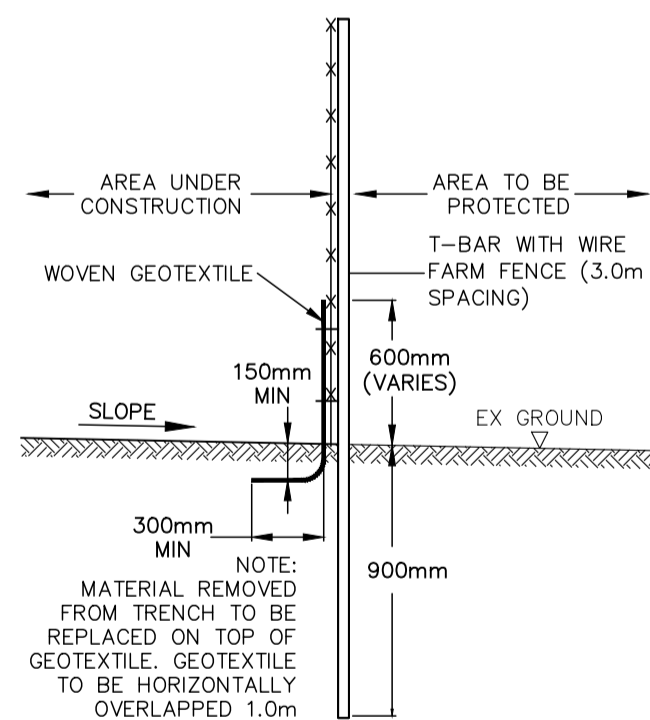
CONSULTANT FILE: 1816
TOWN FILE: 24T-XXXXX

EROSION AND SEDIMENT CONTROL NOTES

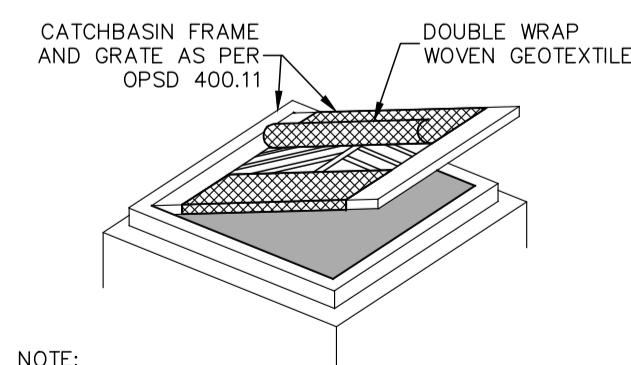
1. EROSION AND SEDIMENTATION FACILITIES TO BE INSTALLED PRIOR TO ANY AREA GRADING OPERATION.
2. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSPECTED, REPAIRED/MAINTAINED WEEKLY AND FOLLOWING ALL SIGNIFICANT RAINFALLS.
3. THE MEASURES AS PROPOSED MAY BE MODIFIED AT THE DISCRETION OF THE ENGINEER TO SUIT THE PROPOSED CONSTRUCTION PROGRAMS. THE GENERAL INTENT OF THE PROPOSED EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES.
4. DECOMMISSIONING OF ALL EROSION CONTROL MEASURES SHALL OCCUR ONLY ONCE VEGETATIVE COVER IS ESTABLISHED.
5. DESIGNATED ENTRANCE FOR ALL CONSTRUCTION TRAFFIC TO BE INSTALLED WITH MUD CONTROL DEVICE AS PER MUD MAT DETAIL. MUD CONTROL DEVICES TO BE INSTALLED PRIOR TO START OF CONSTRUCTION AND ARE TO BE MAINTAINED IN GOOD WORKING ORDER UNTIL GRADING WORKS ARE COMPLETED. MUD MAT MAY BE DELETED WITH THE APPROVAL OF THE TOWN OF OAKVILLE.
6. ANY DISTURBED AREA NOT SCHEDULED FOR FURTHER CONSTRUCTION WITHIN 30 DAYS SHALL BE PROVIDED WITH A TEMPORARY SEED.
7. INSTALL CATCHBASIN SEDIMENT CONTROL ON EXISTING CATCHBASINS PRIOR TO START OF CONSTRUCTION.
8. INSTALL CATCHBASIN SEDIMENT CONTROL ON NEW CATCHBASINS AT TIME OF INSTALLATION.
9. ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED ACCORDING TO THE APPROVED PLANS PRIOR TO COMMENCEMENT OF ANY EARTH MOVING WORK ON THE SITE AND SHALL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED WITH THE INTENDED GROUND COVER.
10. EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED BY THE BUILDER/DEVELOPER:
 - WEEKLY
 - BEFORE AND AFTER ANY PREDICTED RAINFALL EVENT
 - FOLLOWING AN UNPREDICTED RAINFALL EVENT
 - DAILY, DURING EXTENDED DURATION RAINFALL EVENTS
 - AFTER SIGNIFICANT SNOW MELT EVENTS
11. DEWATER EXISTING PONDS ON SITE AS REQUIRED WITH DEWATERING BAG ON WOOD PALLETS AND PUMP. DEWATERING BAG TO BE PLACED A MINIMUM OF 30M AWAY FROM PROPERTY LINE.
12. EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES. DAMAGED OR CLOGGED DEVICES SHALL BE REPAIRED WITHIN 48 HOURS.
13. WHERE A SITE REQUIRES DEWATERING AND WHERE THE EXPULSED WATER CAN BE FREELY RELEASED TO A SUITABLE RECEIVER, THE EXPULSED WATER SHALL BE TREATED TO CAPTURE SUSPENDED PARTICLES GREATER THAN 40 MICRON IN SIZE. THE CAPTURED SEDIMENT SHALL BE DISPOSED OF PROPERLY PER MOECC GUIDELINES. THE CLEAN EXPULSED WATER SHALL FREELY RELEASE TO A SUITABLE RECEIVER THAT DOES NOT CREATE DOWNSTREAM ISSUES INCLUDING BUT NOT LIMITED TO EROSION, FLOODING -NUISANCE OR OTHERWISE, INTERFERENCE ISSUES, ETC.
14. EXISTING STORM SEWER AND DRAINAGE DITCHES ADJACENT TO THE WORKS SHALL BE PROTECTED AT ALL TIMES FROM THE ENTRY OF SEDIMENT/SILT THAT MAY MIGRATE FROM THE SITE. FOR STORM SEWERS: ALL INLETS (REAR LOT CATCHBASINS, ROAD CATCHBASINS, PIPE INLETS, ETC.) MUST BE SECURED/FITTED WITH SILTATION CONTROL MEASURES. FOR DRAINAGE DITCHES: THE INSTALLATION OF ROCK CHECK DAMS, SILTATION FENCE, SEDIMENT CONTAINMENT DEVICES MUST BE INSTALLED TO TRAP AND CONTAIN SEDIMENT. THESE SILTATION CONTROL DEVICES SHALL BE INSPECTED AND MAINTAINED PER ITEMS B AND C ABOVE.
15. IN THE EVENT OF A SPILL (RELEASE OF DELETERIOUS MATERIAL) ON OR EMANATING FROM THE SITE, THE OWNER OR OWNERS AGENT SHALL IMMEDIATELY NOTIFY THE MOECC AND FOLLOW ANY PRESCRIBED CLEAN UP PROCEDURE. THE OWNER OF OWNERS AGENT WILL ADDITIONALLY IMMEDIATELY NOTIFY THE TOWN.

CONSTRUCTION STAGING SEQUENCE

1. INSTALL SILT FENCE, CONSTRUCTION ACCESS, AND TREE PROTECTION FENCING
2. STRIP TOPSOIL
3. PROCEED WITH SITE WORKS
4. REMOVE SILT FENCE ONCE SITE IS STABILIZED.

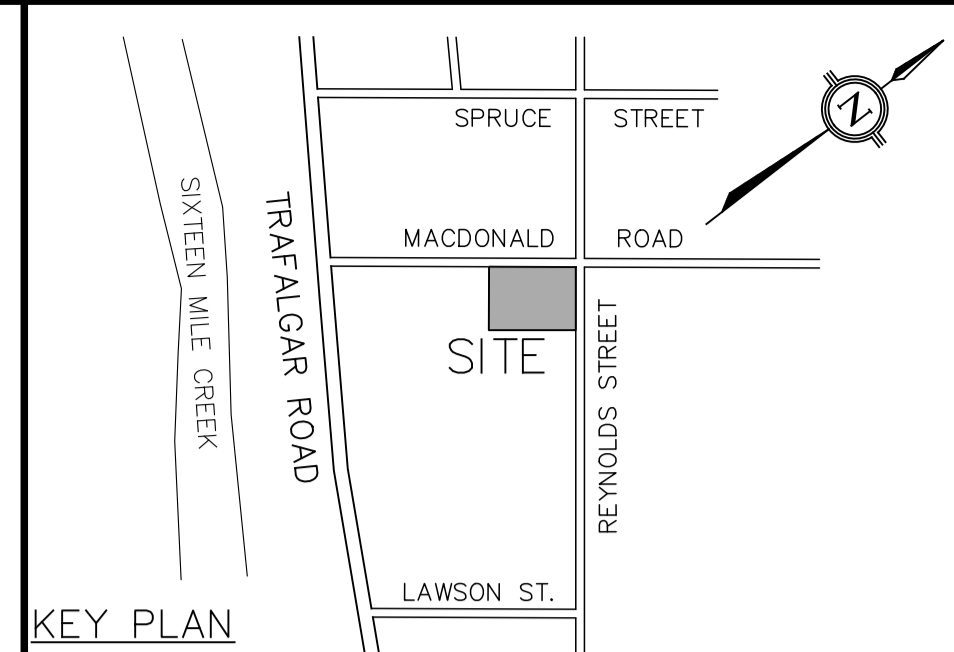
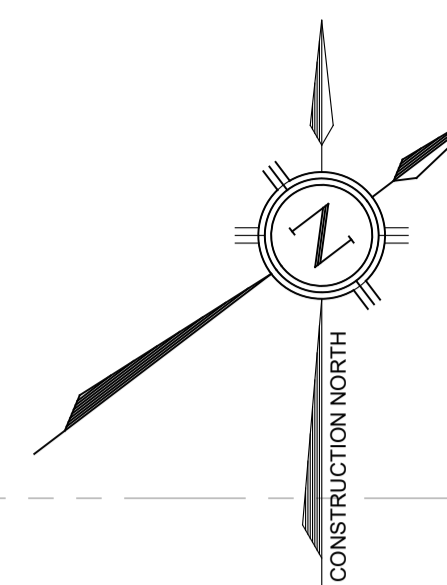
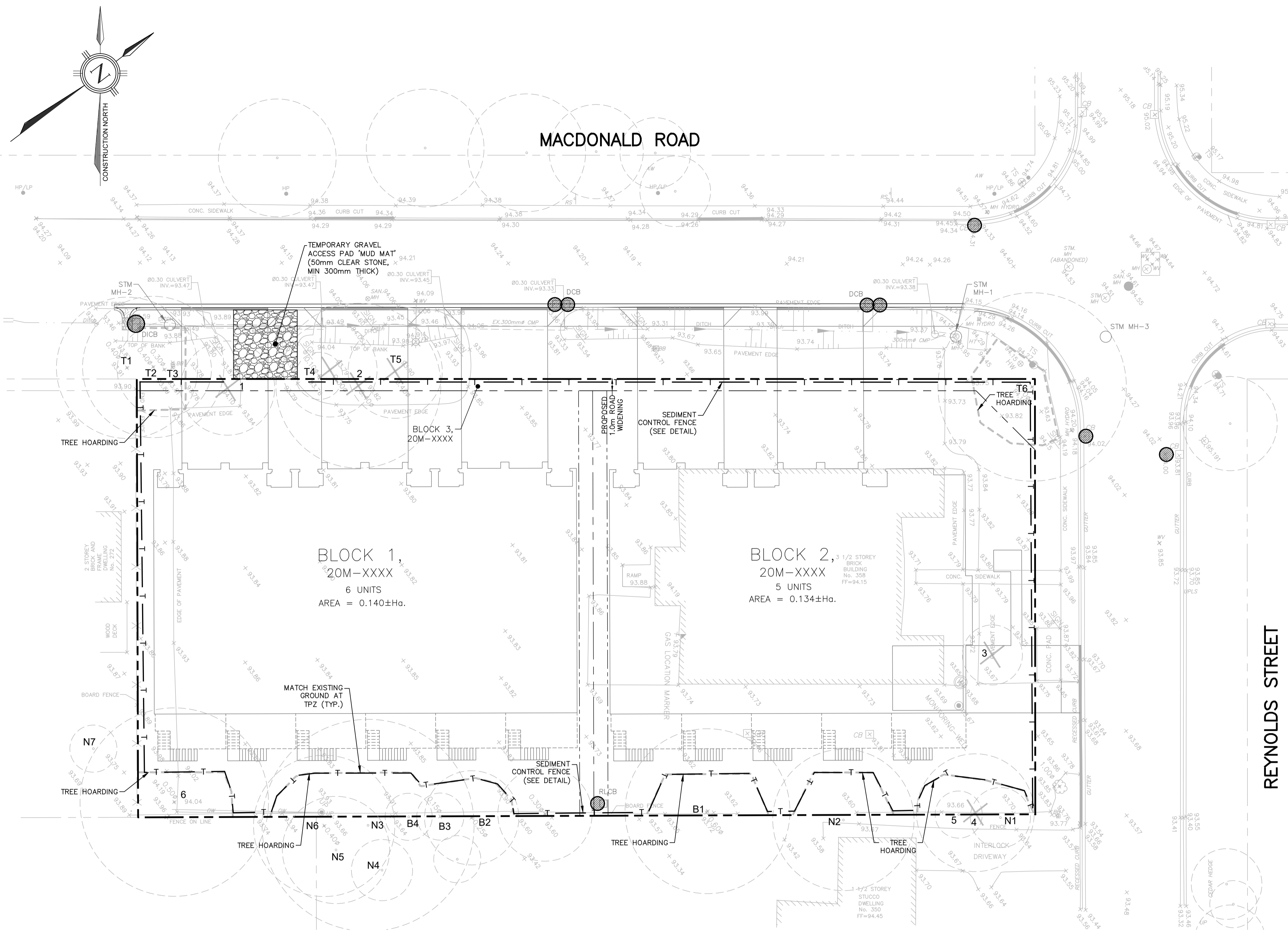


