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HYDROGEOLOGICAL INVESTIGATION

PROPOSED DEVELOPMENT,
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Prepared for:

United Hotels Inc.

Project No. FH 23-12806

May 30, 2023

Issued to:	United Hotel Inc. Super 8 Hotel, 1144 Hugel Ave, Midland ON,
Contact:	Mr. Sonu Dhillon gsm@super8midland.com
Project Name:	Hydrogeological Investigation for Proposed Development
Project Address:	1144 Hugel Avenue, Midland, ON, L4R 0B1.
Project Number:	FH 23-12806
Issued on:	May 30, 2023

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1. INTRODUCTION

Fisher Engineering Ltd (Fisher) was commissioned by United Hotels Inc to carry out a Hydrogeological Investigation at the property municipally addressed as 1144 Hugel Avenue, Midland, Ontario, hereinafter referred to as the 'Site'.

The purpose of the Hydrogeological Investigation was to evaluate groundwater conditions with respect to the redevelopment of the site.

The report has been prepared specifically and solely for the proposed development regarding hydrogeological aspects for design and construction.

The Hydrogeological Review has been prepared in accordance with the Ontario Water Resources Act, Ontario Regulation 387/04, the Severn Sound Source Protection and the South Georgian Bay Lake Simcoe Source Protection Region guidelines.

2. SITE AND PROJECT DESCRIPTIONS

Site Settings

The site is located on the north side of Hugel Avenue, approximately 100m east Penetanguishene Road, in a predominantly commercial area of Midland, and is bounded by Hugel Avenue to the south, Penetanguishene Road to the east, a Canadian Car property to the north and Huronia Medical Centre to the east. The site has an approximate area of 7,459.9m^2 and is irregular in shape.

At the time of the investigation, the site was occupied by a three-storey Super 8 by Wyndham property. The remaining areas of the site were covered with asphalt paved parking/driveways. Access to the site was via a paved driveway off Hugel Avenue.

Little Lake and Georgian Bay are located approximately 1.2km southeast and 2km east, respectively of the site. Some creeks were observed within an approximate radius of 1.0km of the site.

Topography

The site is generally flat with elevations changing from approximately 245.67m at BH1, located in the northwest corner, to 245.98m at BH7, south of the proposed building. The property is graded for drainage towards several catch basins and ditches.

Proposed Development

Based on the conceptual site plans, prepared by n Architecture Inc., dated May 29, 2023, the proposed development will consist of the construction of a two-storey restaurant building, with no underground level, to be located at the northwest side of the existing hotel building. Approximate building footprint for the building is 334.38m^2. Finished Floor Elevations (FFE) were given as 246.01m asl.

3. SCOPE OF HYDROGEOLOGICAL INVESTIGATION

The Hydrogeological Investigation works were required to:

1) Establish groundwater conditions for the design of dewatering works, if required, prior to construction of the proposed building.
2) Determine the need for permanent drainage and
3) Conduct calculations/analyses of the groundwater quantity and quality to be used for the necessary permits applications prior to proceeding with construction dewatering and design of permanent drainage, if necessary.

The scope of this work generally consisted of the following:

- **Drilling/locating Monitoring Wells.** Drilling of, and locating existing, monitoring wells and reviewing / compiling borehole logs and onsite / laboratory testing.
- **Data Evaluation.** Evaluating the results of soil types, groundwater static levels, ground surface elevation, groundwater quality, flow direction and other available hydrogeological data for the site and their potential impact on the proposed development.
- **Hydraulic Conductivity Tests.** Conduct pumping/single well response tests in monitoring wells and record groundwater level drawdown and recovery to model/calculate hydraulic conductivity.

- **Groundwater Quality Analysis.** Carry out laboratory analyses on groundwater to determine compliance with the local Sewer Use Bylaws.
- **Groundwater Level Monitoring.** Conduct long-term monitoring of the groundwater to determine seasonal highwater levels.
- **Private Well Survey.** Carry out a search of the MECP records to ascertain the number of private water wells within 500m of the site and determine the impact of construction on these wells.
- **Field Infiltration tests.** Conduct field infiltration tests in order to recommend suitable LID methods.
- **Preliminary Water Balance Assessment.** Conduct a preliminary water balance assessment to determine development induced impact on the hydrological characteristics of the site.
- **Hydrogeological Report.** Prepare and submit a report detailing the findings and recommendations of the Hydrogeological Investigation.

4. FIELD AND LABORATORY WORKS

Subsurface exploration for the Hydrogeological Investigation was conducted concurrent with drilling for the Geotechnical Investigation on March 21, 2023 and consisted of seven (7) boreholes extending to approximate depths of 3.51m to 6.55m below prevailing grades. Five of the boreholes were instrumented as groundwater monitoring wells (MW1 to MW5). Two shallow test boreholes were drilled to approximate depths of 1.83m to be used for field infiltration tests. The monitoring wells were installed with 50mm PVC slotted pipes and clean silica sands pack placed around the well screens and isolated with bentonite to depths below existing grade as shown in borehole details in Appendix B.

A truck mounted drill rig, equipped with solid stem augers, supplied by Terra Firma Services, was used for all drilling work under direct supervision of Fisher Engineering personnel.

Laboratory Analyses

Fourteen (14) representative soil samples from BH1, BH2, BH5, TH1 and TH2 were selected and submitted to Fisher Engineering laboratory for moisture content analyses, six (6) for grain size and two (2) samples for hydrometer tests. The laboratory results, which are presented in Appendix C, are consistent with the field descriptions for subsurface soils discussed in Section 5.0.

All monitoring wells were dry throughout the investigation and consequently no groundwater samples were submitted for analysis of water quality under the local sewer use bylaws.

The soil samples recovered during the investigation will be stored in the Fisher Engineering laboratory for a period of 30 days after submitting the report and will be discarded thereafter unless otherwise instructed.

Site Survey

Elevations at borehole locations were established by interpolation from a topographic survey/plan, dated April 14, 2022, prepared by F.S. Surveying Inc.

5. SOIL CONDITIONS

Surface and subsurface conditions encountered at borehole locations are shown in Appendix B - Log of Boreholes and are summarized in the following sections. The logs include soil stratification at borehole locations along with detailed soil descriptions. Variations in soil stratification may occur and should be expected between borehole locations and elsewhere on the site.

- **Asphalt/Granular Material/Fill/Topsoil** – Layers of asphalt underlain by granular material were encountered at the surface of BH1 and BH4. Topsoil was found at the surface of BH2, BH3, BH6 and BH7. Fill soils were observed at the surface of BH5 and below the granular material/topsoil of BH1 to BH4, BH6 and BH7. The fill extended to approximate depths below prevailing grades/elevations as shown in Table 1.

  The fill composition varied from dark brown to brown sand with trace of roots/topsoil and trace to some gravel.
- **Brown Sand** – Native soils of brown, moist, loose to compact sand with trace of silt were encountered below the fill soils extending to depths of 4.57m in BH5. Boreholes BH1 to BH4, BH6 and BH7 were terminated in the brown sand between depths of 3.51m and 6.55m bgs.
- **Brown Silty Sand** – Greyish brown, moist, loose silty sand was encountered towards the bottom of BH5.

Table 1: Fill Levels and Elevations

Borehole No.	BH1	BH2	BH3	BH4	BH5	BH6	BH7
Surface Elevation (m asl)	245.67	246.01	245.96	245.76	245.88	245.96	245.98
Depth of Borehole (m)	5.03	5.03	6.55	5.03	5.03	3.51	3.51
Elevation at Bottom of Borehole (m asl)	240.64	240.98	239.41	240.73	240.85	242.45	242.47
Depth of Fill (m)	0.61	0.61	0.38	0.61	0.18	0.30	0.30
Elevation at Bottom of Fill (m asl)	245.06	245.40	245.58	245.15	245.70	245.66	245.68

6. HYDROGEOLOGICAL STUDY

Hydrogeological study for the subject site was conducted based on the boreholes/wells' exploration, observation and site/laboratory testing. Groundwater details from the seven (7) newly installed monitoring wells were used in the Hydrogeological Study. The wells were constructed with 3.05 (10') long, 51mm diameter PVC slotted screen pipes and risers as shown in Appendix B. Clean silica sand packs were placed around each well screen which was isolated with bentonite extending to slightly below existing grade.

6.1 Hydrogeological Conditions

Review of the available surficial geological and hydrogeological information for the area shows that the soils at the site comprise generally of coarse-textured glaciolacustrine deposits consisting of sand, gravel, minor silt and clay, foreshore and basinal deposits (Ontario Geological Survey Map). Underlying bedrock is represented by Limestone, dolostone, shale, arkose and sandstone from the Ottawa Group/Simcoe Group and Shadow Lake Formation. Depth to bedrock in the area is generally more than 100m below existing grade as shown on well records for drinking water wells.

The subsoils and hydrogeological conditions were observed and recorded during the Hydrogeological Investigation. Based on the subsurface exploration, the soils, below the fill material, are dominated by

layers of brown sand to silty sand. No groundwater was encountered to maximum investigated depth of 6.55m bgs.

Groundwater depths and elevations are summarized in Table 2.

Table 2: Groundwater Levels and Elevations

Monitoring Well No.		MW1	MW2	MW3	MW4	MW5	BH6	BH7
Surface Elevation (m asl)		245.67	246.01	245.96	245.76	245.88	245.96	245.98
Depth of Well/BH, m bgs		4.57	4.57	6.10	4.57	4.57	-	-
Elevation at well base, m asl		241.10	241.44	239.86	241.19	241.31		
On Completion	GW level, m bgs	dry	dry	dry	dry	dry	dry	dry
	GW Ele, m asl							
29-Mar-23	GW level, m bgs	dry	dry	dry	dry	dry	n/a	n/a
	GW Ele, m asl							
12-Apr-23	GW level, m bgs	dry	dry	dry	dry	dry	n/a	n/a
	GW Ele, m asl							
26-Apr-23	GW level, m bgs	dry	dry	dry	dry	dry	n/a	n/a
	GW Ele, m asl							

Comments on Table 2:

The following general comments regarding groundwater conditions at the site are based on the groundwater level data and the Geotechnical Investigation:

- Groundwater levels are being monitored biweekly to determine seasonal highwater levels on the site and will be included when the report is updated.
- The monitoring wells were observed to be dry on completion of drilling and during subsequent site visits.
- Moisture content from samples at various depths in the monitoring wells were in the range 3.8% to 5.3%, indicating moist conditions. Moisture content values in the test boreholes used for infiltration

tests were 19.3% and 23.4%. These higher values may however be attributed to snow melt in the area covered by the test holes during the investigation.

- Given the proposed development, with no underground levels, it is not expected that groundwater will be encountered within the excavation depths for footings.
- The closest bodies of surface water are Little Lake and Georgian Bay located approximately 1.2km southeast and 2km east, respectively of the site. Some creeks were observed within an approximate radius of 1.0km of the site.

6.2 Hydraulic Conductivity K Modeling Results

Slug Tests

The monitoring wells were dry throughout the investigation and consequently rising head slug tests could not be conducted. Falling head slug tests were therefore carried out in three monitoring wells (MW1, MW3 and MW5) on March 29, 2023. The overburden soils consist of sand with silty fine sand at greater depths. Data from the falling head slug tests were used to calculate hydraulic conductivity values using Luthin's method.

Details of the hydraulic conductivity analyses derived from falling head slug tests are presented in Appendix D and summarized in Table 3.

Table 3: Summary of Single Well Response Tests and Hydraulic Conductivity Results

Test Wells	Well Surface Elevation (m asl)	Groundwater Depth (m)	Screen Elevation (m asl)	Variance of water head created (m)	30 Minutes/ Recovery Percentage	Hydraulic Conductivity, K (Luthin's Method)	
						m/s	m/day
MW1	245.67	dry	241.10 – 244.15	3.65	31 mins / 28%	4.54×10^{-7}	0.039
MW3	245.96	dry	239.86 – 242.91	5.04	31 mins / 17%	1.06×10^{-7}	0.009
MW5	245.88	dry	241.31 – 244.36	2.98	31 mins / 48%	6.05×10^{-7}	0.052

6.3 Grain Size Analysis for Hydraulic Conductivity

Representative soil samples from BH1, BH3, BH5, TH1 and TH2 were selected from depths associated with the recommended footing locations or change in soil stratigraphy and submitted to the laboratory for grain size distribution and hydrometer analyses. The results of the grain size distribution and hydrometer analyses are presented in Appendix C.

The effective D_{10} sizes obtained from the Grain Size Distribution Graph were used to estimate the hydraulic conductivity (K) of the overburden soils using Hazen's expression, Equation 1:

$$K=10^{-2} D^2_{10} \text{ (m/s)} \qquad \text{Equation 1}$$

The hydraulic conductivity values at various depths, based on grain size, are summarized in Table 4. The estimated K values are consistent with those obtained during the single well response tests.

Table 4: Hydraulic Conductivity Estimated from Grain Size Analysis

Location	Depth of soil sample (m)	Soil Classification	Estimated Hydraulic Conductivity	
			m/s	m/day
BH1	0.76 – 1.22	Sand, trace Silt	8.1×10^{-5}	7
	1.53 – 1.98	Sand, trace Silt	7.2×10^{-5}	6.24
BH3	0.76 – 1.22	Sand, trace Silt	8.1×10^{-5}	7
	1.53 – 1.98	Sand, trace Silt	8.1×10^{-5}	7
BH5	0.76 – 1.22	Sand, trace Silt	6.4×10^{-5}	5.5
	1.53 – 1.98	Sand, trace Silt	7.2×10^{-5}	6.24

7. CONSTRUCTION DEWATERING & PERMANENT DRAINAGE

7.1 Construction Dewatering

The boreholes were observed to be dry during and on completion of drilling. The monitoring wells were also dry on several occasions during the investigation. Based on the type of building, without underground level, the footing depths are expected at up to 1.9m below existing grade. The monitoring wells were all dry at depths of 5.03m to 6.10m bgs. It is therefore not expected that any significant amount of groundwater will be encountered during excavation for footings in the predominantly sandy soils.

Seasonal High Groundwater Levels

Groundwater levels are being monitored biweekly to determine seasonal highwater levels at the site. Based on groundwater level measurements taken in March and April 2023 no groundwater was encountered within the expected excavation depths for footing for the building with no underground levels. Dewatering quantities will be updated on completion of the groundwater monitoring programme.

Accounting for Accumulated Precipitation

Sandy soils were encountered to depths of more than 5m in most boreholes except BH5 where silty fine sand was observed from 4.57m bgs. This means that most precipitation would be expected to infiltrate into the underlying soils. Notwithstanding the preceding, provisions should be made to pump any accumulated precipitation from the excavation areas during construction, particularly following a period of heavy rainfall. For example, 25mm rainfall in 24 hrs may result in direct accumulation of approximately 13.5 m^3/day in the excavated area (predominantly sand underlain by silty fine sand in some areas). This does not include overland flows into the excavation area. Based on the type of soils at the excavation depth, this water is expected to infiltrate into the ground.

7.2 Permanent Drainage

No groundwater was observed within depths of approximately 5.03m to 6.10m in the monitoring wells during the rainy season so far. Under conditions observed during the investigation, it is not expected that permanent under-slab or perimeter drain will be required.

7.3 Permission to take water (PTTW) and EASR

Registration on the MECP EASR for water taking will not be required for construction dewatering as the daily flowrate, including accumulated precipitation, is less than 400,000 L/day. An application for permission to take water (PTTW) will not be required for permanent drainage as the daily flowrate is less than 50,000 litres.

7.4 Groundwater Quality

Groundwater was not encountered in the monitoring wells during the investigation. Consequently, water samples were not collected and submitted for analyses under the relevant sewer use bylaw.

It should be noted that any accumulation of precipitation occurring in the excavation during construction, that may require offsite discharge, will have to be tested at the time of the event to determine the quality of water for discharge.

7.5 Dewatering Influence Zone

As groundwater was not encountered within the expected excavation depth it is not anticipated that dewatering will generally be required. Any localized dewatering, if encountered, may be managed by pumping from sump pits. Consequently, no groundwater dewatering influence zones will be created.

7.6 Hydrogeological Impact

Dewatering is not expected during construction except to deal with any minor accumulation of precipitation. In addition, the location of the new restaurant building is not in proximity to public infrastructure. Based on the preceding, it was determined therefore that there will not be any negative impact to the natural environment, Midland Municipality Sewer works nor surrounding properties due to construction dewatering. No groundwater induced depression at surface level is therefore expected. Consequently, it is not expected that construction dewatering will impact public infrastructure, the natural environment nor will there be any settlement issues.

8. PRIVATE WELL SURVEY

A query of the MECP water well records showed that there are 69 well records within an approximate radius of 500m of the site as shown in Appendix E. Twenty-four (24) of these were listed as supply wells. Six (6) of the wells were reportedly decommissioned; others may have been decommissioned but not reported. The wells were installed mainly over the period 1963 to 1994. Well depths vary from approximately 138 feet to 360 feet bgs but were generally greater than 200 feet. Static water levels in the supply wells vary from about 80 feet to 176 feet with pump intake set at greater depths.

The type of soils encountered at the expected excavation depths, below the surficial soils, are mainly sand with trace silt. No water was encountered within the maximum explored depth of 6.55m below prevailing grade for the building with no underground level. Any localized dewatering for accumulated precipitation,

if required, will be done by pumping from sump pits. Consequently, no radius of influence for construction dewatering would be expected.

9. WATER BALANCE

9.1 Objective

The purpose of the Water Balance Analysis was to assess the impact of the proposed development on the hydrologic characteristics of the site by evaluating the changes in runoff and infiltration volumes that may be associated with the proposed development.

9.2 Scope of Work

The water balance analysis comprised:

A review of the site geology, surface water and groundwater conditions from previous investigations,

- Review of historical data relating to precipitation and temperature from the MECP,
- Assessment of runoff, infiltration and evapotranspiration from assumed pre-development and post-development conditions, and
- Preparation of a summary report with recommendations.

9.3 Hydrological Conditions

The Site is located in the Severn Sound Source Protection Authority (SSSPA), which is part of the South Georgian Bay Lake Simcoe Source Protection Region (SGBLS), but is outside of an area that is regulated under the Ontario Regulation 179/06. The property is located in a Wellhead Protection Area (WHPA-B) with a score of 6 and also in a WHPA-Q1 and Q2 with moderate stress level. The site is however not located in a Highly Vulnerable Aquifer (HVA), a WHPA-E, an Intake Protection Zone, an Issue Contributing Area nor a Significant Groundwater Recharge Area as shown on the Source Protection Map in Appendix F.

9.4 Water balance analysis

9.4.1 Proposed Development

Based on the site plans, provided during the investigation, the development will consist of the construction of a two-storey restaurant building with no underground level along with associated infrastructure. Pre-development and post-development site coverage plans are presented at Appendix F.

9.4.2 Climate and Precipitation

Climatic data for the analysis were obtained from the closest meteorological station to the Site which is MIDLAND WATER POLLUTION CONTROL PLANT located approximately 3.46km from the site (44^{O} 45' N, 79^{o} 52' W at an elevation of 180m asl). Climate normal data from the MIDLAND WATER POLLUTION CONTROL PLANT, between 1981 and 2010, were obtained from Environment Canada and used in the water balance analysis.

The monthly average temperature and precipitation data were used in the Thornthwaite Equation to estimate the monthly potential evapotranspiration which was adjusted using a daylight correction factor (Trow) to account for varying lengths of daylight throughout the year. Refer to Appendix F for daylight adjustment factors and climate normal data.

Precipitation surplus i.e., the amount of water available to infiltrate or runoff, was calculated as the difference between the yearly precipitation and potential evapotranspiration. Infiltration was calculated by applying infiltration factors to the estimated precipitation surplus. Infiltration factors are dependent on topography, type of soil and land cover at the site.

The site cover was classified as impervious, consisting of paved areas and buildings, and pervious, consisting predominantly of landscaped /grassed areas.

9.4.3 Site-Level Water Balance

A site scale water balance analysis was conducted following the Thornthwaite and Mather (1957) water balance method as outlined in Chapter 3 of the MOECC's SWM Planning and Design Manual (MOECC, 2003). The method accounts for water in the hydrological cycle. Specifically, precipitation (**P**) occurs as rain and snow and can run off towards lakes and streams (**R**), infiltrate to the groundwater table (**I**) or evaporate from surface water and vegetation (**ET**). When long-term average values of **P, R, I** and **ET** are evaluated, there is negligible change to groundwater storage (**ΔS**).

The annual water budget can therefore be stated as:

$$\boldsymbol{P = ET + R + I + \Delta S} \qquad \textbf{Equation 2}$$

Where:

P = precipitation in mm/year

ET = evapotranspiration in mm/year

R = runoff in mm/year

I = infiltration in mm/year and

ΔS = change in groundwater storage in mm/year (taken as zero)

9.4.4 Precipitation, Evapotranspiration, Infiltration and Runoff

The average annual precipitation for the site area is 1040.60 mm/year with an adjusted potential evapotranspiration of 631.74 mm/year giving a water surplus of 1040.60 – 631.74 = 408.86 mm/year. This surplus makes up the infiltration and runoff components of the water budget.

The infiltration rate (which can be broadly referred to as the groundwater recharge) at the site is however expected to vary based on a number of factors as considered in the infiltration model. Calculated infiltration and runoff volumetric rates in the pre-development and post-development stages are presented in the water balance calculations at Appendix F and are discussed below.

9.4.5 Pre-development

Based on the water balance analysis of the pre-development conditions, using the MOE data, infiltration and runoff comprised approximately **5.1% and 64.3%** respectively of the total precipitation, with evapotranspiration making up the difference.

9.4.6 Post-development without Mitigation Methods

The proposed development, without the implementation of mitigation methods, is expected to cause the following:

1. Reduction in infiltration by 247 m^3/yr,
2. Reduction in evapotranspiration by 511 m^3/yr and
3. Increase in total runoff by 758 m^3/yr.

Attempts should therefore be made to implement suitable mitigation measures, and or enhance stormwater management plans, to reduce the post-development impact on the water recharge. These measures should be aimed at reducing the worse case of 247 m^3/yr development induced infiltration deficit.

Comparisons and limitations of some LID methods, that can be used to reduce runoff and increase recharge, are presented in Table 6 of Appendix F.

10. INFILTRATION TESTS

Field infiltration tests were carried out in the location of the proposed infiltration gallery. Two test boreholes were drilled to approximate depth of 1.83m below prevailing grade. Infiltration tests were conducted and the results presented in Fisher FH 23-12809.

Based on the field investigation, using the last two observed stable successive intervals or the average of the last results for each test hole, percolation rates (Time T) for test holes INF8 and INF9 were computed at 2.22 and 2.0 min/cm respectively. Corresponding infiltration rates, calculated as 1/T, are 0.45, and 0.50 cm/min respectively. Percolation data sheets are presented in Appendix G. Infiltration rates for TH1 and TH2, using a factor of safety 2.0 are 135.0 and 150.0 mm/hour respectively.

11. DISCUSSION

1. Hydraulic conductivity values from falling head slug tests vary between **1.06 x 10^{-7} m**/s (0.009 m/day) and **6.05 x 10^{-7} m/s** (0.052 m/day) in the sandy soils with trace silt encountered on the site.
2. No groundwater was observed in the open boreholes on completion of drilling or in the monitoring wells during the investigation.
3. Based on the field observation, neither construction groundwater dewatering nor permanent drainage will be required for the building with no underground level.
4. As neither construction dewatering nor permanent drainage are required, neither an application for PTTW nor registration on the MECP EASR would be required.

5. Construction dewatering is not expected to influence the quality or quantity of water in supply wells in proximity to the site.
6. The proposed development, without implementation of mitigation measures, will impact the hydrologic conditions of the site mainly in the form of increased runoff and reduced infiltration and evapotranspiration.

12.LIMITATIONS

This report is limited in scope to those items specifically referenced in the text. The discussions and recommendations presented in this report are intended only as guidance for the named client, design engineers and those directly associated with the implementation and monitoring of the project. The information on which these recommendations are based is subject to confirmation by engineering personnel at the time of construction. Localized variations in the subsoil conditions may be present between and beyond the boreholes and should be verified during construction.

As more specific subsurface information becomes available during excavations on the site, this report should be updated. Contractors bidding on or undertaking the work should decide on their own investigations, as well as their own interpretations of the factual borehole results. This concern specifically applies to the classification of the subsurface soil and the potential reuse of these soils on/off site. Contractors should draw their own conclusions as to how the near surface and subsurface conditions may affect them.

APPENDIX A – SITE AND LOCATION PLANS

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NORTH

N

LEGEND

SITE BOUNDARY

PROJECT NAME AND ADDRESS

GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

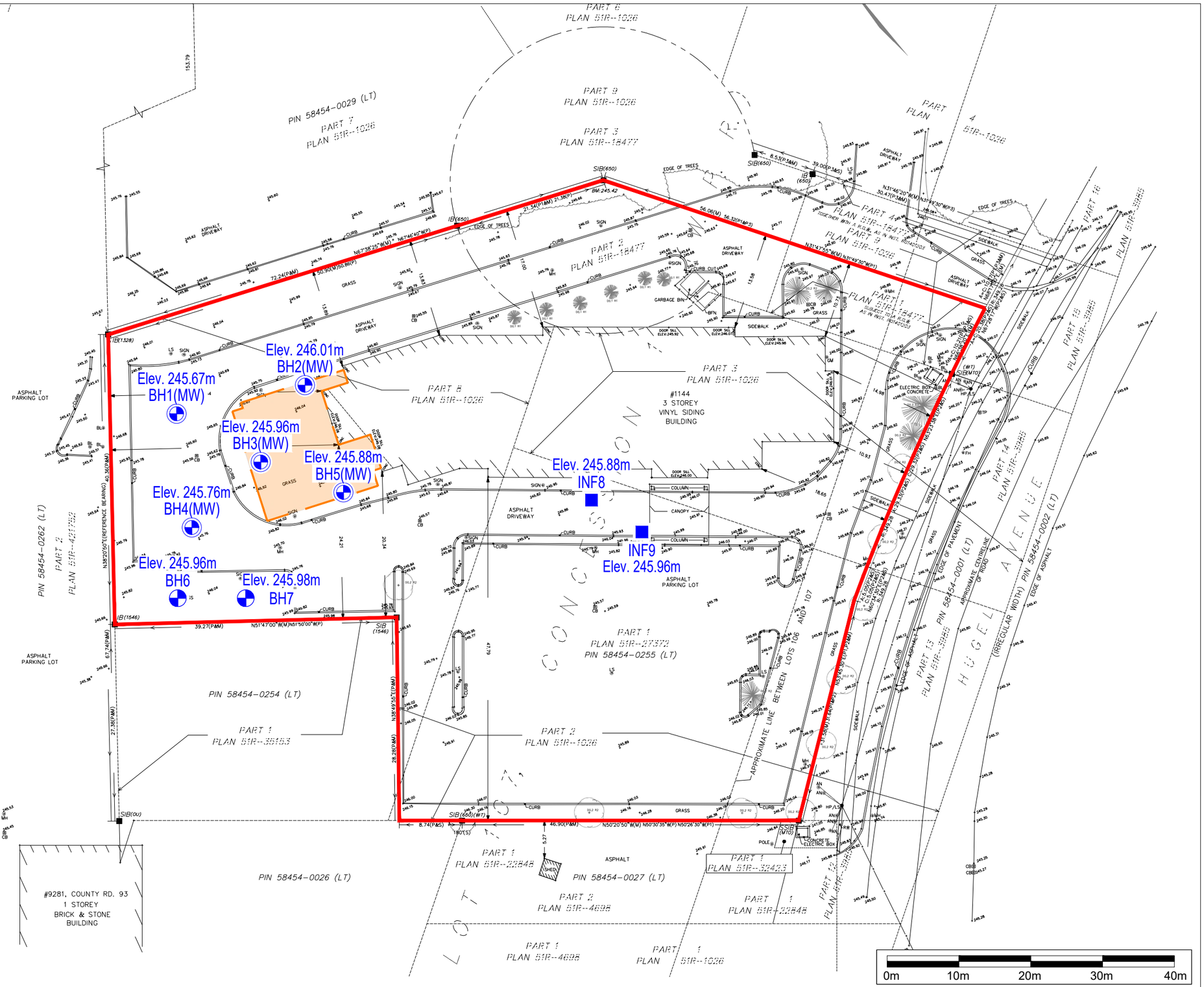
1144 Hugel Ave,
Midland, ON

FIGURE A1:

SITE LOCATION PLAN

PROJECT NO.	SHEET NO.
FE-P 23-12806/12807	A1
DATE: 5 April 2023	
SCALE: AS SHOWN	

0m 100m 200m 300m 400m 500m



FISHER ENGINEERING

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NORTH

LEGEND

- SITE BOUNDARY
- PROPOSED BUILDING FOOTPRINT
- BOREHOLE WITH MONITORING WELL LOCATION
- BOREHOLE LOCATION
- TEST HOLE LOCATION

PROJECT NAME AND ADDRESS

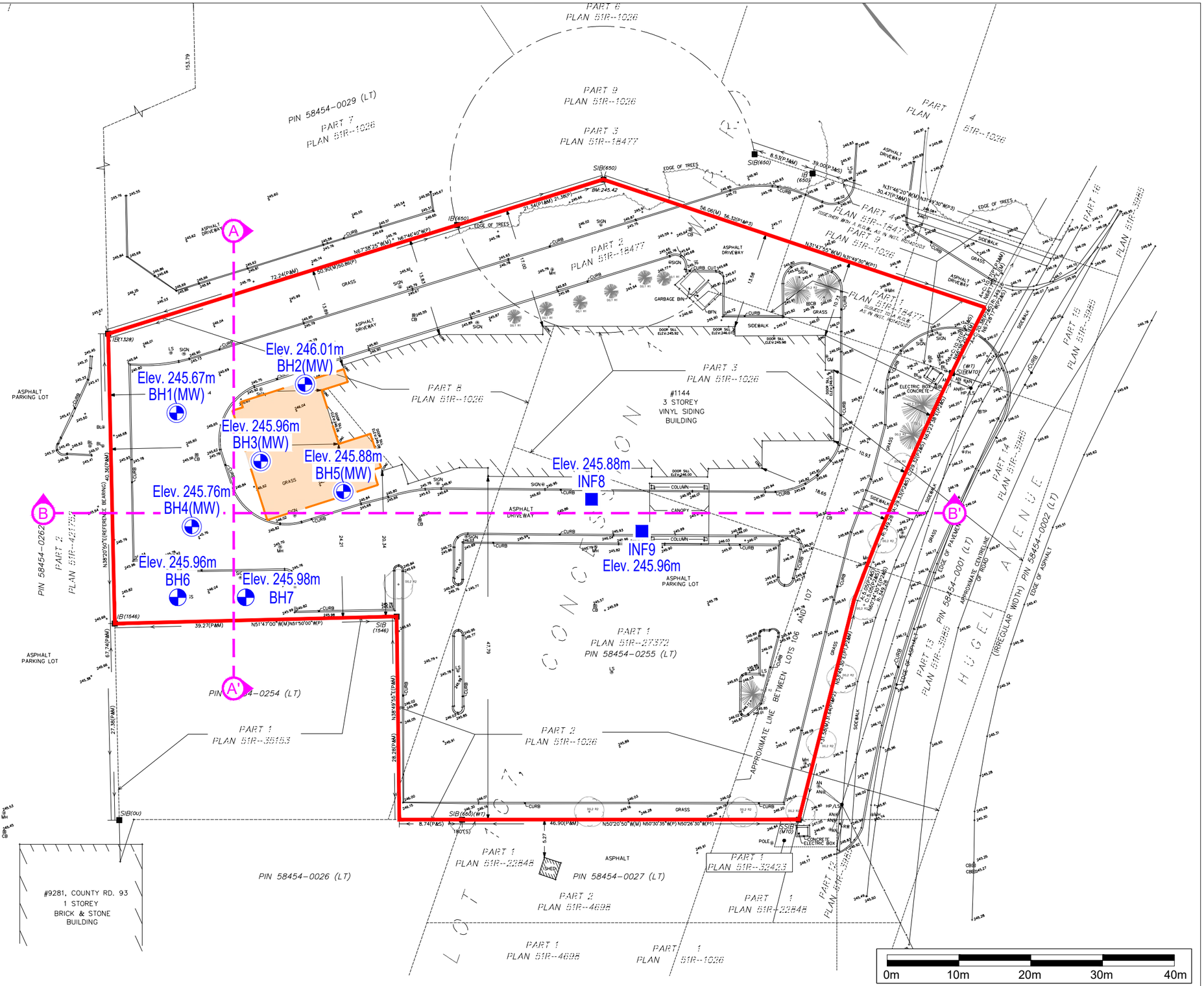
GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

1144 Hugel Ave,
Midland, ON

FIGURE A2:

SITE PLAN WITH BOREHOLES / MONITORING WELL LOCATIONS

PROJECT NO.	SHEET NO.
FE-P 23-12806/12807	A2
DATE: 5 April 2023	
SCALE: AS SHOWN	



FISHER ENGINEERING

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NORTH

LEGEND

- SITE BOUNDARY
- PROPOSED BUILDING FOOTPRINT
- BOREHOLE WITH MONITORING WELL LOCATION
- BOREHOLE LOCATION
- TEST HOLE LOCATION
- A-A' CROSS SECTION MARK

PROJECT NAME AND ADDRESS

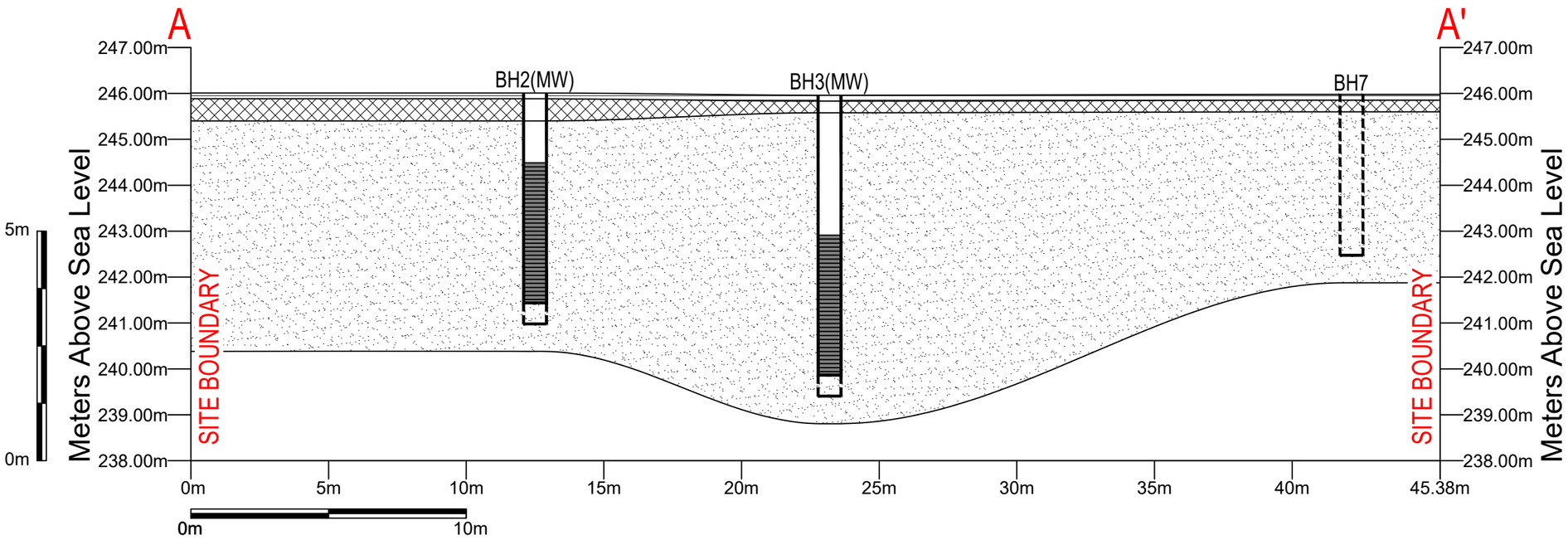
GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

1144 Hugel Ave,
Midland, ON

FIGURE A3:

SITE PLAN WITH BOREHOLES / MONITORING WELL LOCATIONS

PROJECT NO.	SHEET NO.
FE-P 23-12806/12807	A3
DATE: 5 April 2023	
SCALE: AS SHOWN	



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NORTH

LEGEND

FILL
TOPSOIL
SAND
GROUNDWATER POTENTIOMETRIC LEVEL

PROJECT NAME AND ADDRESS

HYDROGEOLOGICAL INVESTIGATION

1144 Hugel Ave,
Midland, ON

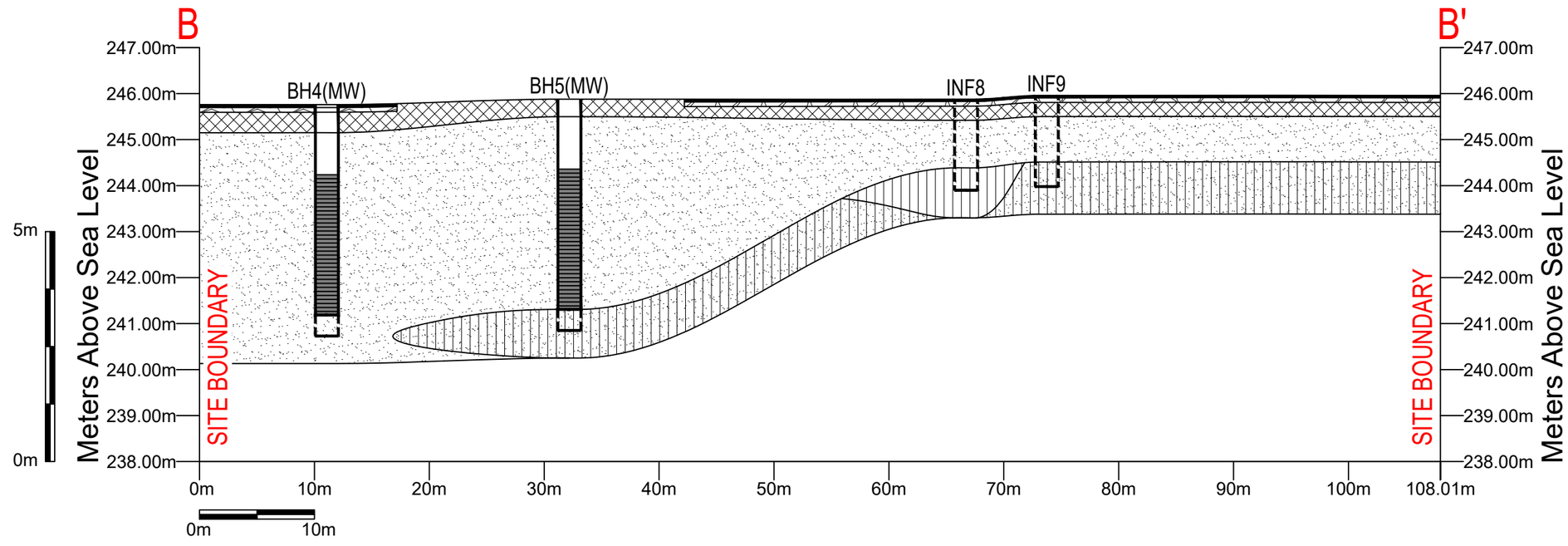
PROJECT NO.
FE-P 23-12806

DATE.
5 April 2023

SCALE.
AS SHOWN

FIGURE A4.1:
CROSS-SECTION A - A';

SHEET NO.
A4.1



FISHER ENGINEERING
400 Esna Park Dr., #15
Markham, Ontario
L3R 3K2
Tel: 905 475-7755
Fax: 905 475-7718

NORTH

LEGEND

- FILL
- SAND
- SILT
- ASPHALT
- GRANULAR MATERIAL
- GROUNDWATER POTENTIOMETRIC LEVEL

PROJECT NAME AND ADDRESS

HYDROGEOLOGICAL INVESTIGATION

1144 Hugel Ave,
Midland, ON

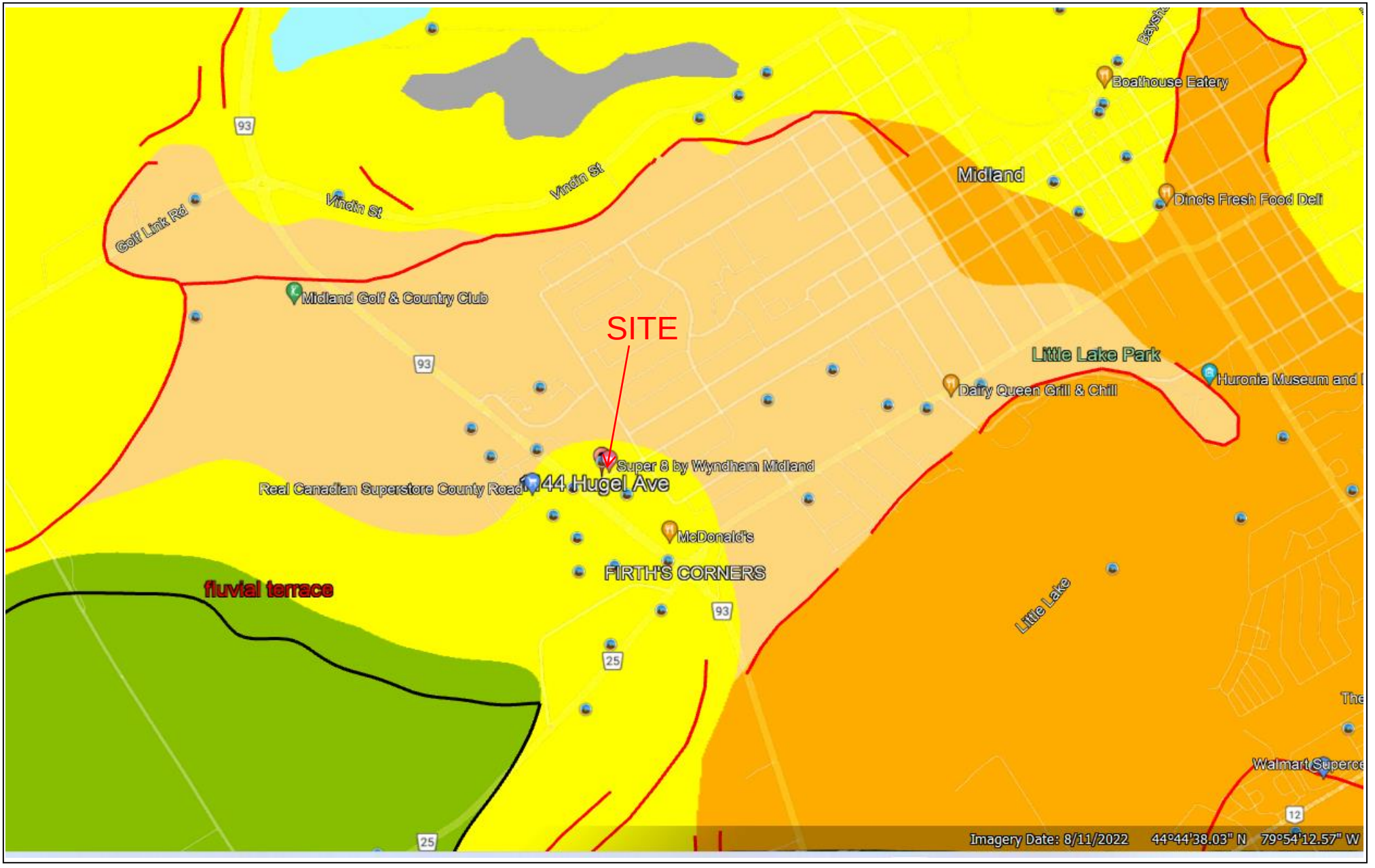
PROJECT NO.
FE-P 23-12806

DATE.
5 April 2023

SCALE.
AS SHOWN

FIGURE A4.2:
CROSS-SECTION B - B';

SHEET NO.
A4.2



FISHER ENGINEERING
400 Esna Park Dr., #15
Markham, Ontario
L3R 3K2
Tel: 905 475-7755
Fax: 905 475-7718

KEY PLAN

LEGEND

Coarse-textured glaciolacustrine deposits: sand, gravel, minor silt and clay; Foreshore and basinal deposits.