SEDIMENT CONTROL FENCE
NTS



- NOTE:
1. TO BE USED UNDER APPROPRIATE DRAINAGE CIRCUMSTANCES, BETWEEN APRIL AND DECEMBER
 2. WOVEN GEOTEXTILE TO HAVE EQUIVALENT OPENING SIZE OF 0.15mm AND A MAXIMUM EQUIVALENT OPENING SIZE OF 0.25mm
 3. WOVEN GEOTEXTILE TO BE REPLACED PERIODICALLY WHEN ACCUMULATED SEDIMENTS INTERFERES WITH DRAINAGE.

CATCHBASIN SEDIMENT CONTROL IN PAVED AREAS
NTS



LEGEND

- PROPOSED CATCHBASIN
- PROPOSED DOUBLE CATCHBASIN
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE & BOX
- PROPOSED CURB STOP
- PROPERTY LINE
- + 94.55 EXISTING ELEVATION
- + 94.55 EXISTING ELEVATION TO REMAIN
- PROPOSED DRAINAGE DIRECTION
- PROPOSED SWALE DRAINAGE DIRECTION
- PROPOSED OVERLAND FLOW DIRECTION
- PROPOSED SLOPE
- SEDIMENT CONTROL CB IN PAVED AREAS
- SEDIMENT CONTROL CB IN LANDSCAPED AREA
- T SEDIMENT CONTROL FENCE

BENCHMARK
ELEVATIONS ARE REFERRED TO BENCHMARK No. 0011931U1999 HAVING AN ELEVATION OF 90.39 METRES. TABLET IN THE TOP OF THE SQUARE PIER IN THE SOUTHWEST CORNER OF GEORGE'S SQUARE, 29.3 METRES NORTHWEST OF SUMNER AVENUE AND 12.5 METRES NORTHEAST OF TRAFALGAR ROAD. ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD-1928:1978).

NOTE
THE SURVEY WAS COMPLETED ON THE 18TH DAY OF JANUARY, 2023 BY R-PE SURVEYING LTD., ONTARIO LAND SURVEYORS. JOB No. 22-388 CAD FILE No.22-388TP01

2	2023/11/10	PC/GL	REVISED PER PRE-SUBMISSION COMMENTS RZA DPA
1	2023/06/27	PC/GL	ISSUED FOR RZA AND DPA
REVISIONS			
Design	MF	Chk'd	PC
Drawn	GL	Chk'd	PC
Scale	0 5 10m		References
1:200			
APPROVALS			
Municipal	APPROVED IN PRINCIPLE SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO TOWN OF OAKVILLE STANDARDS AND SPECIFICATIONS.		
Manager of Development Services	Date:	<input type="checkbox"/> Bell <input type="checkbox"/> Hydro <input type="checkbox"/> Gas <input type="checkbox"/> Cable <input type="checkbox"/> Traf. <input type="checkbox"/> Water	
Regional Approval			
SIGNED:	DATE:	LEGISLATIVE AND PLANNING SERVICES DEPT.	
Consultant			

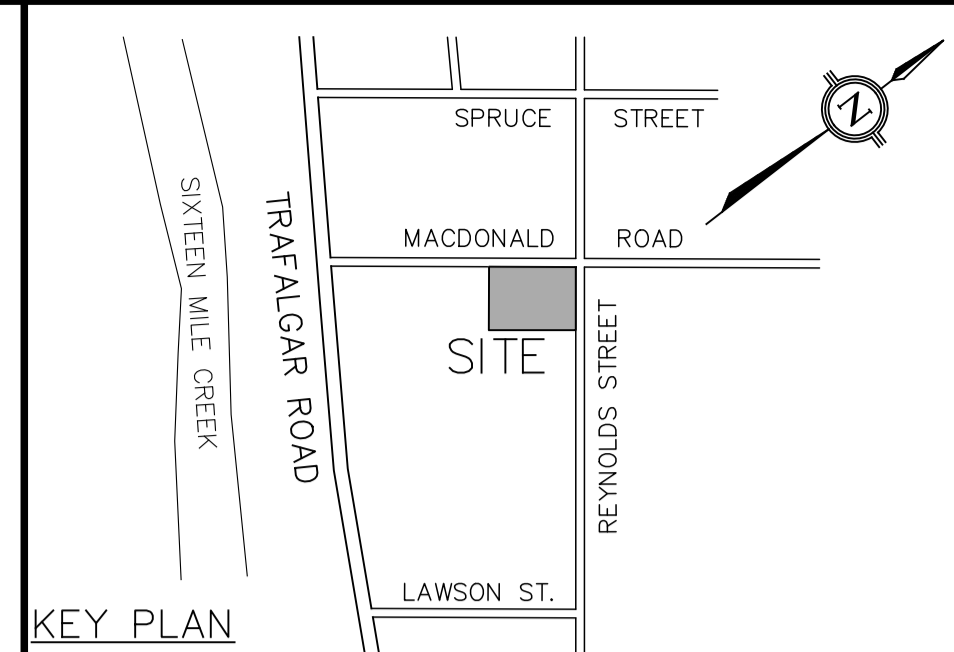
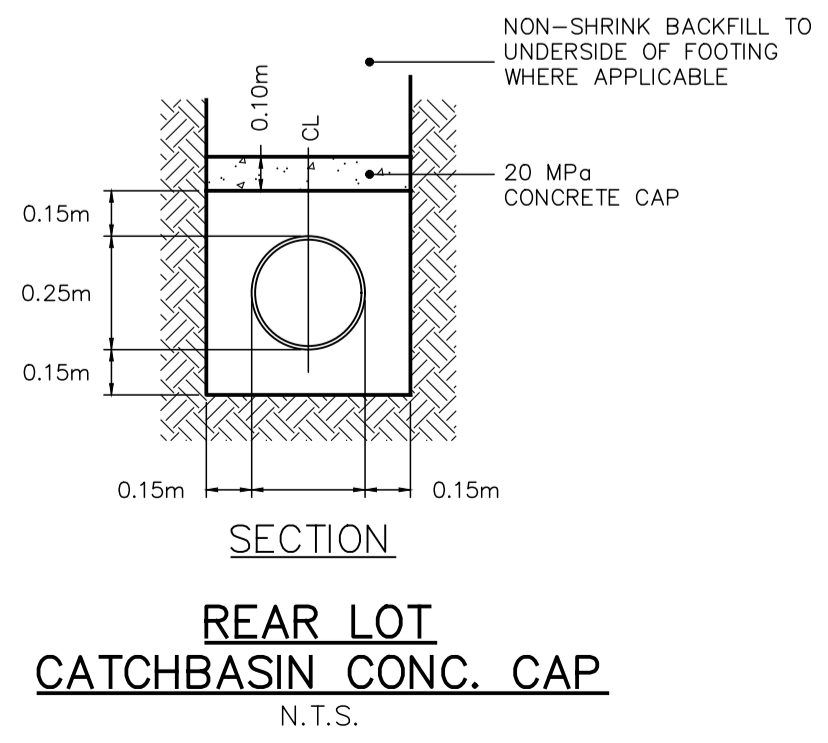
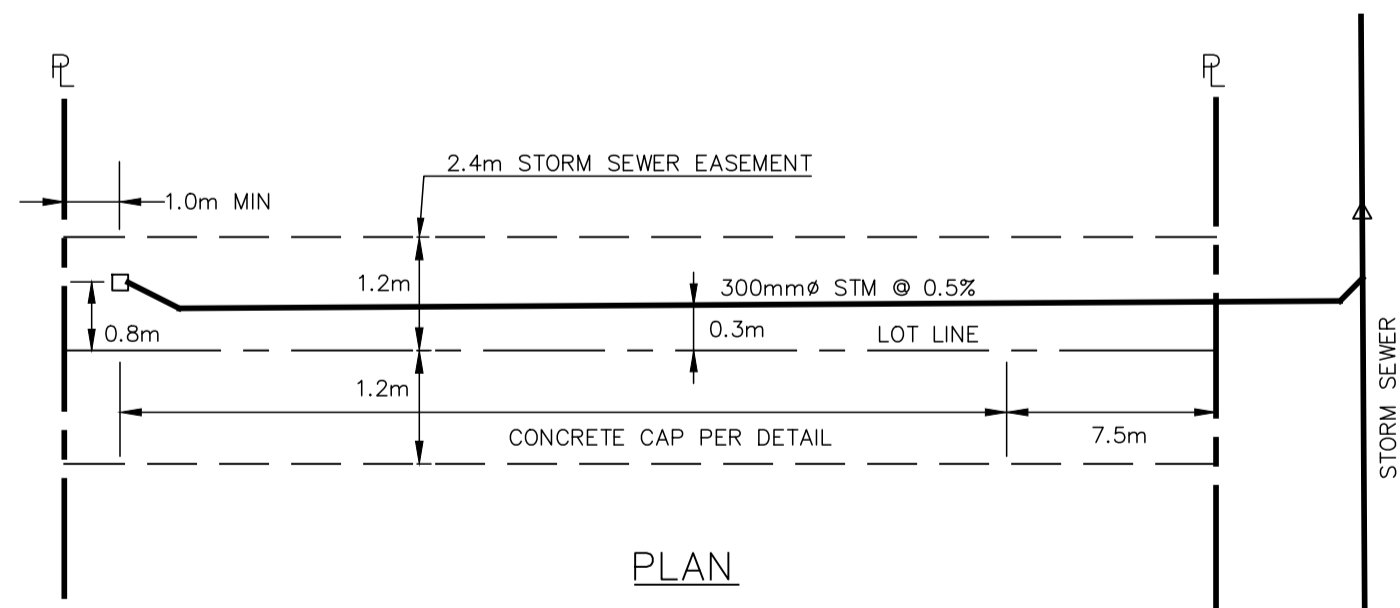
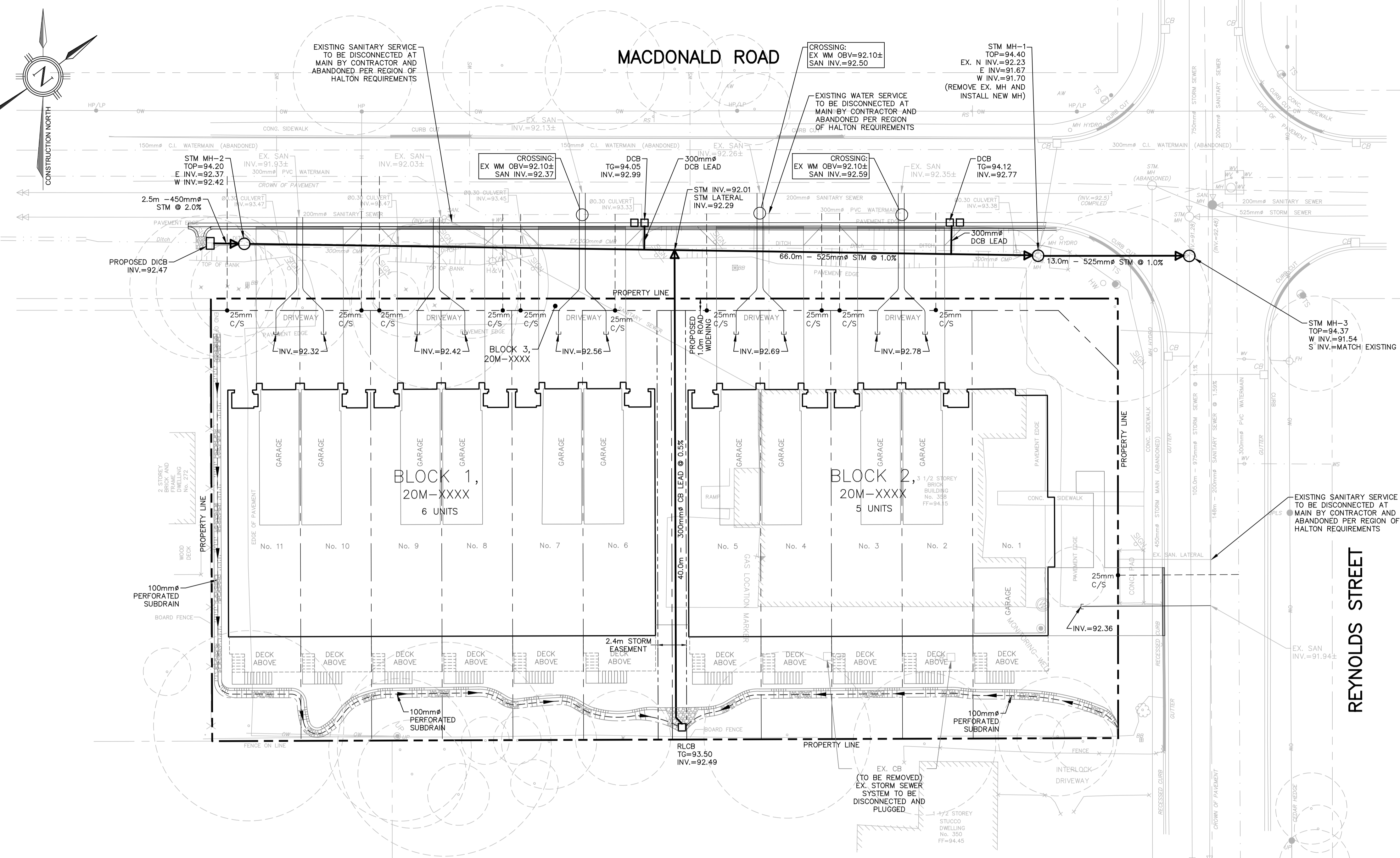
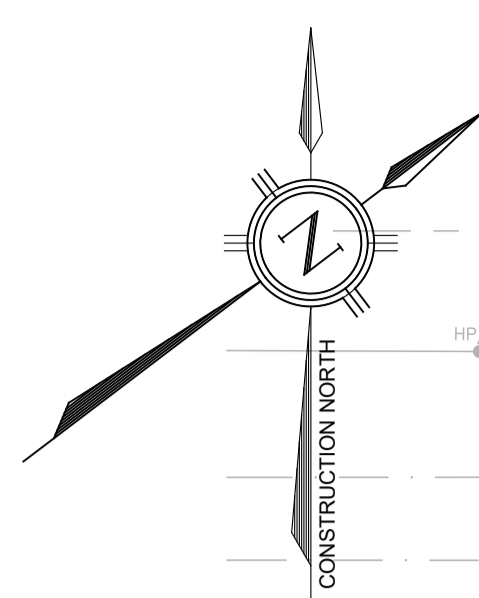
TRAFALGAR ENGINEERING
81-481 MORDEN ROAD, OAKVILLE, ON, L6K 3W6
www.trafalgareng.com

LOCATION: **OAKVILLE** Halton REGION

TITLE: **358 REYNOLDS STREET MACDONALD ROSE INC. SUBDIVISION EROSION AND SEDIMENT CONTROL PLAN**

Municipal No.	24T-XXXXX/XXXX	Regional No.	
Contract No.	-	Consultant No.	E1
		Sheet	

FILENAME: P:\1816 358 Reynolds Street\04-CAD\04-Subdivision\1816E.dwg
C:\DATE: Nov 10, 2023 2:28pm



- LEGEND**
- PROPOSED CATCHBASIN
 - PROPOSED DOUBLE CATCHBASIN
 - PROPOSED STORM MANHOLE
 - PROPOSED SANITARY MANHOLE
 - ⊗ PROPOSED FIRE HYDRANT
 - ⊕ PROPOSED VALVE & BOX
 - PROPOSED PLUG
 - ⊙ PROPOSED PLUG
 - PROPOSED STORM SEWER
 - PROPOSED SANITARY SEWER
 - PROPOSED WATERMAIN
 - PROPOSED SANITARY SERVICE
 - PROPOSED WATER SERVICE WITH CURB STOP
 - - - PROPERTY LINE

BENCHMARK
 ELEVATIONS ARE REFERRED TO BENCHMARK No. 0011931U1999 HAVING AN ELEVATION OF 90.39 METRES. TABLET IN THE TOP OF THE SQUARE PIER IN THE SOUTHWEST CORNER OF GEORGE'S SQUARE, 29.3 METRES NORTHWEST OF SUMNER AVENUE AND 12.5 METRES NORTHEAST OF TRAFALGAR ROAD. ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD-1928:1978).

NOTE
 THE SURVEY WAS COMPLETED ON THE 18TH DAY OF JANUARY, 2023 BY R-PE SURVEYING LTD., ONTARIO LAND SURVEYORS. JOB No. 22-388 CAD FILE No.22-388TP01

2	2023/11/10	PC/GL	REVISED PER PRE-SUBMISSION COMMENTS RZA DPA
1	2023/06/27	PC/GL	ISSUED FOR RZA AND DPA

No.	DD/MM/YY	By/DRN	REVISIONS
Design	MF	Chk'd	PC
Drawn	GL	Chk'd	Plot Date

Scale	0 5 10m	References
	1:200	

APPROVALS		Field Notes
Municipal	APPROVED IN PRINCIPLE SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO TOWN OF OAKVILLE STANDARDS AND SPECIFICATIONS.	Bell <input type="checkbox"/> Hydro <input type="checkbox"/>
	Date:	Gas <input type="checkbox"/> Cable <input type="checkbox"/>
	Manager of Development Services	Traf. <input type="checkbox"/> Water <input type="checkbox"/>

Regional Approval

SIGNED: _____ DATE: _____
 LEGISLATIVE AND PLANNING SERVICES DEPT.