PROJECT NAME AND ADDRESS

HYDROGEOLOGICAL INVESTIGATION
1144 Hugel Ave,
MIDLAND, ON

PROJECT NO. 23-12806

DATE APRIL 2023

SCALE

FIGURE: A5

Surficial Geology Map.

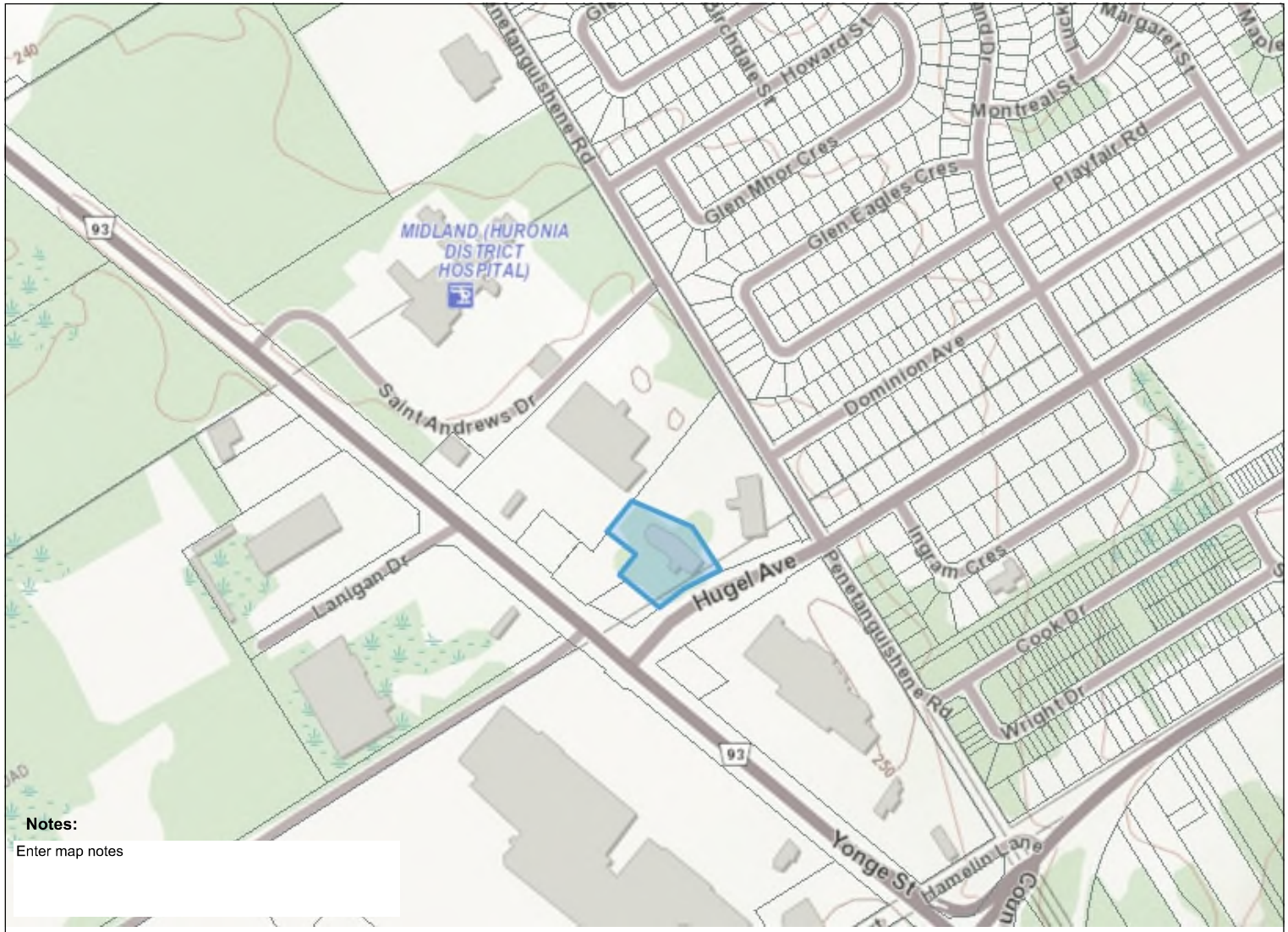
Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

1144 Hugel Avenue, Midland

Map created:4/24/2023

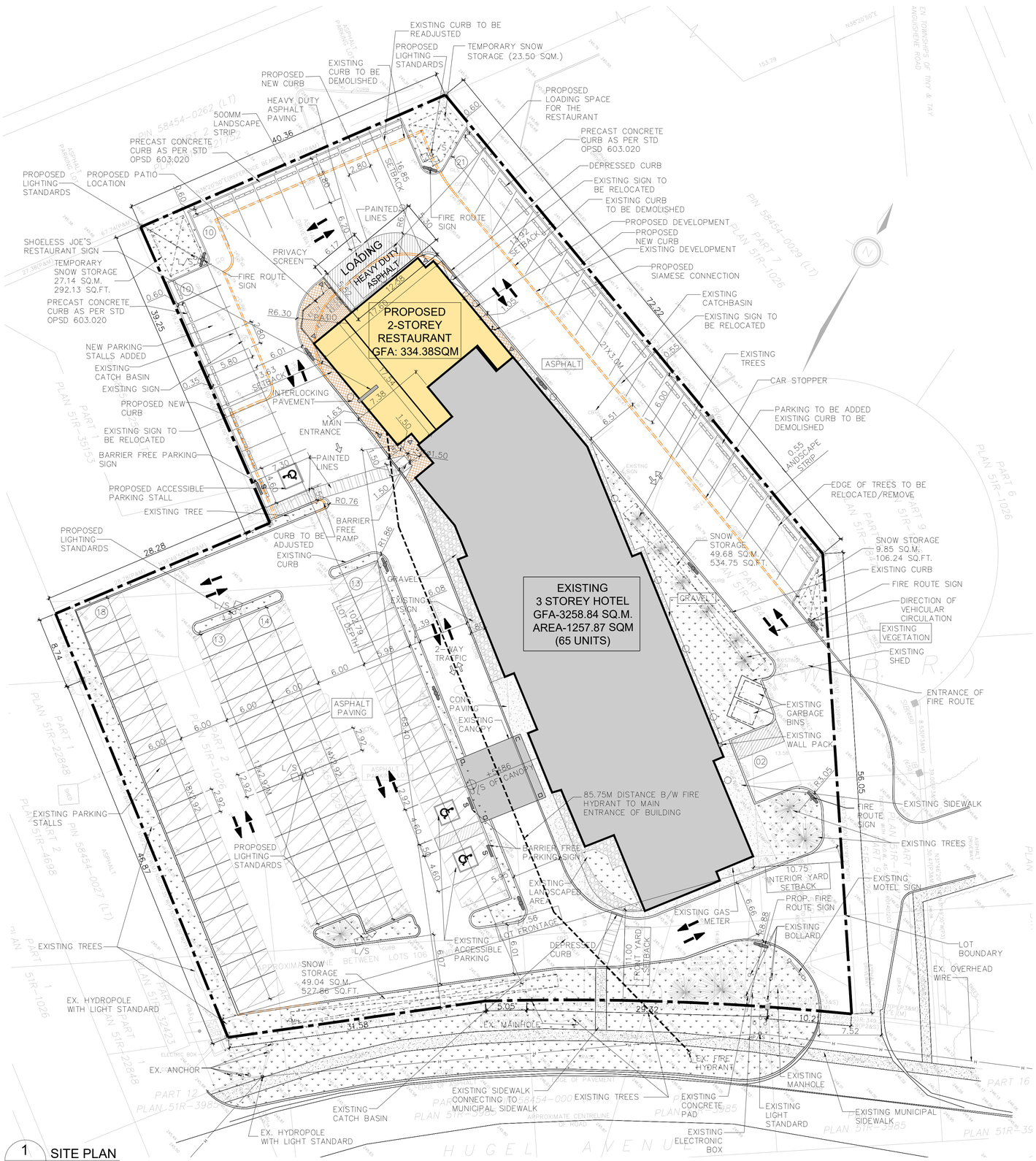


Legend

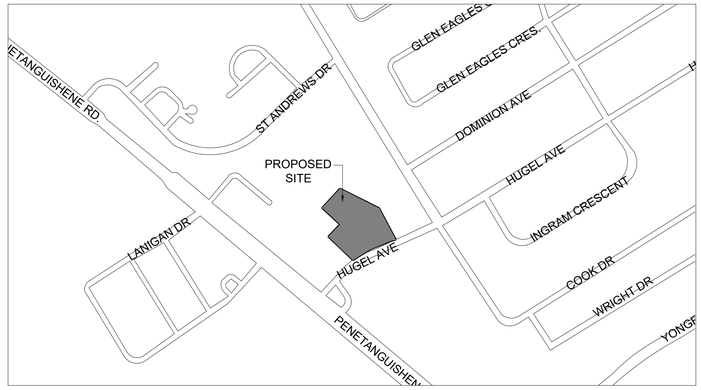
- Assessment Parcel
- ANSI
- Earth Science Provincially Significant/sciences de la terre d'importance provinciale
- Earth Science Regionally Significant/sciences de la terre d'importance régionale
- Life Science Provincially Significant/sciences de la vie d'importance provinciale
- Life Science Regionally Significant/sciences de la vie d'importance régionale
- Conservation Reserve
- Provincial Park
- Natural Heritage System

0.3 0 0.16 0.3 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.



1 A-1.0 SITE PLAN
SCALE: 1:250



KEY PLAN

MUNICIPAL ADDRESS & LEGAL DESCRIPTION

1144 HUGEL AVE. MIDLAND, ON.
PART OF EAST-HALF LOT 106
& PART OF LOT 107,
CONCESSION 1 FORMERLY THE
TOWNSHIP OF TINY NOW
TOWN OF MIDLAND
(COUNTY OF SIMCOE)

SURVEYOR INFORMATION

SURVEY PLAN
ON DATED:
F.S SURVEYING INC.
7 Colwick Drive, North York,
ON M2K 2G2
T: 416.786.8080
E: info@fssurveying.com

APPLICANT

n Architecture Inc
9120 LESLIE STREET,
SUITE-208,RICHMOND HILL,
ONTARIO L4B 3J9
T: 416. 256. 9741
E: Info@narchitecture.com
www.narchitecture.com

OWNER INFORMATION

SONU DHILLON
SUPER 8 HOTEL, 1144 HUGEL AVE
14R 0B1
E: GSM@SUPER8 MIDLAND.COM

LEGEND

- PROPERTY LINE
- NEW BUILDING
- EXISTING BUILDING
- LANDSCAPE
- CONC. PAVEMENT,150MM RAISED
- ASPHALT
- BARRIER FREE PARKING
- BARRIER FREE CURB
- BARRIER CURB
- MAIN DOOR ENTRANCE
- OVERHEAD DOOR
- LOADING
- DEMO LINE
- EXISTING PARKING
- FIRE ROUTE SIGN

PROJECT STATISTICS

ADDRESS: 1144 HUGEL AVE MIDLAND, ON

ZONING: HIGHWAY COMMERCIAL, HC

	REQUIRED	PROPOSED	EXISTING
TOTAL LOT AREA (m²)	0.3ha	0.74ha (1.84 Acres)	
EXISTING HOTEL GFA	–	–	3258.84 SQ.M.
EXISTING GUEST ROOMS	–	–	65
PROPOSED RESTAURANT GFA	–	334.38 SQ.M.	–
TOTAL GFA (HOTEL+RESTAURANT)	–	3593.22 SQ.M.	
COVERAGE		265.55 SQ.M. (3.56%)	1257.87 SQ.M. (15.3%)
MAX. LOT COVERAGE	50%	1397.75 SQ.M. (18.77%)	
LANDSCAPED AREA	–	944.94 SQ.M. (12.69%)	
PAVED AREA	–	5103.53 SQ.M. (65.63%)	
MIN. LOT FRONTAGE	30 M.	77.56 M.	
MIN. LOT DEPTH	–	102.79 M.	
MAX. BUILDING HEIGHT	11 M.	9.36 M.	10.18 M.

PARKING REQUIREMENT

	REQUIRED	EXISTING	PROPOSED
HOTEL (65 UNITS) (1.25 PER UNIT) INCLUDING 2 ACCESSIBLE PARKING SPACES	81.25	79	101 (INCL. 3 BF)
RESTAURANT (1/EVERY 4–PERSON EATING CAPACITY, 127 INDOOR & OUTDOOR SEATS) INCLUDING 1 ACCESSIBLE PARKING SPACE	31.75	–	
TOTAL	113	79	
DIFFERENCE			−12

SETBACK

	REQUIRED	PROPOSED
MINIMUM FRONT YARD	7.5 M.	11.00M(EXISTING)
MINIMUM REAR YARD	3.3 M.	16.85 M
MINIMUM INTERIOR SIDE (EAST)	0.0 M.	10.75M(EXISTING)
MINIMUM INTERIOR SIDE (WEST)	0.0 M.	13.63 M

RESTAURANT AREA CHART

	PROPOSED
FIRST FLOOR GFA	176.82 SQ.M.
SECOND FLOOR GFA	157.56 SQ.M.
TOTAL GFA :	334.38SQ.M.

SEATING CAPACITY OF RESTAURANT

INDOOR SEATING	75
PATIO SEATING	52
TOTAL SEATING	127

LOADING REQUIREMENT (PROPOSED DEVOLOPMENT)

	REQUIRED	PROPOSED
FOR NON–RESIDENTIAL(500SQM. OR LESS)	0	1 (9.27MX5.3M)

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E: info@narchitecture.com
www.narchitecture.com

ONTARIO ASSOCIATION OF ARCHITECTS
NITIN MALHOTRA
LICENCE 6211

N (GEODETIC NORTH)
PROJECT NORTH

29th MAY 2023

29th MAY 2023
ISSUED FOR SPA
NOT FOR CONSTRUCTION

No.	Date	Version	Dwn.
2.	29 MAY 2023	ISSUED FOR SPA	JB
1.	16 AUG 2021	ISSUED FOR PRE-CON	JB

PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE
MIDLAND, ONTARIO

DRAWING TITLE:

SITE PLAN

DRAWN BY: JB	DATE: 01 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 21-37	DRAWING NO.: A-1.0

Name of Practice:
n Architecture Inc.
T: 905-597-5937
E: info@narchitecture.com

Name of Project: SHOELESS JOE'S RESTAURANT

Location: 1144 HUGEL AVE, MIDLAND, ON

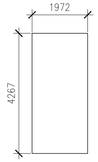
Date: FEBRUARY 06, 2023

ITEM	ONTARIO BUILDING CODE DATA MATRIX PARTS 3 OR 9			
1	PROJECT DESCRIPTION: ☑ ADDITION ☐ NEW ☐ CHANGE OF USE ☐ ALTERATION		☑ PART 3 1.1.2.[A]	☐ PART 9 1.1.2.[A] & 9.10.1.3.
2	MAJOR OCCUPANCY(S) GROUP A2		3.1.2.1.(1)	9.10.2
3	BUILDING AREA (m^2) EXISTING 1132.2 NEW 265.55 TOTAL 1397.75		1.4.1.2.[A]	1.4.1.2.[A]
4	GROSS AREA (m^2) EXISTING 3190.01 NEW 334.38 TOTAL 3524.39		1.4.1.2.[A]	1.4.1.2.[A]
5	MEZZANINE(S) AREA (m^2) N/A		3.2.1.1	9.10.4.1
6	NUMBER OF STOREYS ABOVE GRADE: 2 BELOW GRADE: 0		1.4.1.2.[A]&3.2.1.1.	1.4.1.2.[A] & 9.10.4
7	NUMBER OF STREETS/ACCESS ROUTES: 1		3.2.2.10. & 3.2.5.	9.10.20
8	BUILDING CLASSIFICATION: 3.2.2.25 GROUP/DIV: A2 UP TO 2 STOREYS		3.2.2.20.-.83	9.10.2
9	SPRINKLER SYSTEM PROPOSED ☑ NOT REQUIRED	☐ ENTIRE BUILDING ☐ BASEMENT ONLY ☐ IN LIEU OF ROOF RATING	3.2.2.20.-.83 3.2.1.5. 3.2.2.17.	9.10.8.2-4.
10	STANDPIPE REQUIRED	☐ YES ☑ NO	3.2.9.	N/A
11	FIRE ALARM REQUIRED	☐ YES ☑ NO	3.2.4.	9.10.18
12	WATER SERVICE/SUPPLY IS ADEQUATE	☑ YES ☐ NO	3.2.5.7.	N/A
13	HIGH BUILDING	☐ YES ☑ NO	3.2.6.	N/A
14	CONSTRUCTION RESTRICTIONS ☐ COMBUSTIBLE ☑ NON-COMBUSTIBLE ☐ BOTH ACTUAL CONSTRUCTION ☐ COMBUSTIBLE ☑ NON-COMBUSTIBLE ☐ BOTH		3.2.2.20.-.83	9.10.6
15	MEZZANINE(S) AREA (M)^2 N/A		3.2.1.1.(3)-(8)	9.10.4.1.
16	OCCUPANT LOAD BASED ON ☐ M^2/PERSON ☑ DESIGN OF BUILDING 1ST FLOOR OCCUPANCY A2 LOAD 64 2ND FLOOR OCCUPANCY A2 LOAD 63 PERSONS		3.1.17.1	9.9.1.3 3.1.17.1
17	BARRIER-FREE DESIGN ☑ YES ☐ NO (EXPLAIN) _____		3.8.	9.5.2.
18	HAZARDOUS SUBSTANCES ☐ YES ☑ NO		3.3.1.2. & 3.3.1.19.	9.10.1.3
	REQUIRED FIRE RESISTENCE RATING (FRR)	HORIZONTAL ASSEMBLIES FRR (HOURS) / LISTED DESIGN No. OR DESCRIPTION (SG-2)	3.2.2.20.-.83 & 3.2.1.4.	9.10.8. 9.10.9.
		FLOORS N/A HOURS		
		ROOF 0 HOURS		
		MEZZANINE N/A HOURS		
		FRR OF SUPPORTING MEMBERS / LISTED DESIGN No. OR DESCRIPTION (SG-2)		
		FLOORS N/A HOURS		
		ROOF 0 HOURS		
		MEZZANINE N/A HOURS		
19	SPATIAL SEPARATION-CONSTRUCTION OF EXTERIOR WALLS		3.2.3.	9.10.14 & 9.10.15

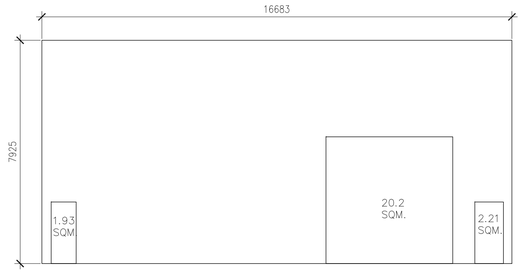
WALL	AREA OF EBF (m^2)	L.D. (m)	L/H OR H/L	PERMITTED MAX % OF OPENINGS	PROPOSED % OF OPENINGS	FRR (HOURS)	LISTED DESIGN OR DESCRIPTION	COMB. CONST.	NON-COMB. CONST.	COMB. CLADDING	NON-COMB. CLADDING
NORTH	132.21	35.71	2.10	100	18.32	1HR		☐	☑	☐	☑
SOUTH	140.08	12.72	2.24	68	42.36	1HR		☐	☑	☐	☑
EAST	8.41	9.10	0.46	25	0.00	1HR		☐	☑	☐	☑
WEST	138.80	35.83	2.10	100	20.02	1HR		☐	☑	☐	☑

20	PLUMBING FIXTURE REQUIREMENTS					OBC REFERENCE	
	MALE/FEMALE COUNT @ 50% / 50% EXCEPT AS NOTED OTHERWISE 1ST FLOOR: OCCUPANCY___A2___ 2ND FLOOR: OCCUPANCY___A2___	OCCUPANT LOAD	OBC REF.	WC REQUIRED	WC PROVIDED	☑ PART 3	☐ PART 9
		127	3.7.4.3.E	1 FOR EACH SEX 6	1 B/F IN GF 6 FOR VISITORS 2 FOR EMPLOYEES		

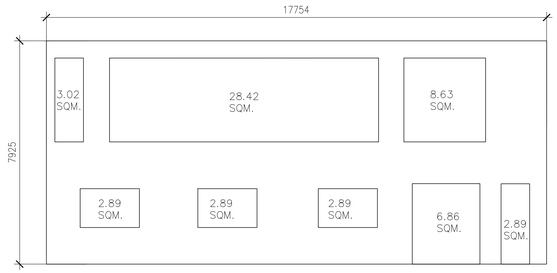
21	NOTE:



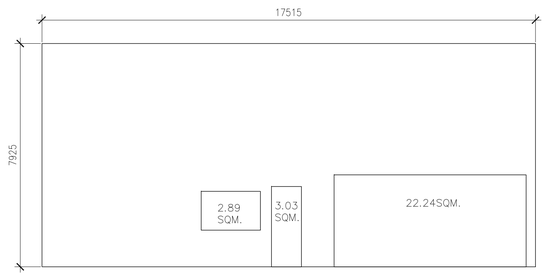
EAST ELEVATION
EBF = 8.41 SQM
OPENINGS =0 SQM
% OF OPENINGS =0
L/H =0.46



NORTH ELEVATION
EBF = 132.21 SQM
OPENINGS =24.23 SQM
% OF OPENINGS =18.32%
L/H =2.10



SOUTH ELEVATION
EBF = 140.08 SQM
OPENINGS =58.49 SQM
% OF OPENINGS =41.75%
L/H =2.24



WEST ELEVATION
EBF = 138.80 SQM
OPENINGS =28.16 SQM
% OF OPENINGS =20.02%
L/H =2.10

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ONTARIO ASSOCIATION OF ARCHITECTS
NITIN MALHOTRA
LICENCE
6211

29th MAY 2023

29th MAY 2023
ISSUED FOR SPA
NOT FOR CONSTRUCTION

No.	Date	Version	Dwn.
2.	29 MAY 2023	ISSUED FOR SPA	JB
1.	16 AUG 2021	ISSUED FOR PRE-CON	JB

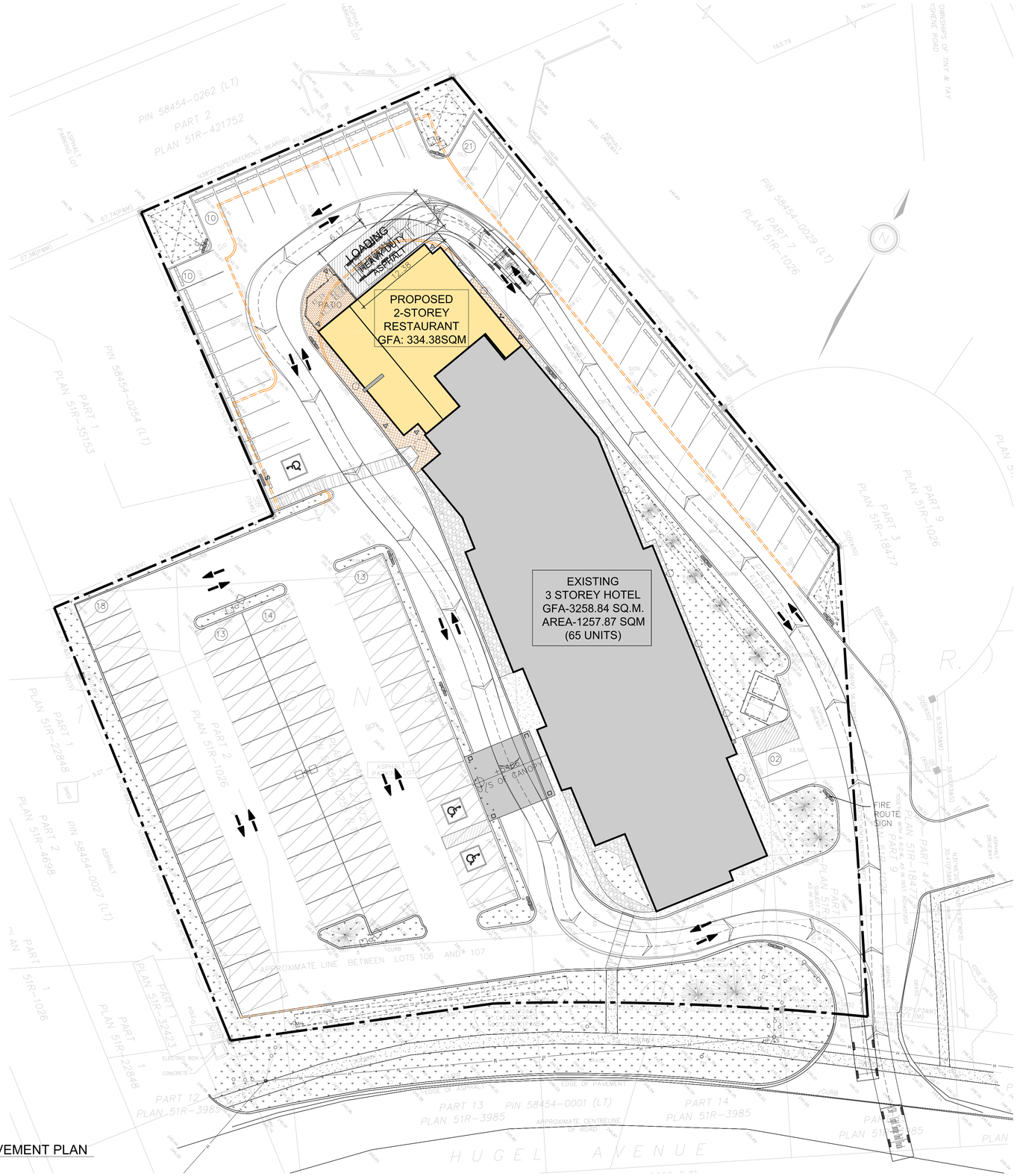
PROJECT:

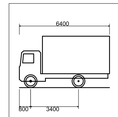
SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE
MIDLAND, ONTARIO

DRAWING TITLE:

OBC MATRIX & EBF CALCULATIONS

DRAWN BY: JB	DATE: 01 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: **21-37**	DRAWING NO.: **A-1.1**





LSU - Light Single Unit Truck	
Overall Length	6400mm
Overall Width	2600mm
Overall Body Height	3650mm
Min Body Ground Clearance	445mm
Track Width	2600mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6300mm

1 A-1.2 LOADING TRUCK TURNING MOVEMENT PLAN
SCALE: 1:250

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PROJECT NORTH

29th MAY 2023

29th MAY 2023
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1.	16 AUG 2021	ISSUED FOR PRE-CON	JB

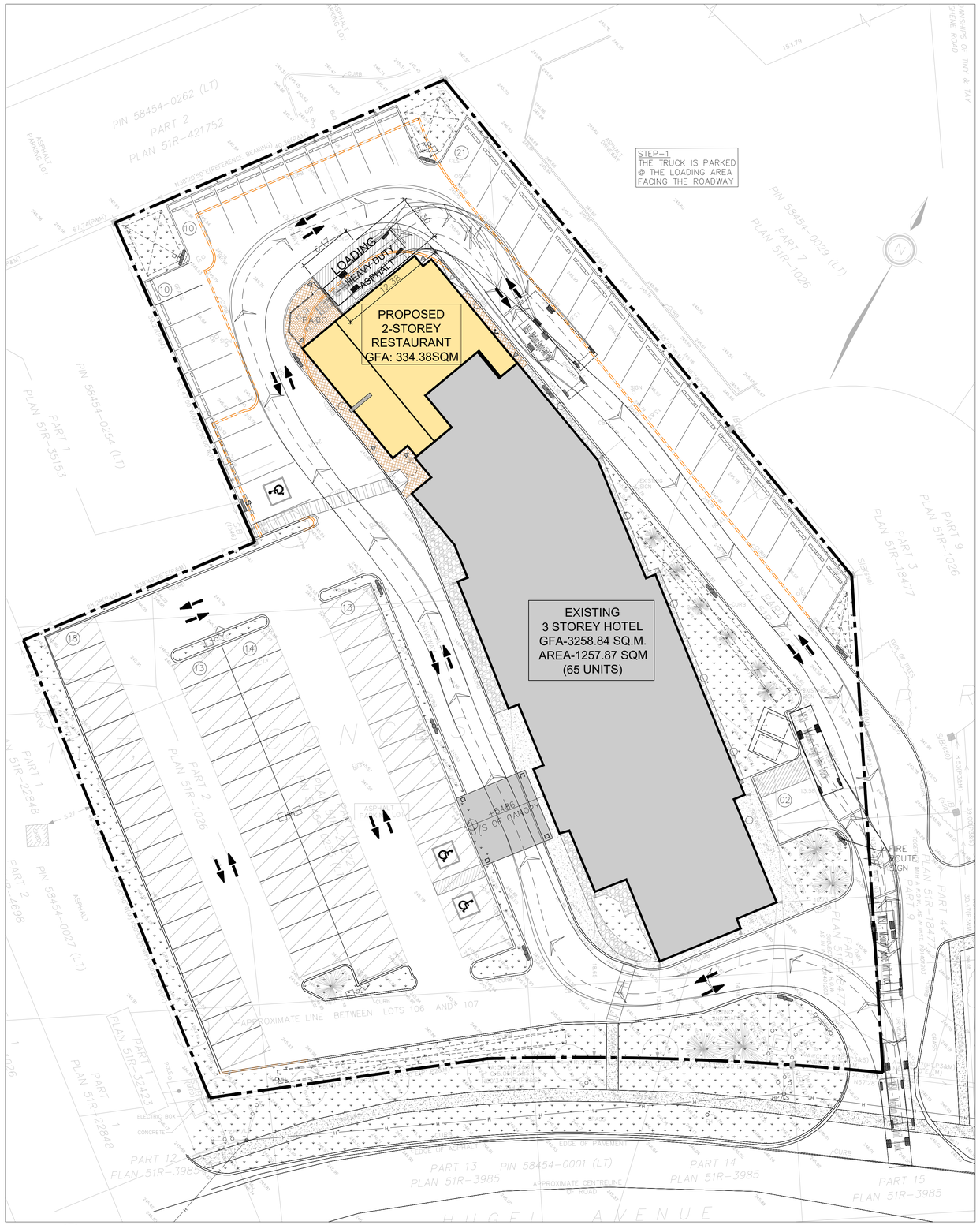
PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE
MIDLAND, ONTARIO

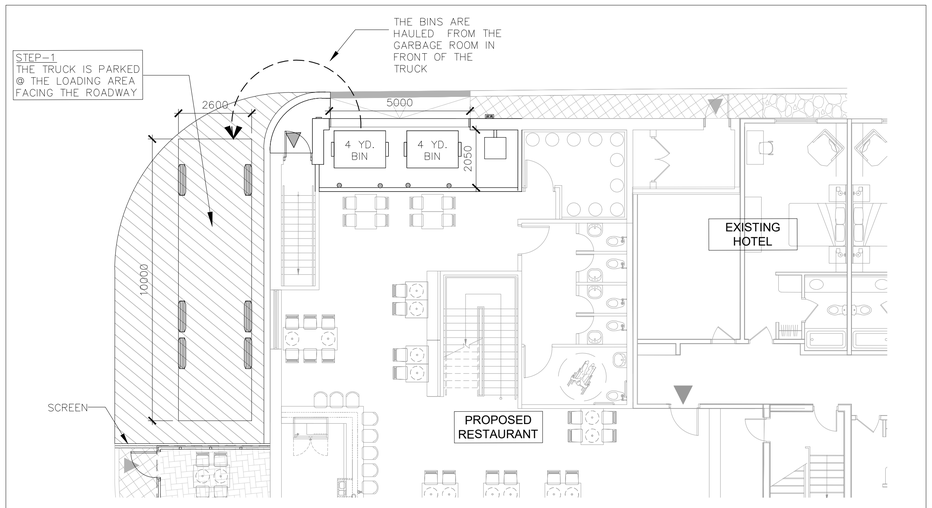
DRAWING TITLE:

LOADING TRUCK TURNING MOVEMENT PLAN

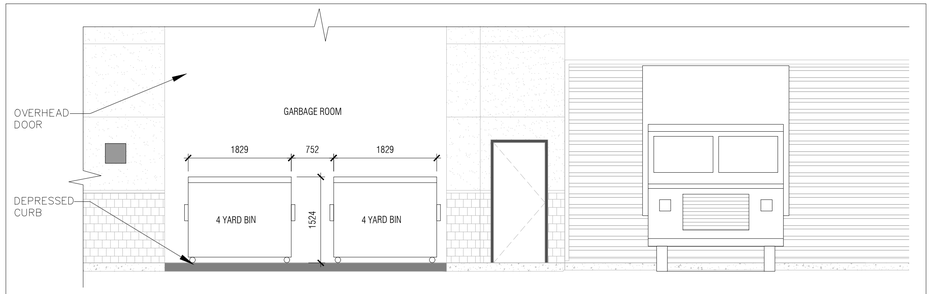
DRAWN BY: JB	DATE: 01 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 21-37	DRAWING NO.: A-1.2