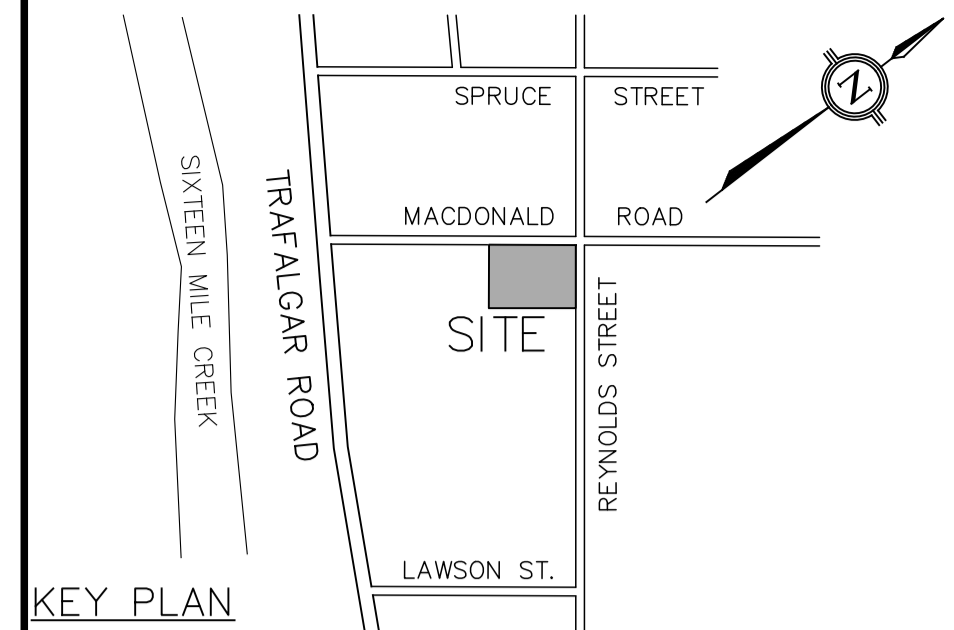
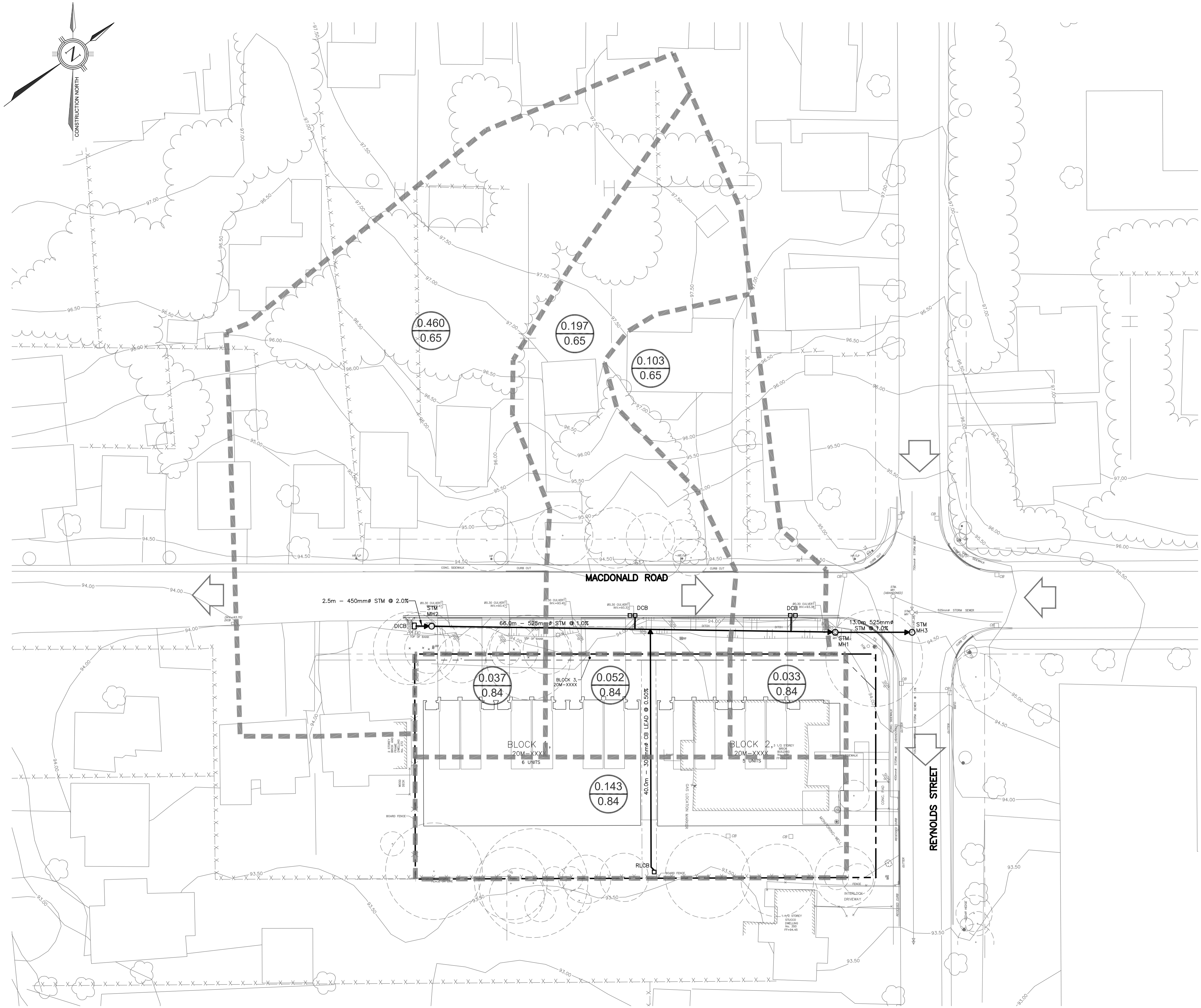
Consultant

LOCATION

TITLE **358 REYNOLDS STREET MACDONALD ROSE INC. SUBDIVISION GENERAL SERVICING PLAN**

Municipal No.	Regional No.
24T-XXXXX/XXXX	
Contract No.	Consultant No. S1
	Sheet

FILENAME: P:\1816 358 Reynolds Street\04-CAD\04-Subdivision\1816S.dwg
 C:\DATE: Nov 10, 2023 2:23pm



LEGEND

	DRAINAGE AREA IN HECTARES
	STORM RUN-OFF COEFFICIENT
	STORM DRAINAGE AREA BOUNDARY
	PROPOSED CATCHBASIN
	PROPOSED DOUBLE CATCHBASIN
	PROPOSED STORM MANHOLE
	PROPOSED STORM SEWER
	PROPERTY LINE
	OVERLAND FLOW ROUTE
	EXISTING CONTOUR

BENCHMARK
 ELEVATIONS ARE REFERRED TO BENCHMARK No. 0011931U1999 HAVING AN ELEVATION OF 90.39 METRES. TABLET IN THE TOP OF THE SQUARE PIER IN THE SOUTHWEST CORNER OF GEORGE'S SQUARE, 29.3 METRES NORTHWEST OF SUMNER AVENUE AND 12.5 METRES NORTHEAST OF TRAFALGAR ROAD. ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD-1928-1978).

NOTE
 THE SURVEY WAS COMPLETED ON THE 18TH DAY OF JANUARY, 2023 BY R-PE SURVEYING LTD., ONTARIO LAND SURVEYORS. JOB No. 22-388 CAD FILE No.22-388TP01

No.	DD/MM/YY	By/DRN	REVISIONS
2	2023/11/10	PC/GL	REVISED PER PRE-SUBMISSION COMMENTS RZA DPA
1	2023/06/27	PC/GL	ISSUED FOR RZA AND DPA

Design	MF	Chk'd	PC	Cad File	1816S2.dwg
Drawn	GL	Chk'd		Plot Date	11/10/23

Scale: 1:300
 10m, 20m

APPROVALS

Municipal: APPROVED IN PRINCIPLE SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO TOWN OF OAKVILLE STANDARDS AND SPECIFICATIONS.

Date: _____

Manager of Development Services

Regional Approval

Field Notes

Bell Hydro
 Gas Cable
 Traf. Water

DESIGN OF WATER &/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS & SPECIFICATIONS & LOCATION APPROVAL FROM AREA MUNICIPALITY.

SIGNED: _____ DATE: _____
 LEGISLATIVE AND PLANNING SERVICES DEPT.

Consultant



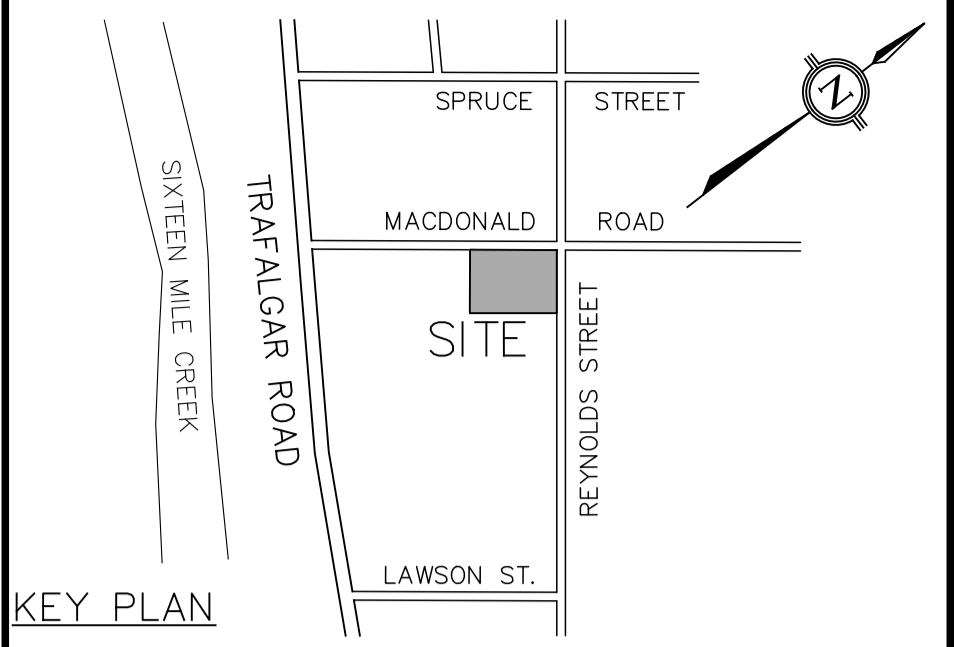
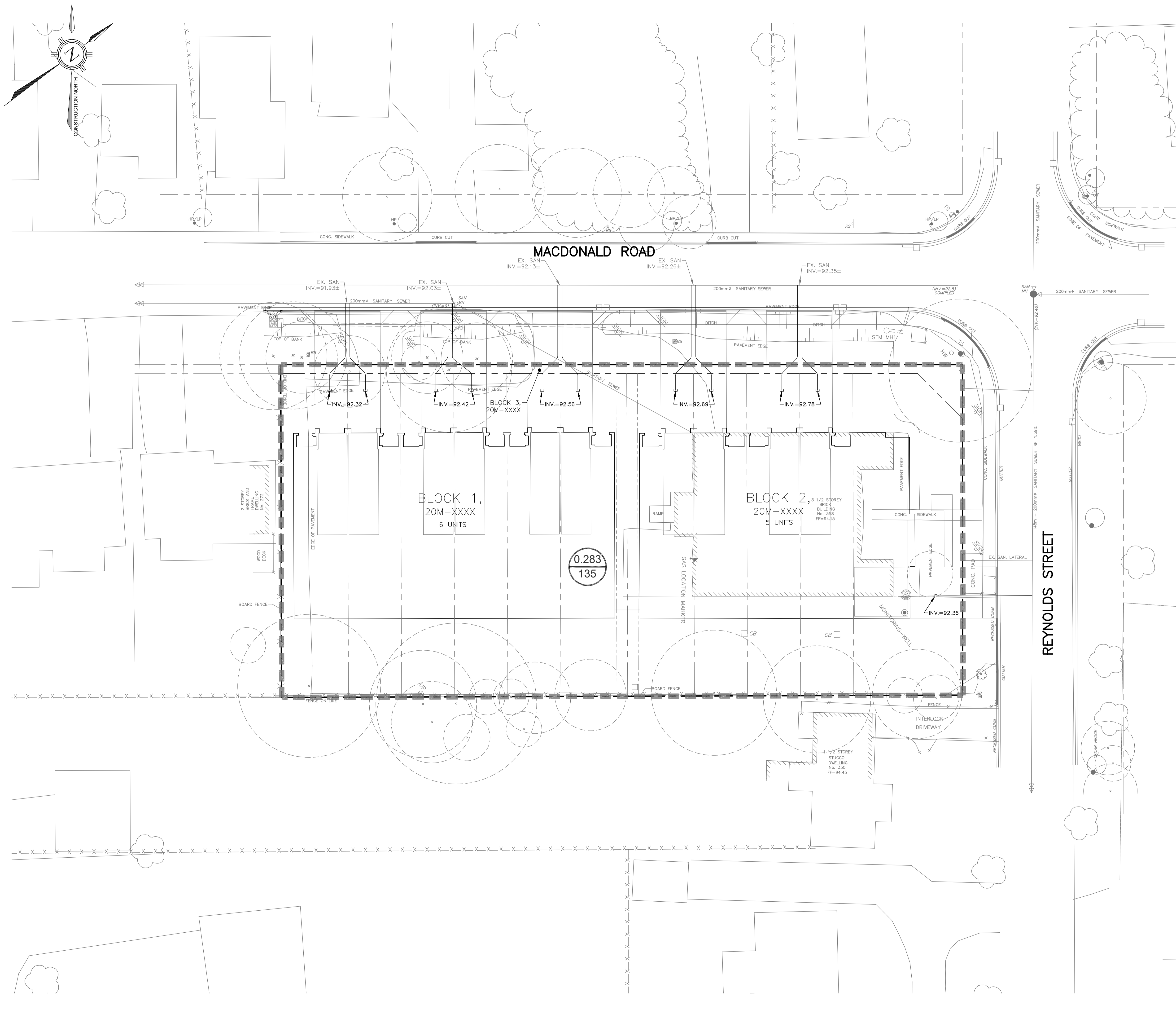
TRAFALGAR ENGINEERING
 #1-481 MORDEN ROAD, OAKVILLE, ON, L6K 3W6
 www.trafalgareng.com



TITLE
 358 REYNOLDS STREET
 MACDONALD ROSE INC.
 SUBDIVISION
 STORM DRAINAGE AREA PLAN

Municipal No.	24T-XXXXX/XXXX	Regional No.	
Contract No.	-	Consultant No.	S2
		Sheet	

FILENAME: P:\1816_358 Reynolds Street\04-CAD\04-Subdivision\1816S2.dwg
 PLOT DATE: Nov 10, 2023 2:50pm



- LEGEND**
- 0.283
135 AREA IN HECTARES
 - 135 POPULATION DENSITY (PERSONS/HECTARE)
 - SAN DRAINAGE AREA BOUNDARY
 - PROPERTY LINE
 - EXISTING SANITARY SEWER
 - EXISTING SANITARY MANHOLE

BENCHMARK

ELEVATIONS ARE REFERRED TO BENCHMARK No. 0011931U1999 HAVING AN ELEVATION OF 90.39 METRES. TABLET IN THE TOP OF THE SQUARE PIER IN THE SOUTHWEST CORNER OF GEORGE'S SQUARE, 29.3 METRES NORTHWEST OF SUMNER AVENUE AND 12.5 METRES NORTHEAST OF TRAFALGAR ROAD. ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD-1928:1978).