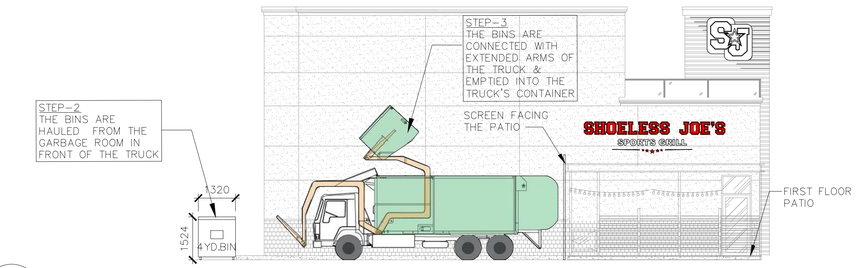
1 A-1.3 SOLID WASTE MANAGEMENT PLAN
SCALE: 1:250



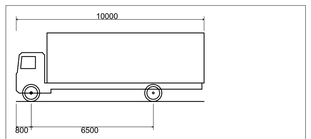
2 A-1.3 PLAN OF GARBAGE PICKUP
SCALE: 1:100



3 A-1.3 EAST ELEVATION VIEW OF GARBAGE PICKUP
SCALE: 1:50



4 A-1.3 NORTH ELEVATION VIEW OF GARBAGE PICKUP
SCALE: 1:100



MSU - Medium Single Unit Truck/ Front Loader

Overall Length	10000mm
Overall Width	2600mm
Overall Body Height	3650mm
Min Body Ground Clearance	445mm
Track Width	2600mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	11100mm

REFERENCES:

4 YARD BINS AS REQUIRED BY SHOELESS RESTAURANT
(SHOELESS VICE PRESIDENT NOV. 21, 2021
nick@shoelessjoes.ca)

DWG-3/A-1.4

4YARD BIN ILLUSTRATION :
G.F.L.(N.D.) 4 YARD GARBAGE DUMPSTER
GREEN FOR LIFE (FEBRUARY 27, 2022)

DWG-4/A-1.4

G.F.L.(N.D.) ILLUSTRATION OF 4 YARD PICKUP
GREEN FOR LIFE (FEBRUARY 27, 2022)

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N (GEODETIC NORTH)
PROJECT NORTH

29th MAY 2023

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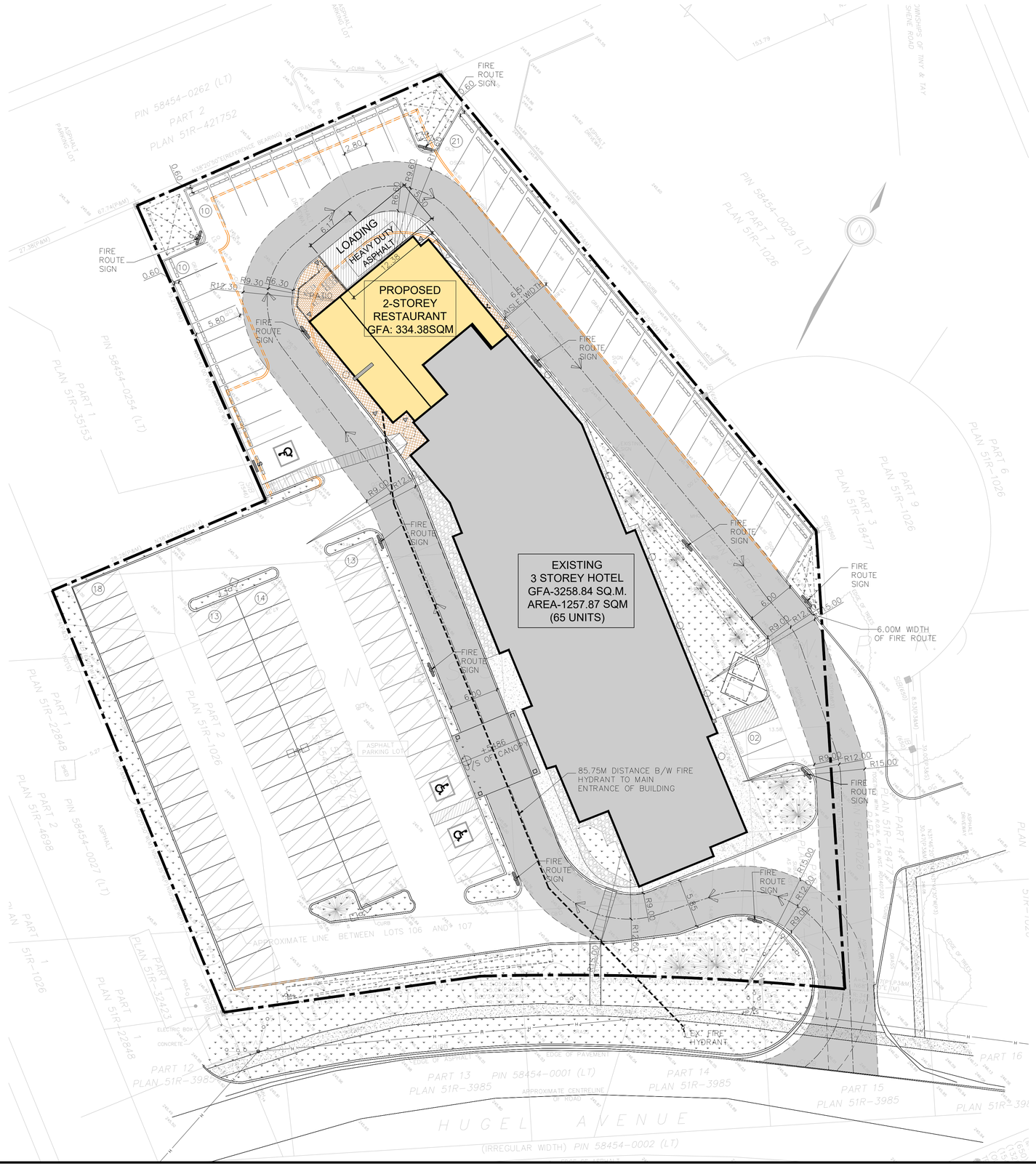
PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE
MIDLAND, ONTARIO

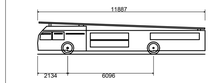
DRAWING TITLE:

SOLID WASTE MANAGEMENT PLAN

DRAWN BY: JB	DATE: 01 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: **21-37**	DRAWING NO.: **A-1.3**



1 / A-1.4 FIRE ROUTE PLAN
SCALE: 1:250



Aerial Fire Truck	
Overall Length	11887mm
Overall Width	2489mm
Overall Body Height	2286mm
Min Body Ground Clearance	229mm
Track Width	2489mm
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°

n Architecture Inc

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ONTARIO ASSOCIATION OF ARCHITECTS
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PROJECT NORTH (GEODETIC NORTH)

29th MAY 2023

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1.	16 AUG 2021	ISSUED FOR PRE-CON	JB

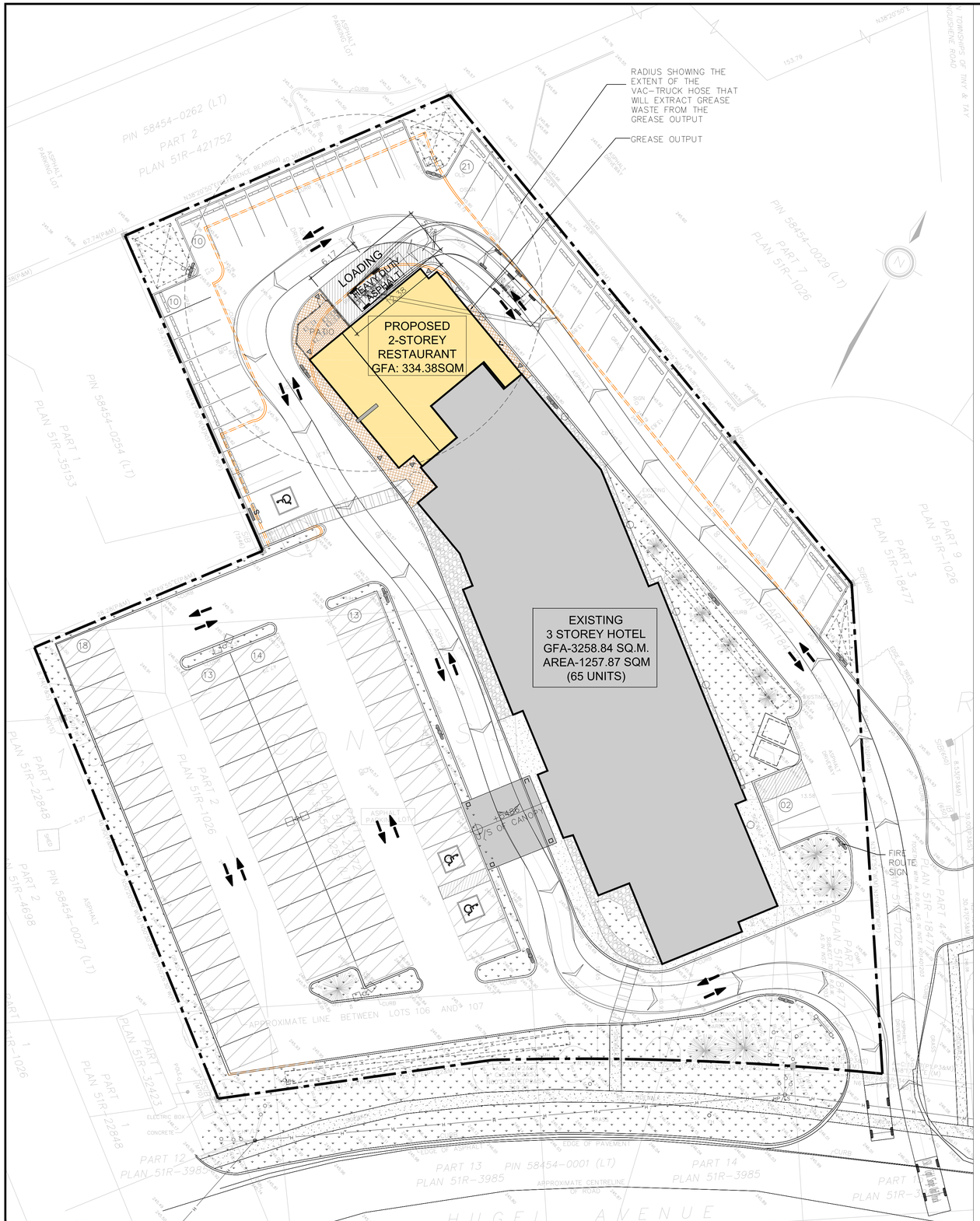
PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE
MIDLAND, ONTARIO

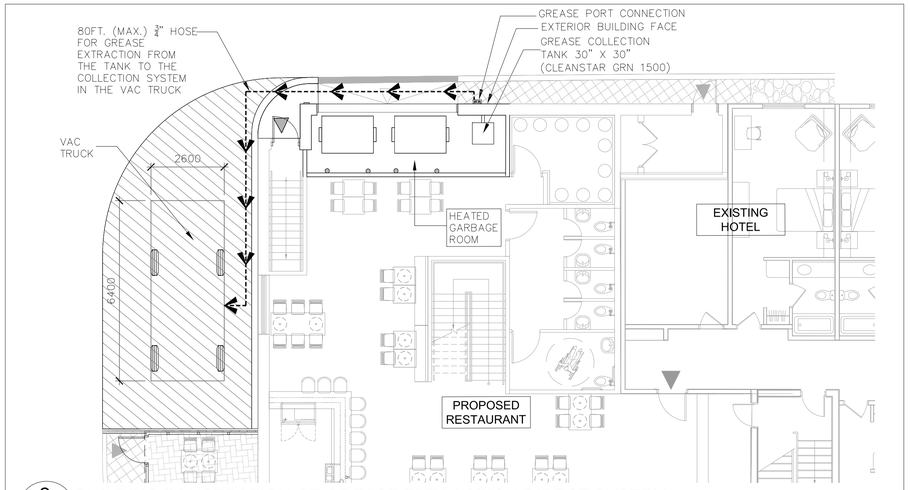
DRAWING TITLE:

FIRE ROUTE PLAN

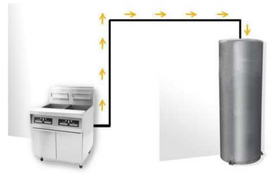
DRAWN BY: JB	DATE: 01 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: **21-37**	DRAWING NO.: **A-1.4**



1 A-1.5 VAC TRUCK MOVEMENT PLAN
SCALE: 1:250



2 A-1.5 BUILDING ILLUSTRATION OF GREASE EXTRACTION DIRECT SYSTEM
SCALE: 1:100



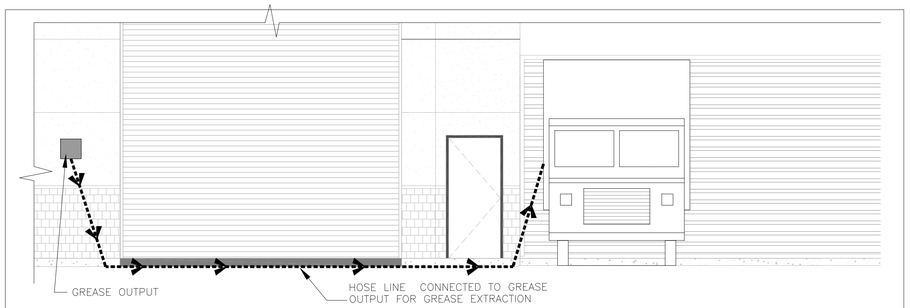
3 A-1.5 DIRECT PUMP GREASE EXTRACTION ILLUSTRTION

AUTOMATED, FULLY ENCLOSED UCO SYSTEM

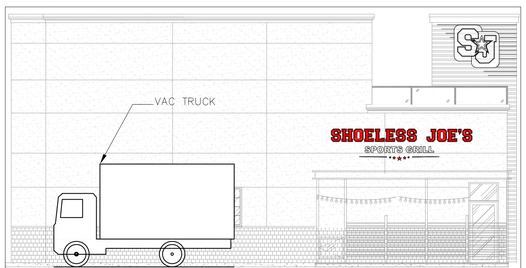
CLEANSTAR GRN 1500

TECHNICAL DETAILS

CAPACITY	1425LBS./190GAL. OF USED COOKING OIL
SIZE	64"H/30"W/30"D
OIL TRANSFER OPTIONS	•DIRECT PUMP •GREASE CADDY TRANSPORT •PUMP STATION •PORTALE FILTER MACHINE
CERTIFICATIONS	NSF/ANSI4/ANSI/NFPA 30/UL142 APPROVED
ORIGIN	USA
SPECIAL FEATURES	•CARBON STEEL TANK •FOR USED WITH LIQUID SHORTENING ONLY •CONTROL PANEL WITH FULL ALARM •PROPRIETARY "ANTI-THEFT FITTING" ALLOWING ONLY A DAR PRO TRUCK HOSE TO REMOVE OIL.
REQUIREMENTS	•PRE-INSTALL SURVERY AND SERVICE AGREEMENT •110 VOLT/20AMP DEDICATED CIRCUIT.



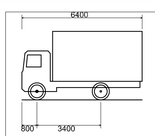
4 A-1.5 EAST ELEVATION VIEW OF GREASE EXTRACTION DIRECT SYSTEM
SCALE: 1:50



5 A-1.5 NORTH ELEVATION VIEW OF GREASE EXTRACTION DIRECT SYSTEM
SCALE: 1:100

SPECIFICATIONS OF THE VAC-TRUCK AND GREASE EXTRACTION PLAN HAD BEEN PROVIDED BY:
JACK TERSIGNI, DARLING INGREDIENTS 800 HWY 5 W DUNDAS, ON
T: 800 263 0302 M: 289 308 7626 Jack.Tersigni@darlingii.com

GREASE WASTE EXTRACTION: GREASE IS TRANSPORTED DIRECTLY FROM KITCHEN THROUGH INSTALLED PIPING FROM 2nd FLOOR TO THE MAIN FLOOR. THE PIPING ARE CONNECTED TO A TANK LOCATED IN THE GARBAGE ROOM, THAT IS ATTACHED TO A PART THAT EXTENDS OUT TO THE BUILDING EXTERIOR. THE VAC TRUCK HOSE WILL CONNECT TO THE PART ON THE EXTERIOR & EXTRACT THE GREASE WASTE FROM THE TANK AS NEEDED.



LSU - Light Single Unit Truck
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock-to-lock time
Curb to Curb Turning Radius

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www.narchitecture.com

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LICENCE
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N (GEODETIC NORTH)
PROJECT NORTH

29th MAY 2023

29th MAY 2023
ISSUED FOR SPA
NOT FOR CONSTRUCTION

No.	Date	Version	Dwn.
2.	29 MAY 2023	ISSUED FOR SPA	JB
1.	16 AUG 2021	ISSUED FOR PRE-CON	JB

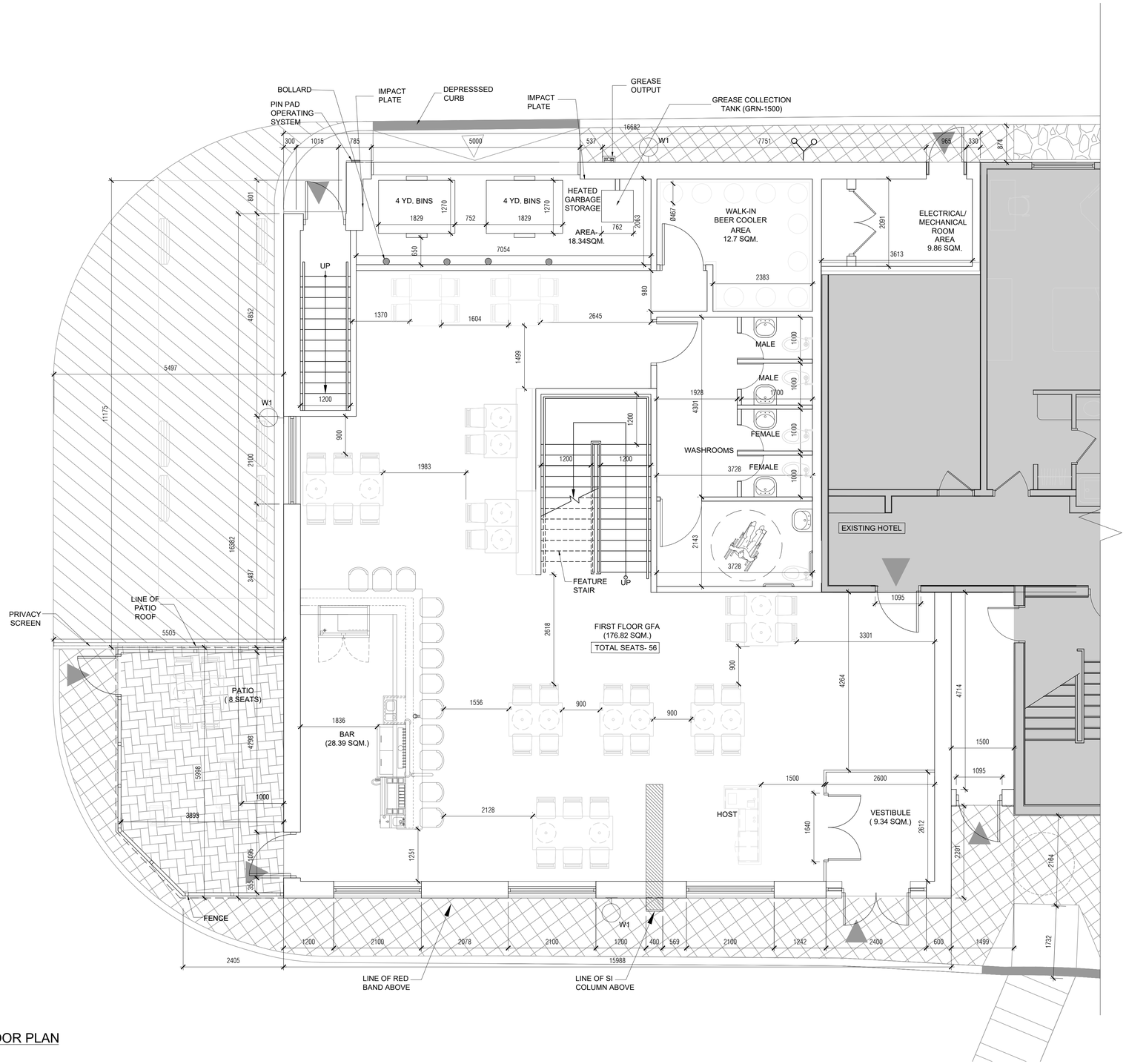
PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE
MIDLAND, ONTARIO

DRAWING TITLE:

GREASE WASTE MANAGEMENT PLAN

DRAWN BY: JB	DATE: 01 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 21-37	DRAWING NO.: A-1.5



1 A-2.0 RESTAURANT FIRST FLOOR PLAN
SCALE: 1:50

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1.	16 AUG 2021	ISSUED FOR PRE-CON	JB

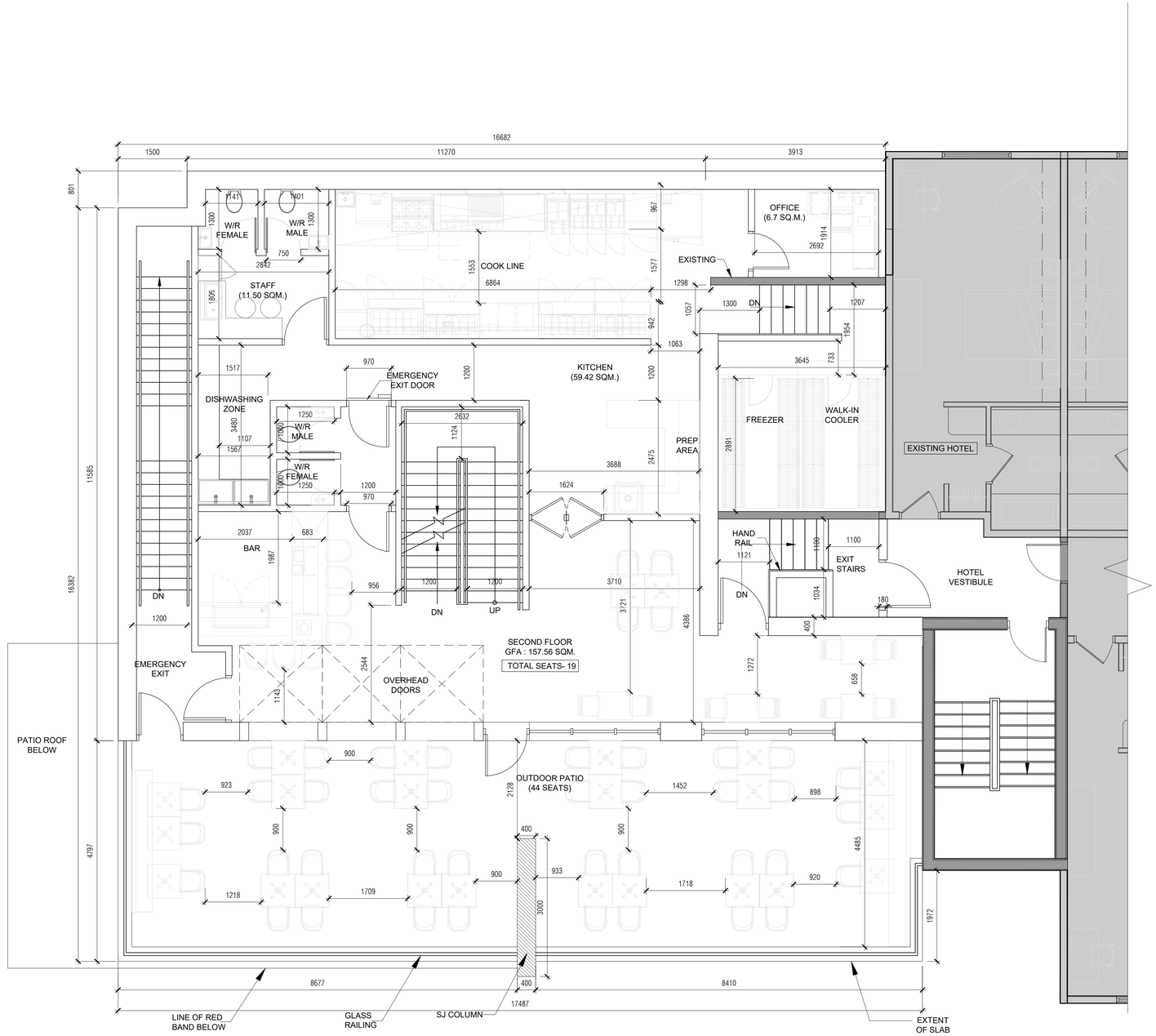
PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE.
MIDLAND, ONTARIO

DRAWING TITLE:

RESTAURANT FIRST FLOOR PLAN

DRAWN BY: JB	DATE: 01 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 21-37	DRAWING NO.: A-2.0



1 / A-2.1 RESTAURANT SECOND FLOOR PLAN
SCALE: 1:50

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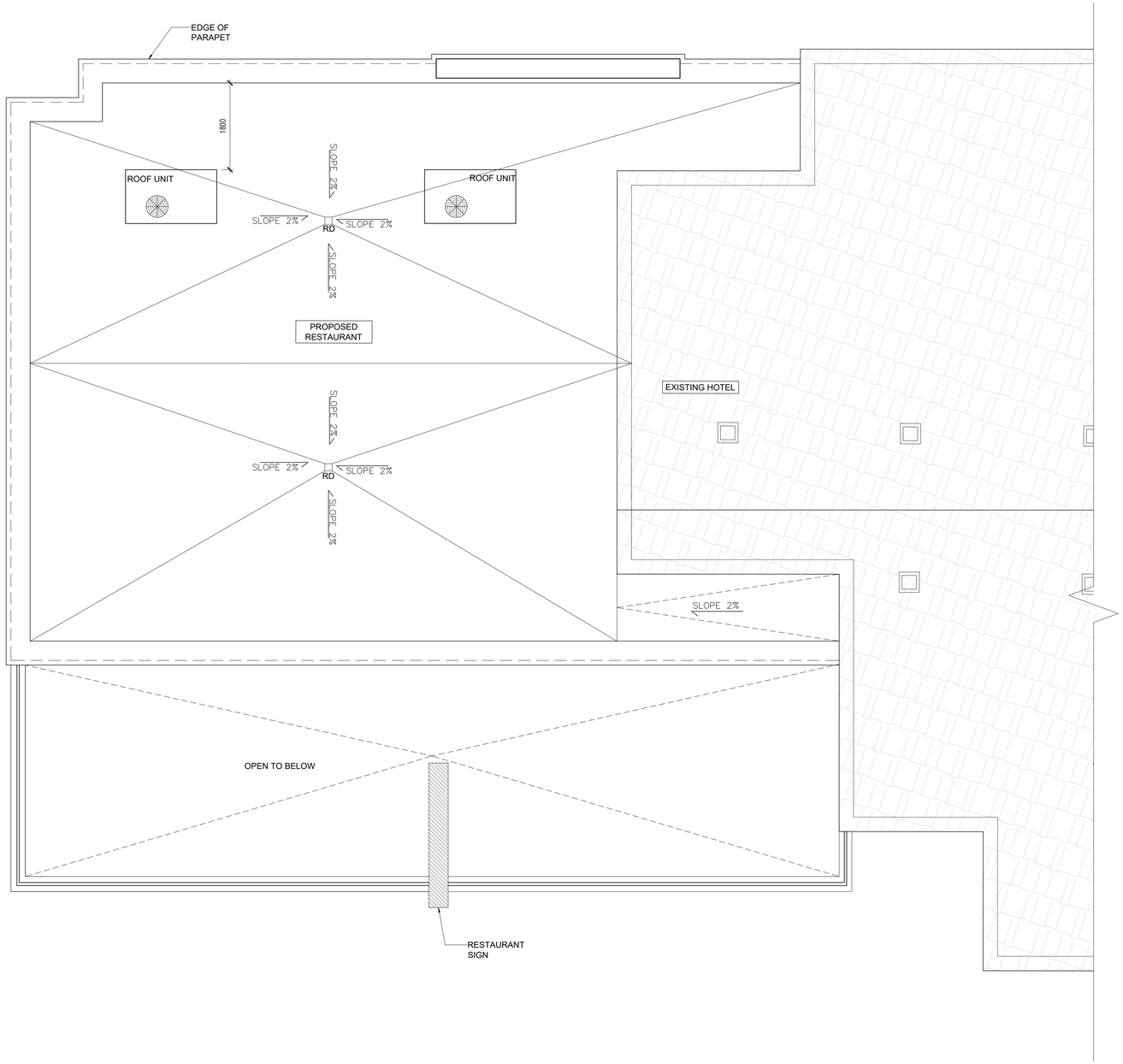
PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE.
MIDLAND, ONTARIO

DRAWING TITLE:

RESTAURANT SECOND FLOOR PLAN

DRAWN BY: JB	DATE: 01 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 21-37	DRAWING NO.: A-2.1



1 / A-2.3 RESTAURANT ROOF PLAN
SCALE: 1:50

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PROJECT NORTH

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1.	16 AUG 2021	ISSUED FOR PRE-CON	JB

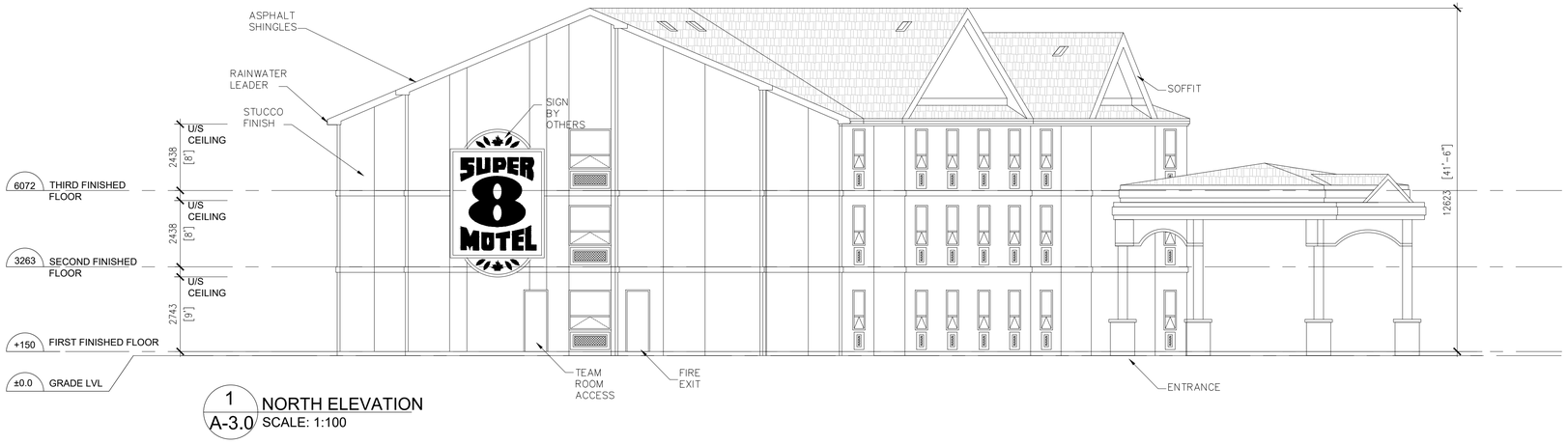
PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE.
MIDLAND, ONTARIO

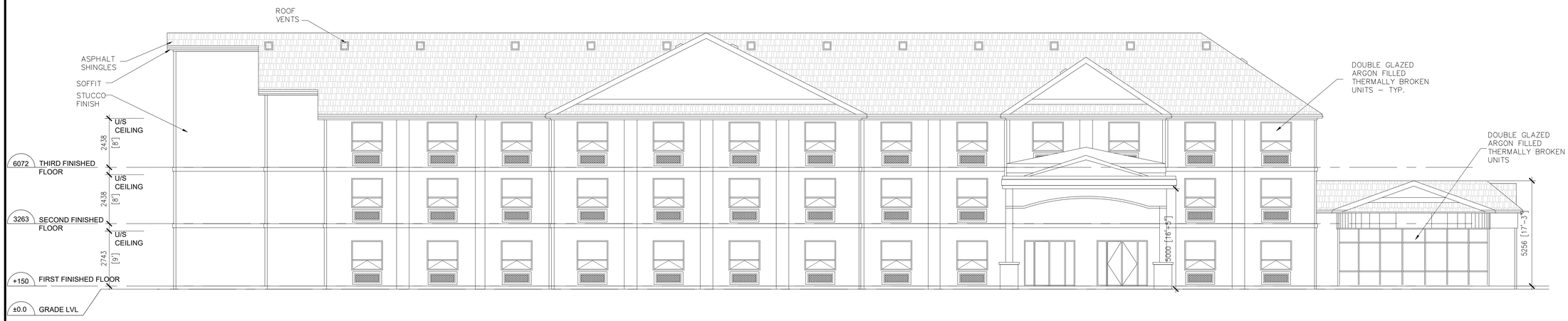
DRAWING TITLE:

RESTAURANT ROOF PLAN

DRAWN BY: JB	DATE: 01 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: **21-37**	DRAWING NO.: **A-2.2**



1 / A-3.0 NORTH ELEVATION
SCALE: 1:100



2 / A-3.0 WEST ELEVATION
SCALE: 1:50

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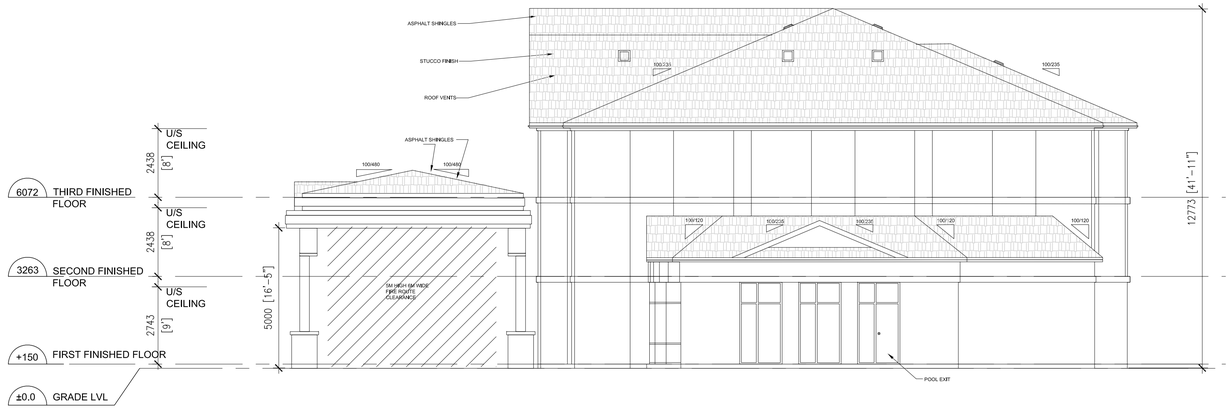
PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE.
MIDLAND, ONTARIO

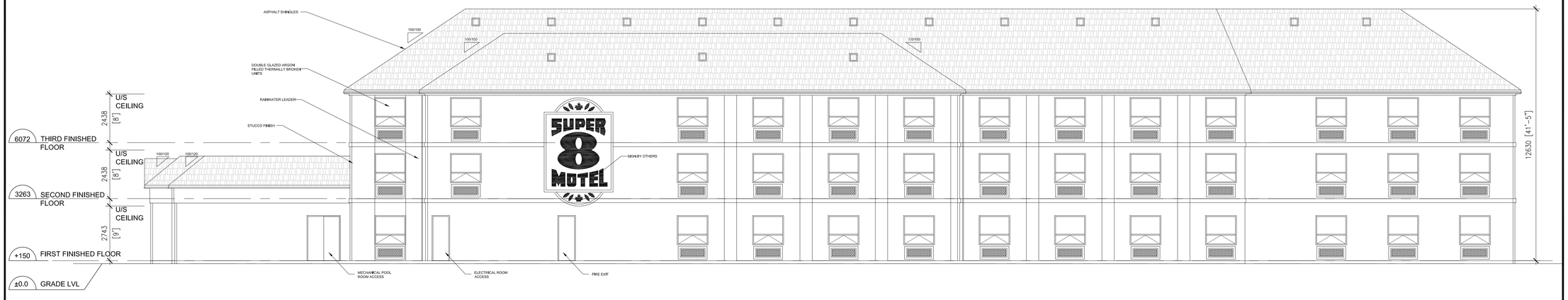
DRAWING TITLE:

EXISTING ELEVATIONS

DRAWN BY: JB	DATE: 14 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: **21-37**	DRAWING NO.: **A-3.0**



1 / A-3.1 SOUTH ELEVATION
SCALE: 1:100



2 / A-3.1 EAST ELEVATION
SCALE: 1:100

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PROJECT:

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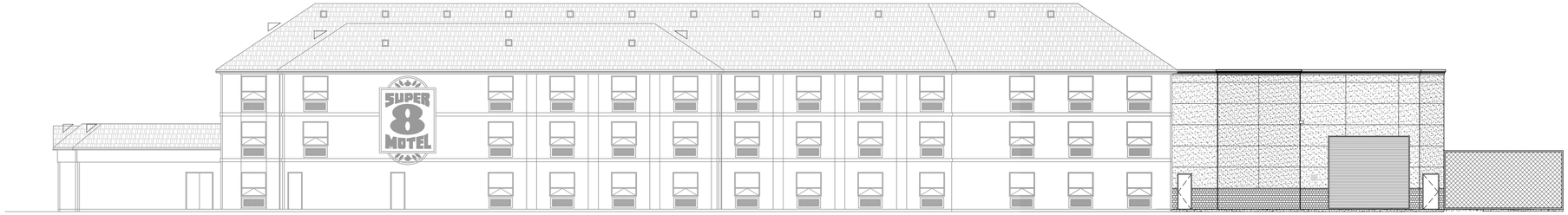
MIDLAND, ONTARIO

DRAWING TITLE:

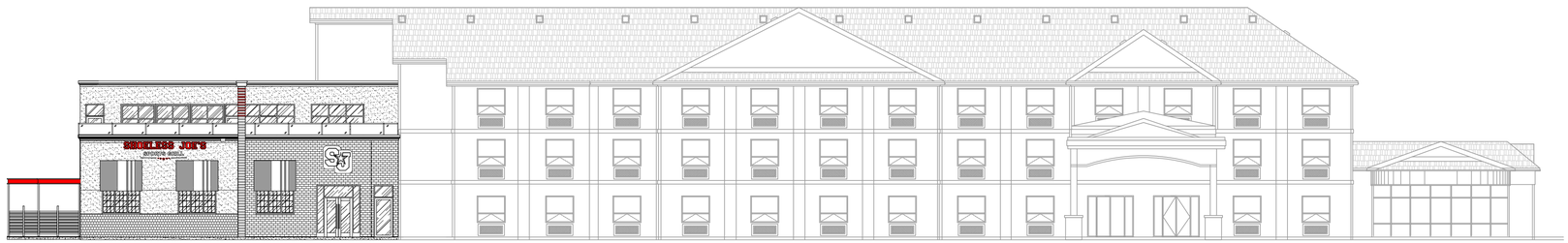
EXISTING ELEVATIONS

DRAWN BY: JB	DATE: 14 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: **21-37**	DRAWING NO.: **A-3.1**



1 A-3.2 EAST ELEVATION
SCALE: 1:150

2 A-3.2 NORTH ELEVATION
SCALE: 1:150



3 A-3.2 WEST ELEVATION
SCALE: 1:150

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1.	19 AUG 2021	ISSUED FOR PRE-CON	JB

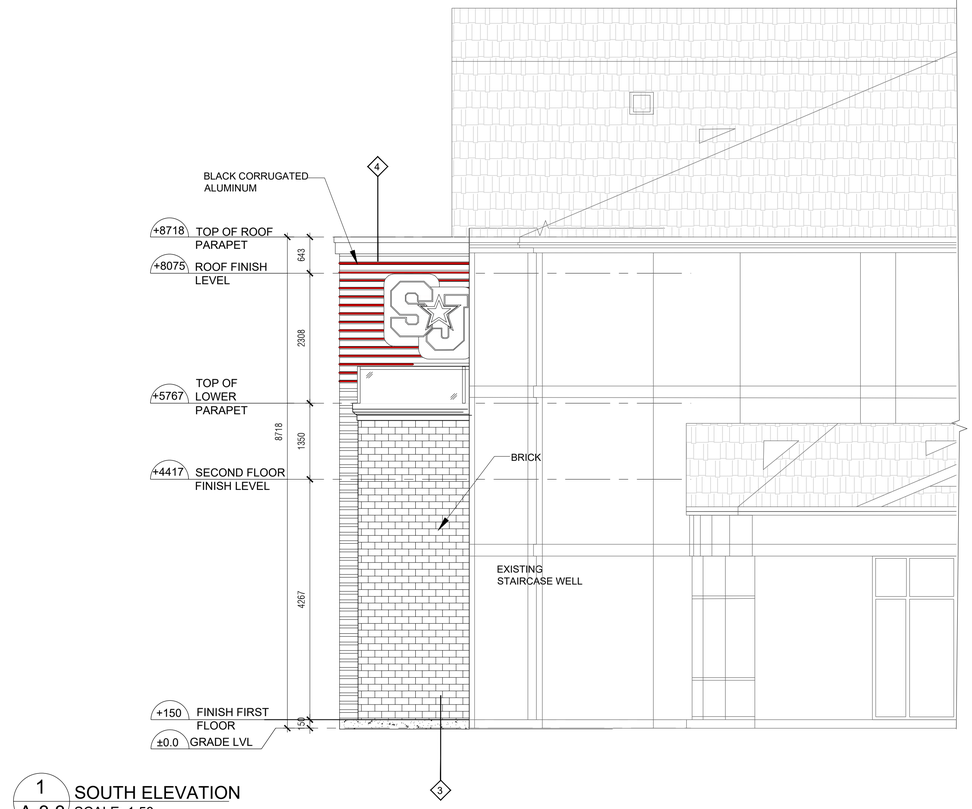
PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE.
MIDLAND, ONTARIO

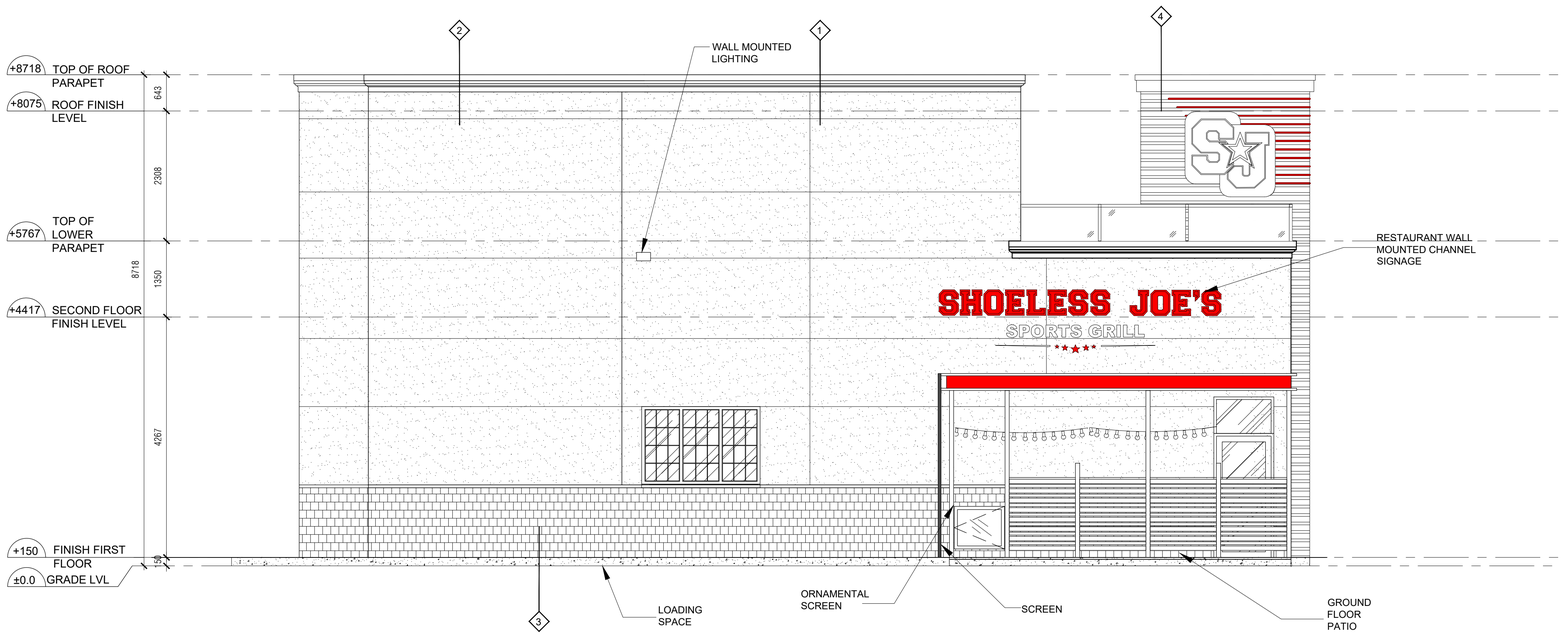
DRAWING TITLE:

RESTAURANT ELEVATIONS WITH EXISTING HOTEL

DRAWN BY: JB	DATE: 14 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 21-37	DRAWING NO.: A-3.2



1 A-3.3 SOUTH ELEVATION
SCALE: 1:50



2 A-3.3 NORTH ELEVATION
SCALE: 1:50

FINISHES LEGEND

1	GREY STUCCO
2	BLACK STUCCO
3	BLACK BLOCK FINISH
4	BLACK CORRUGATED ALUMINUM
5	GREY BRICK

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SHOELESS JOE'S RESTAURANT
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MIDLAND, ONTARIO

DRAWING TITLE:

RESTAURANT ELEVATIONS

DRAWN BY: JB	DATE: 14 JUNE 2021
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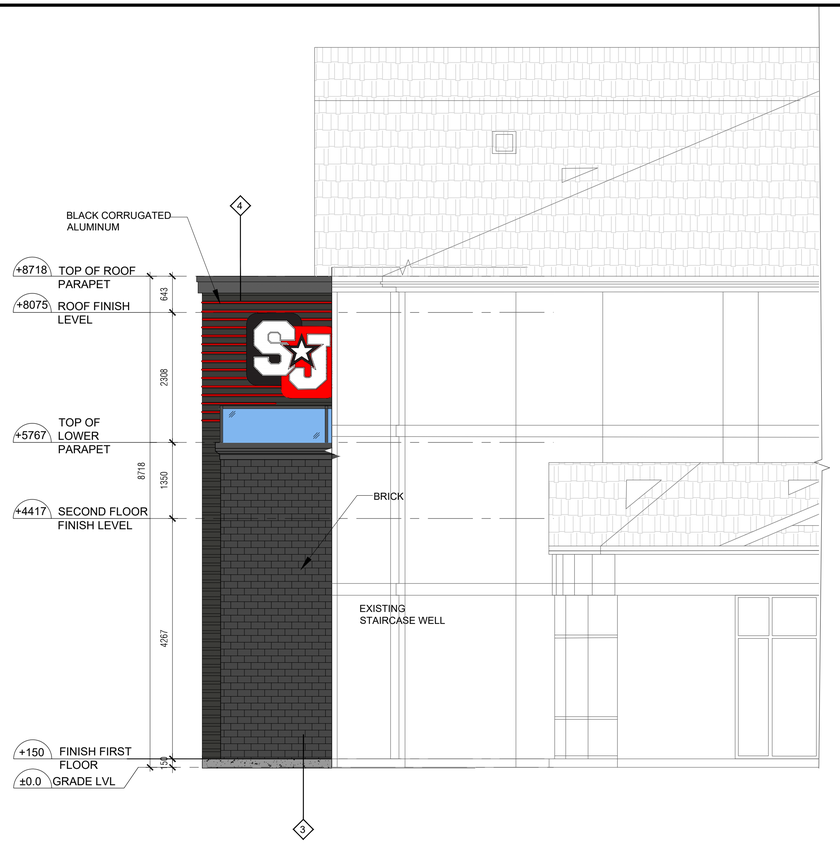
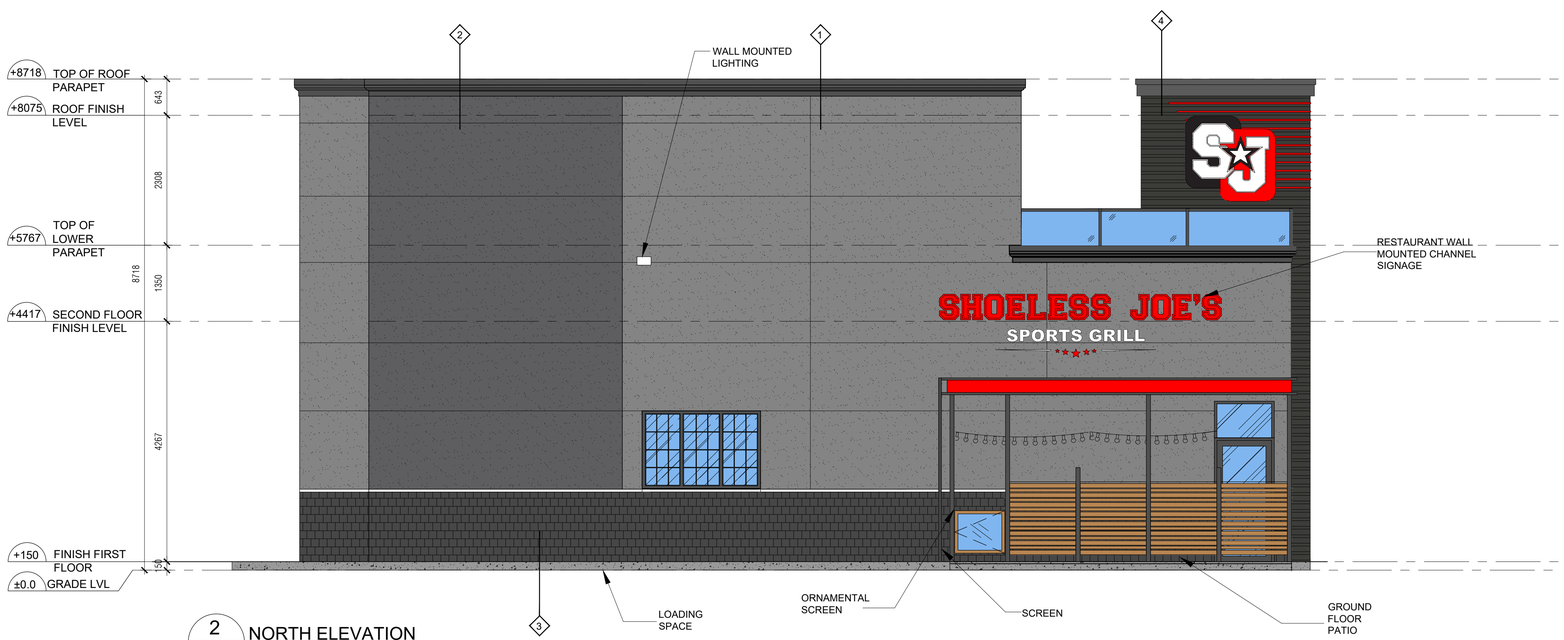
PROJECT NO.: 21-37	DRAWING NO.: A-3.3



1 A-3.3a SOUTH ELEVATION
SCALE: 1:50



2 A-3.3a NORTH ELEVATION
SCALE: 1:50

FINISHES LEGEND

1. GREY STUCCO
2. BLACK STUCCO
3. BLACK BLOCK FINISH
4. BLACK CORRUGATED ALUMINUM
5. GREY BRICK

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PROJECT:

SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE.
MIDLAND, ONTARIO

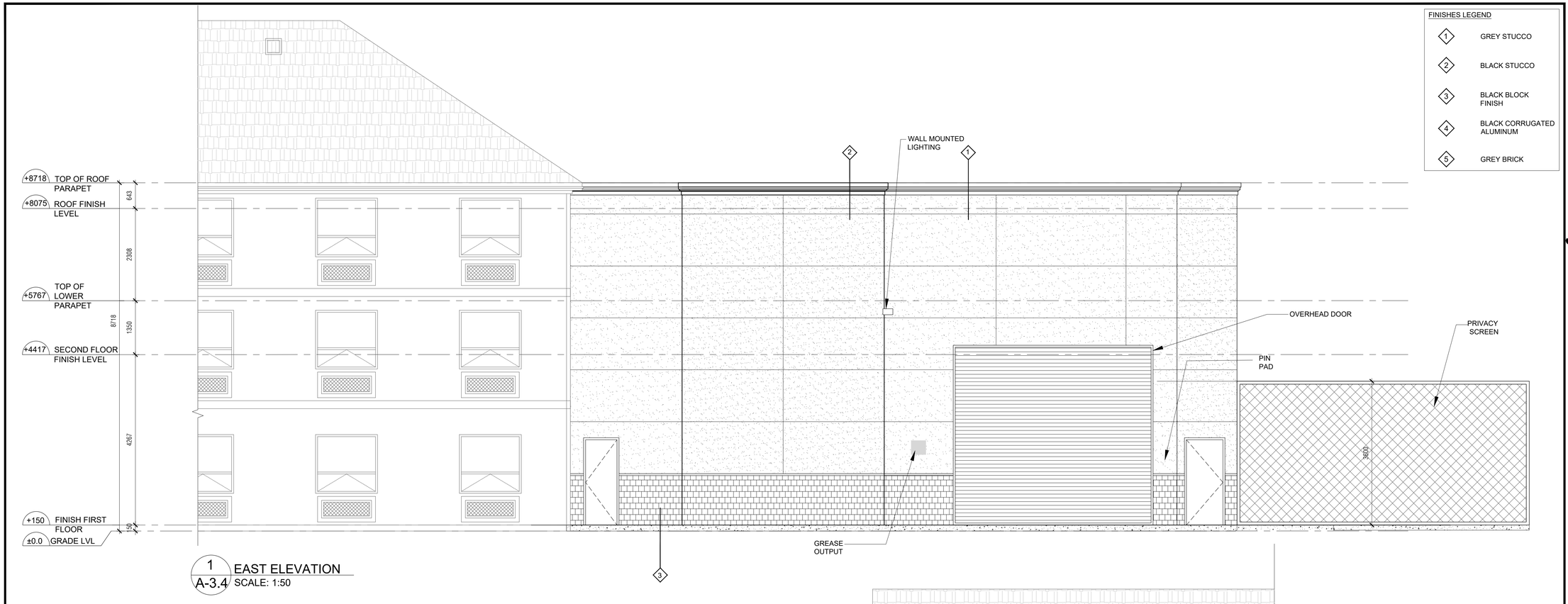
DRAWING TITLE:

RESTAURANT COLORED ELEVATIONS

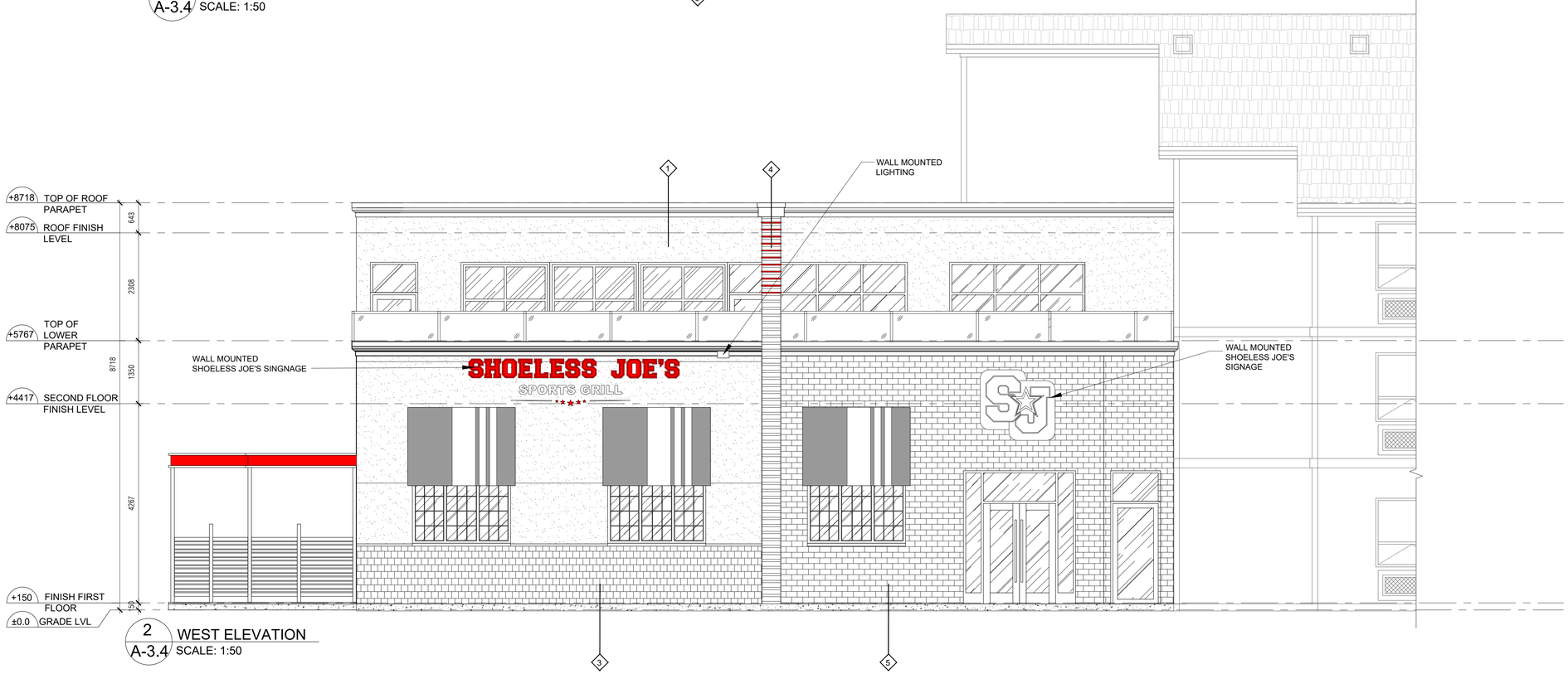
DRAWN BY: JB	DATE: 14 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: **21-37**	DRAWING NO.: **A-3.3a**

FINISHES LEGEND

1. GREY STUCCO
2. BLACK STUCCO
3. BLACK BLOCK FINISH
4. BLACK CORRUGATED ALUMINUM
5. GREY BRICK



1 / A-3.4 EAST ELEVATION
SCALE: 1:50



2 / A-3.4 WEST ELEVATION
SCALE: 1:50

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SHOELESS JOE'S RESTAURANT
1144 HUGEL AVE.
MIDLAND, ONTARIO

DRAWING TITLE:

RESTAURANT ELEVATIONS

DRAWN BY: JB	DATE: 14 JUNE 2021
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PROJECT NO.: **21-37**	DRAWING NO.: **A-3.4**

FINISHES LEGEND

1. GREY STUCCO
2. BLACK STUCCO
3. BLACK BLOCK FINISH
4. BLACK CORRUGATED ALUMINUM
5. GREY BRICK

1 NORTH ELEVATION
A-3.4a SCALE: 1:50

2 WEST ELEVATION
A-3.4a SCALE: 1:50

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1144 HUGEL AVE.
MIDLAND, ONTARIO

DRAWING TITLE:

RESTAURANT COLORED ELEVATIONS

DRAWN BY: JB	DATE: 14 JUNE 2021
CHECKED BY: NM	SCALE: AS NOTED
PROJECT NO.: 21-37	DRAWING NO.: A-3.4a

SURVEYOR'S REAL PROPERTY REPORT

PART 1 - PLAN

PLAN OF SURVEY OF

PART OF THE EAST-HALF OF LOT 106

AND PART OF LOT 107

CONCESSION 1

FORMERLY THE TOWNSHIP OF TINY

NOW TOWN OF MIDLAND

(COUNTY OF SIMCOE)

FARZAD SALEHI, OLS

SCALE: 1 : 350

0 m 4 m 8 m 16 m 24 m

LEGEND

■	DENOTES – SURVEY MONUMENT FOUND
□	DENOTES – SURVEY MONUMENT PLANTED
M	DENOTES – MEASURED
S	DENOTES – SET
P	DENOTES – PLAN 51R–35153
P1	DENOTES – PLAN 51R–27372
P2	DENOTES – PLAN 51R–3985
P3	DENOTES – PLAN 51R–18477
IB	DENOTES – IRON BAR
SIB	DENOTES – STANDARD IRON BAR
(MTO)	DENOTES – MINISTRY OF TRANSPORTATION OF ONTARIO
(650)	DENOTES – C. P. O'DALE, OLS
(1328)	DENOTES – H. L. MELLISH, OLS
(1546)	DENOTES – RUDY MAK SURVEYING LTD., OLS
(OU)	DENOTES – ORIGIN UNKNOWN
TP	DENOTES – TELEPHONE PEDESTAL
	DENOTES – CONIFEROUS TREE
	DENOTES – DECIDUOUS TREE
HP/LS	DENOTES – HYDRO POLE/HYDRO POLE WITH LIGHT STANDARD
BFN	DENOTES – BOARD FENCE
CLF	DENOTES – CHAIN LINK FENCE
AN	DENOTES – ANCHOR
GM	DENOTES – GAS METER
MH	DENOTES – MANHOLE
CB	DENOTES – CATCH BASIN
BL	DENOTES – BOLLARD
FH	DENOTES – FIRE HYDRANT
RW	DENOTES – RETAINING WALL
LS	DENOTES – LIGHT STANDARD
BM	DENOTES – SITE BENCH MARK

METRIC NOTE

DISTANCES & CO-ORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARING NOTE

BEARINGS ARE ASTRONOMIC, AND ARE REFERRED TO THE WESTERLY LIMIT OF HUGEL AVENUE AS SHOWN ON PLAN 51R–27372, HAVING A BEARING OF N38°20'50"E.

ELEVATION NOTE

ELEVATIONS SHOWN HEREON ARE GEODETIC, AND ARE FROM REAL TIME NETWORK GPS READINGS PROVIDED BY CAN–NET AND TOTAL STATION, AND ARE IN GEOID MODEL CGG2013.

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PART 2 - REPORT

REGISTERED EASEMENTS AND/OR RIGHT-OF-WAY:

TOGETHER WITH A RIGHT OF WAY FOR VEHICLES AND PEDESTRIANS OVER PART 4, PLAN 51R–18477, AS IN INSTRUMENT No. RO1401203.

SUBJECT TO A RIGHT OF WAY FOR VEHICLES AND PEDESTRIANS OVER PART 4, PLAN 51R–18477, AS IN INSTRUMENT No. RO1401203.

COMPLIANCE WITH MUNICIPAL ZONING BY-LAWS

THIS PLAN DOES NOT CERTIFY ZONING COMPLIANCE.

BOUNDARY FEATURES

*NOTE THE LOCATION OF THE FENCES AROUND THE SUBJECT PROPERTY.

*ALL BUILDING TIES ARE PERPENDICULAR TO PROPERTY LINES UNLESS OTHERWISE NOTED.

*THIS REPORT WAS PREPARED FOR UNITED HOTELS INC. AND UNDERSIGNED ACCEPTS NO RESPONSABILITY OF USE BY OTHER PARTIES.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM;
2. THE SURVEY WAS COMPLETED ON THE 11th DAY OF APRIL, 2022.

NORTH YORK, ONTARIO
APRIL 14, 2022

FARZAD SALEHI
ONTARIO LAND SURVEYOR

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-26492

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR

In accordance with Regulation 1026, Section 29(3).

F.S. SURVEYING INC.

7 COLWICK DRIVE
NORTH YORK, ON M2K 2G2
416-786-8080

F. S. SURVEYING INC.

DATE	PARTY CHIEF	DRAWN BY	PROJECT No.
APRIL 14, 2022	F. SALEHI	N. RABIEI	2022–009

APPENDIX B – LOG OF BOREHOLES

FISHER ENGINEERING

LOG OF BOREHOLE

NO. BH1(MW) SHEET. 1 of 1

PROJECT NO.: FE-P# 23-12806/12807

PROJECT NAME: GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

LOCATION: 1144 Hugel Ave, Midland, ON

DRILLING METHOD: CME-55, Solid Stem

DRILLING DATE: 21 March, 2023

DEPTH (feet)	DEPTH (meters)	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	LAB ID	Type NO.	"N" VALUE
				245.67			
0	0	~2.5" ASPHALT ~4" GRANULAR MATERIAL FILL: Brown gravelly sand, with crushed rock, moist		0.61 / 245.06		SS-1	38
4	1	SAND: Brown, moist, loose to compact to loose				SS-2	10
6	2	Slightly moist @ 1.52m				SS-3	7
8	3					SS-4	11
10	3					SS-5	13
14	4	Moist @ 4.57m				SS-6	9
16	5	End of borehole at 5.03m		5.03 / 240.64			
18							
20	6						
22							
24	7						
26	8						
28							
30	9						
32							
34	10						

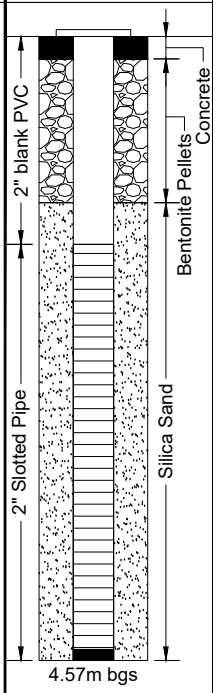
PENETRATION TESTING (SPT) ▲ 20 40 60 80

SHEAR STRENGTH (Kpa) ✚ 40 80 120 160

VAPOUR READING (ppm) □ 20 40 60 80

MOISTURE CONTENT (%) ● 10 20 30 40

PIEZOMETER OR WELL CONSTRUCTION



Groundwater Depth (m): on completion: Dry

DRAWN: D.C. LOGGED: R.R. CHECKED: C.W.

FISHER ENGINEERING

LOG OF BOREHOLE

NO. BH2(MW) SHEET. 1 of 1

PROJECT NO.: FE-P# 23-12806/12807

PROJECT NAME: GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

LOCATION: 1144 Hugel Ave, Midland, ON

DRILLING METHOD: CME-55, Solid Stem

DRILLING DATE: 21 March, 2023

DEPTH (feet)	DEPTH (meters)	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	LAB ID	Type NO.	"N" VALUE
				246.01			
0	0	5" TOPSOIL: Organic material, roots, clay, silt & sand, moist				SS-1	14
2		FILL: Dark brown sand, trace clay, silt & gravel, moist		0.61 / 245.40			
4	1	SAND: Brown, moist, compact to loose to compact				SS-2	10
6	2					SS-3	11
8						SS-4	9
10	3					SS-5	13
12	4						
14							
16	5					SS-6	11
		End of borehole at 5.03m		5.03 / 240.98			
18							
20	6						
22							
24	7						
26	8						
28							
30	9						
32							
34	10						

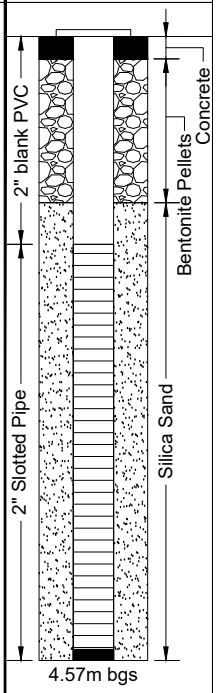
PENETRATION TESTING (SPT) ▲ 20 40 60 80

SHEAR STRENGTH (Kpa) ✚ 40 80 120 160

VAPOUR READING (ppm) □ 20 40 60 80

MOISTURE CONTENT (%) ● 10 20 30 40

PIEZOMETER OR WELL CONSTRUCTION



Groundwater Depth (m): on completion: Dry

DRAWN: D.C. LOGGED: R.R. CHECKED: C.W.

FISHER ENGINEERING

LOG OF BOREHOLE

NO. BH3(MW) SHEET. 1 of 1

PROJECT NO.: FE-P# 23-12806/12807

PROJECT NAME: GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

LOCATION: 1144 Hugel Ave, Midland, ON

DRILLING METHOD: CME-55, Solid Stem

DRILLING DATE: 21 March, 2023

DEPTH (feet)	DEPTH (meters)	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	LAB ID	Type NO.	"N" VALUE
				245.96			
0	0	5" TOPSOIL: Organic material, roots, clay, silt & sand, moist		0.38 / 245.58		SS-1	6
2		FILL: Brown sand, trace gravel, moist					
4	1	SAND: Brown, moist, loose to compact Trace gravel between 0.38m & 1.52m Trace roots between 0.76m & 1.52m				SS-2	11
6	2					SS-3	6
8						SS-4	11
10	3					SS-5	13
12	4						
14							
16	5					SS-6	13
18							
20	6					SS-7	24
22	7	End of borehole at 6.55m		6.55 / 239.41			
24							
26	8						
28							
30	9						
32	10						
34							

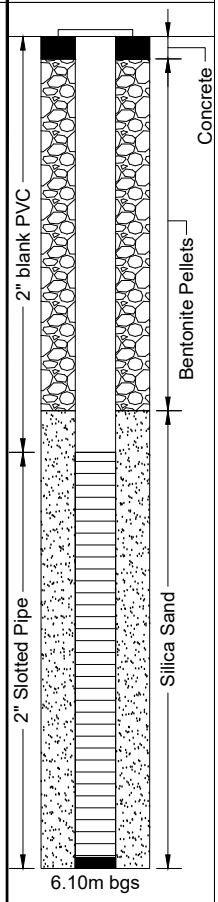
PENETRATION TESTING (SPT) ▲ 20 40 60 80

SHEAR STRENGTH (Kpa) ✚ 40 80 120 160

VAPOUR READING (ppm) □ 20 40 60 80

MOISTURE CONTENT (%) ● 10 20 30 40

PIEZOMETER OR WELL CONSTRUCTION



Groundwater Depth (m): on completion: Dry

DRAWN: D.C. LOGGED: R.R. CHECKED: C.W.

FISHER ENGINEERING

LOG OF BOREHOLE

NO. BH4(MW) SHEET. 1 of 1

PROJECT NO.: FE-P# 23-12806/12807

PROJECT NAME: GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

LOCATION: 1144 Hugel Ave, Midland, ON

DRILLING METHOD: CME-55, Solid Stem

DRILLING DATE: 21 March, 2023

DEPTH (feet)	DEPTH (meters)	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	LAB ID	Type NO.	"N" VALUE
				245.76			
0	0	~2.5" ASPHALT ~4" GRANULAR MATERIAL FILL: Brown gravelly sand, with crushed rock, moist		0.61 / 245.15		SS-1	34
4	1	SAND: Brown, slightly moist, loose to compact				SS-2	10
6	2					SS-3	9
8	3					SS-4	11
10	3					SS-5	12
16	5	End of borehole at 5.03m		5.03 / 240.73		SS-6	12

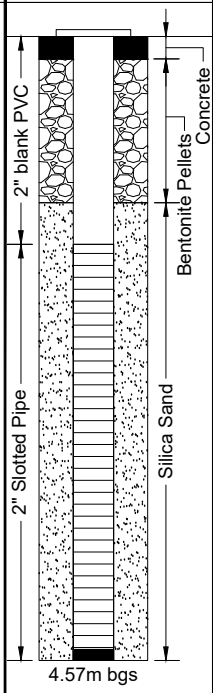
PENETRATION TESTING (SPT) ▲ 20 40 60 80

SHEAR STRENGTH (Kpa) ✚ 40 80 120 160

VAPOUR READING (ppm) □ 20 40 60 80

MOISTURE CONTENT (%) ● 10 20 30 40

PIEZOMETER OR WELL CONSTRUCTION



Groundwater Depth (m): on completion: Dry

DRAWN: D.C. LOGGED: R.R. CHECKED: C.W.

FISHER ENGINEERING

LOG OF BOREHOLE

NO. BH5(MW) SHEET. 1 of 1

PROJECT NO.: FE-P# 23-12806/12807

PROJECT NAME: GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

LOCATION: 1144 Hugel Ave, Midland, ON

DRILLING METHOD: CME-55, Solid Stem

DRILLING DATE: 21 March, 2023

DEPTH (feet)	DEPTH (meters)	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	LAB ID	Type NO.	"N" VALUE
				245.88			
0	0	5" TOPSOIL: Organic material, roots, clay, silt & sand, moist		0.18 / 245.70		SS-1	9
2		FILL (POSSIBLE FILL): Brown sand, moist					
4	1	SAND: Brown, moist, loose to compact				SS-2	10
6	2					SS-3	10
8							
10	3					SS-4	11
12	4					SS-5	15
14				4.57 / 241.31			
16	5	SILTY FINE SAND: Greyish brown, moist, loose				SS-6	9
18		End of borehole at 5.03m		5.03 / 240.85			
20	6						
22	7						
24							
26	8						
28							
30	9						
32							
34	10						

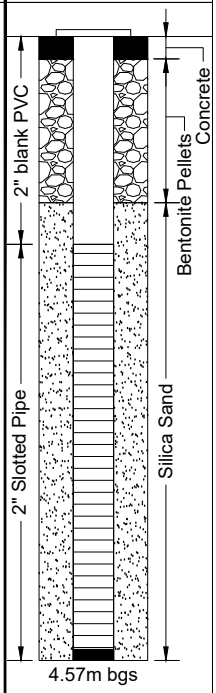
PENETRATION TESTING (SPT) ▲ 20 40 60 80

SHEAR STRENGTH (Kpa) ✚ 40 80 120 160

VAPOUR READING (ppm) □ 20 40 60 80

MOISTURE CONTENT (%) ● 10 20 30 40

PIEZOMETER OR WELL CONSTRUCTION



Groundwater Depth (m): on completion: Dry

DRAWN: D.C. LOGGED: R.R. CHECKED: C.W.

FISHER ENGINEERING

LOG OF BOREHOLE

NO. BH6 SHEET. 1 of 1

PROJECT NO.: FE-P# 23-12806/12807

PROJECT NAME: GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

LOCATION: 1144 Hugel Ave, Midland, ON

DRILLING METHOD: CME-55, Solid Stem

DRILLING DATE: 21 March, 2023

DEPTH (feet)	DEPTH (meters)	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	LAB ID	Type NO.	"N" VALUE
				245.96			
0	0	5" TOPSOIL: Organic material, roots, clay, silt & sand, moist		0.30 / 245.66		SS-1	6
2		FILL (POSSIBLE FILL): Brown sand, very moist					
	1	SAND: Brown, moist, loose to compact to loose				SS-2	9
4							
		Slightly moist @ 1.52m				SS-3	11
6	2						
8						SS-4	9
	3	Moist @ 3.05m					
10						SS-5	10
12		End of borehole at 3.51m		3.51 / 242.45			
14	4						
16	5						
18							
20	6						
22	7						
24							
26	8						
28							
30	9						
32							
34	10						

PENETRATION TESTING (SPT) ▲ 20 40 60 80

SHEAR STRENGTH (Kpa) ✚ 40 80 120 160

VAPOUR READING (ppm) □ 20 40 60 80

MOISTURE CONTENT (%) ● 10 20 30 40

PIEZOMETER OR WELL CONSTRUCTION

Groundwater Depth (m): on completion: Dry

DRAWN: D.C. LOGGED: R.R. CHECKED: C.W.

FISHER ENGINEERING

LOG OF BOREHOLE

NO. BH7 SHEET. 1 of 1

PROJECT NO.: FE-P# 23-12806/12807

PROJECT NAME: GEOTECHNICAL & HYDROGEOLOGICAL INVESTIGATIONS

LOCATION: 1144 Hugel Ave, Midland, ON

DRILLING METHOD: CME-55, Solid Stem

DRILLING DATE: 21 March, 2023

DEPTH (feet)	DEPTH (meters)	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	LAB ID	Type NO.	"N" VALUE
				245.98			
0	0	5" TOPSOIL: Organic material, roots, clay, silt & sand, moist		0.30 / 245.68		SS-1	6
2		FILL (POSSIBLE FILL): Brown sand, very moist					
4	1	SAND: Brown, moist, loose				SS-2	7
6	2					SS-3	10
8		Slightly moist @ 2.29m				SS-4	10
10	3					SS-5	9
12	4	End of borehole at 3.51m		3.51 / 242.47			
14							
16	5						
18							
20	6						
22							
24	7						
26	8						
28							
30	9						
32							
34	10						

PENETRATION TESTING (SPT) ▲ 20 40 60 80

SHEAR STRENGTH (Kpa) ✚ 40 80 120 160

VAPOUR READING (ppm) □ 20 40 60 80

MOISTURE CONTENT (%) ● 10 20 30 40

PIEZOMETER OR WELL CONSTRUCTION

Groundwater Depth (m): on completion: Dry

DRAWN: D.C. LOGGED: R.R. CHECKED: C.W.

APPENDIX C – GRAIN SIZE DISTRIBUTION ANALYSES

Project Name:	Geotechnical Investigation	***F.E. Lab #:***	23-220
Client:	United Hotels Inc.	***Date Sampled:***	21-Mar-2023
Project ID:	23-12807	***Date Received:***	23-Mar-2023
Location:	1141 Hugel Avenue, Midland, Ontario	***Date Reported:***	6-Apr-2023

Certificate of Analysis

Analyses	Matrix	Quantity	Testing Date	Method Reference
Moisture Content	Soil	14	23-Mar-23	ASTM D2216
Grain Size (Sieve Analysis)	Soil	6	24-Mar-23	LS-602
Grain Size (Hydrometer)	Soil	2	03-Apr-23	LS-702
Atterberg test	Soil	0	N.A.	LS-703/704

Authorized by: Behnam Sayad-Pour

Behnam Sayad Pour Zanjani
Geo-Lab Supervisor

400 Esna Park Drive, Unit 15, Markham, ON L3R 3K2
Tel:(905) 475-7755 www.fishereng.com

Certificate of Analysis

Analysis Requested:	Moisture Content	***Sample Description:***	14 Soil Sample(s)

Sample Info	BH1 SS2	BH1 SS3	BH1 SS4	BH1 SS5	BH3 SS2	BH3 SS3
Sample Depth (m)	0.76-1.22	1.53-1.98	2.29-2.75	3.05-3.51	0.76-1.22	1.53-1.98
Moisture Content (%)	4.9	3.8	4.2	4.6	4.9	4.4

Sample Info	BH3 SS4	BH3 SS5	BH5 SS2	BH5 SS3	BH5 SS4	BH5 SS5
Sample Depth (m)	2.29-2.75	3.05-3.51	0.76-1.22	1.53-1.98	2.29-2.75	3.05-3.51
Moisture Content (%)	4.4	4.9	5.3	4.5	3.8	4.8

Sample Info	TH1	TH2				
Sample Depth (m)	1.53-1.98	1.53-1.98				
Moisture Content (%)	19.3	23.4				

Certificate of Analysis

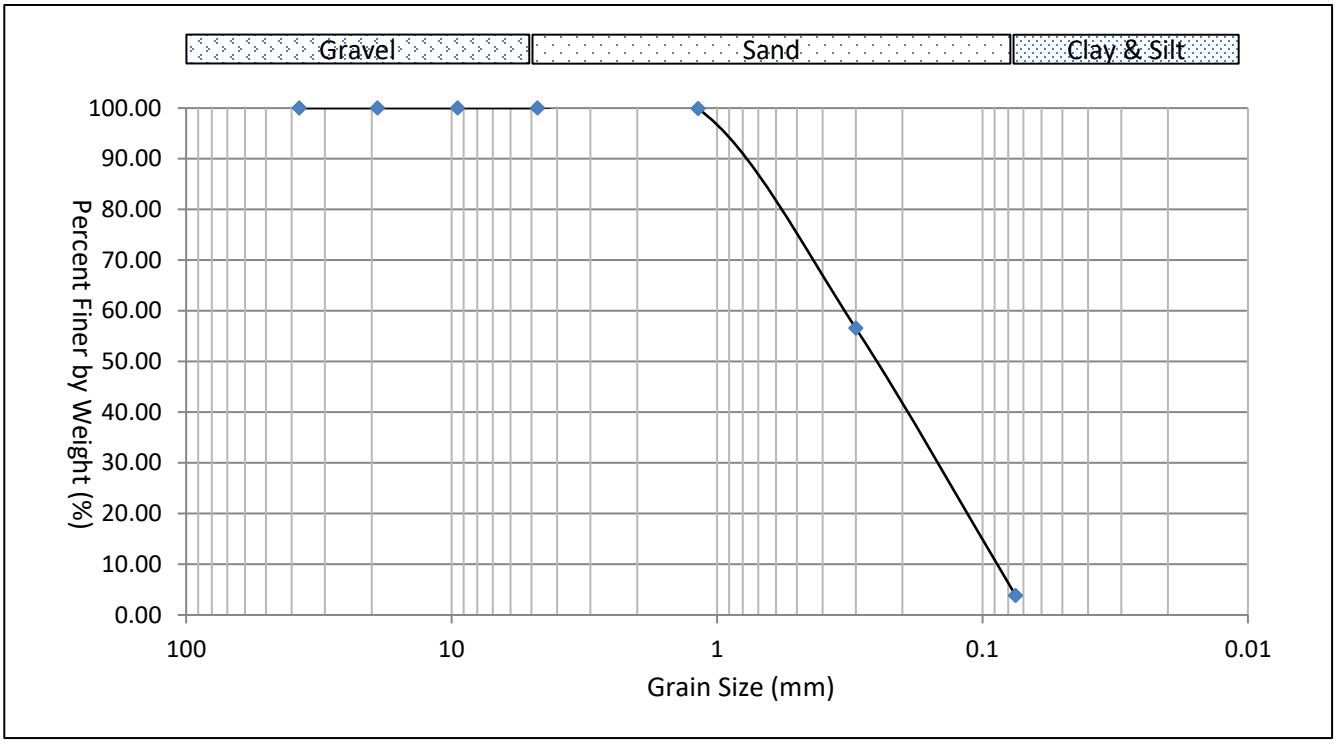
Analysis Requested:	Grain Size (Sieve Analysis)	***Sample Quantity:***	6	Soil Sample(s)

Sample Info	***23-221 BH1 SS2***	***23-222 BH1 SS3***	***23-223 BH3 SS2***	***23-224 BH3 SS3***	***23-225 BH5 SS2***	***23-226 BH5 SS3***
Sample Depth (m)	***0.76-1.22***	***1.53-1.98***	***0.76-1.22***	***1.53-1.98***	***0.76-1.22***	***1.53-1.98***
Grain Size (%)						
>19mm	0.0	0.0	0.0	0.0	0.0	0.0
9.5mm-19mm	0.0	0.0	2.4	0.0	0.0	0.0
4.75mm-9.5mm	0.0	0.0	1.1	0.0	0.0	0.0
1.18mm-4.75mm	0.1	0.0	0.8	0.0	0.3	0.0
300um-1.18mm	43.3	47.4	29.6	42.6	19.5	30.3
75um-300um	52.7	47.0	63.8	53.0	74.6	65.0
<75um	3.8	5.6	2.2	4.4	5.6	4.7
Clay and Silt	**3.8**	**5.6**	**2.2**	**4.4**	**5.6**	**4.7**
Sand	**96.2**	**94.4**	**94.3**	**95.6**	**94.4**	**95.3**
Gravel	**0.0**	**0.0**	**3.5**	**0.0**	**0.0**	**0.0**

Grain Size Distribution

Sample ID: 23-221 BH1 SS2 0.76-1.22m

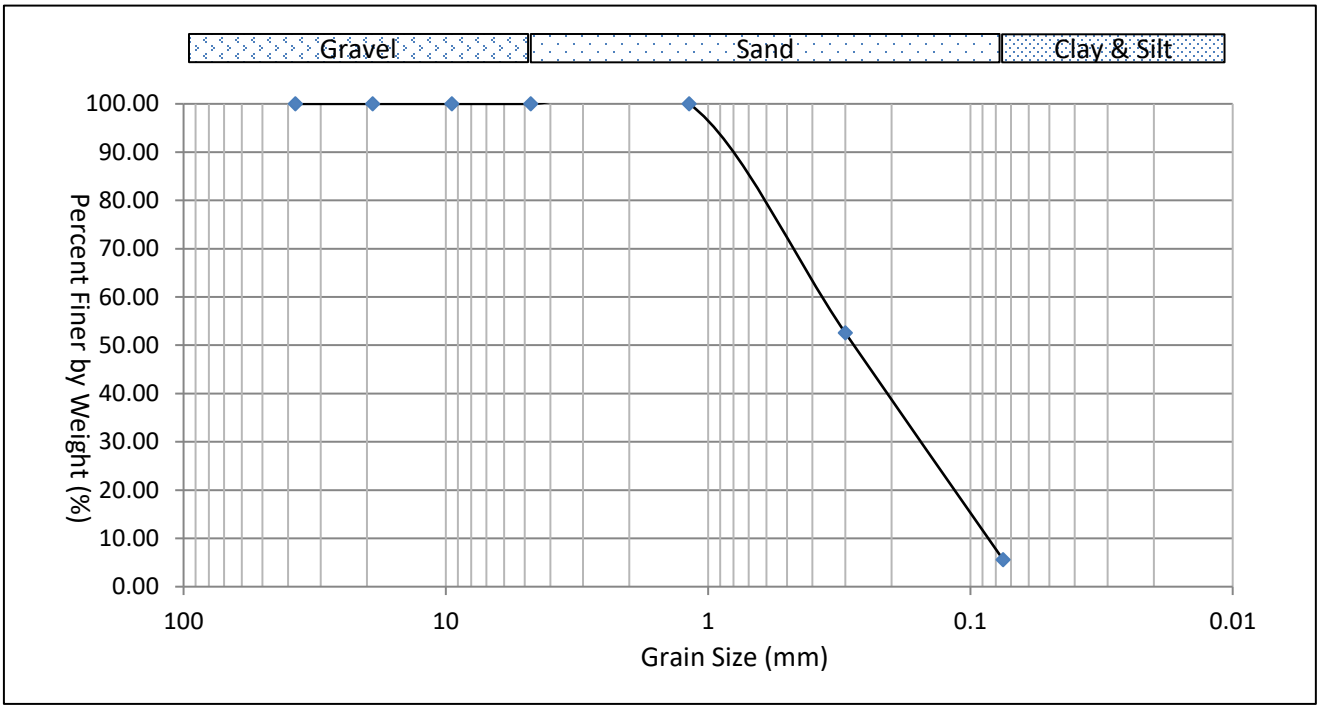
Gravel: 0% Sand: 96.2% Clay and Silt 3.8%



Grain Size Distribution

Sample ID: 23-222 BH1 SS3 1.53-1.98m

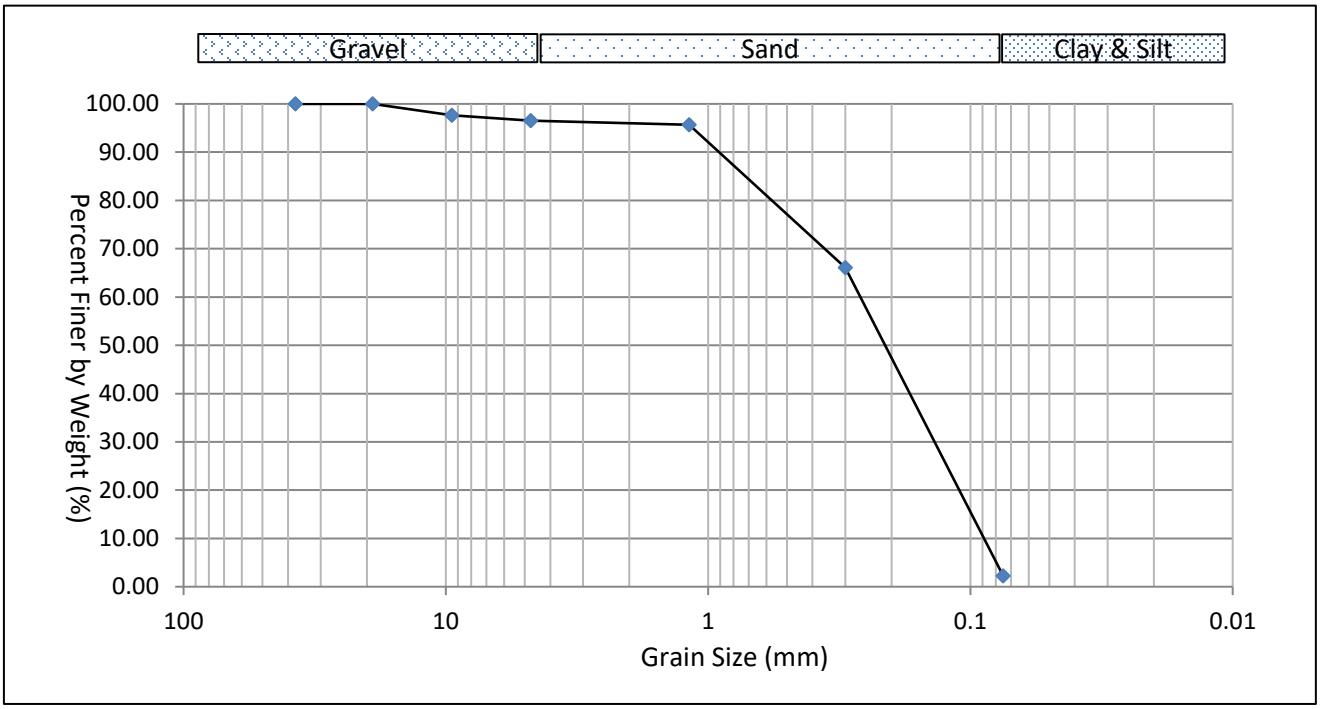
Gravel: 0% Sand: 94.4% Clay and Silt 5.6%



Grain Size Distribution

Sample ID: 23-223 BH3 SS2 0.76-1.22m

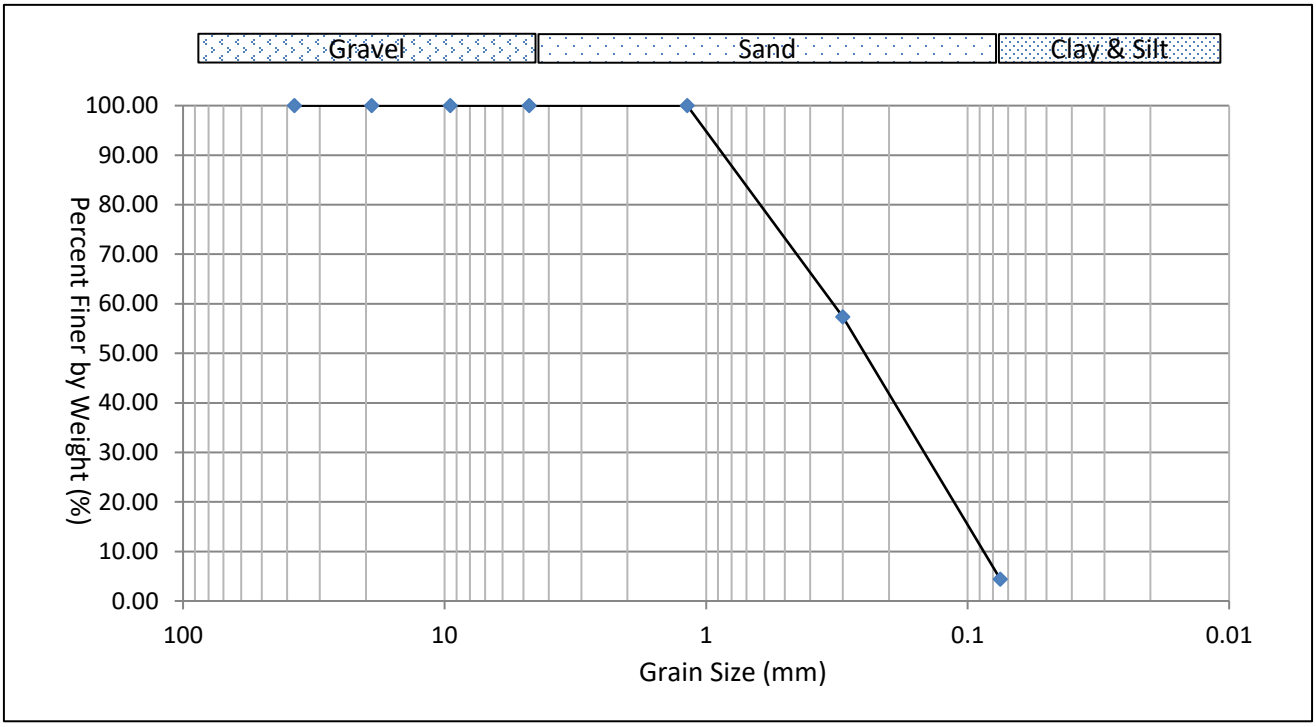
Gravel: 3.5% Sand: 94.3% Clay and Silt 2.2%



Grain Size Distribution

Sample ID: 23-224 BH3 SS3 1.53-1.98m

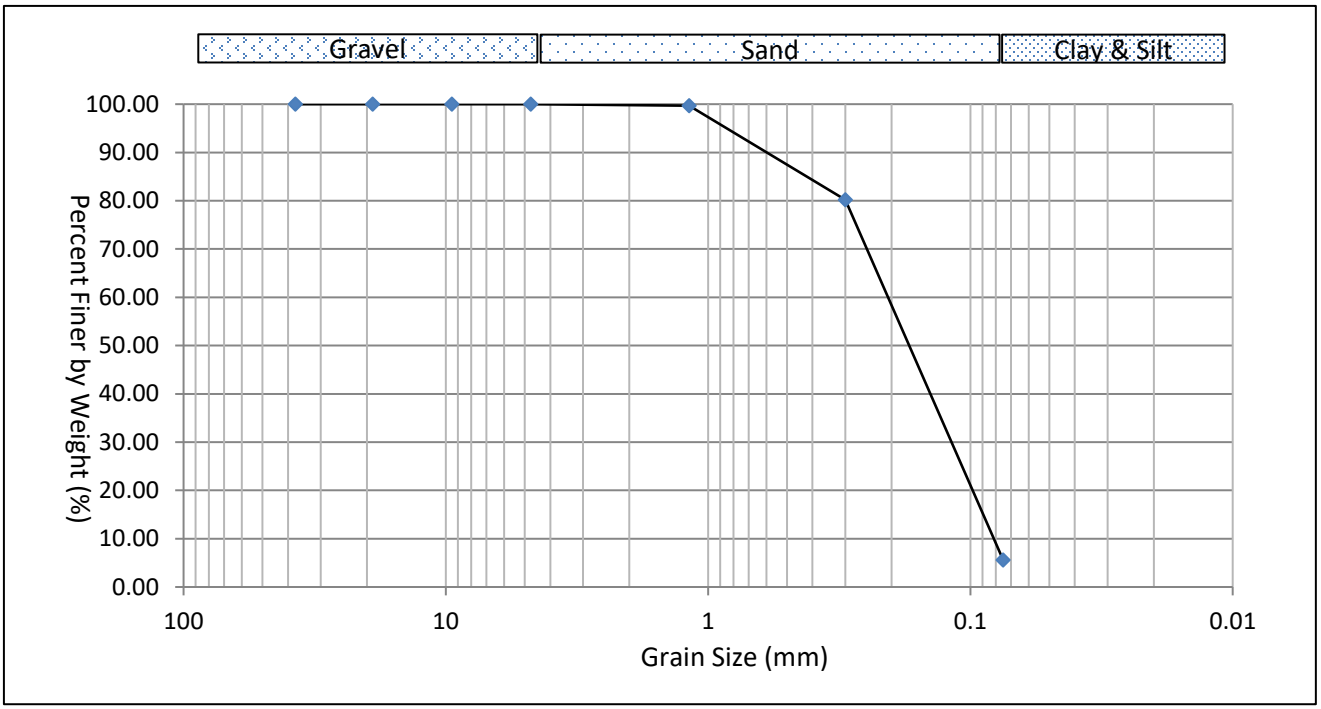
Gravel: 0% Sand: 95.6% Clay and Silt 4.4%



Grain Size Distribution

Sample ID: 23-225 BH5 SS2 0.76-1.22m

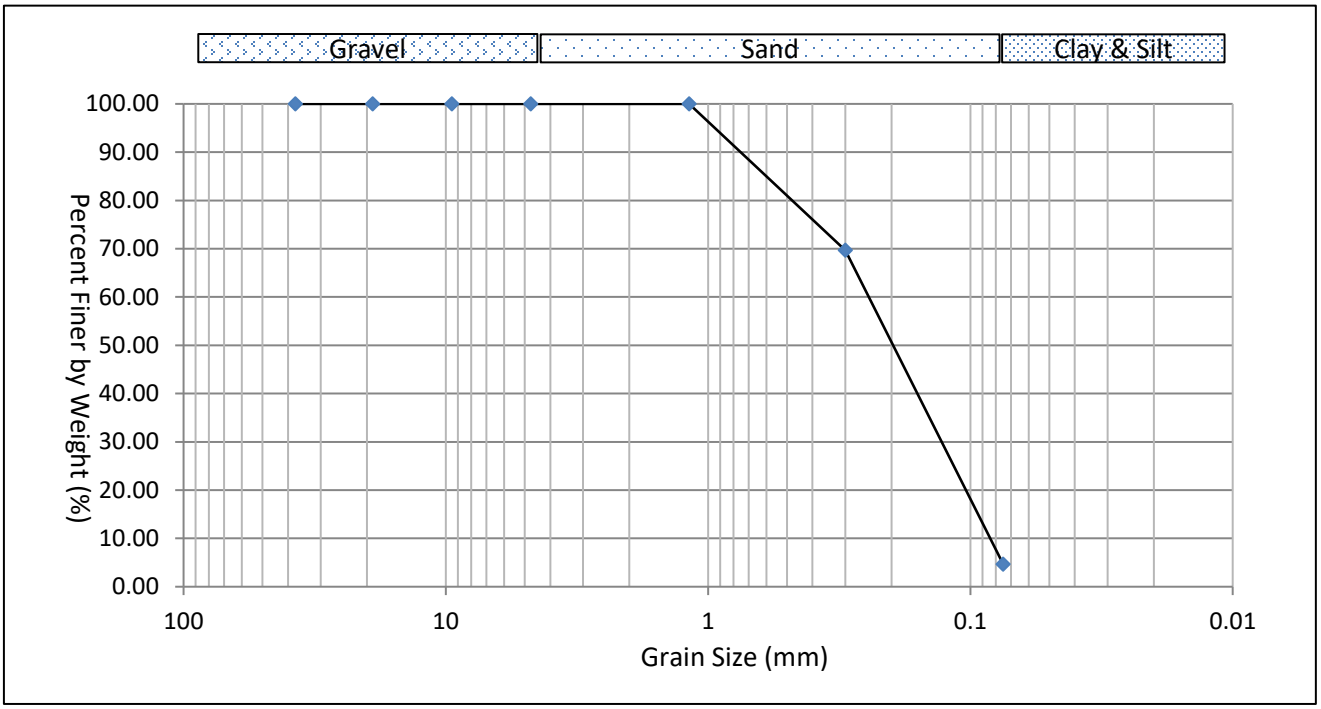
Gravel: 0% Sand: 94.4% Clay and Silt 5.6%



Grain Size Distribution

Sample ID: 23-226 BH5 SS3 1.53-1.98m

Gravel: 0% Sand: 95.3% Clay and Silt 4.7%



F.E. Job #: 23-220

Certificate of Analysis

Analysis Requested:	Grain Size (Hydrometer)
Sample Description:	2 Soil Sample(s)

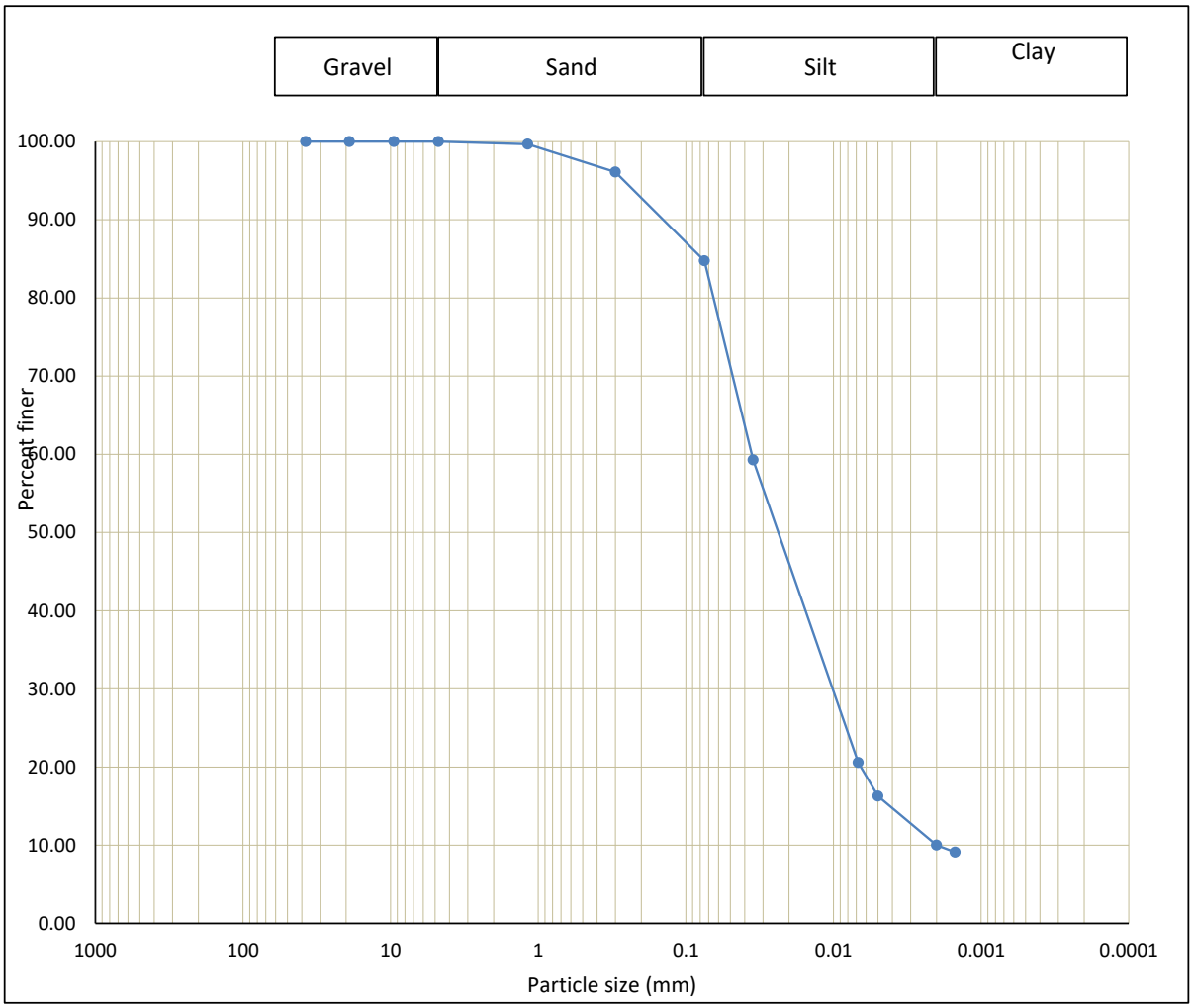
Sample Info	***23-228 TH1***	***23-229 TH2***				
Sample Depth (m)	***1.53-1.98***	***1.53-1.98***				
Grain Size (%)						
>19mm	0.0	0.0				
9.5mm-19mm	0.0	0.0				
4.75mm-9.5mm	0.0	0.0				
1.18mm-4.75mm	0.3	0.6				
300um-1.18mm	3.6	2.4				
75um-300um	11.4	19.4				
5um-75um	68.5	64.4				
2um-5um	6.3	4.5				
<2um	10.0	8.6				
Clay	**10.0**	**8.6**				
Silt	**74.7**	**68.9**				
Sand	**15.3**	**22.5**				
Gravel	**0.0**	**0.0**				

F.E. Job #: 23-220

Grain Size Distribution

Sample ID: 23-228 TH1 1.53-1.98m

Gravel: 0% Sand: 15.3% Silt: 74.7% Clay: 10%

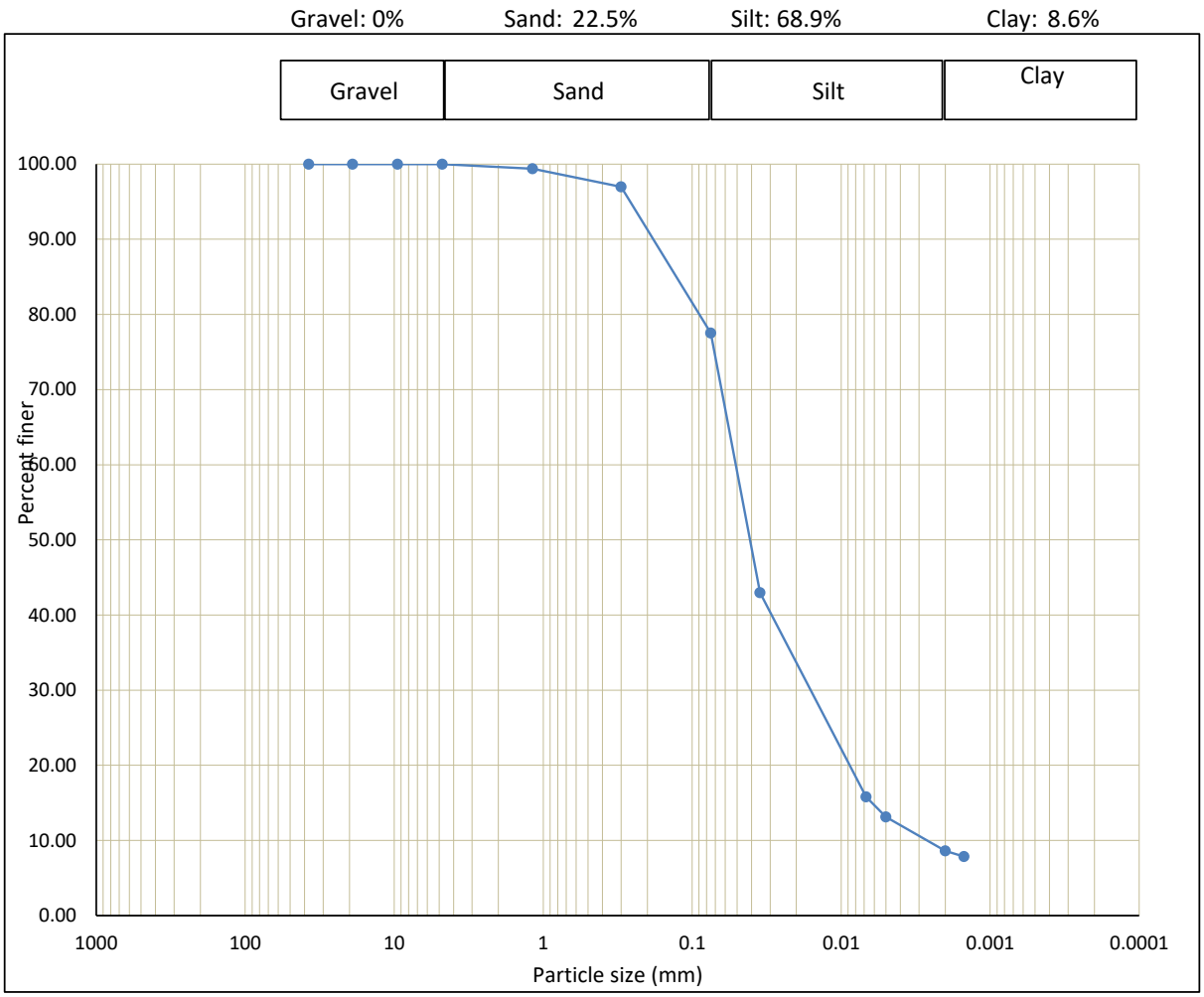


Sample ID: 23-228 TH1 1.53-1.98m		
Diameter	***Weight (%)***	***Grain Size***
>4.75mm	0.0	Gravel
1.18mm-4.75mm	0.3	Coarse Sand
300um-1.18mm	3.6	Medium Sand
75um-300um	11.4	Fine Sand
5um-75um	68.5	Silt
2um-5um	6.3	
<2um	10.0	Clay

F.E. Job #: 23-220

Grain Size Distribution

Sample ID: 23-229 TH2 1.53-1.98m



Sample ID: 23-229 TH2 1.53-1.98m		
Diameter	***Weight (%)***	***Grain Size***
>4.75mm	0.0	Gravel
1.18mm-4.75mm	0.6	Coarse Sand
300um-1.18mm	2.4	Medium Sand
75um-300um	19.4	Fine Sand
5um-75um	64.4	Silt
2um-5um	4.5	
<2um	8.6	Clay

FISHER ENGINEERING

GEOTECHNICAL-LABORATORY

T. 905 475-7755 fisher@fishereng.com
15-400 Esna Park Drive • Markham, ON • L3R 3K2
Hours: 9AM - 5PM M-F
Call for Emergency Response

LAB JOB No: 23-220

Standard Laboratory Request Form: Chain of Custody

CLIENT INFORMATION
Name:
Contact:
Address: 1144 Hugul Ave, Midland
Email:
Fax: Fax results ☐
Phone: Email results ☑

PROJECT INFORMATION
Project Name: Geotechnical Investigation
Project ID: 23-12807
Sampled By: Rafa

BILLING INFORMATION
Purchase Order No:
Verbal Authorization:
Credit Card Type (e.g. MC/Visa/AMEX...):
Credit Card #:
Expiry Date:

TURNAROUND TIME (TAT): Check ONE if all samples are the same/or see below.

STD - Standard (5-7 bus. days)	✓	Standard Charge	Reg. Business Hrs. 9am to 5pm. Samples received after 2pm are considered next day orders.
3D - Three-Day (72 hrs.)		+25% SURCHARGES MAY APPLY. Custom quotations (if applicable) will be reflected on final billing. CALL for: Emergencies, Bulk Quotes, or other Questions.	

LAB SAMPLE ID	CLIENT'S SAMPLE ID AND DESCRIPTION	SAMPLING DATE/TIME	SAMPLE MATRIX	CONTAINER NO. and TYPE	TAT (Above)	ANALYSIS REQUESTED (Check or Specify) Moisture Content	Sieve Analysis	Hydrometer	Atterberg Limits	Proctor						NOTES
	BH1 (2.5-4')	Mar 21	Soil	Bag	STD	✓	✓									
	(5-6.5')						✓									
	(7.5-9')															
	(10-11.5')															
	BH3 (2.5-4')						✓									
	(5-6.5')						✓									
	(7.5-9')															
	(10-11.5')															
	BH5 (2.5-4')						✓									
	(5-6.5')						✓									
	(7.5-9')															
	(10-11.5')															
	TH1							✓								
	TH2							✓								

Relinquished by:
Name: (print)
Signature: Clive
Date & Time:
Method of Shipment: Mar 23/23

Client's Comments:

Regulatory Requirements:
OPSS Reg.