NOTE

THE SURVEY WAS COMPLETED ON THE 18TH DAY OF JANUARY, 2023 BY R-PE SURVEYING LTD., ONTARIO LAND SURVEYORS. JOB No. 22-388 CAD FILE No.22-388TP01

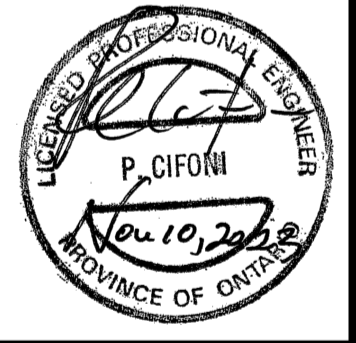
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1	2023/06/27	PC/GL	ISSUED FOR RZA AND DPA
REVISIONS			
No.	DD/MM/YY	By/DRN	
Design	MF	Chk'd	PC
Drawn	GL	Chk'd	
Scale	0 5 10m		References
1:200			

APPROVALS		Field Notes
Municipal	APPROVED IN PRINCIPLE SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO TOWN OF OAKVILLE STANDARDS AND SPECIFICATIONS.	Bell <input type="checkbox"/> Hydro <input type="checkbox"/>
Date:		Gas <input type="checkbox"/> Cable <input type="checkbox"/>
Manager of Development Services		Traf. <input type="checkbox"/> Water <input type="checkbox"/>
Regional Approval		

DESIGN OF WATER &/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS & SPECIFICATIONS & LOCATION APPROVAL FROM AREA MUNICIPALITY.

SIGNED: _____ DATE: _____
LEGISLATIVE AND PLANNING SERVICES DEPT.

Consultant



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 www.trafalgareng.com

LOCATION

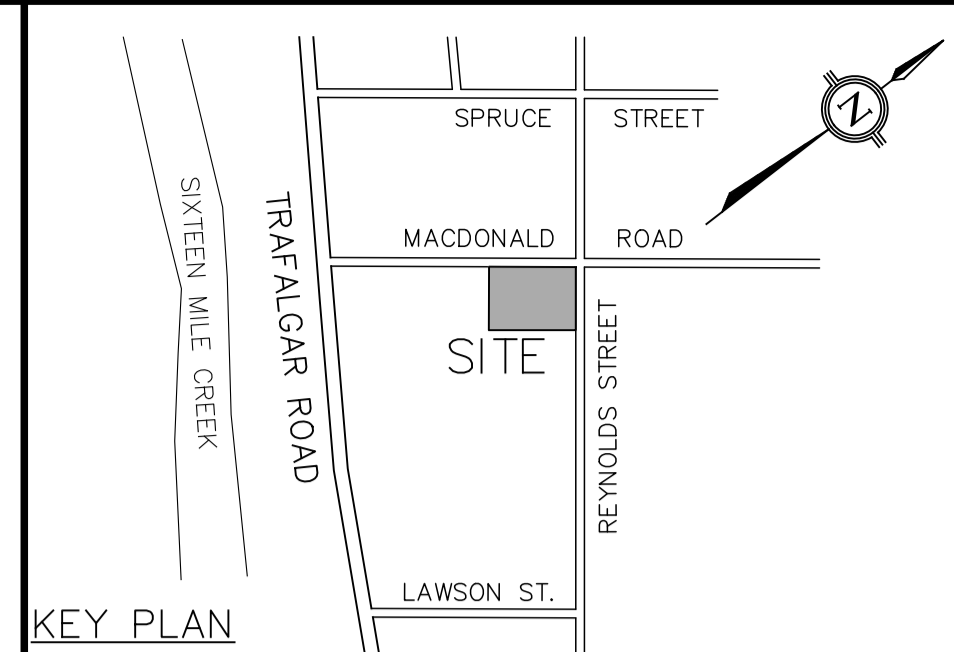
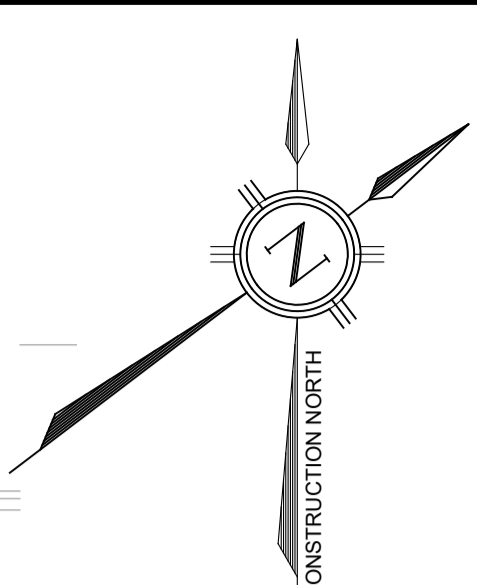
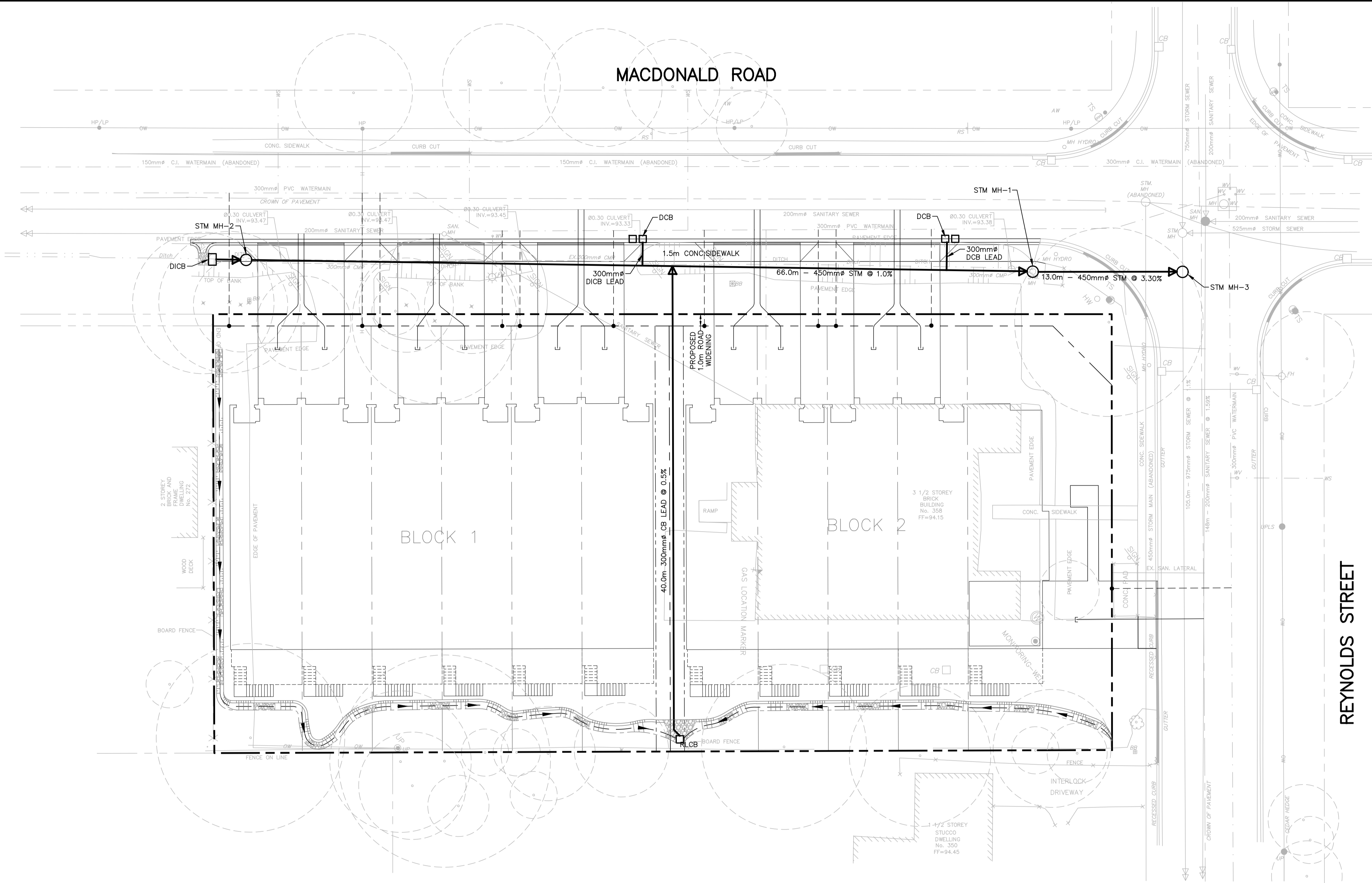
OAKVILLE **Halton REGION**

TITLE **358 REYNOLDS STREET MACDONALD ROSE INC. SUBDIVISION**

SANITARY DRAINAGE AREA PLAN

Municipal No.	Regional No.
24T-XXXXX/XXXX	
Contract No.	Consultant No. 1816 - S3
	Sheet

FILENAME: P:\1816 358 Reynolds Street\04-CAD\04-Subdivision\1816CU.dwg
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- LEGEND**
- PROPOSED CATCHBASIN
 - PROPOSED DOUBLE CATCHBASIN
 - PROPOSED STORM MANHOLE
 - PROPOSED SANITARY MANHOLE
 - ⊠ PROPOSED FIRE HYDRANT
 - ⊞ PROPOSED PLUG
 - PROPOSED STORM SEWER
 - PROPOSED SANITARY SEWER
 - PROPOSED WATERMAIN
 - PROPOSED SANITARY SERVICE
 - PROPOSED WATER SERVICE WITH CURB STOP
 - PROPERTY LINE

BENCHMARK
 ELEVATIONS ARE REFERRED TO BENCHMARK No. 0011931U1999 HAVING AN ELEVATION OF 90.39 METRES. TABLET IN THE TOP OF THE SQUARE PIER IN THE SOUTHWEST CORNER OF GEORGE'S SQUARE, 29.3 METRES NORTHWEST OF SUMNER AVENUE AND 12.5 METRES NORTHEAST OF TRAFALGAR ROAD. ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD-1928:1978).