Purpose for sampling:
Road Base
Road Subbase
Subgrade
Backfill
Engineering Fill
Soil Classification
Other

Received by (Internal):
Name:
Date & Time:

Arrival Temperature °C:
Laboratory Remarks:

APPENDIX D – HYDRAULIC CONDUCTIVITY ANALYSES

FISHER ENGINEERING

HYDRAULIC CONDUCTIVITY ANALYSIS

Location: *1144 Hugel Avenue, Midland, Ontario*
Project: *FH 23-12806*
Test Date: *3/29/2023*
Tested by: *CAW*
Well No. *MW1*

Equilibrium Water level (from top of pipe) HE		*cm*
Initial Water level (from top of pipe) Ho	*365*	*cm*
Monitoring well inner Dia D	*0.05*	*m*
Initial Time offset To	*1*	*second*
Reverse of Luthin's reference system Ru = Ho - HE	*365.00*	*cm*
Slope of Log((ho-he)/(ht-he)) / T	*3.00E-05*	

G = Ru / (HT - HE)

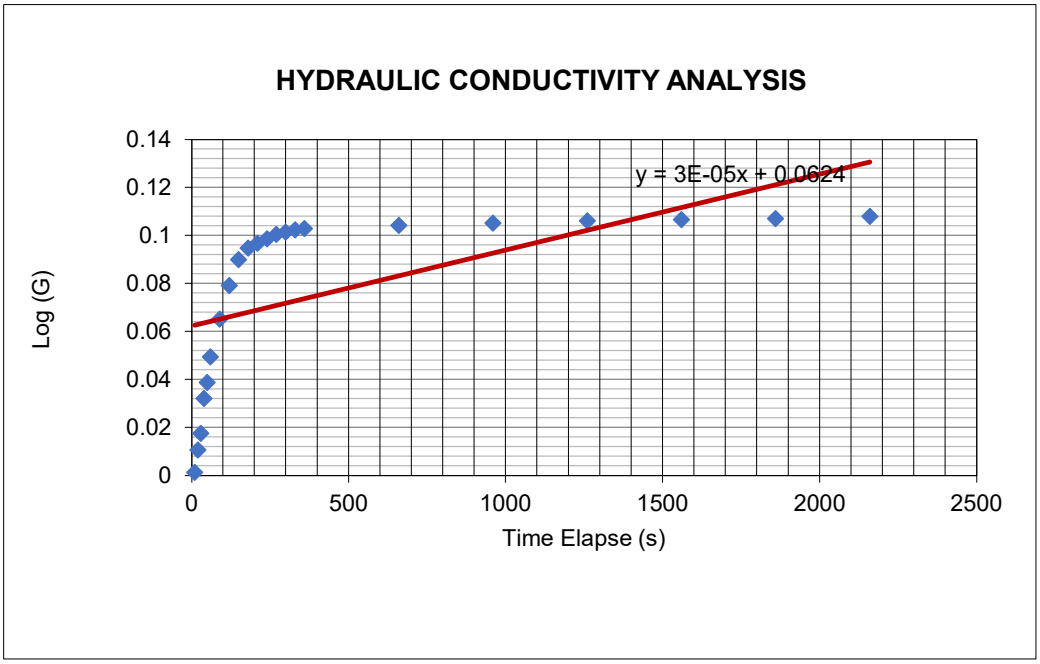
Hydraulic conductivity computed k = 0.0000454 cm/s
4.54E-07 m/s
0.039 m/day

Time	HT (Water Drop)			G	LOG (G)	Graph for falling head
(Interval s)	(Elapsed s)	(m)	(cm)			
	0	3.650				
10	10	3.660	366.0	0.99727	-0.00119	0.00118822
10	20	3.740	374.0	0.97594	-0.01058	0.01057874
10	30	3.800	380.0	0.96053	-0.01749	0.01749073
10	40	3.930	393.0	0.92875	-0.03210	0.03209969
10	50	3.990	399.0	0.91479	-0.03868	0.03868003
10	60	4.090	409.0	0.89242	-0.04943	0.04943044
30	90	4.240	424.0	0.86085	-0.06507	0.06507299
30	120	4.380	438.0	0.83333	-0.07918	0.07918125
30	150	4.490	449.0	0.81292	-0.08995	0.08995348
30	180	4.540	454.0	0.80396	-0.09476	0.09476299
30	210	4.560	456.0	0.80044	-0.09667	0.09667198
30	240	4.580	458.0	0.79694	-0.09857	0.09857261
30	270	4.600	460.0	0.79348	-0.10046	0.10046497
30	300	4.610	461.0	0.79176	-0.10141	0.10140806
30	330	4.620	462.0	0.79004	-0.10235	0.10234911
30	360	4.625	462.5	0.78919	-0.10282	0.10281887
300	660	4.64	464	0.78663793	-0.1042251	0.10422512
300	960	4.65	465	0.78494624	-0.1051601	0.10516009
300	1260	4.66	466	0.7832618	-0.1060931	0.10609305
300	1560	4.665	466.5	0.78242229	-0.1065588	0.10655878
300	1860	4.67	467	0.78158458	-0.107024	0.10702402
300	2160	4.68	468	0.77991453	-0.107953	0.10795299

FISHER ENGINEERING

HYDRAULIC CONDUCTIVITY ANALYSIS

Location: *1144 Hugel Avenue, Midland, Ontario*
Project: *FH 23-12806*
Test Date: *3/29/2023*
Tested by: *CAW*
Well No. *MW1*



FISHER ENGINEERING

HYDRAULIC CONDUCTIVITY ANALYSIS

Location: *1144 Hugel Avenue, Midland, Ontario*
Project: *FH 23-12806*
Test Date: *3/29/2023*
Tested by: *CAW*
Well No. *MW3*

Equilibrium Water level (from top of pipe) HE		*cm*
Initial Water level (from top of pipe) Ho	*504*	*cm*
Monitoring well inner Dia D	*0.05*	*m*
Initial Time offset To	*1*	*second*
Reverse of Luthin's reference system Ru = Ho - HE	*504.00*	*cm*
Slope of Log((ho-he)/(ht-he)) / T	*7.00E-06*	

G = Ru / (HT - HE)

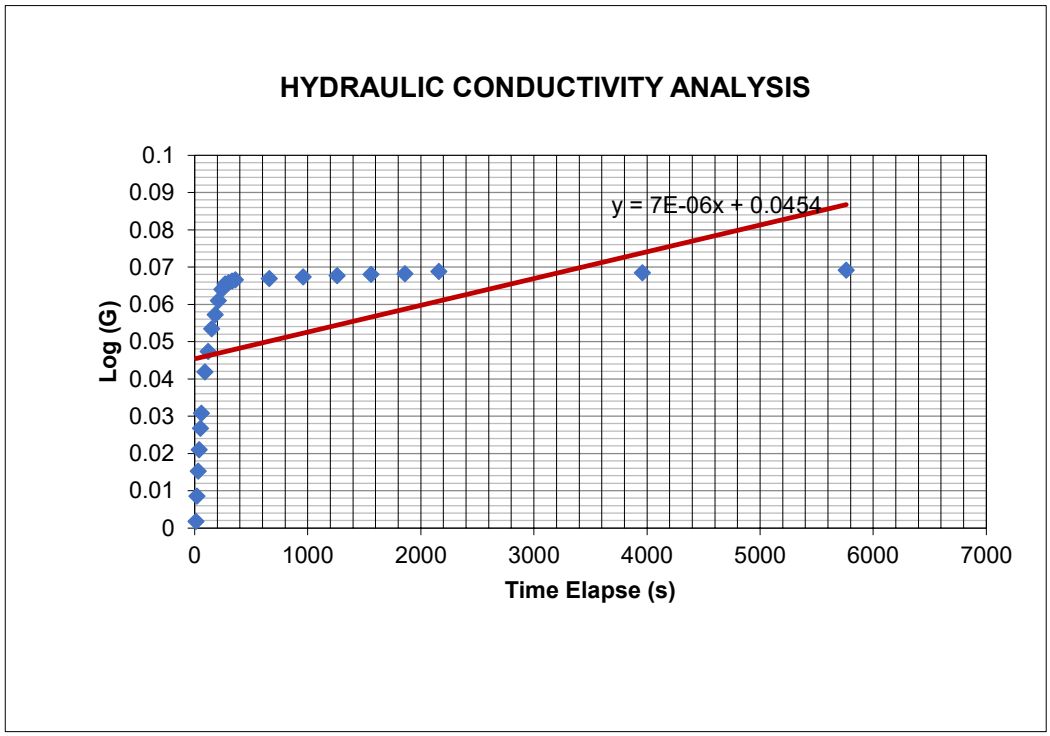
Hydraulic conductivity computed k = 0.0000106 cm/s
1.06E-07 m/s
0.009 m/day

Time	HT (Water Drop)			G	LOG (G)	Graph for falling head
(Interval s)	(Elapsed s)	(m)	(cm)			
	0	5.040				
10	10	5.060	506.0	0.99605	-0.00172	0.00171998
10	20	5.140	514.0	0.98054	-0.00853	0.00853258
10	30	5.220	522.0	0.96552	-0.01524	0.01523997
10	40	5.290	529.0	0.95274	-0.02103	0.02102514
10	50	5.360	536.0	0.94030	-0.02673	0.02673425
10	60	5.410	541.0	0.93161	-0.03077	0.03076673
30	90	5.550	555.0	0.90811	-0.04186	0.04186245
30	120	5.620	562.0	0.89680	-0.04731	0.04730578
30	150	5.700	570.0	0.88421	-0.05344	0.05344432
30	180	5.750	575.0	0.87652	-0.05724	0.05723731
30	210	5.800	580.0	0.86897	-0.06100	0.06099746
30	240	5.840	584.0	0.86301	-0.06398	0.06398231
30	270	5.860	586.0	0.86007	-0.06547	0.06546708
30	300	5.865	586.5	0.85934	-0.06584	0.06583748
30	330	5.870	587.0	0.85860	-0.06621	0.06620756
30	360	5.875	587.5	0.85787	-0.06658	0.06657733
300	660	5.880	588.0	0.85714	-0.06695	0.06694679
300	960	5.885	588.5	0.85641	-0.06732	0.06731593
300	1260	5.89	589.0	0.85569	-0.06768	0.06768476
300	1560	5.895	589.5	0.85496	-0.06805	0.06805327
300	1860	5.897	589.7	0.85467	-0.06820	0.06820059
300	2160	5.905	590.5	0.85351	-0.06879	0.06878937
1800	3960	5.9	590.0	0.85424	-0.06842	0.06842148
1800	5760	5.91	591.0	0.85279	-0.06916	0.06915694

FISHER ENGINEERING

HYDRAULIC CONDUCTIVITY ANALYSIS

Location: *1144 Hugel Avenue, Midland, Ontario*
Project: *FH 23-12806*
Test Date: *3/29/2023*
Tested by: *CAW*
Well No. *MW3*



FISHER ENGINEERING

HYDRAULIC CONDUCTIVITY ANALYSIS

Location: *1144 Hugel Avenue, Midland, Ontario*
Project: *FH 23-12806*
Test Date: *3/29/2023*
Tested by: *CAW*
Well No. *MW5*

Equilibrium Water level (from top of pipe) HE		*cm*
Initial Water level (from top of pipe) Ho	*304*	*cm*
Monitoring well inner Dia D	*0.05*	*m*
Initial Time offset To	*1*	*second*
Reverse of Luthin's reference system Ru = Ho - HE	*298.00*	*cm*
Slope of Log((ho-he)/(ht-he)) / T	*4.00E-05*	

G = Ru / (HT - HE)

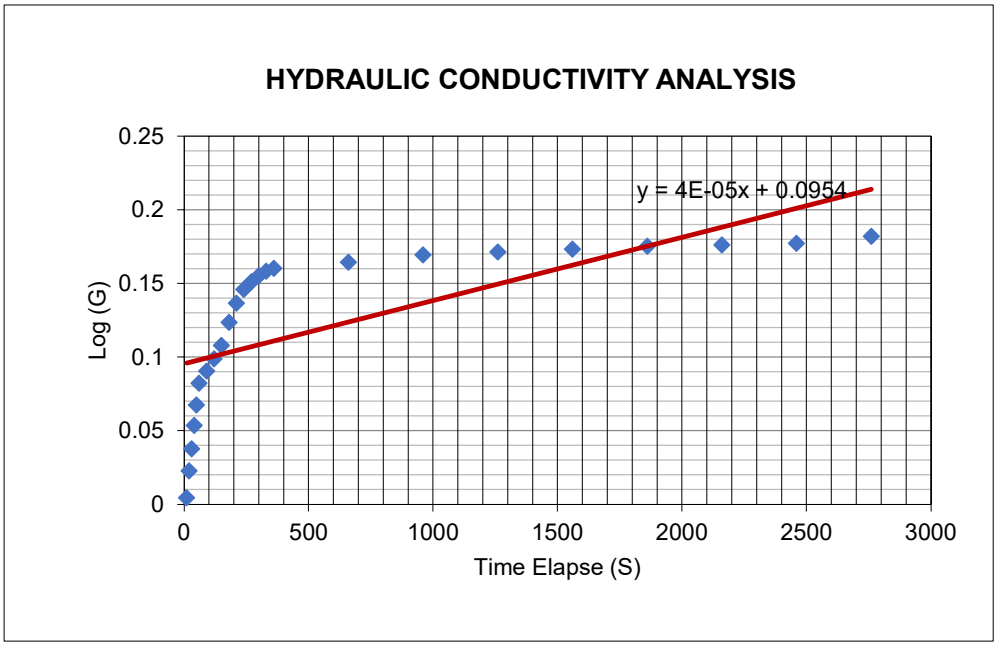
Hydraulic conductivity computed k = 0.0000605 cm/s
6.05E-07 m/s
0.052 m/day

Time	HT (Water Drop)			G	LOG (G)	Graph for falling head
(Interval s)	(Elapsed s)	(m)	(cm)			
	0	2.980				
10	10	3.010	301.0	0.99003	-0.00435	0.00435023
10	20	3.140	314.0	0.94904	-0.02271	0.02271338
10	30	3.250	325.0	0.91692	-0.03767	0.0376671
10	40	3.370	337.0	0.88427	-0.05341	0.05341364
10	50	3.480	348.0	0.85632	-0.06736	0.06736298
10	60	3.600	360.0	0.82778	-0.08209	0.08208624
30	90	3.670	367.0	0.81199	-0.09045	0.0904498
30	120	3.740	374.0	0.79679	-0.09866	0.09865534
30	150	3.820	382.0	0.78010	-0.10785	0.1078471
30	180	3.960	396.0	0.75253	-0.12348	0.12347892
30	210	4.080	408.0	0.73039	-0.13644	0.1364439
30	240	4.170	417.0	0.71463	-0.14592	0.14591979
30	270	4.220	422.0	0.70616	-0.15110	0.15109619
30	300	4.260	426.0	0.69953	-0.15519	0.15519334
30	330	4.290	429.0	0.69464	-0.15824	0.15824103
30	360	4.310	431.0	0.69141531	-0.160261	0.16026101
300	660	4.350	435.0	0.68505747	-0.164273	0.16427299
300	960	4.400	440.0	0.67727273	-0.1692364	0.16923641
300	1260	4.420	442.0	0.67420814	-0.171206	0.17120601
300	1560	4.440	444.0	0.67117117	-0.1731667	0.17316671
300	1860	4.460	446.0	0.66816143	-0.1751186	0.17511859
300	2160	4.470	447.0	0.66666667	-0.1760913	0.17609126
300	2460	4.480	448.0	0.66517857	-0.1770617	0.17706175
300	2760	4.530	453.0	0.65783664	-0.1818819	0.18188194

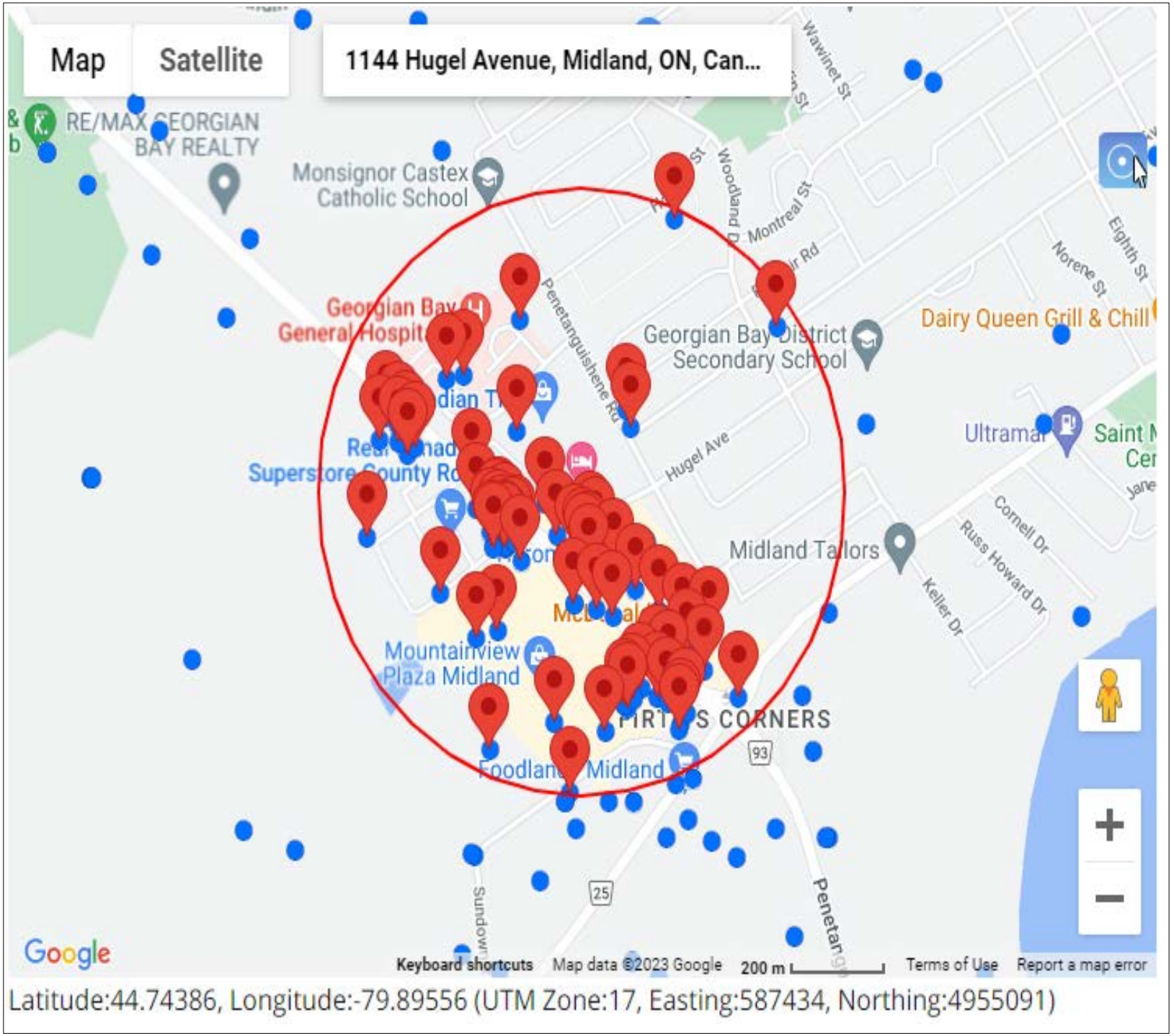
FISHER ENGINEERING

HYDRAULIC CONDUCTIVITY ANALYSIS

Location: *1144 Hugel Avenue, Midland, Ontario*
Project: *FH 23-12806*
Test Date: *3/29/2023*
Tested by: *CAW*
Well No. *MW5*



APPENDIX E – PRIVATE WELL SEARCH



FISHER ENGINEERING
400 Esna Park Dr., #15
Markham, Ontario
L3R 3K2
Tel: 905 475-7755
Fax: 905 475-7718

NORTH

N

LEGEND

SITE BOUNDARY

PROJECT NAME AND ADDRESS

HYDROGEOLOGICAL INVESTIGATION

1144 Hugel Avenue, MIDLAND, ONTARIO

FIGURE 1:

WELLS WITHIN 500M RADIUS

SHEET NO.

H1

PROJECT NO.

FH 23-12806

DATE

APRIL 2023

SCALE

AS SHOWN

UTM 17 z 586576 E

15 R 4954002 N

Penetang 1-st

Elev 5 R 0790

Basin 2 Lot 21 2 P

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Simcoe — Township, Village, (Town) or City MIDLAND (TAY) HB

Con. I.P.R.E. HB Lot 105 HB — Date completed 31 (day) MAY (month) 1963 (year)

[redacted]ess MIDLAND ONT

Casing and Screen Record

Inside diameter of casing 6¼ inch

Total length of casing 138 Feet

Type of screen —

Length of screen —

Depth to top of screen —

Diameter of finished hole 6¼

Pumping Test

Static level 80 ft

Test-pumping rate 15 G.P.M.

Pumping level 125

Duration of test pumping 3 HRS

Water clear or cloudy at end of test clear

Recommended pumping rate 10 G.P.M.

with pump setting of 115 feet below ground surface

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Top soil	0	1		
mixed sand, gravel, clay and boulders	1	109		
sand + gravel	109	138		
medium gravel	138		138 ft.	fresh

For what purpose(s) is the water to be used? Domestic

Is well on upland, in valley, or on hillside? hillside

Drilling or Boring Firm H. HAMMERS Well Driller

Address RR# 3 Barrie, Ont.

Licence Number 839

Name of Driller or Borer A. Hammers

Address RR# 5 Barrie, Ont.

Date Sept 24/63

Henry Hammers

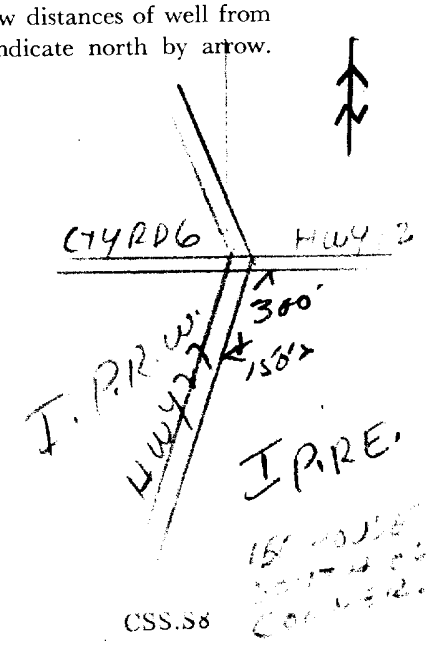
(Signature of Licensed Drilling or Boring Contractor)

Form 7 10M-62-1152

O W R C COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



CSS.S8

UTM 17 Z 586465 E

Conf RT 4954082 N

Elev. 5 R 968010

Basin 22

The Ontario Water Resources Commission Act

WATER WELL RECORD

WATER RESOURCES DIVISION
57 No 4497
JUL 8 - 1965
ONTARIO WATER RESOURCES COMMISSION

County or District ~~Simcoe~~ Township, Village, Town or City Tiny

Con. P 1 Lot ~~101~~ 106 Date completed 24 (day) June (month) 1965 (year)

[redacted] ress R.R. # 2, Midland, Ontario.

Casing and Screen Record

Inside diameter of casing 5¼"

Total length of casing 206 feet

Type of screen Johnson Screen

Length of screen 3 feet

Depth to top of screen 242 feet

Diameter of finished hole 3"

Pumping Test

Static level 140 feet

Test-pumping rate 4½ G.P.M.

Pumping level 195 feet

Duration of test pumping 1 hour

Water clear or cloudy at end of test cloudy

Recommended pumping rate 2 G.P.M.

with pump setting of 200 feet below ground surface

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Boulders	0	6		
Clay	6	38		
Gravel	38	40		
Sand & clay	40	180		
Gravel	180	185		
Sand (dark brown)	185	217		
Gravel & sand	217	240	217-240	fresh
Bedrock	240	243		(untested)

For what purpose(s) is the water to be used? Household

Is well on upland, in valley, or on hillside? level

Drilling or Boring Firm Hadco Well Digging Ltd.

Address Elmira, Ontario.

Licence Number 1586

Name of Driller or Borer V.L.Pidgeon,

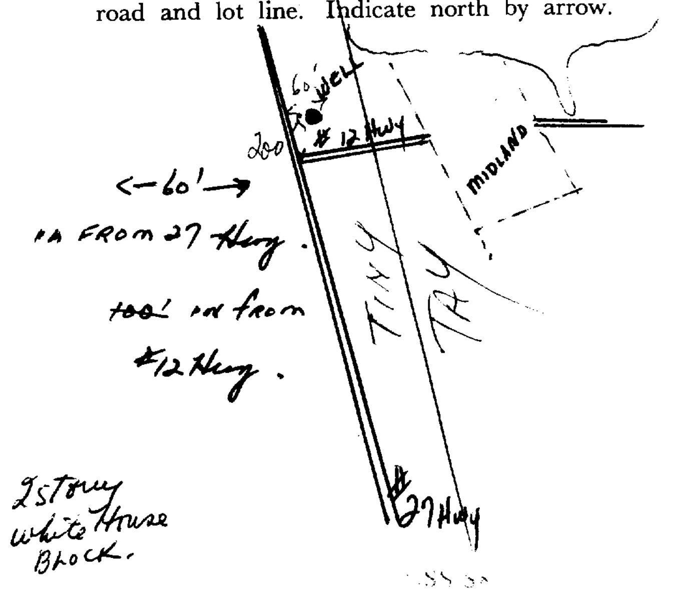
Address 235 Erb St., Kitchener, Ontario.

Date July 3,1965

(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 7 15M-60-4138

OWRC COPY

UTM 17 Z 5 5 6 0 0 4 E
R 4 9 5 4 1 0 5 N

Elev. R 0 8 1 0

Basin 2 2

57 № 4498 B

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Simcoe   Township, Village, Town or City Tiny

Con. 1 W.P.R.   Lot ~~106~~ 105 B ~~107~~   Date completed 20 (day) Aug. (month) 66 (year)

Owner Proposed Shopping Centre for ZELLERS Limited (print in block letters)   Address Midland

Casing and Screen Record		Pumping Test	
Inside diameter of casing		Static level	
Total length of casing	5" Test Hole (No casing)	Test-pumping rate	(No Pumping) G.P.M.
Type of screen		Pumping level	
Length of screen		Duration of test pumping	
Depth to top of screen		Water clear or cloudy at end of test	
Diameter of finished hole		Recommended pumping rate	G.P.M.
		with pump setting of	feet below ground surface

Well Log: Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Top soil, stones & sandy clay	0	12		
Fine sand w/streaks of grey clay	12	128		
coarse sand	128	146		
medium sand	146	160		
medium-fine sand w/clay	160	170		
medium sand	170	200		
medium-fine sand	200	210		
medium sand	210	235		
cemented sand w/stones	235	306		
hard grey clay	306	320		

For what purpose(s) is the water to be used?

Is well on upland, in valley, or on hillside? upland

Drilling or Boring Firm **SNIDER DRILLING**

CRAIGHURST, ONTARIO

Address

PA. 8-5657

Licence Number 2272

Name of Driller or Borer R. Snider

Address Craighurst

Date Aug 20/66

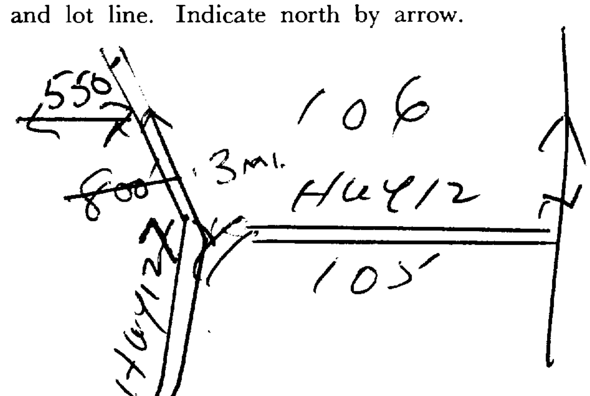
Ralph Snider
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



D.C.H.S.

UTM | 1 | Z | | | | | | | | | |

19 R

Elev. 9 R 08110

Basin 22

The Ontario Water Resources Commission Act

WATER WELL RECORD

WATER RESOURCES DIVISION 57 MAY No. 1 1967 4499 B ONTARIO WATER RESOURCES COMMISSION

County or District Simcoe Township, Village, Town or City Tiny

Con. 1 W.P.R. Lot 106 Date completed 7 (day) April (month) 1967 (year)

Owner Zellers Ltd. (Shopping plaza) (print in block letters) Address Midland, Ont.

Casing and Screen Record

Inside diameter of casing 10"

Total length of casing 210'

Type of screen 10" stainless. (6'x12 slot,

Length of screen (2'x8S.,)(3'x10S.), 3'x14S.), 3'x20slot.; & 3'x blank.) (30')

Depth to top of screen 210'

Diameter of finished hole 10"

Pumping Test

Static level 169'

Test-pumping rate 166 Imp. G.P.M.

Pumping level 197

Duration of test pumping 24 hrs.

Water clear or cloudy at end of test clear

Recommended pumping rate 150 G.P.M.

with pump setting of 248' feet below ground surface

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
sandy soil	0	9	210	fresh
very fine sand w/streaks of clay	9	126		
coarse sand	126	147		
medium sand	147	162		
medium fine sand w/ clay streaks	162	204		
fine sand	204	234		
very fine sand	234	237		
gravel	237	241		
cemented sand and gravel	241	250		

For what purpose(s) is the water to be used? shopping plaza

Is well on upland, in valley, or on hillside? up land

Drilling or Boring Firm Snider Drilling

Address Craighurst, Ont.

Licence Number 2569

Name of Driller or Borer R. Snider

Address Craighurst, Ont.

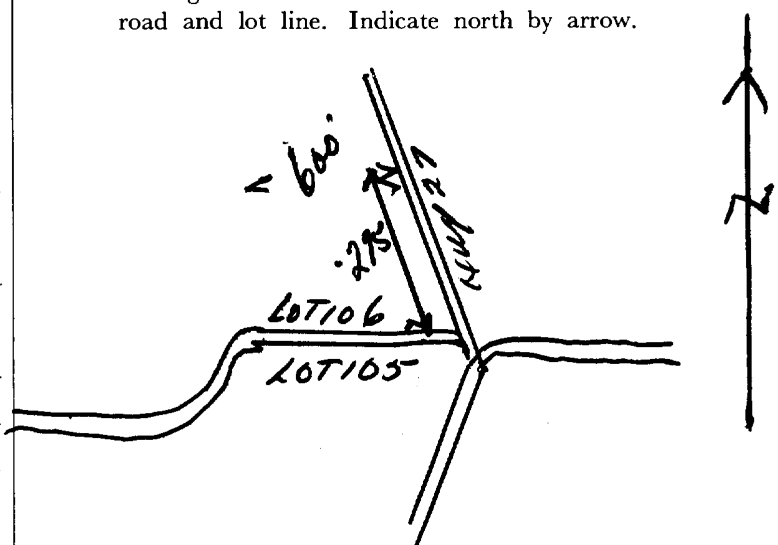
Date April 8, 1967.

Ralph Snider

(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 7 15M-60-4138

OWRC COPY

UTM R. W 536099 E
CON 5 R T 4954251 N
Elev. T 5 R 0 60805
Basin 22

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Simcoe Township, Village, Town or City Tiny
Con. 1 PT. Lot 107 Date completed 16 (day) Feb. (month) 1965 (year)

[redacted] Address Box 132 MIDLAND

Casing and Screen Record

Inside diameter of casing 6¼"
Total length of casing 226'
Type of screen Johnson #12 slot - 5" O.D.
Length of screen 4'-6" screen, 4'-6" pipe above screen.
Depth to top of screen 221'
Diameter of finished hole 6¼" casing 5" O.D. screen

Pumping Test

Static level 140'
Test-pumping rate 10 G.P.M.
Pumping level 184'
Duration of test pumping 2 hrs.
Water clear or cloudy at end of test clear
Recommended pumping rate 10 G.P.M.
with pump setting of 215 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Top soil	0	1		
dry fine brown sand	1	200		
medium " "	200	226		
coarse " " + gravel	226	230	226-230'	fresh untested

For what purpose(s) is the water to be used? Domestic

Is well on upland, in valley, or on hillside?

Drilling or Boring Firm H. H. Faulkner

Address 687 Water St. Peterboro

Licence Number 1689

Name of Driller or Borer G. Babcock

Address R.R. #4, Peterboro

Date Feb. 23/65

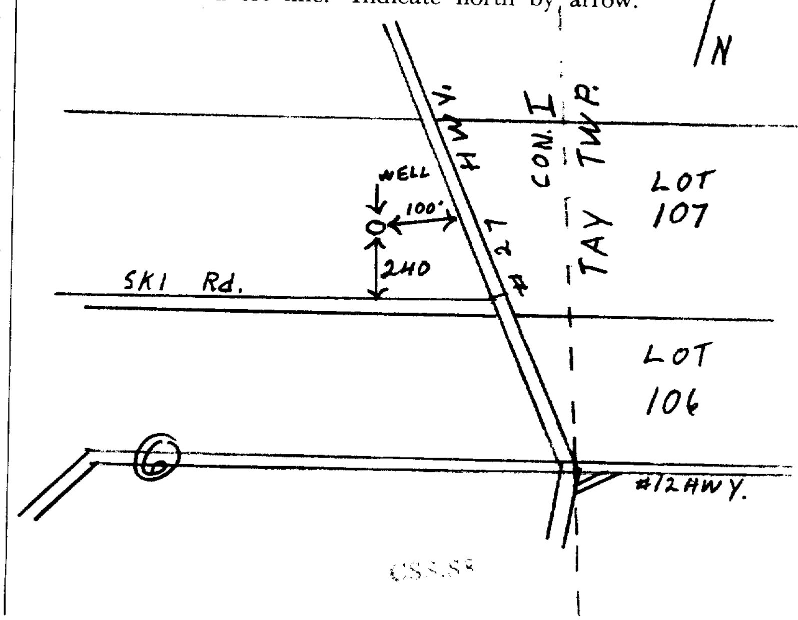
H. H. Faulkner Per. [illegible]
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



J.B.

PRW Con I

UTM 17 Z 586175 CODED Lot 106
4 R 4953950

5705850
3 9

Elev. 5 R 07901

Basin 212

WATER WELL RECORD

The Ontario Water Resources Commission Act

County or District Simcoe Township, Village, Town or City Tiny

Con. 1 O.S. Lot 106 P.R.W. Date completed 24 (day) May (month) 68 (year)

[redacted] dress Midland

Casing and Screen Record

Inside diameter of casing 6"/4"

Total length of casing 211

Type of screen 6" x 18 slot stainless steel

Length of screen 10 ft.

Depth to top of screen 211

Diameter of finished hole 6"

Pumping Test

Static level 171

Test-pumping rate 25 G.P.M.

Pumping level 174

Duration of test pumping 4 hrs.

Water clear or cloudy at end of test clear

Recommended pumping rate 25 G.P.M.

with pump setting of 200 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
Fine sand with streaks of clay	0	155	215	fresh
medium sand	155	221		

For what purpose(s) is the water to be used? domestic

Is well on upland, in valley, or on hillside? upland

Drilling or Boring Firm SNIDER DRILLING

Address CRAIGHURST. ONTARIO

PA. 8-5657

Licence Number 2993

Name of Driller or Borer R. Conrad

Address Barrie

Date June 1/68

Ralph Snider

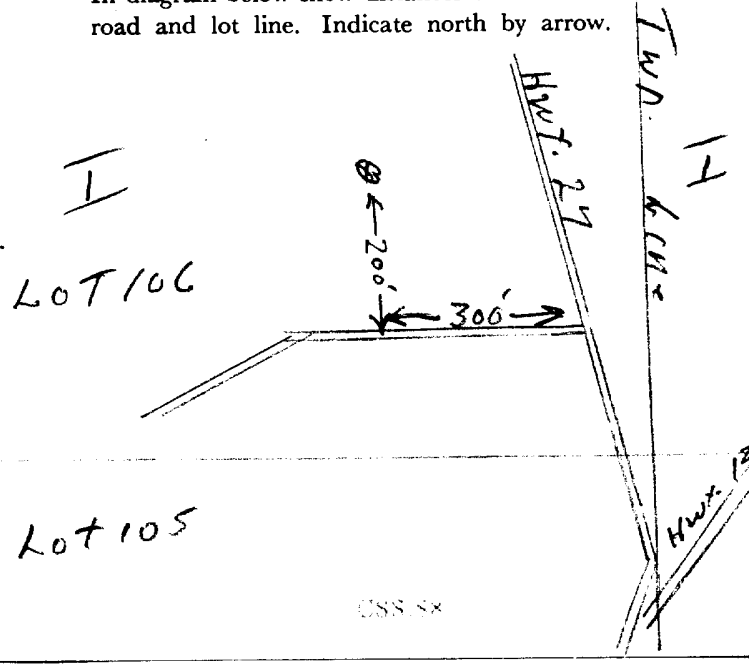
(Signature of Licensed Drilling or Boring Contractor)

Form 7 5M 60-20912

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



CSS 88

The Ontario Water Resources Commission Act

WATER WELL RECORD

31D/12W

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5707460 | MUNICIP. 57014 | CON. W PR A C 01

COUNTY OR DISTRICT: Simcoe
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Tiny
CON., BLOCK, TRACT, SURVEY, ETC.: I P.R.A.W
LOT: 106
OWNER (SURNAME FIRST): [redacted]
ADDRESS: Redpath Ave Toronto 315
DATE COMPLETED: DAY 31 MO Aug YR 70
UTM: 954160 | RC. 4 | ELEVATION 0800 | RC. 5 | BASIN CODE 23

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
	Sand		cemented	0	192
	Sand		fine	192	194
	Sand		coarse	194	205
	Sand		fine	205	218
	Sand		coarse	218	230
	Sand		fine	230	235

APL

31: 0192 09 | 0194 08 | 0205 10 | 0218 08 | 0230 10 | 0235 08

32:

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0230	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
06 6¼	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	223 0223
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.): 020 slot | DIAMETER: 06.000 INCHES | LENGTH: 12 FEET
MATERIAL AND TYPE: Stainless Steel | DEPTH TO TOP OF SCREEN: 223 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	DEPTH SET AT – FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER | PUMPING RATE: 0050 GPM | DURATION OF PUMPING: 16 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
166 FEET	FEET	1 ☐ PUMPING 2 ☐ RECOVERY	FEET	FEET	FEET	FEET

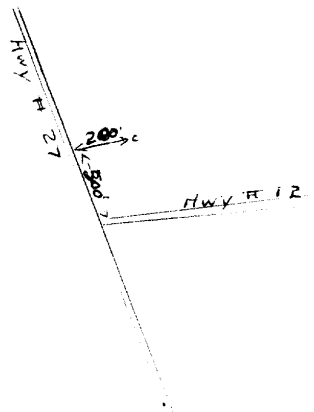
IF FLOWING, GIVE RATE: GPM. | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 210 FEET | RECOMMENDED PUMPING RATE: 0050 GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL: 1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 05: 1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL 5 ☒ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING ☐ OTHER 9 ☐ NOT USED

METHOD OF DRILLING: 1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling | LICENCE NUMBER: 4816
ADDRESS: Craighurst
NAME OF DRILLER OR BORER: H. Munro | LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Ralph Snider | SUBMISSION DATE: DAY MO YR

OWRC COPY

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 4816 | DATE RECEIVED: 140970
DATE OF INSPECTION | INSPECTOR: P/L
REMARKS: CSS.SS

Across from ATL

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

Ontario

3 10 12 W

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5710052 | MUNICIP. 57014 | CON. PR W 01

COUNTY OR DISTRICT: Simcoe
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Tiny
CON., BLOCK, TRACT, SURVEY, ETC.: I P.R. W
LOT: 106 ~~107~~

[redacted] 7 Hwy & Hugel Ave Midland

DATE COMPLETED: DAY 10 MO. 07 ~~July~~ YR. 73

[redacted] 54250 | RC 5 | ELEVATION 0800 | RC 5 | BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Sand	w/ gravel streaks	cemented	0	164
	Sand		medium	164	170
	Sand		coarse	170	189
	sand &	stones	cemented	189	225
	Sand		fine	225	229
	Sand		cemented	229	243
	Sand w/ clay			243	260
	sand		medium & fine	260	271
	sand		cemented	271	290

31 | 0164 281160 | 0170 09 | 0189 10 | 0225 281260 | 0229 08 | 0243 2860 | 1

32 | 0260 2805 | 0271 0809 | 0290 2860

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0260 ~~260 271~~	☒ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE	.188	0	
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.): 020 | DIAMETER: 06.000 INCHES | LENGTH: 10 FEET
MATERIAL AND TYPE: Stainless Steel | DEPTH TO TOP OF SCREEN: 0255 FEET ~~seal~~

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
0271 271	0290 290	drill cuttings

71 PUMPING TEST

PUMPING TEST METHOD: ☒ PUMP ☐ BAILER | PUMPING RATE: 0040 GPM | DURATION OF PUMPING: 02 HOURS 00 MINS

STATIC LEVEL: 175 FEET | WATER LEVEL END OF PUMPING: 250 ~~249 11"~~ | WATER LEVELS DURING ✓ PUMPING ☐ RECOVERY: 15 MINUTES 249 ~~249 7"~~; 30 MINUTES 250 ~~249 7"~~; 45 MINUTES 250 ~~249 9"~~; 60 MINUTES 250 ~~249 10"~~ FEET

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: ☒ CLEAR ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 250 FEET | RECOMMENDED PUMPING RATE: 0040 GPM

FINAL STATUS OF WELL: 1

☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED

WATER USE: 05

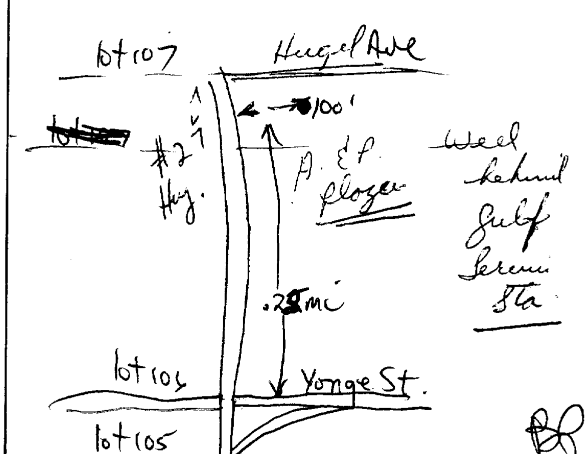
☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☒ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

METHOD OF DRILLING: 2

☐ CABLE TOOL ☒ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

LOCATION OF WELL 8654

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling | LICENCE NUMBER: 4816
ADDRESS: Craighurst
NAME OF DRILLER OR BORER: Don Prince | LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Ralph Snider | SUBMISSION DATE: DAY MO. YR.

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 4816 | DATE RECEIVED: 150873
DATE OF INSPECTION: Aug 11/76 | INSPECTOR:
REMARKS: APL

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 07-091

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

3 1012W

Ontario

1. PRINT ONLY IN SPACES PROVIDED
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11 | 5710939 | MUNICIP. 57604 | CON. | 1062 Dom. Ave.

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Simcoe	~~Midland~~ TAY MIDLAND	MIDLAND CITY	

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Midland P.U.C.	67 4th St. Midland	DAY 18 MO 06 June YR 73

21 | UTM ZONE 17 | EASTING 586650 | NORTHING 4954700 | RC 5 | ELEVATION 0760 | RC 5 | BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	sand		fine	0	168
	sand &	stones	cemented	168	194
	sand W/	gravel streaks		194	237
	sand &	stones	cemented	237	269
	sand		fine	269	305
	sand		med.fine	305	351
green	shale			351	356
red	shale			356	360

31 | 0168 08 | 0194 28 1260 | 0237 28 1174 | 0269 28 1260 | 0305 08 | 0351 08 09

32 | 0356 41 7 | 0360 71 7

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0237	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0270-351	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
02 2 & 1	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE		0	0350
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
	02.000 INCHES	44 FEET

MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN
slotted pipe	0306 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER air	0020 GPM	05 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
174 FEET	FEET	1 ☐ PUMPING 2 ☐ RECOVERY	FEET	FEET	FEET	FEET

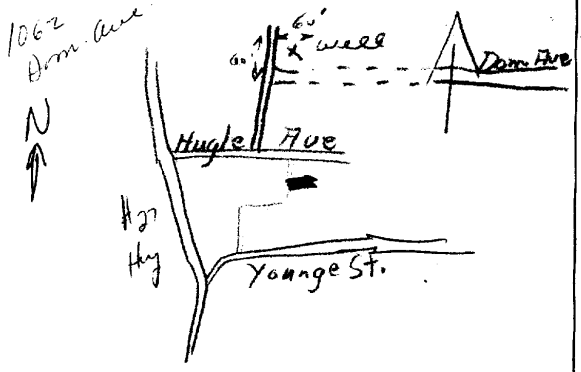
IF FLOWING GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☐ DEEP	FEET	GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 8654

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 3

1 ☐ WATER SUPPLY 2 ☒ OBSERVATION WELL 3 ☒ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 09

1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING 2

1 ☐ CABLE TOOL 2 ☒ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Snider Drilling	4816

ADDRESS: CRAIGHURST, Ontario

NAME OF DRILLER OR BORER	LICENCE NUMBER
Ralph Snider	

SIGNATURE OF CONTRACTOR	SUBMISSION DATE
Ralph Snider	DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
1	4816	060574

DATE OF INSPECTION: Aug 3/74 | INSPECTOR:

REMARKS: T WELL #3-73 CSS.SS

P WI

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FORM 7 07-091

McDONALD'S.

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

31D12W

Ontario

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11 | 5713875 | MUNICIP 57014 | CON PR W | 01

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Simcoe	Tiny	IPRW	106

OWNER (SURNAME FIRST): ~~A. V.~~ Tennant Gen. Cont. Ltd.
ADDRESS: Midland
DATE COMPLETED: DAY 09 MO ~~Sept~~ YR 76

21 | UTM ZONE 17 | EASTING 586500 | NORTHING 4954050 | RC 5 | ELEVATION 0860 | RC 5 | BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	gravel &	stones		0	17
	sand		fine & cemented	17	230
	sand		medium	230	256
	sand &	gravel	cemented	256	260

31 | 0017 1112 | 0230 0860 | 0256 09 | 0260 2811160

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0235-235-250	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0235
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
018	06000	15

MATERIAL AND TYPE:
DEPTH TO TOP OF SCREEN: 0231 ~~Bent~~ FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
0250	0260	Drill cuttings

71 PUMPING TEST

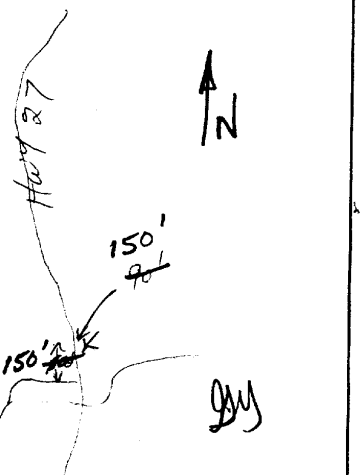
PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER — air
PUMPING RATE: 0035 GPM
DURATION OF PUMPING: 03 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
169 FEET	FEET		FEET	FEET	FEET	FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☐ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☐ DEEP
RECOMMENDED PUMP SETTING: 230 FEET
RECOMMENDED PUMPING RATE: 0045 GPM
GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

FINAL STATUS OF WELL 1
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 05
1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☒ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING 2
1 ☐ CABLE TOOL 2 ☒ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling Limited.
LICENCE NUMBER: 4816
ADDRESS: Craigburst, Ont.
NAME OF DRILLER OR BORER: Phillip Brown.
LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Ralph Snider.
SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 4816 | DATE RECEIVED 3 11 26
DATE OF INSPECTION | INSPECTOR
REMARKS: NOT PLOTTED OSS.SS
P July 25-77
WI

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

Ontario

31D/12W

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5714014 | MUNICIP 57604 | CON.

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
Simcoe	Town of Midland	Dominion Ave.	~~1062~~

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Midland P.U.C.	67 - 4th St., Midland	DAY 01 MO ~~July~~ 07 YR. 76

21 | UTM ZONE 17 | NORTHING 4951230 | RC 5 | ELEVATION 0800 | RC 6 | BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	sand		fine	0	169
	sand &	stones	cemented	169	196
	sand w/	streaks of gravel		196	239
	sand &	stones	cemented	239	269
	sand		medium	269	308
		T D 308			

31 | 0169 08 | 0196 28 1260 | 0239 28 1174 | 0269 28 1260 | 0308 09

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0288	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
~~288 308~~	
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.231	0	0288
~~6½~~				
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
030	06000 INCHES	20 FEET

MATERIAL AND TYPE: stainless steel
DEPTH TO TOP OF SCREEN: ~~0044~~ 0280 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

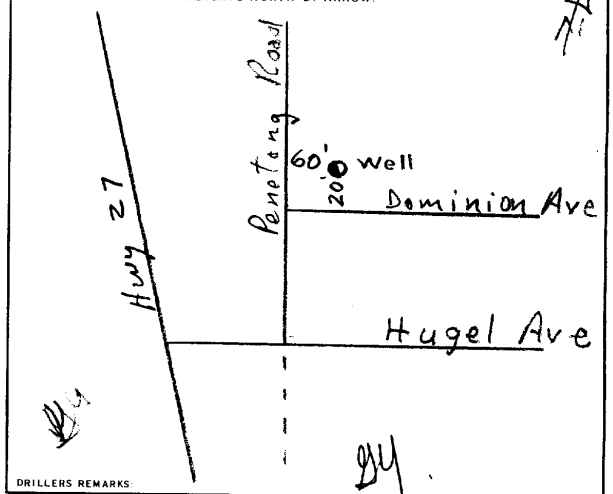
PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0300 GPM
DURATION OF PUMPING: 72 HOURS 30 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY				
168	245	~~243~~	~~244~~	~~244~~	245	
~~169.80~~	~~244.50~~	~~243.13~~	~~244.82~~	~~244.35~~	~~244.51~~	
FEET	FEET	FEET	FEET	FEET	FEET	

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 257 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 275 FEET
RECOMMENDED PUMPING RATE: 0300 GPM
~~9.9~~ GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 54: 1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE 55-56: 06 — 1 ☐ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☒ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF DRILLING 57: 2 — 1 ☐ CABLE TOOL; 2 ☒ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling Limited, — LICENCE NUMBER: 4816
ADDRESS: Craighurst, Ontario.
NAME OF DRILLER OR BORER: Phillip Brown. — LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Ralph Snider. — SUBMISSION DATE: DAY MO YR

OFFICE USE ONLY

DATA SOURCE 58: 1 — CONTRACTOR 59-62: 4816 — DATE RECEIVED 63-68: 22 08 77
DATE OF INSPECTION — INSPECTOR
REMARKS: ON ADDITIONAL MIDLAND MAP — P — WI

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FORM 7 MOE 07-091

The Ontario Water Resources Commission Act

WATER WELL RECORD

31D12W

Water management in Ontario

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11 | 5714754 | MUNICIP. 57014 | CON. PR W | 01

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
SIMCOE	TINY (TOWNSHIP)	F.R.W I	106

OWNER (SURNAME FIRST) [redacted] ADDRESS

DATE COMPLETED: DAY 29 MO 02 YR 72

753950 | RC 5 | ELEVATION 0810 | RC 5 | BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH FROM	DEPTH TO
DARK	Top Soil		Loose.	0	2
YELLOW	SAND	BOLDERS	Loose.	2	95
YELLOW	SAND	GRAVEL.	Loose	95	104
GRAY	SAND CLAY	GRAVEL		104	240
	GRAVEL.			240	242

31 0002 026577 0095528 13777 0104528 11777 0240228 05111 0242 111

32

41 WATER RECORD

WATER FOUND AT — FEET	KIND OF WATER
0240	1 ☑ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
242	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH FROM	DEPTH TO
6	1 ☑ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	1.88.	0	0242
06				
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
	INCHES	FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN	FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT — FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☑ BAILER	0012 GPM	03 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
		1 ☐ PUMPING 2 ☒ RECOVERY				
107 FEET	225 FEET		198 FEET	187 FEET	187 FEET	187 FEET

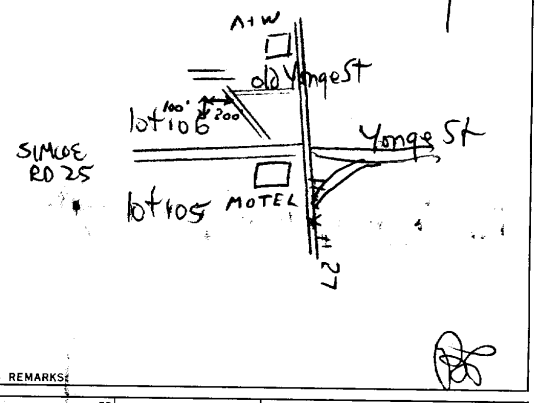
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM.	239 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☑ DEEP	239 FEET	0012 GPM.

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 8653

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 1	54	1 ☑ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED
WATER USE 01	55-56	1 ☑ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED
METHOD OF DRILLING 1	57	1 ☑ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: HENRY HAMMERS — LICENCE NUMBER: -

ADDRESS: RR 3 BARRIE.

NAME OF DRILLER OR BORER: M. RUDERNELD. — LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Henry Hammers — SUBMISSION DATE: DAY MO YR

OFFICE USE ONLY

DATA SOURCE 1 | 58 | CONTRACTOR 2514 | 59-62 | DATE RECEIVED 030872 | 63-68 | 80

DATE OF INSPECTION Aug 11/76 | INSPECTOR

REMARKS: Changed From 5708907 CSS.SS

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The Ontario Water Resources Act

WATER WELL RECORD

Ontario

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MUNICIP. 57014 CON. PR W 01

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Simcoe	Tiny	P.R.W. 1	106

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Stoneleigh Motors	132 Main St., Penetanguishene	DAY 31 MO. 05 YR. 78

(21) UTM ZONE 17 EASTING 586400 NORTHING 4954000 RC 5 ELEVATION 0805 RC 5 BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	fine sand	clay		0	170
	med. sand			170	184
	clay	med. sand		184	190
	coarse sand			190	200
	sand			200	230

(31) 0170 0805 | 0184 09 | 0190 0509 | 0200 10 | 0230 28

(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0200	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	0.188	+1	0208
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE/SLOT NO. OF OPENING	DIAMETER INCHES	LENGTH FEET
~~top 5ft. 16~~ 014 ~~5ft. 14~~	06000	10

MATERIAL AND TYPE: stainless wire wound

DEPTH TO TOP OF SCREEN ~~packer~~ 0205 FEET

(61) PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD, PACKER, ETC.)
0218	0230	drill cuttings

(71) PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ ~~Air~~ BAILER

PUMPING RATE: 0020 GPM — DURATION OF PUMPING: 04 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☐ PUMPING 2 ☐ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
167 FEET	FEET		FEET	FEET	FEET	FEET

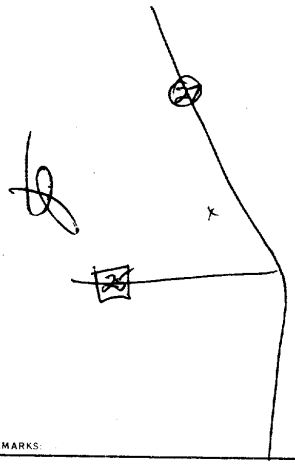
IF FLOWING GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	200 FEET	GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL (54): 1

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE (55-56): 05

1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☒ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING (57): 2

1 ☐ CABLE TOOL 2 ☒ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling Limited, — LICENCE NUMBER: 4816

ADDRESS: Craighurst, Ont.

NAME OF DRILLER OR BORER: Phillip Brown. — LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Ralph Snider. — SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE (58): 1 — CONTRACTOR (59-62): 4816 — DATE RECEIVED (63-68): 080678

DATE OF INSPECTION: — INSPECTOR:

REMARKS: PLOTTED JULY 30 79

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MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

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COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON, BLOCK, TRACT, SURVEY, ETC.	LOT
Simcoe	Tiny	P.R.W.	106

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Project Construction Ltd.	25 Bendale Blvd., Scarborough. M1J 2B1	DAY 08 MO 06 YR 78

(23) UTM ZONE 17 EASTING 586300 NORTHING 4754150 RC 5 ELEVATION 0810 RC 5 BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	fine sand	clay, boulders		0	30
	fine sand			30	170
	coarse sand			170	215
			Total depth 223 feet		

(31) 0030 0805 13 0170 08 0215 10 0223 00

(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0213 - 223	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM. - INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	0.188	+1	0213
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
018 ~~slot~~	06 ~~000~~	10 FEET

MATERIAL AND TYPE: stainless wire wound — DEPTH TO TOP OF ~~SCREEN~~ packer: 0210 FEET

(61) PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

(71) PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ ~~air~~ BAILER

PUMPING RATE: 0015 GPM — DURATION OF PUMPING: 02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
169 FEET	FEET	1 ☐ PUMPING 2 ☐ RECOVERY	FEET	FEET	FEET	FEET

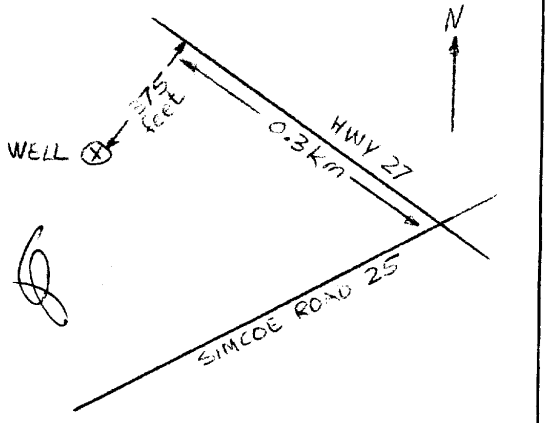
IF FLOWING, GIVE RATE: GPM — PUMP INTAKE SET AT: FEET — WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP — RECOMMENDED PUMP SETTING: 205 FEET — RECOMMENDED PUMPING RATE: 0015 GPM

GPM / FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

(10)

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE

05

1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☒ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING

2

1 ☐ CABLE TOOL 2 ☒ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling Limited, — LICENCE NUMBER: 4816

ADDRESS: Craighurst, Ont.

NAME OF DRILLER OR BORER: Phillip Brown — LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Ralph Snider. — SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE: 1 — CONTRACTOR: 4816 — DATE RECEIVED: 22078

DATE OF INSPECTION: — INSPECTOR:

REMARKS: PLOTTED JULY 30/79 CSS SS

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The Ontario Water Resources Act

WATER WELL RECORD

Ontario

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MUNICIP. 57014 CON. PR W 01

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
Simcoe	Tiny	P.R.W. I	107

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Hehl Constuction	164 Cambridge St., Penetanguishene	DAY 21 MO 08 YR. 78

21 | ZONE 17 | EASTING 586050 | NORTHING 4954300 | RC. 5 | ELEVATION 0810 | RC 5 | BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	sand	boulders		0	18
	sand	streaks of boulders		18	40
	sand	streaks of gravel and clay		40	51
	fine sand	clay		51	123
	fine sand		cemented	123	183
	med. sand		cemented	183	198
	med. sand			198	228
	med. to fine sand			228	243
		total depth: 226 feet			

31 0018 2813 0040 281374 0051 281105 0123 0805 0183 0860 0198 0960
32 0228 09 0243 0968

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0198 ~~226~~	☒ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE	0.188	0	0218
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) 018 ~~3ft. x16 slot~~ ~~3ft. x18 slot~~ | DIAMETER 06000 | LENGTH 06 FEET
MATERIAL AND TYPE stainless steel wire wound | DEPTH TO TOP OF SCREEN packer 0217 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ~~BAILER~~ | PUMPING RATE 0015 GPM | DURATION OF PUMPING 02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING ☐ PUMPING ☐ RECOVERY: 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
164 FEET	FEET	FEET	FEET	FEET	FEET

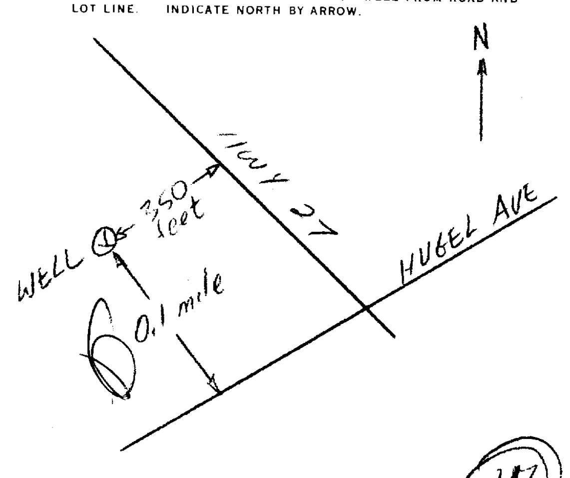
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: ☒ CLEAR ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING 215 FEET | RECOMMENDED PUMPING RATE 0012 GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 1
☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED

WATER USE 01
☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☒ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

METHOD OF DRILLING 2
☐ CABLE TOOL ☒ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling Limited, | LICENCE NUMBER 4816
ADDRESS: Craighurst, Ontario.
NAME OF DRILLER OR BORER: Mark Lawson. | LICENCE NUMBER
SIGNATURE OF CONTRACTOR: Ralph Snider. | SUBMISSION DATE DAY MO. YR.

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 4816 | DATE RECEIVED 091178
DATE OF INSPECTION | INSPECTOR
REMARKS: PLOTTED JULY 30/79 | P | WI

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Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

(11) 5715601 — MUNICIP. 57014 — CON. PRW — 01

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
[redacted]		I P.R.W.	107

[redacted] .O.Box 352, Midland

DATE COMPLETED: DAY 26 MO 09 YR. 78

[redacted] 543350 — RC 5 — ELEVATION 0810 — RC 5 — BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
	sand		medium	0	46
	sand		fine cemented	46	216
	sand		med. fine	216	238
	sand		coarse	238	243
	sand	& gravel		243	260

total depth: 248 ft.

(31) 0046 09 — 0216 0860 — 0238 0908 — 0243 10 — 0260 2811
32

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0248	☒ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
06	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE	.188	0	0245
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
.030	06000 INCHES	03 FEET
MATERIAL AND TYPE: S.S. wire wound	DEPTH TO TOP OF SCREEN: 0242 FEET	

(61) PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
0248	0260	cuttings

(71) PUMPING TEST

PUMPING TEST METHOD	☒ PUMP ☐ BAILER (air)
PUMPING RATE	0025 GPM
DURATION OF PUMPING	03 HOURS 00 MINS
STATIC LEVEL	167 FEET
WATER LEVEL END OF PUMPING	FEET
WATER LEVELS DURING	☐ PUMPING ☐ RECOVERY — 15 MINUTES: FEET; 30 MINUTES: FEET; 45 MINUTES: FEET; 60 MINUTES: FEET
IF FLOWING, GIVE RATE	GPM
PUMP INTAKE SET AT	FEET
WATER AT END OF TEST	☐ CLEAR ☐ CLOUDY
RECOMMENDED PUMP TYPE	☐ SHALLOW ☐ DEEP
RECOMMENDED PUMP SETTING	230 FEET
RECOMMENDED PUMPING RATE	0015 GPM

FINAL STATUS OF WELL — 1

☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED

WATER USE — 05

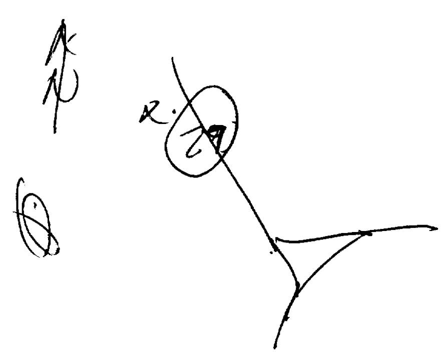
☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☒ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

METHOD OF DRILLING — 2

☐ CABLE TOOL ☒ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling Limited. — LICENCE NUMBER: 4816
ADDRESS: Craighurst, Ontario.
NAME OF DRILLER OR BORER: Ralph Snider. — LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Ralph Snider. — SUBMISSION DATE: DAY ___ MO. ___ YR. ___

OFFICE USE ONLY

DATA SOURCE: 1 — CONTRACTOR: 4816 — DATE RECEIVED: 091178
DATE OF INSPECTION: — INSPECTOR:
REMARKS: PLOTTED JULY/30/79

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506-4-77

3D/12W

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1 PRINT ONLY IN SPACES PROVIDED
2 CHECK ☒ CORRECT BOX WHERE APPLICABLE

(11) 5717953 MUNICIP 57014 CON PR W 01

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON, BLOCK, TRACT, SURVEY, ETC.	LOT
Simcoe	Tiny	PRW I	107

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Imperial Oil Limited LTD.	1 Duncan Mill Road, Don Mills M3B 1Z2	DAY 29 MO 10 YR 81

(21) UTM ZONE 17 EASTING 586250 NORTHING 4954300 BC ELEVATION 0800 BC BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH FEET FROM	DEPTH FEET TO
	sand	silt, gravel clay		0	59
	clay			59	90
	clay	sand		90	110
	fine sand	silt, streaks of gravel		110	225
	fine gravel	sand		225	244
	medium to coarse sand			244	255
	fine gravel	sand		255	270

NOV 18 1981

total depth: 255 feet Hwy 27 E/S SIR1026 p1

(31) 0059 2806/11 0090 05 0110 0528 0225 0806/11 0244 2928 0255 10 1

(32) 0270 2928

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0244-255	1 ☒ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH FEET FROM	DEPTH FEET TO
06 .64	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE	0.188	+2	0248
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING SLOT NO.	DIAMETER	LENGTH
0.016"	06000	05 FEET

MATERIAL AND TYPE: stainless steel wire wound
DEPTH SET AT FEET: 0244 packer 244.5

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD, PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

(71) PUMPING TEST

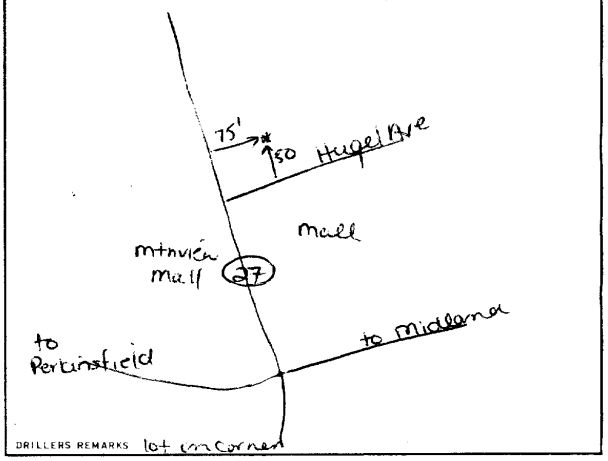
PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER — air
PUMPING RATE: 0012 GPM
DURATION OF PUMPING: 02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☐ PUMPING 2 ☐ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
167 FEET	FEET		FEET	FEET	FEET	FEET

IF FLOWING GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 230 FEET
RECOMMENDED PUMPING RATE: 0010 GPM

001 270 LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: lot on corner

FINAL STATUS OF WELL (54): 1 ☒ WATER SUPPLY; 2 ☒ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE (55-56) 05: 1 ☐ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; 5 ☒ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; ☐ OTHER; 9 ☐ NOT USED

METHOD OF DRILLING (57) 2: 1 ☐ CABLE TOOL; 2 ☒ ROTARY (CONVENTIONAL); 3 ☒ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling and Equipment Ltd., — LICENCE NUMBER: 4816
ADDRESS: R.R. #1, (Craighurst), BARRIE, Ont. L4M 4Y8
NAME OF WELL TECHNICIAN (DRILLER OR BORER): Phillip Brown. — LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Snider Drilling and Equipment Ltd. — SUBMISSION DATE: DAY MO YR

OFFICE USE ONLY

DATA SOURCE (58): 1 — CONTRACTOR (59-62): 4816 — DATE RECEIVED (63-68): 02 02 82
DATE OF INSPECTION — INSPECTOR
REMARKS: Keeney 02/82

CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—77 FORM 7

3 D/12W

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

5719676 (11) 57014 PR W 101

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	[redacted]	TRW /	107

[redacted] 160 Floyd Ave TORONTO — DATE COMPLETED: DAY 23 MO 10 YR 84

954450 5 08001 5 — BASIN CODE 22

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
			Sandy w/ gravel	0	8
Brown			Sand	8	119
			F Sandy w/ silt	119	161
			F Sand	161	200
			M Sand	200	212
			F Sand	212	222
			F Sand w gravel	222	240
			Med Sand	240	255
			F Sand	255	260
			F Sandy w/ silt	260	290

NOV 21 1986

(31) 0008 2811 | 0119628 | 0161 0806 | 0200 08 | 0212 09 | 0222 08 | V
(32) 0240 0811 | 0255 09 | 0260 08 | 0290 0806

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
	☒ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE	188	0	0242
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) 025 — DIAMETER 06000 — LENGTH 10
6' x 30 H x 25 6 INCHES 10 FEET
MATERIAL AND TYPE: STAINLESS STEEL — DEPTH TO TOP OF SCREEN 0242 FEET

(61) PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

(71) PUMPING TEST

PUMPING TEST METHOD: ☐ PUMP ☐ BAILER — Air Lift
PUMPING RATE: ___ GPM — DURATION OF PUMPING: ___ HOURS ___ MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING ☐ PUMPING ☐ RECOVERY: 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
170 FEET	FEET	FEET	FEET	FEET	FEET

IF FLOWING, GIVE RATE: ___ GPM — PUMP INTAKE SET AT: ___ FEET — WATER AT END OF TEST: ☒ CLEAR ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP — RECOMMENDED PUMP SETTING 235 FEET — RECOMMENDED PUMPING RATE 0030 GPM

FINAL STATUS OF WELL 1

☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED

WATER USE 05

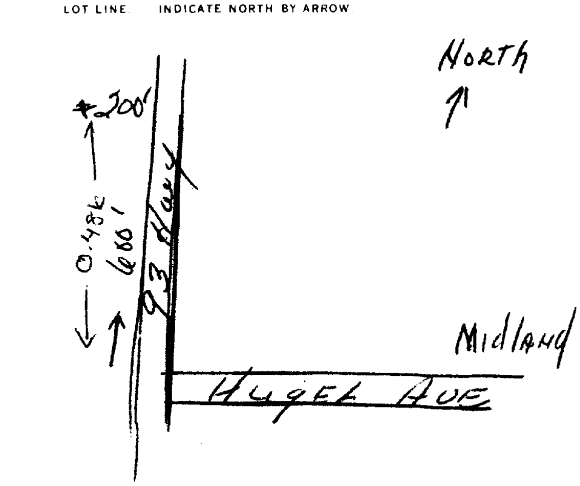
☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☒ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

METHOD OF DRILLING 2

☐ CABLE TOOL ☒ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

CONTRACTOR

NAME OF WELL CONTRACTOR: Clearwater Drilling — LICENCE NUMBER 1583
ADDRESS: R.R. 1 Barrie
NAME OF DRILLER OR BORER: Bruce Sheardown — LICENCE NUMBER
SIGNATURE OF CONTRACTOR: [signature] — SUBMISSION DATE DAY ___ MO ___ YR ___

OFFICE USE ONLY

DATA SOURCE 1 — CONTRACTOR 1583 — DATE RECEIVED 060285
DATE OF INSPECTION — INSPECTOR
REMARKS: loc only 02/86
CSS.ES

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FORM NO. 0506—4—77 FORM 7

31D/12W

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

(11) 5719950 MUNICIP. 57014 CON. PR W 01

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
Simcoe	Tiny	PRW I	106

OWNER: ~~Atwooll Restaurants Midland Ltd~~ ATTWOOLL REST. LTD. (Burger King)
ADDRESS: ~~85 Fourth Ave., Cambridge, Ont. M1S 2E5~~ 200 Silvercreek Pkwy Guelph, Ont
DATE COMPLETED: DAY 08 MO 05 YR 85

(21) ZONE 17 EASTING 586400 NORTHING 4954050 RC 5 ELEVATION 0800 RC 5 BASIN CODE 22

Attwooll Restaurants Ltd

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
	silt, sand	clay		0	161
	fine sand			161	205
	fine medium	sand		205	220

NOV 21 1985

Burger King (Mountainview Mall.

(31) 0161 062805 0205 08 0220 0969

(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0205	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	+2.5	0208
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
012	06000 INCHES	04 FEET

MATERIAL AND TYPE: stainless steel wire wound
DEPTH TO TOP OF SCREEN: 0208 FEET

(61) PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

(71) PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0006 GPM	12 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
168 FEET	FEET	183 FEET	~~183.5~~ 184 FEET	FEET	184 FEET

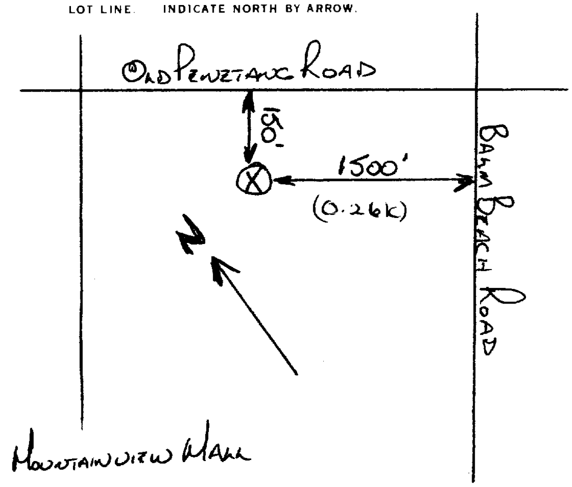
WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 205 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 205 FEET
RECOMMENDED PUMPING RATE: 0010 GPM

LOCATION OF WELL

661 274 (198)

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL: 1
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE: 05
1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☒ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING: 2
1 ☐ CABLE TOOL 2 ☒ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Snider Drilling and Equipment Ltd. LICENCE NUMBER: 4816
ADDRESS: R.R.#1, (Craighurst), BARRIE, Ont. L4M 4Y8
NAME OF DRILLER OR BORER: Michael Arnold. LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Snider Drilling and Equipment Ltd. SUBMISSION DATE: DAY MO. YR.

OFFICE USE ONLY

DATA SOURCE: 1 CONTRACTOR: 4816 DATE RECEIVED: 24 06 85
DATE OF INSPECTION: INSPECTOR:
REMARKS: loc only 02/86
CSS.ES

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FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 5723682 — MUNICIP 5701 4 — CON.

COUNTY OR DISTRICT: Simcoe
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Tiny
CON. BLOCK, TRACT, SURVEY, ETC: PRW 1
LOT: 105
DATE COMPLETED: DAY 23 MO 7 YR 88
PENETANG — Midland
ELEVATION — BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	FILL			0	8
	SAND	GRAVEL		8	14
GRAY	CLAY			14	36
BROWN	SAND			36	51
GRAY	CLAY			51	66
	SAND	SILT	FINE	60	140
BROWN	SAND		MED	140	220
	SAND	CLAY - SILT		220	230

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
220	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	214
5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	211	214
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.): 12 - 16
DIAMETER: 6 1/16 INCHES
LENGTH: 6 FEET
MATERIAL AND TYPE: STAINLESS STEEL
DEPTH TO TOP OF SCREEN: 214 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
0	20	HOLE PLUG

71 PUMPING TEST

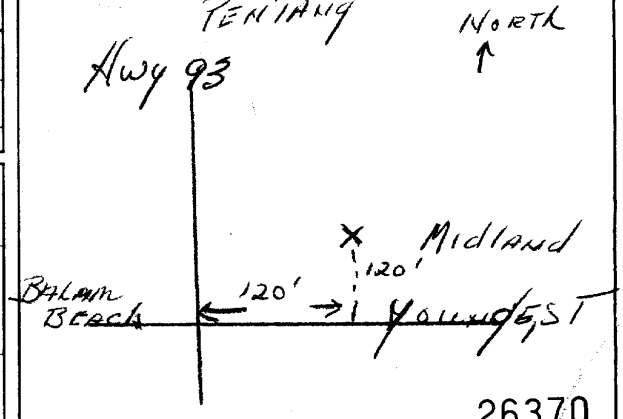
PUMPING TEST METHOD: ☒ 1 PUMP ☐ 2 BAILER — AIRLIFT
PUMPING RATE: 15 GPM
DURATION OF PUMPING: 3 HOURS — MINS
WATER LEVELS DURING: ☐ 1 PUMPING ☐ 2 RECOVERY

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
162 FEET	211 FEET	214 FEET	214 FEET	214 FEET	214 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: ☒ 1 CLEAR ☐ 2 CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 208 FEET
RECOMMENDED PUMPING RATE: 15 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



26370

DRILLERS REMARKS

FINAL STATUS OF WELL

☒ 1 WATER SUPPLY ☐ 2 OBSERVATION WELL ☐ 3 TEST HOLE ☐ 4 RECHARGE WELL ☐ 5 ABANDONED, INSUFFICIENT SUPPLY ☐ 6 ABANDONED, POOR QUALITY ☐ 7 UNFINISHED ☐ 9 DEWATERING

WATER USE

☐ 1 DOMESTIC ☐ 2 STOCK ☐ 3 IRRIGATION ☐ 4 INDUSTRIAL ☐ OTHER ☒ 5 COMMERCIAL ☐ 6 MUNICIPAL ☐ 7 PUBLIC SUPPLY ☐ 8 COOLING OR AIR CONDITIONING ☐ 9 NOT USED

METHOD OF CONSTRUCTION

☐ 1 CABLE TOOL ☒ 2 ROTARY (CONVENTIONAL) ☐ 3 ROTARY (REVERSE) ☐ 4 ROTARY (AIR) ☐ 5 AIR PERCUSSION ☐ 6 BORING ☐ 7 DIAMOND ☐ 8 JETTING ☐ 9 DRIVING ☐ DIGGING ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: CLEARWATER DRILLING
WELL CONTRACTOR'S LICENCE NUMBER: 1583
ADDRESS: R.R. 1 BARRIE
NAME OF WELL TECHNICIAN: ALLAN WRIGHT
WELL TECHNICIAN'S LICENCE NUMBER: T0250
SIGNATURE OF TECHNICIAN/CONTRACTOR:
SUBMISSION DATE: DAY 28 MO 7 YR 88

OFFICE USE ONLY

DATA SOURCE
CONTRACTOR: 1583
DATE RECEIVED: AUG 03 1988
DATE OF INSPECTION
INSPECTOR
REMARKS
CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5728023 | MUNICIP 5,7,0,14 | CON. PR. W. | P.1

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	[redacted]	Conc. 1 S/S	N/P 107

DATE COMPLETED: DAY 22 MO 03 YR 91

[redacted] ST. ANDREWS DRIVE MIDLAND

ING | RC. | ELEVATION | RC. | BASIN CODE | II | III | IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN	SAND		MEDIUM	0	31
GREY	SAND		FINE	31	42
BROWN	SAND		FINE	42	146
BROWN	SAND	SMALL GRAVEL LAYERS	MEDIUM	146	256

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
185	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
256	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
8¼	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.250	0	244
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
12 & 20 VARIED	8 INCHES	14 FEET

MATERIAL AND TYPE: JOHNSON - STAINLESS STEEL

DEPTH TO TOP OF SCREEN: 242 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER ETC.)
10	20	BENSEAL

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	50 GPM	24 HOURS 0 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
157 FEET	212 FEET	1 ☐ PUMPING 2 ☒ RECOVERY	157 FEET	FEET	FEET	FEET

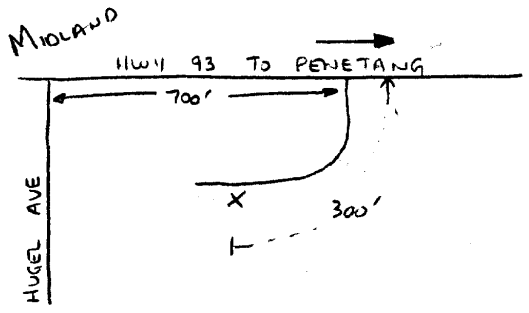
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	230 FEET	1 ☐ CLEAR 2 ☒ CLOUDY AIR IN WATER

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	230 FEET	50 GPM

FINAL STATUS OF WELL	1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED ☐ DEWATERING
WATER USE	1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☒ INDUSTRIAL 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☒ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING ☐ OTHER 9 ☐ NOT USED
METHOD OF CONSTRUCTION	1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☒ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING ☐ DIGGING ☐ OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



65573

DRILLERS REMARKS

CONTRACTOR

NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S LICENCE NUMBER
HOWELL DRILLING	2652
ADDRESS: Box 368 COLDWATER	
NAME OF WELL TECHNICIAN: KIM HOWELL	WELL TECHNICIAN'S LICENCE NUMBER: T1057
SIGNATURE OF TECHNICIAN/CONTRACTOR: Kim Howell	SUBMISSION DATE: DAY 25 MO 04 YR 91

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
	2652	MAY 09 1991

DATE OF INSPECTION | INSPECTOR

REMARKS

CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 5729721 — MUNICIP 5,7,0,14 — CON. PR W — LOT 91

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	TINY	CONC. 10/S MIDLAND, ONT	10S - 94 TS

DATE COMPLETED: DAY 15 MO 10 YR 92

[redacted] FURNITURE & APPLIANCES

RC — ELEVATION — RC — BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN	SAND	BOULDERS		0	38
GREY	HARDPAN	CLAY LAYERS		38	54
BROWN	SAND		FINE	54	206
GREY	CLAY			206	213
BROWN	SAND	GRAVEL		213	256

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
213	1 ☒ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	+1'9"	299'2"
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
10	6 INCHES	6 FEET

MATERIAL AND TYPE: STAINLESS STEEL — DEPTH TO TOP OF SCREEN: 249'2" FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD, PACKER, ETC.)
4	10	BENSEAL.