NOTE
 THE SURVEY WAS COMPLETED ON THE 18TH DAY OF JANUARY, 2023 BY R-PE SURVEYING LTD., ONTARIO LAND SURVEYORS. JOB No. 22-388 CAD FILE No.22-388TP01

- EXISTING SERVICES LEGEND**
- SAN, MH EX. SAN. MANHOLE
 - STM, MH EX. STM. MANHOLE
 - CB EX. CATCHBASIN
 - ⊠ BB EX. BELL BOX
 - HP EX. HYDRO POLE
 - ⊞ TS EX. TRAFFIC CONTROLLER
 - 300mm# WATERMAIN EX. WATERMAIN
 - 200mm# SANITARY MAIN EX. SAN. SEWER
 - 975mm# STORM MAIN EX. STM. SEWER
 - OW EX. OVERHEAD WIRE
 - H EX. HYDRO SERVICE

REYNOLDS STREET

2	2023/11/10	PC/GL	REVISED PER PRE-SUBMISSION COMMENTS RZA DPA
1	2023/06/27	PC/GL	ISSUED FOR RZA AND DPA

No	DD/MM/YY	By/DRN	REVISIONS
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Drawn	GL	Chk'd	Plot Date

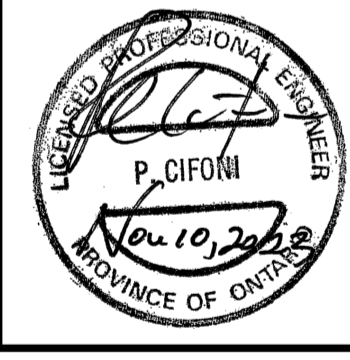
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APPROVALS		Field Notes
Municipal	APPROVED IN PRINCIPLE SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO TOWN OF OAKVILLE STANDARDS AND SPECIFICATIONS.	Bell <input type="checkbox"/> Hydro <input type="checkbox"/>
	Date:	Gas <input type="checkbox"/> Cable <input type="checkbox"/>
	Manager of Development Services	Traf. <input type="checkbox"/> Water <input type="checkbox"/>

Regional Approval

DESIGN OF WATER &/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS & SPECIFICATIONS & LOCATION APPROVAL FROM AREA MUNICIPALITY.

SIGNED: _____ DATE: _____
 LEGISLATIVE AND PLANNING SERVICES DEPT.



BELL CANADA	OAKVILLE HYDRO**
NAME	NAME
DATE	DATE
CANADA POST	COGECO CABLE
NAME	NAME
DATE	DATE
	ENBRIDGE GAS*
	NAME
	DATE

*GAS LINES ARE SHOWN FOR LOCATION PURPOSES ONLY. GAS WILL BE SUPPLIED ON END USER REQUIREMENTS.

**OAKVILLE HYDRO UTILITY ASSET LOCATIONS SHOWN ON THIS DRAWING ARE BASED ON DESIGN DRAWINGS AND ARE SUBJECT TO CHANGE DURING CONSTRUCTION. OAKVILLE HYDRO RESERVES THE RIGHT TO APPROVE OR DENY TREES IN THE VICINITY OF TRANSFORMERS OR ANY OTHER ASSETS. NO UTILITY PEDESTAL, MAILBOX, TREE AND/OR OTHER ASSETS ALLOWED TO BE INSTALLED ON TOP OF TRENCH.

Consultant

81-481 MORDEN ROAD, OAKVILLE, ON, L6K 3W6
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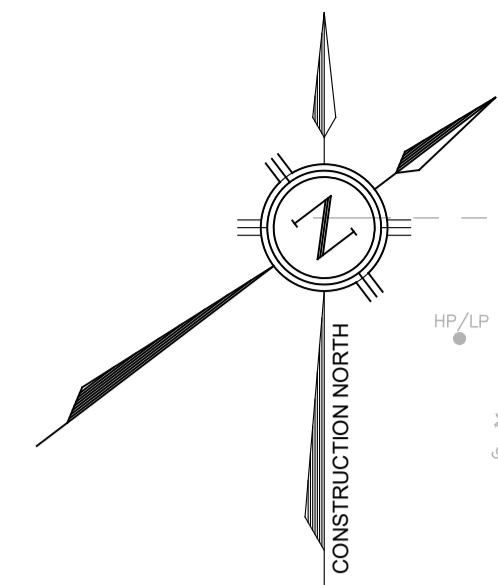
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TITLE

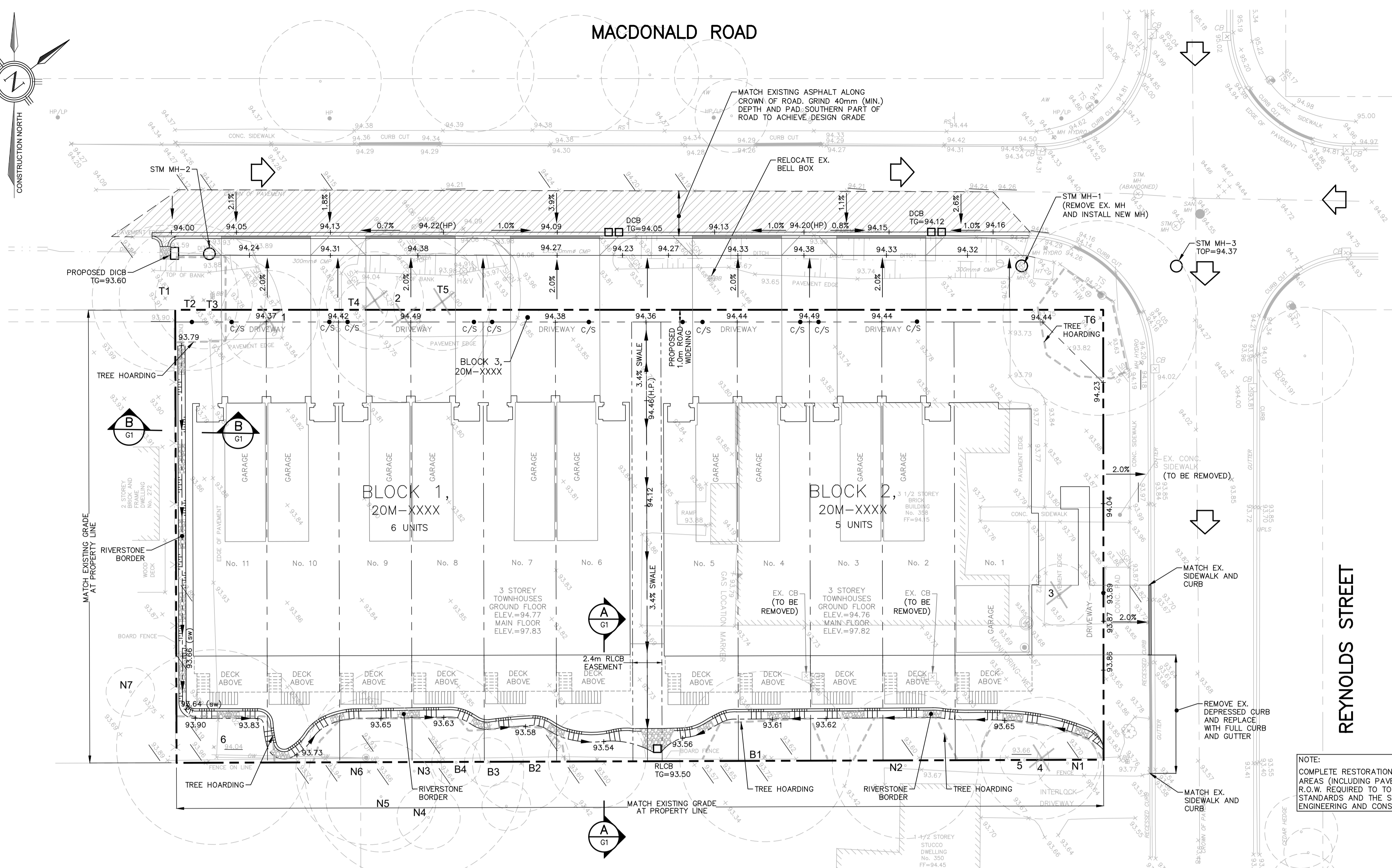
**358 REYNOLDS STREET
 MACDONALD ROSE INC.
 SUBDIVISION**

COMPOSITE UTILITY PLAN

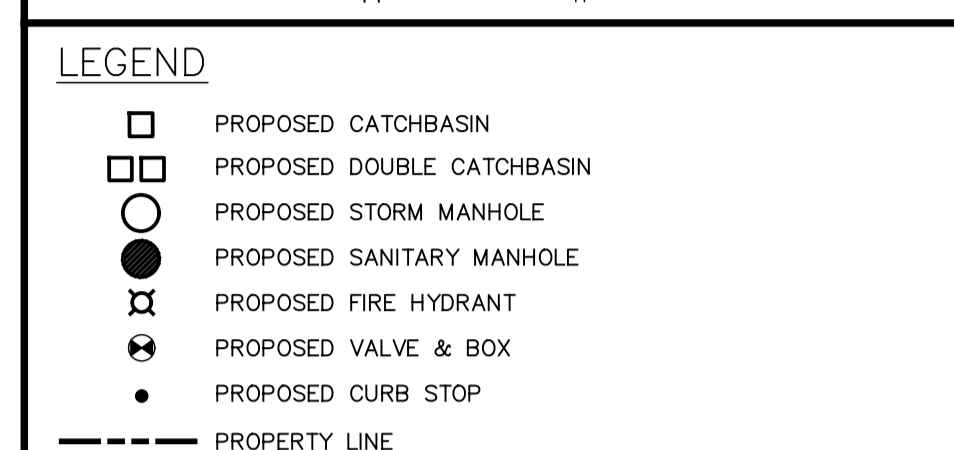
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Contract No.	Consultant No.
-	CU1
	Sheet



MACDONALD ROAD



KEY PLAN



LEGEND

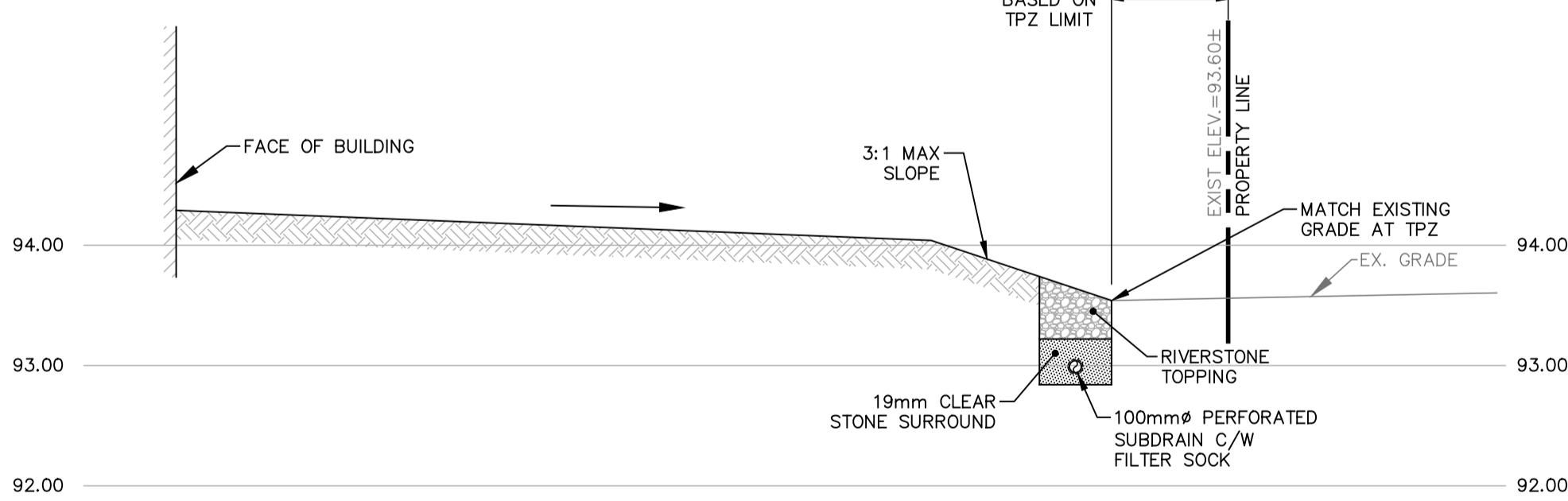
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- PROPOSED DOUBLE CATCHBASIN
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- ⊕ PROPOSED FIRE HYDRANT
- ⊕ PROPOSED VALVE & BOX
- PROPOSED CURB STOP
- PROPERTY LINE
- x 93.87 EXISTING ELEVATION
- x 93.87 EXISTING ELEVATION TO REMAIN
- + 94.55 PROPOSED FINISHED ELEVATION
- PROPOSED DRAINAGE DIRECTION
- PROPOSED SWALE DRAINAGE DIRECTION
- ⇨ PROPOSED OVERLAND FLOW DIRECTION
- 1:1.00 PROPOSED SLOPE

BENCHMARK
 ELEVATIONS ARE REFERRED TO BENCHMARK No. 0011931U1999 HAVING AN ELEVATION OF 90.39 METRES. TABLET IN THE TOP OF THE SQUARE PIER IN THE SOUTHWEST CORNER OF GEORGE'S SQUARE, 29.3 METRES NORTHWEST OF SUMNER AVENUE AND 12.5 METRES NORTHEAST OF TRAFALGAR ROAD. ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD-1928:1978).

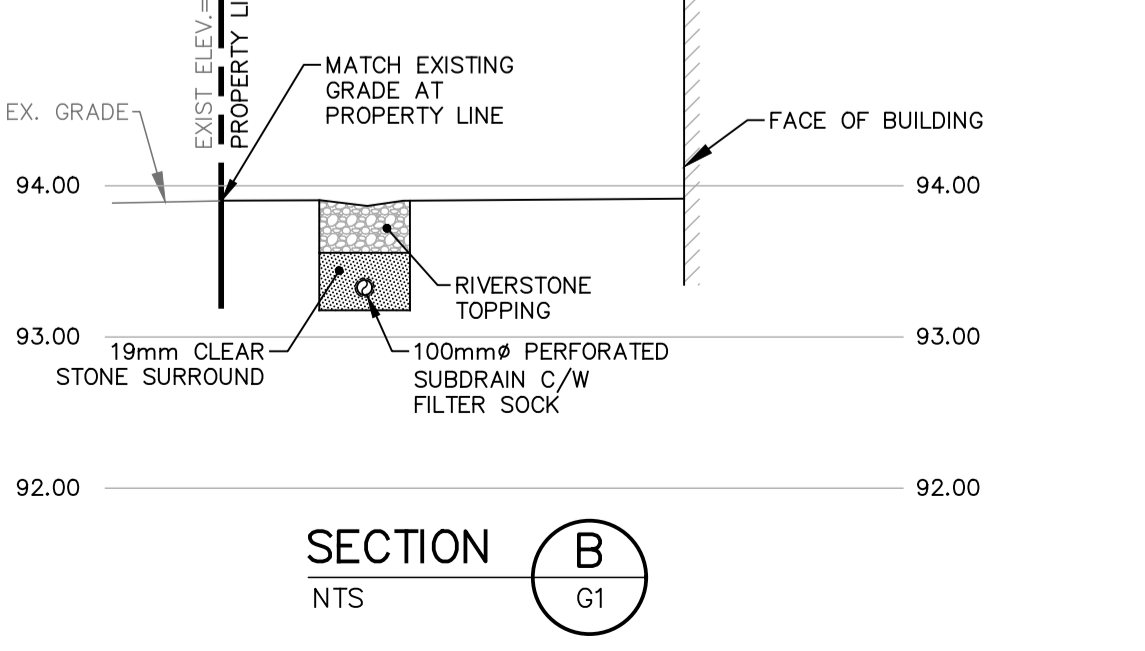
NOTE
 THE SURVEY WAS COMPLETED ON THE 18TH DAY OF JANUARY, 2023 BY R-PE SURVEYING LTD., ONTARIO LAND SURVEYORS. JOB No. 22-388 CAD FILE No.22-388TP01

LOT GRADING CRITERIA

1. ALL YARD SURFACES FRONT AND REAR SHALL HAVE A MINIMUM SLOPE OF 2.0%.
2. REAR YARDS ARE TO HAVE A MAXIMUM GRADE OF 5.0% FOR A MINIMUM APRON LENGTH OF 5 METRE DISTANCE FROM THE REAR FACE OF THE DWELLING.
3. THE MAXIMUM SLOPE ALLOWED ON ANY YARD SURFACE SIDE, FRONT AND REAR SHALL BE 3:1 (3 HORIZONTAL TO 1 VERTICAL).
4. DRIVEWAY SLOPE SHALL BE A MINIMUM OF 1.0% AND A MAXIMUM OF 7.0%.
5. RETAINING WALLS MAY BE USED SUBJECT TO APPROVAL BY THE TOWN.
6. ALL SWALES SHALL HAVE A MINIMUM DEPTH OF 150mm AND A MINIMUM SLOPE OF 2.0% FOR A MAXIMUM LENGTH OF 60m BEFORE OUTFALL.
7. WHERE ANY UPPER LOT DRAINS ONTO A LOWER LOT, AND INTERCEPTOR SWALE SHALL BE LOCATED ON THE REAR PROPERTY LINE IN SUCH A MANNER AS TO DIVERT THE DRAINAGE TO THE SIDE YARD SWALES OF THE LOWER LOT.
8. WINDOW WELLS, WHERE REQUIRED SHALL BE INDIRECTLY CONNECTED TO THE WEeping TILE SYSTEM USING 100mm DRAIN PIPE FILLED WITH 19mm CLEAR STONE.
9. WHEN THE SEPARATION BETWEEN ADJACENT BUILDINGS IS 1.2m OR LESS THE AREA BETWEEN THE BUILDINGS SHALL BE COVERED WITH 100mm DEPTH OF 19.0mm CLEAR STONE.
10. THERE SHALL BE A 0.6m WIDE PATH AT A 2.0% SLOPE AWAY FROM THE FOUNDATION AROUND ONE SIDE OF THE BUILDING, EXCEPT WHERE SIDE YARD SETBACKS FROM LOT LINES DO NOT PERMIT. THIS IS TO ALLOW FOR THE CONSTRUCTION OF A WALKWAY TO THE REAR OF THE HOUSE.
11. ALL DOWNSPOUTS SHALL DISCHARGE ONTO SODDED AREAS USING SPLASH PADS FOR EROSION CONTROL. DIRECT CONNECTION OF THE DOWNSPOUTS TO THE STORM SYSTEM MUST HAVE PRIOR APPROVAL FROM THE TOWN OF OAKVILLE. THE LOCATION OF THE DISCHARGE IS NOT TO INTERFERE WITH ACCESS OR POSE A SAFETY HAZARD.
12. ALL LOTS ARE TO RECEIVE A MINIMUM ROLLED DEPTH OF 300mm OF TOPSOIL THROUGHOUT ALL AREAS.
13. RETAINING WALLS MAY BE CONSTRUCTED OF PRESSURE TREATED LUMBER, POURED IN PLACE CONCRETE, PRE-CAST CONCRETE OR STONE.
14. RETAINING WALLS EXCEEDING 1.0m IN HEIGHT ARE REQUIRED TO HAVE PLANS SUBMITTED TO THE BUILDING SERVICES DEPARTMENT STAMPED BY A PROFESSIONAL ENGINEER AND SHOWING THE PROPOSED RETAINING WALL CONSTRUCTION.
15. FENCES WILL BE REQUIRED ON ALL RETAINING WALLS THAT EXCEED 0.6m IN HEIGHT. THE FENCE MUST BE A MINIMUM HEIGHT OF 1.2m AND CONFORM TO THE SWIMMING POOL ENCLOSURE BY-LAW 1991-20.
16. ALL RETAINING WALLS ARE TO HAVE THE FACE OF THE WALL PLACED ON THE PROPERTY LINE IN SUCH A MANNER THAT ANY TIE BACKS, ETC., ARE LOCATED ENTIRELY WITHIN THE UPPER LOT.



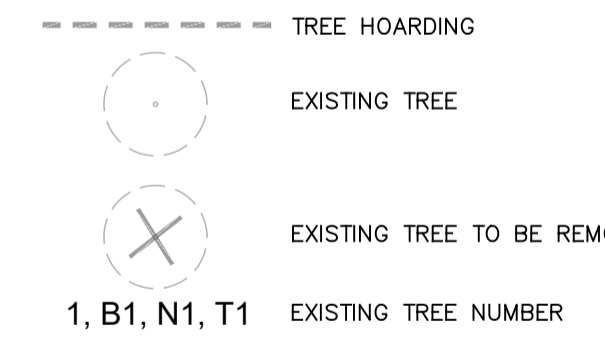
SECTION A
1:50



SECTION B
NTS

NOTE:
 COMPLETE RESTORATION OF ALL DISTURBED AREAS (INCLUDING PAVEMENT STRUCTURE) WITHIN R.O.W. REQUIRED TO TOWN OF OAKVILLE STANDARDS AND THE SATISFACTION OF ENGINEERING AND CONSTRUCTION

TREE PROTECTION LEGEND
 (REFER TO ARBORIST REPORT)



2	2023/11/10	PC/GL	REVISED PER PRE-SUBMISSION COMMENTS RZA DPA
1	2023/06/27	PC/GL	ISSUED FOR RZA AND DPA

No	DD/MM/YY	By/DRN	REVISIONS
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Design	MF	Chk'd	PC	Cad File	18166.dwg
Drawn	GL	Chk'd		Plot Date	11/10/23

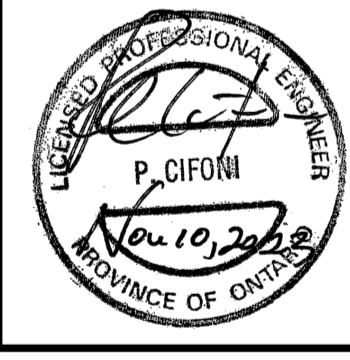
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	1:200	

APPROVALS		Field Notes
Municipal	APPROVED IN PRINCIPLE SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO TOWN OF OAKVILLE STANDARDS AND SPECIFICATIONS.	Bell <input type="checkbox"/> Hydro <input type="checkbox"/>
	Date:	Gas <input type="checkbox"/> Cable <input type="checkbox"/>
	Manager of Development Services	Traf. <input type="checkbox"/> Water <input type="checkbox"/>

Regional Approval

DESIGN OF WATER &/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS & SPECIFICATIONS & LOCATION APPROVAL FROM AREA MUNICIPALITY.

SIGNED: _____ DATE: _____
 LEGISLATIVE AND PLANNING SERVICES DEPT.



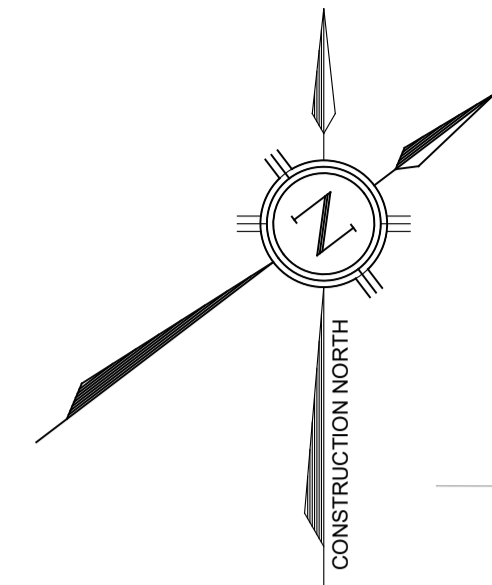
TRAFALGAR ENGINEERING
 #1-481 MORDEN ROAD, OAKVILLE, ON, L6K 3W6
 www.trafalgareng.com

LOCATION

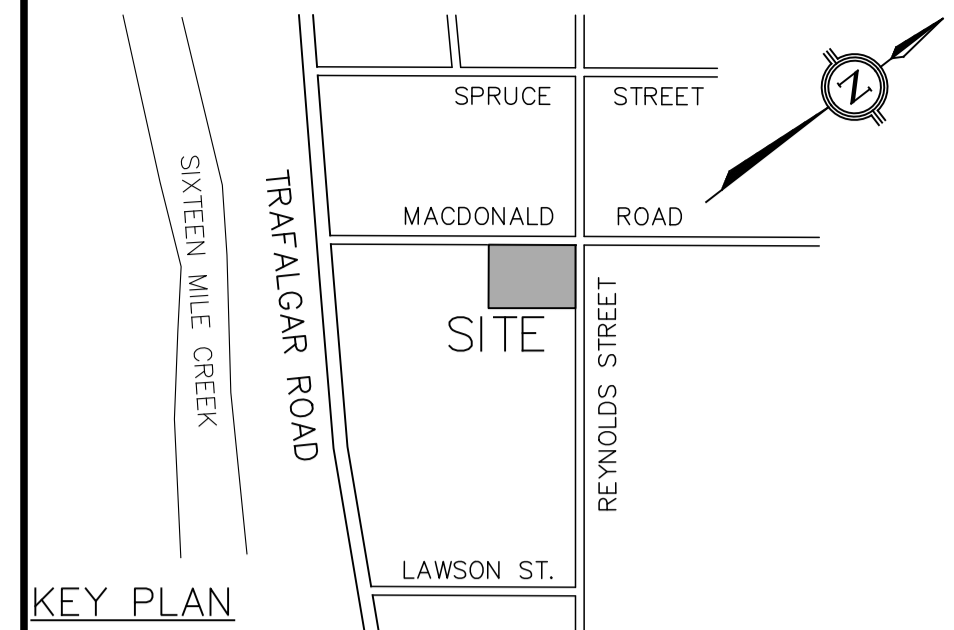
OAKVILLE **Halton REGION**

TITLE **358 REYNOLDS STREET MACDONALD ROSE INC. SUBDIVISION GRADING PLAN**

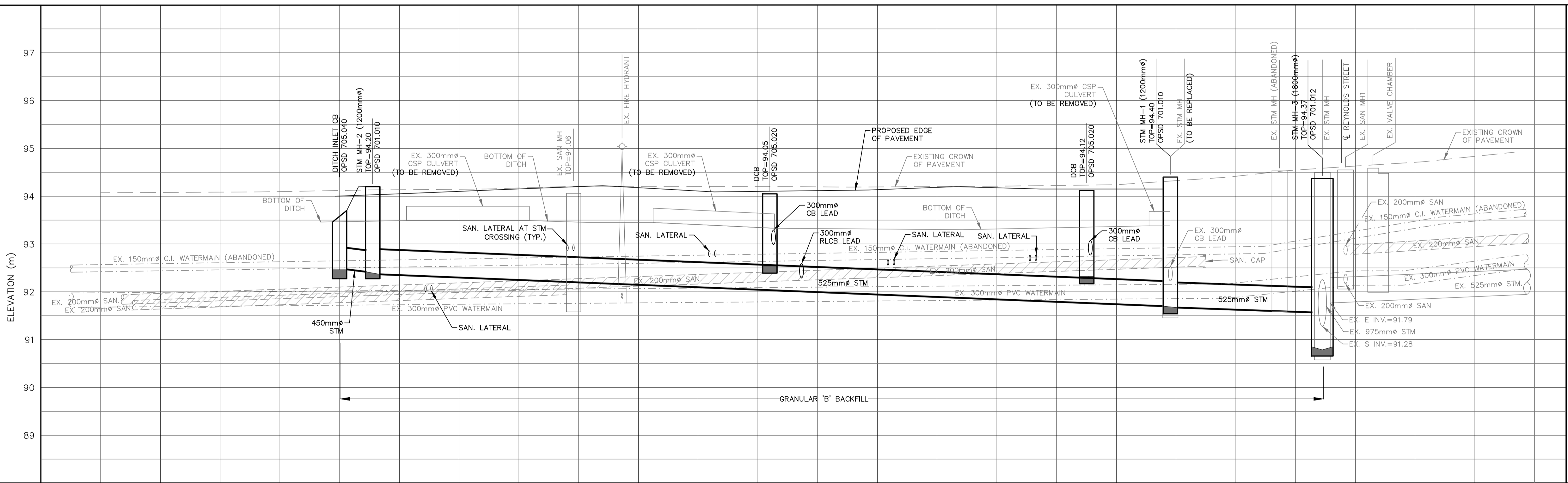
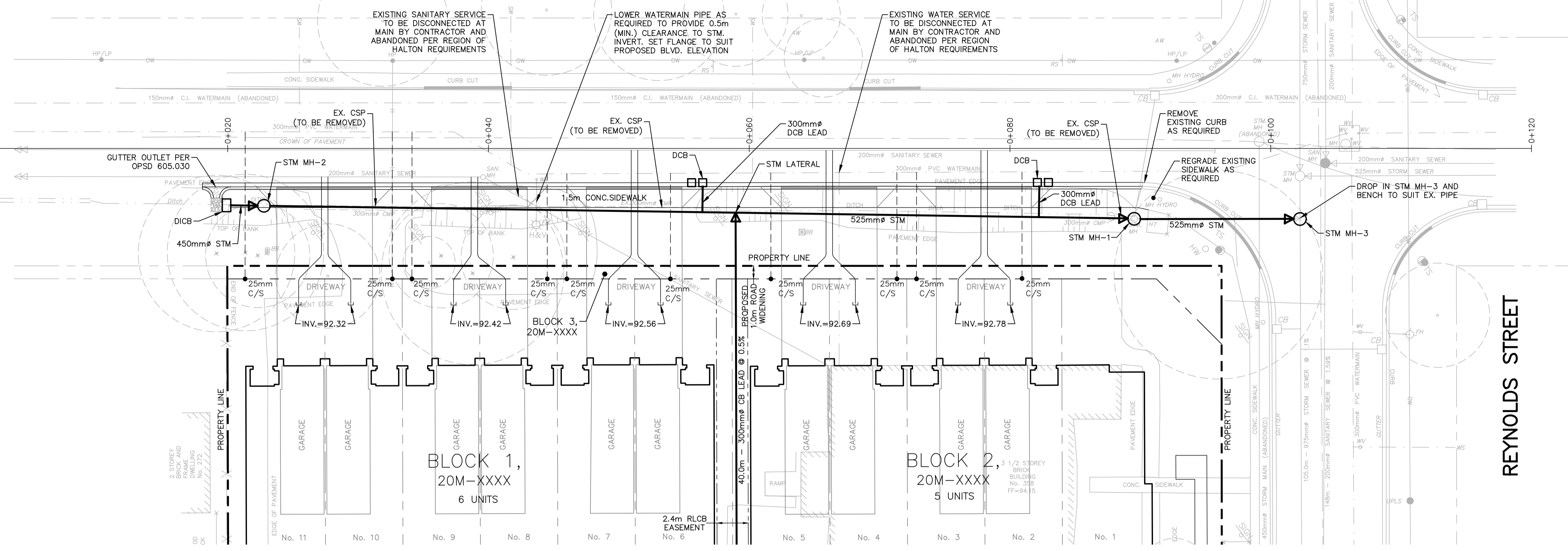
Municipal No.	Regional No.
24T-XXXXX/XXXX	
Contract No.	Consultant No. G1
-	Sheet



MACDONALD ROAD



- LEGEND**
- PROPOSED CATCHBASIN
 - PROPOSED DOUBLE CATCHBASIN
 - PROPOSED STORM MANHOLE
 - PROPOSED SANITARY MANHOLE
 - ⊕ PROPOSED FIRE HYDRANT
 - ⊕ PROPOSED VALVE & BOX
 - ⊕ PROPOSED PLUG
 - ⊕ PROPOSED WATER METER
 - ⊕ PROPOSED STORM SEWER
 - PROPOSED WATERMAIN
 - PROPOSED SANITARY SERVICE
 - PROPOSED WATER SERVICE WITH CURB STOP
 - PROPERTY LINE
 - EXISTING SAN MH
 - EXISTING STM MH
 - EXISTING CB
 - ⊕ EXISTING HYDRANT
 - ⊕ EXISTING SIGN
- BENCHMARK**
- ELEVATIONS ARE REFERRED TO BENCHMARK No. 0011931U1999 HAVING AN ELEVATION OF 90.39 METRES. TABLET IN THE TOP OF THE SQUARE PIER IN THE SOUTHWEST CORNER OF GEORGE'S SQUARE, 29.3 METRES NORTHWEST OF SUMNER AVENUE AND 12.5 METRES NORTHEAST OF TRAFALGAR ROAD. ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD-1928:1978).
- NOTE**
- THE SURVEY WAS COMPLETED ON THE 18TH DAY OF JANUARY, 2023 BY R-PE SURVEYING LTD., ONTARIO LAND SURVEYORS. JOB No. 22-388 CAD FILE No.22-388TP01



2	2023/11/10	PC/GL	REVISED PER PRE-SUBMISSION COMMENTS RZA DPA
1	2023/06/27	PC/GL	ISSUED FOR RZA AND DPA
No. DD/MM/YY By/DRN REVISIONS			
Design	MF	Chk'd	PC
Drawn	GL	Chk'd	Plot Date
Scale	0 5 10m		References
1:200			Field Notes
Municipal		APPROVED IN PRINCIPLE SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO TOWN OF OAKVILLE STANDARDS AND SPECIFICATIONS.	
Date:		<input type="checkbox"/> Bell <input type="checkbox"/> Hydro <input type="checkbox"/> Gas <input type="checkbox"/> Cable <input type="checkbox"/> Traf. <input type="checkbox"/> Water	
Manager of Development Services		Regional Approval	
DESIGN OF WATER &/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS & SPECIFICATIONS & LOCATION APPROVAL FROM AREA MUNICIPALITY.			
SIGNED: _____ DATE: _____		LEGISLATIVE AND PLANNING SERVICES DEPT.	
Consultant			
LOCATION			
EXISTING GROUND ELEVATION		TITLE	
94.05		358 REYNOLDS STREET MACDONALD ROSE INC. SUBDIVISION PLAN-PROFILE STA 0+000 TO 0+120	
STORM SEWER INVERTS		Municipal No.	
E 92.47 W 92.42 E 92.37		24T-XXXXX/XXXX	
SANITARY SEWER INVERTS		Regional No.	
200mm SAN. SEWER		Contract No.	
E 91.944 E 91.944		-	
STATION		Consultant No.	
0+000		P1	
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0+040			
0+080			
0+100			
0+120			

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