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	12.0 GPM	2 HOURS 0 MINS

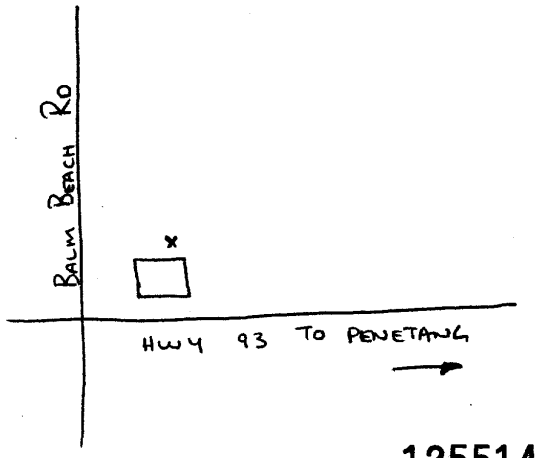
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☐ PUMPING 2 ☒ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
176 FEET	194 FEET		176 FEET	176 FEET	176 FEET	176 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	250 FEET	12.0 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS: 125514

FINAL STATUS OF WELL
1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED; ☐ DEWATERING

WATER USE
1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF CONSTRUCTION
1 ☐ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☒ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING; ☐ DIGGING; ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: HOWELL DRILLING — WELL CONTRACTOR'S LICENCE NUMBER: 265
ADDRESS: BOX 369 COLDWATER ONT
NAME OF WELL TECHNICIAN: KIM HOWELL — WELL TECHNICIAN'S LICENCE NUMBER: T1057
SIGNATURE OF TECHNICIAN/CONTRACTOR: K Howell — SUBMISSION DATE: DAY 16 MO 4 YR 93

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 2652 — DATE RECEIVED: DEC 03 1992
DATE OF INSPECTION — INSPECTOR
REMARKS: CSS.ES

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FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

5731381

MUNICIP 5,7,6,04

Page #1

1. PRINT ONLY IN SPACES PROVIDED
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11 SHEET 1 OF 2

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON	BLOCK	TRACT	SURVEY	ETC	LOT
[redacted]	TINY						

[redacted] Fourth St. Midland.

DATE COMPLETED DAY 18 MO 10 YR 94

RC ELEVATION RC BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
	Sand	some boulders & stone	dry	0	6
	Sand	odd bit of sandy clay (stks)		6	20
grey	clay	silty odd bit of sand &	packed	20	73
grey	clay	silty more sandy & little gravel		73	111
	sand f-m	odd bit of gravel f	packed	111	135
	Sand f-m-c	odd bit of silty clay	packed	135	158
	Sand f	some m & gravel f	packed	158	178
grey	clay	silty gravel some sand		178	181
	sand &	gravel f & a little clay		181	190
	sand	broken gravel some silty clay stks - cemented		190	203
	Sand	gravel f some silty clay stks		203	215
	Sand f	Some silty clay stks		215	233

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
15-18	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
20-23	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
25-28	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
30-33	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
10-11	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			13-16
17-18	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		See Page #2	20-23
24-25	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			27-30

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

71 PUMPING TEST

PUMPING TEST METHOD 1 ☐ PUMP 2 ☐ BAILER

PUMPING RATE GPM

DURATION OF PUMPING HOURS MINS

STATIC LEVEL FEET	WATER LEVEL END OF PUMPING FEET	WATER LEVELS DURING 1 ☐ PUMPING 2 ☐ RECOVERY	15 MINUTES FEET	30 MINUTES FEET	45 MINUTES FEET	60 MINUTES FEET
18-21	22-24		28-28	29-31	32-34	35-37

IF FLOWING, GIVE RATE GPM

PUMP INTAKE SET AT FEET

WATER AT END OF TEST 1 ☐ CLEAR 2 ☐ CLOUDY

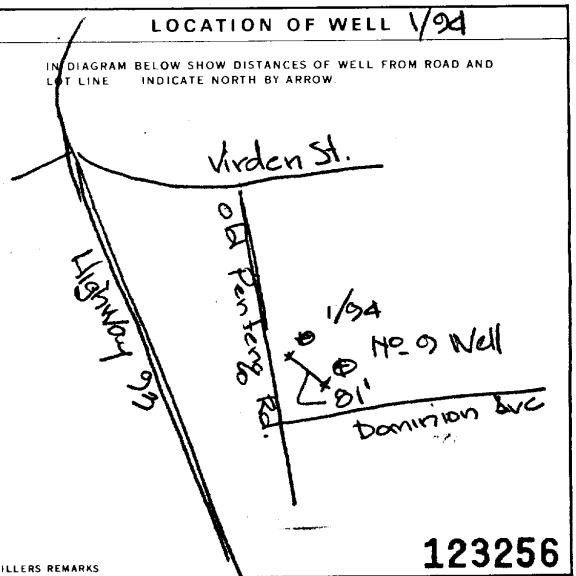
RECOMMENDED PUMP TYPE ☐ SHALLOW ☐ DEEP

RECOMMENDED PUMP SETTING FEET

RECOMMENDED PUMPING RATE GPM

LOCATION OF WELL 1/94

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

123256

FINAL STATUS OF WELL

1 ☐ WATER SUPPLY 2 ☒ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED ☐ DEWATERING

WATER USE

1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☒ NOT USED

METHOD OF CONSTRUCTION

1 ☐ CABLE TOOL 2 ☒ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING ☐ DIGGING ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: International Water Supply

WELL CONTRACTOR'S LICENCE NUMBER: 2801

ADDRESS: P.O. Box 310 Barrie

NAME OF WELL TECHNICIAN: H. Peterman

WELL TECHNICIAN'S LICENCE NUMBER: T-0116

SIGNATURE OF TECHNICIAN/CONTRACTOR: [signature]

SUBMISSION DATE DAY 16 MO 01 YR 95

OFFICE USE ONLY

DATA SOURCE

CONTRACTOR 2801

DATE RECEIVED FEB 20 1995

DATE OF INSPECTION

INSPECTOR

REMARKS

CSS.ES

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FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

5731381

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11 | SHEET 2 OF 2 | MUNICIP 57604 | CON. Page 2

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT 25-27
[redacted]	TINY		
	Fourth St. Midland		DATE COMPLETED DAY 18 MO 10 YR 94

RC | ELEVATION | RC | BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
	sand f	silty clay, odd cemented stok		233	250
	gravel & sand		cemented, very hard	250	257
	sand f		packed	257	276
	Sand f-m	gravel f, cemented stks	packed.	276	291
	Sand f-m	gravel f with cemented stks.		291	300
	sand	gravel f, some sandy clay	with cem. stks packed	300	325
	sand	gravel f some sandy clay	with cemented stks hard packed	325	346

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS
15-18	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS
20-23	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS
25-28	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS
30-33	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
2"	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC		+1	280
1 1/4"	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC		+1	287
1 1/4 pulled after test.	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
20 slot	2" - 20' / 1 1/4 - 10' INCHES	as noted FEET

MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN
st. st wire wrap	as noted FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
☒ PUMP ☐ BAILER	10 GPM	2 HOURS __ MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING ☒ PUMPING ☐ RECOVERY 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
162 FEET	164 FEET	162 FEET	162 FEET	FEET	162 FEET

IF FLOWING, GIVE RATE ___ GPM | PUMP INTAKE SET AT ___ FEET | WATER AT END OF TEST ☐ CLEAR ☐ CLOUDY

RECOMMENDED PUMP TYPE ☐ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING ___ FEET | RECOMMENDED PUMPING RATE ___ GPM

FINAL STATUS OF WELL

☐ WATER SUPPLY ☒ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED ☐ DEWATERING

WATER USE

☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☒ NOT USED

METHOD OF CONSTRUCTION

☐ CABLE TOOL ☒ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING ☐ DIGGING ☐ OTHER

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.

See Page #1

DRILLERS REMARKS

123257

CONTRACTOR

NAME OF WELL CONTRACTOR: International Water Supply
WELL CONTRACTOR'S LICENCE NUMBER: 2801
ADDRESS: P.O. Box 310 Barrie
NAME OF WELL TECHNICIAN: H. Peterman
WELL TECHNICIAN'S LICENCE NUMBER: T-0116
SIGNATURE OF TECHNICIAN/CONTRACTOR: [signature]
SUBMISSION DATE DAY 10 MO 01 YR 94

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 2801 | DATE RECEIVED FEB 20 1995
DATE OF INSPECTION | INSPECTOR
REMARKS

CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ontario Ministry of the Environment

Well Tag Number (Place sticker and print number below)

Well Record

Regulation 903 Ontario Water Resources Act

page 1 of 1

Instructions for Completing Form

- For use in the **Province of Ontario** only. This document is a permanent **legal** document. Please retain for future reference.
- All Sections **must** be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

MUN | CON | LOT

Well Owner's Information and Location of Well Information

First Name	Last Name	Mailing Address (Street Number/Name, RR,Lot,Concession)
	EFFORT TRUST CO.	9225 HWY 93

County/District/Municipality	Township/City/Town/Village	Province	Postal Code	Telephone Number (include area code)
SIMCOE	MIDLAND	Ontario	L4R 1M6	705-526-6711

Address of Well Location (County/District/Municipality)	Township	Lot	Concession
SIMCOE	TINY	106	CON 1 PRW

RR#/Street Number/Name	City/Town/Village	Site/Compartment/Block/Tract etc.
9225 HWY 93	MIDLAND	

GPS Reading: NAD 8 3 | Zone 17 | Easting 586275 | Northing 4934513 | Unit Make/Model GARMIN | Mode of Operation: GPS | ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To
	WELL RECORD # 57-10052				
	6" DRILLED WELL PLUGGED, SEALED & DECOMMISSIONED IN ACCORDANCE TO REG. 903.				
	TOTAL DEPTH. 82.0 m.				

Hole Diameter

Depth From	Depth To	Diameter Centimetres

Water Record

Water found at ___ Metres / Kind of Water

- ___ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
- ___ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
- ___ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:

After test of well yield, water was ☐ Clear and sediment free ☐ Other, specify

Chlorinated ☐ Yes ☐ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To
Casing				
15.5	☒ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	.188	2	77.4
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	Slot No.	77.4	82.
No Casing or Screen				
	☐ Open hole			

Test of Well Yield

Pumping test method	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ___ hrs + ___ min	2		2	
Final water level end of pumping ___ metres	3		3	
Recommended pump type. ☐ Shallow ☐ Deep	4		4	
Recommended pump depth. ___ metres	5		5	
Recommended pump rate. (litres/min)	10		10	
If flowing give rate - (litres/min)	15		15	
If pumping discontinued, give reason.	20		20	
	25		25	
	30		30	
	40		40	
	50		50	
	60		60	

Plugging and Sealing Record

☐ Annular space ☒ Abandonment

Depth set at - Metres From	Depth set at - Metres To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
2	77	BENTONITE GROUT	1600 Ltr.
77	82	PEA STONE	55 Ltr.

Method of Construction

☐ Cable Tool ☐ Rotary (air) ☐ Diamond ☐ Digging
☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☒ Other
☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

☐ Domestic ☐ Industrial ☐ Public Supply ☐ Other
☐ Stock ☐ Commercial ☒ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

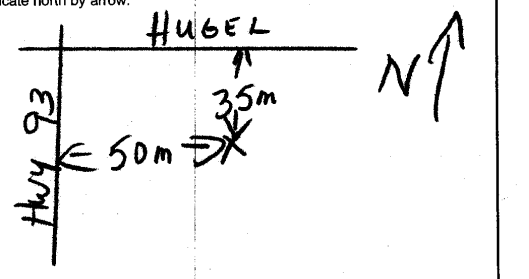
☐ Water Supply ☐ Recharge well ☐ Unfinished ☒ Abandoned, (Other)
☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information

Name of Well Contractor	Well Contractor's Licence No.
ALLAN WRIGHT WATER WELLS	5528
Business Address (street name, number, city etc.)	
421 Hwy 93 HILLSDALE	
Name of Well Technician (last name, first name)	**Well Technician's Licence No.**
ALLAN WRIGHT	T0250
Signature of Technician/Contractor	**Date Submitted** YYYY MM DD
X Allan	

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.



Audit No. Z 24537

Date Well Completed YYYY MM DD: 06 05 05

Was the well owner's information package delivered? ☐ Yes ☒ No

Date Delivered YYYY MM DD

Ministry Use Only

Data Source	Contractor
	5528
Date Received YYYY MM DD	**Date of Inspection** YYYY MM DD
MAY 26 2006	
Remarks	**Well Record Number**

0506E (09/03) Contractor's Copy ☐ Ministry's Copy ☒ Well Owner's Copy ☐

Cette formule est disponible en français

Ontario Ministry of the Environment

Well Tag Number (Place sticker and print number below)

Well Record

Regulation 903 Ontario Water Resources Act

page 1 of 1

Instructions for Completing Form

- For use in the **Province of Ontario** only. This document is a permanent **legal** document. Please retain for future reference.
- All Sections **must** be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

MUN | CON | LOT

Well Owner's Information and Location of Well Information

First Name: EFFORT | Last Name: TRUST CO. | Mailing Address (Street Number/Name, RR, Lot, Concession): 9225 HWY 93

County/District/Municipality: SIMCOE | Township/City/Town/Village: MIDLAND | Province: Ontario | Postal Code: L4R1M6 | Telephone Number (include area code): 705-526-6711

Address of Well Location (County/District/Municipality): SIMCOE | Township: TINY | Lot: 106 | Concession: CON 1 PRW

RR#/Street Number/Name: 9225 HWY 93 | City/Town/Village: MIDLAND | Site/Compartment/Block/Tract etc.:

GPS Reading: NAD 83 | Zone: 17 | Easting: 586468 | Northing: 4934352 | Unit Make/Model: GARMIN | Mode of Operation: 76S | ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To
			WELL RECORD # 57-7460		
			6" DRILLED WELL PLUGGED, SEALED + DECOMMISSIONED IN ACCORDANCE TO REG 903.		
			TOTAL DEPTH 70.9 m.		

Hole Diameter

Depth From	Depth To	Diameter Centimetres

Water Record

Water found at ___ Metres / Kind of Water

- ___ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
- ___ m ☐ Fresh ☒ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
- ___ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:

After test of well yield, water was ☐ Clear and sediment free ☐ Other, specify

Chlorinated ☐ Yes ☐ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To
Casing				
15.5	☒ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	1.186	2	67.9
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	Slot No.	67.9	70.9
No Casing or Screen				
	☐ Open hole			

Test of Well Yield

Pumping test method	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ___ hrs + ___ min	2		2	
Final water level end of pumping ___ metres	3		3	
Recommended pump type. ☐ Shallow ☐ Deep	4		4	
Recommended pump depth. ___ metres	5		5	
Recommended pump rate. (litres/min)	10		10	
If flowing give rate - (litres/min)	15		15	
If pumping discontinued, give reason.	20		20	
	25		25	
	30		30	
	40		40	
	50		50	
	60		60	

Plugging and Sealing Record

☐ Annular space ☒ Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
2	67	BENTONITE GROUT	1480 Ltr.
67	70.9	PEA STONE	60 Ltr

Method of Construction

☐ Cable Tool ☐ Rotary (air) ☐ Diamond ☐ Digging
☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☒ Other
☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

☐ Domestic ☐ Industrial ☐ Public Supply ☐ Other
☐ Stock ☐ Commercial ☒ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☐ Water Supply ☐ Recharge well ☐ Unfinished ☒ Abandoned, (Other)
☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information

Name of Well Contractor: ALLAN WRIGHT WATER WELLS | Well Contractor's Licence No.: 5528

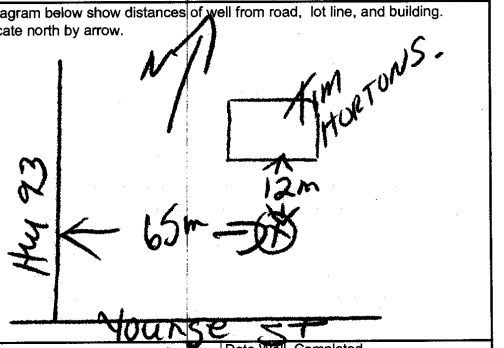
Business Address (street name, number, city etc.): 4121 Hwy 9 HILLSDALE

Name of Well Technician (last name, first name): ALLAN WRIGHT | Well Technician's Licence No.: T0250

Signature of Technician/Contractor: X ALLAN | Date Submitted: YYYY MM DD

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.



Audit No.: Z 24536 | Date Well Completed: 2006 05 05 (YYYY MM DD)

Was the well owner's information package delivered? ☐ Yes ☒ No | Date Delivered: YYYY MM DD

Ministry Use Only

Data Source | Contractor: 5528

Date Received: MAY 26 2006 (YYYY MM DD) | Date of Inspection: YYYY MM DD

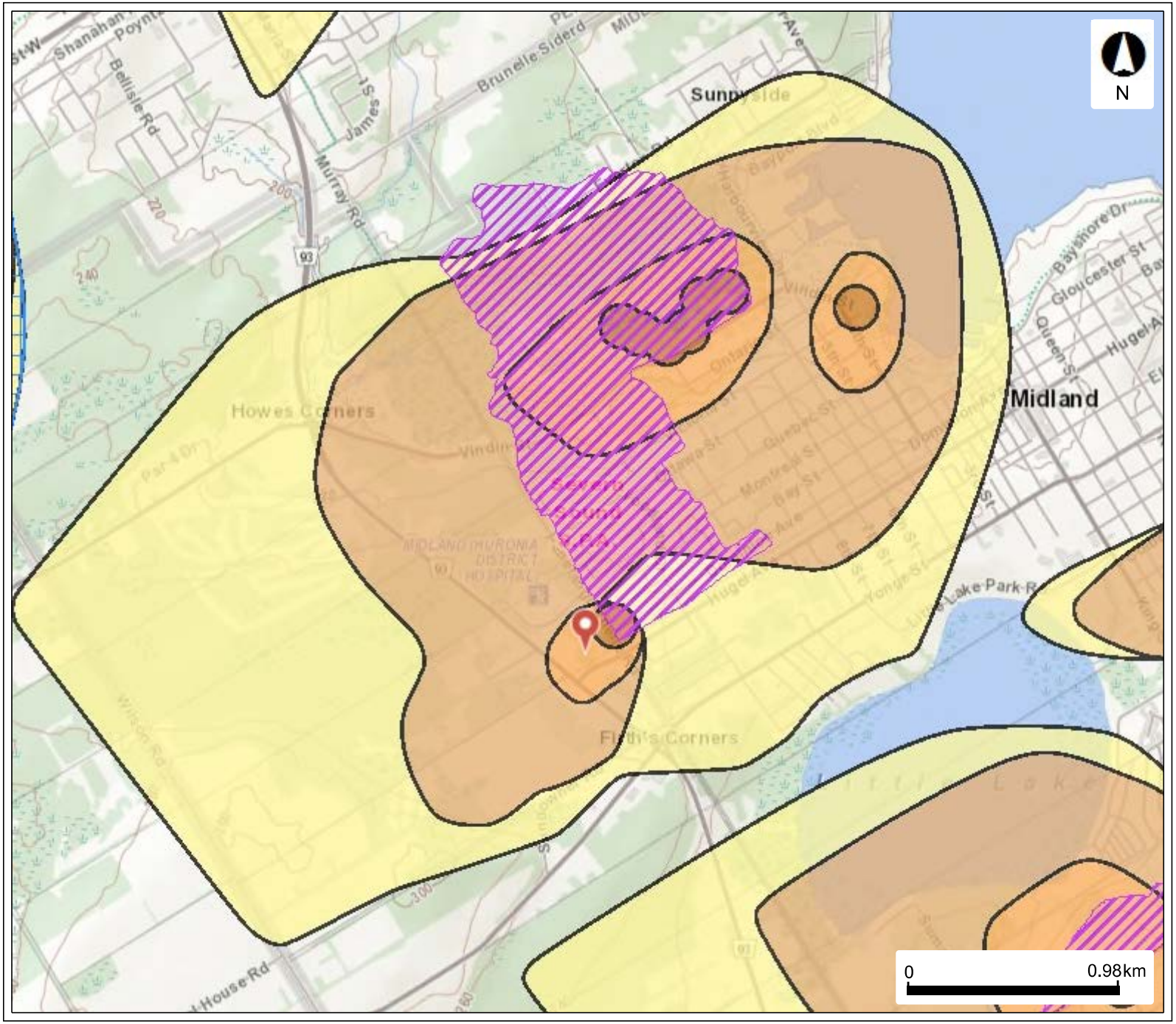
Remarks | Well Record Number

0506E (09/03) Contractor's Copy ☐ Ministry's Copy ☒ Well Owner's Copy ☐

Cette formule est disponible en français

APPENDIX F – WATER BALANCE ANALYSIS

1144 Hugel Avenue, Midland, Source Protection

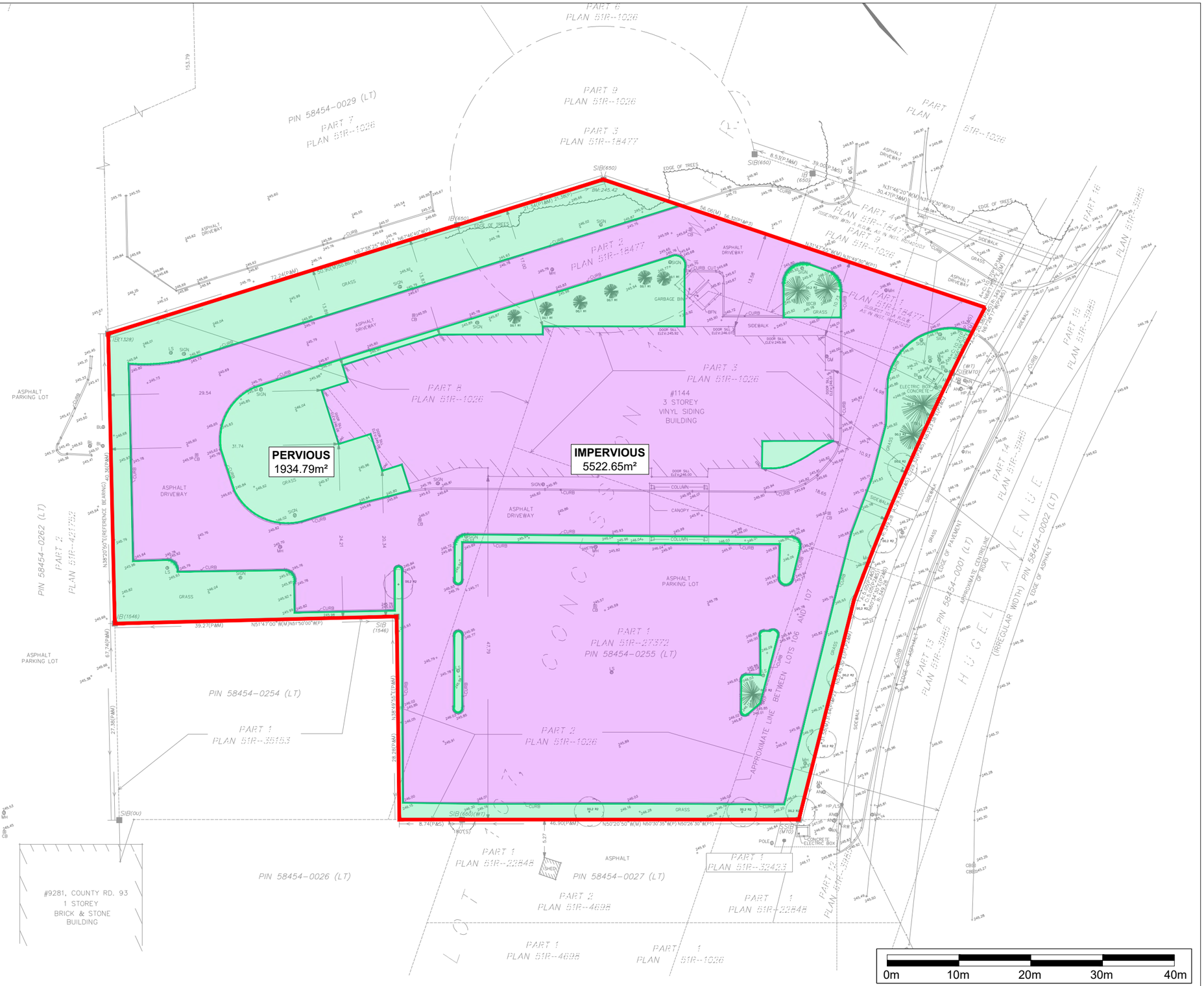


Legend

- Issue Contributing Areas
- WHPA-E
- Wellhead Protection Area
  - A
  - B
  - C
  - C1
  - D
  - F
- Intake Protection Zone 1
- Event Based Areas
- Intake Protection Zone 2
- Source Protection Areas

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Environment, Conservation and Parks (MECP) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.

Map Created: 4/24/2023
Map Center: 44.74557 N, -79.91075 W



FISHER ENGINEERING

400 Esna Park Dr., #15
Markham, Ontario
L3R 3K2

Tel: 905 475-7755
Fax: 905 475-7718

NORTH

LEGEND

- SITE BOUNDARY
- IMPERVIOUS AREA
- PERVIOUS AREA

PROJECT NAME AND ADDRESS

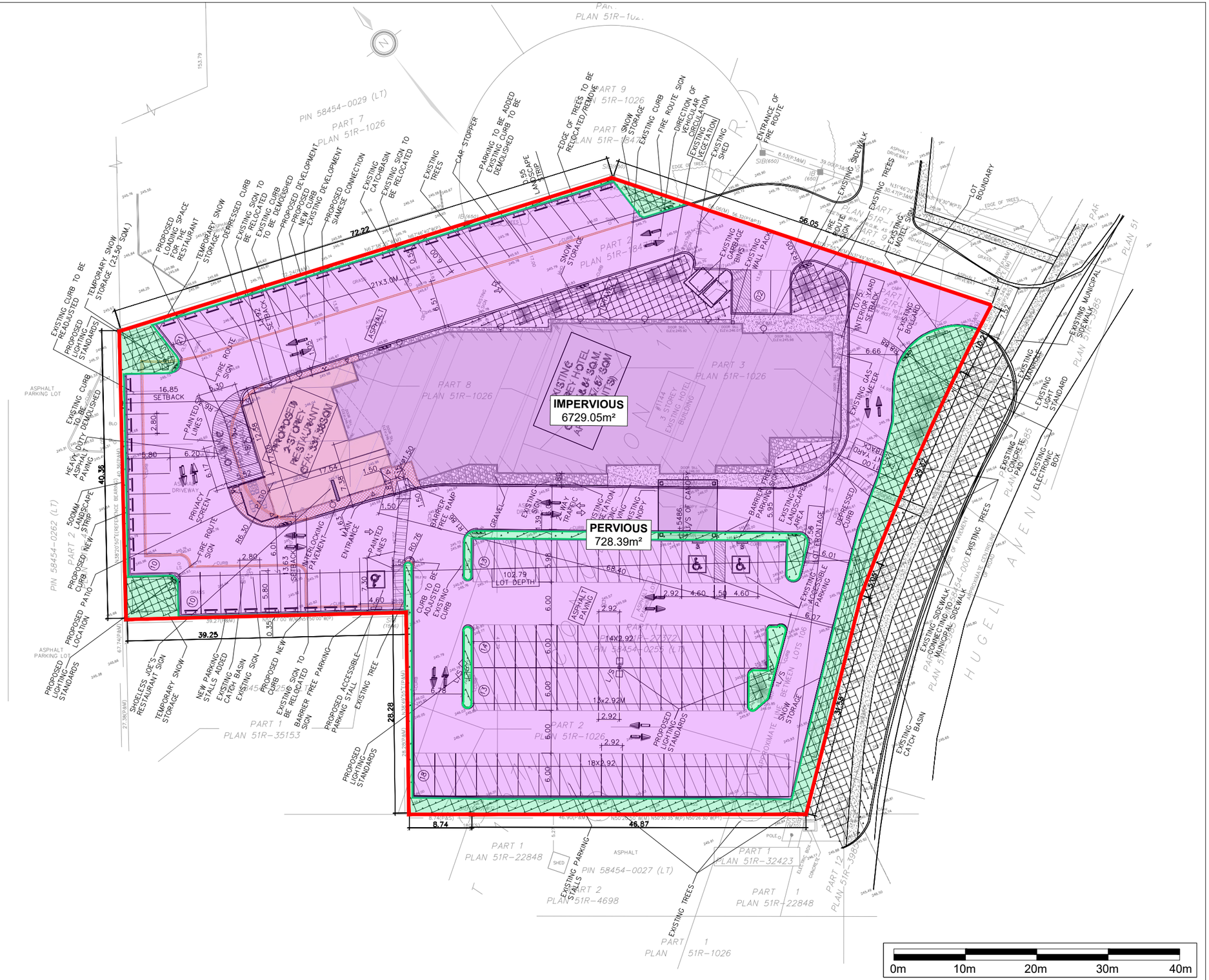
WATER BALANCE

1144 Hugel Ave,
Midland, ON

FIGURE A1:

PRE-DEVELOPMENT SITE

PROJECT NO.	SHEET NO.
FE-P 23-12808	A1
DATE: 5 April 2023	
SCALE: AS SHOWN	



FISHER ENGINEERING

400 Esna Park Dr., #15
Markham, Ontario
L3R 3K2

Tel: 905 475-7755
Fax: 905 475-7718

NORTH

LEGEND

- SITE BOUNDARY
- IMPERVIOUS AREA
- PERVIOUS AREA

PROJECT NAME AND ADDRESS

WATER BALANCE

1144 Hugel Ave,
Midland, ON

FIGURE A2:

POST-DEVELOPMENT SITE

PROJECT NO.	SHEET NO.
FE-P 23-12808	A2
DATE: 5 April 2023	
SCALE: AS SHOWN	

FISHER ENGINEERING

Daylight Adjustment Factors (Trow)

Location: *1144 Hugel Avenue, MIDLAND*
Project: *FH 23-12806WB*
Date: *5/1/2023*

	North						South				
Latitude	0	10	20	30	40	50	10	20	30	40	50
Jan	1.04	1	0.95	0.9	0.84	0.74	1.08	1.14	1.2	1.27	1.37
Feb	0.94	0.91	0.9	0.87	0.83	0.78	0.97	1	1.03	1.06	1.12
Mar	1.04	1.03	1.03	1.03	1.03	1.02	1.05	1.05	1.06	1.07	1.08
Apr	1.01	1.03	1.05	1.08	1.11	1.15	0.99	0.97	0.95	0.93	0.89
May	1.04	1.08	1.13	1.18	1.24	1.33	1.01	0.96	0.92	0.86	0.77
Jun	1.01	1.06	1.11	1.17	1.25	1.36	0.96	0.91	0.85	0.78	0.67
Jul	1.04	1.08	1.14	1.2	1.27	1.37	1	0.95	0.9	0.84	0.74
Aug	1.04	1.07	1.11	1.14	1.18	1.25	1.01	0.99	0.96	0.92	0.88
Sep	1.01	1.02	1.02	1.03	1.04	1.06	1	1	1	1	0.99
Oct	1.04	1.02	1	0.98	0.96	0.92	1.06	1.08	1.12	1.15	1.19
Nov	1.01	0.98	0.93	0.89	0.83	0.76	1.05	1.09	1.14	1.2	1.29
Dec	1.04	0.99	0.94	0.88	0.81	0.7	1.1	1.15	1.21	1.29	1.41

FISHER ENGINEERING

CLIMATE NORMALS 1981-2010 STATION DATA

Location: *1144 Hugel Avenue, MIDLAND*
Project: *FH 23-12806WB*
Date: *5/1/2023*

Month	Daily Average Temp (°C)	Monthly Heat Index *i*	Potential Evapotranspiration PET, (mm)	Daylight Correction Factor	Adjusted PET (mm)	Total Precipitation (mm)	Surplus (mm)	Deficit (mm)
Jan	-8.5	-	0.00	0.79	0.00	109.80	109.80	-
Feb	-6.4	-	0.00	0.81	0.00	69.90	69.90	-
Mar	-1.9	-	0.00	1.03	0.00	65.70	65.70	-
Apr	5.8	1.25	25.93	1.13	29.28	65.10	35.82	-
May	12.2	3.86	59.71	1.28	76.58	92.80	16.22	-
Jun	18.1	7.01	92.93	1.30	121.01	89.50	-31.51	31.51
Jul	20.8	8.66	108.61	1.32	143.09	72.70	-70.39	70.39
Aug	19.9	8.10	103.36	1.21	125.39	77.90	-47.49	47.49
Sep	15.9	5.76	80.36	1.05	84.34	99.10	14.76	-
Oct	9.3	2.56	44.04	0.94	41.44	90.10	48.66	-
Nov	3.2	0.51	13.31	0.80	10.61	103.60	92.99	-
Dec	-3.1	-	0.00	0.76	0.00	104.40	104.40	-
TOTALS	7.1	37.71	528.26		631.74	1040.60	408.86	149.39

Climate Station ID: **615HMAK**
Latitude: **44.00°**
Longitude: **79.50°**

Total Differential Surplus (mm): **259.47**

Adjusted potential evapotranspiration:

$$PET\ (mm) = 16\left(\frac{L}{12}\right)\left(\frac{N}{30}\right)\left(\frac{10t}{i}\right)^{\alpha} = 16\left(\frac{10t}{I}\right)^{\alpha}$$

Monthly Thornthwaite heat Index $i = \left(\frac{t}{5}\right)^{1.514}$

Annual heat index $I = \sum_{1}^{12} i$

Assumptions:

L - average day length	12
N - days in the month	30
α - daylight correction	1.12150278

FISHER ENGINEERING

WATER BUDGET: PRE-DEVELOPMENT

Location: *1144 Hugel Avenue, MIDLAND*
Project: *FH 23-12806WB*
Date: *5/1/2023*

Catchment Designation	Site		
	Grass/Soil Area	Pavement / Building Areas	Total
Area (m^2)	1935	5523	7457
Pervious Area (m^2)	1935	0	1935
Impervious Area (m^2)	0	5523	5523
Infiltration Factors			
Topography Infiltration Factor	0.2	0.2	-
Soil Infiltration Factor	0.2	0.2	
Land Cover Infiltration Factor	0.1	0.1	
MOE Infiltration Factor	0.5	0.5	
Run-Off Coefficient	0.5	0.5	
Runoff from Impervious Surfaces*	0.8	0.8	
Inputs (per Unit Area)			
Precipitation (mm/yr)	1041	1041	1041
Run-On (mm/yr)	0	0	0
Other Inputs (mm/yr)	0	0	0
Total Inputs (mm/yr)	**1041**	**1041**	**1041**
Outputs (per Unit Area)			
Precipitation Surplus (mm/yr)	409	832	424
Net Surplus (mm/yr)	409	832	424
Evapotranspiration (mm/yr)	**632**	**208**	**424**
Infiltration (mm/yr)	**204**	**0**	**204**
Runoff Pervious Areas	204	0	204
Runoff Impervious Areas	0	832	204
Total Runoff (mm/yr)	**204**	**832**	**409**
Total Outputs (mm/yr)	**1041**	**1041**	**1037**
Difference (Inputs - Outputs)	0	0	4
Inputs (Volumes)			
Precipitation (m^3/yr)	2013	5747	7760
Run-On (m^3/yr)	0	0	0
Other Inputs (m^3/yr)	0	0	0
Total Inputs (m^3/yr)	2013	5747	7760
Outputs (Volumes)			
Precipitation Surplus (m^3/yr)	791	4597	5389
Net Surplus (m^3/yr)	791	4597	5389
Evapotranspiration (m^3/yr)	**1222**	**1149**	**2372**
Infiltration (m^3/yr)	**396**	**0**	**396**
Runoff Pervious Areas	396	0	396
Runoff Impervious Areas	0	4597	4597
Total Runoff (m^3/yr)	**396**	**4597**	4993
Total Outputs (m^3/yr)	**2013**	**5747**	**7760**
Difference (Inputs - Outputs)	0	0	0

*Evaporation from impervious areas was assumed to be: 20% of precipitation

Infiltration, I = IF x (P-E) where IF is infiltration factor, P is precipitation and E is evapotranspiration

FISHER ENGINEERING

WATER BUDGET: POST-DEVELOPMENT

Location: *1144 Hugel Avenue, MIDLAND*
Project: *FH 23-12806WB*
Date: *5/1/2023*

Catchment Designation	Site		
	Grass/Soil Area	Pavement / Building Areas	Total
Area (m^2)	728	6729	7457
Pervious Area (m^2)	728	0	728
Impervious Area (m^2)	0	6729	6729
Infiltration Factors			
Topography Infiltration Factor	0.2	0.2	-
Soil Infiltration Factor	0.2	0.2	
Land Cover Infiltration Factor	0.1	0.1	
MOE Infiltration Factor	0.5	0.5	
Run-Off Coefficient	0.5	0.5	
Runoff from Impervious Surfaces*	0.8	0.8	
Inputs (per Unit Area)			
Precipitation (mm/yr)	1041	1041	1041
Run-On (mm/yr)	0	0	0
Other Inputs (mm/yr)	0	0	0
Total Inputs (mm/yr)	**1041**	**1041**	**1041**
Outputs (per Unit Area)			
Precipitation Surplus (mm/yr)	409	832	424
Net Surplus (mm/yr)	409	832	424
Evapotranspiration (mm/yr)	**632**	**208**	**424**
Infiltration (mm/yr)	**204**	**0**	**204**
Runoff Pervious Areas	204	0	204
Runoff Impervious Areas	0	832	204
Total Runoff (mm/yr)	**204**	**832**	**408**
Total Outputs (mm/yr)	**1041**	**1041**	**1036**
Difference (Inputs - Outputs)	0	0	4
Inputs (Volumes)			
Precipitation (m^3/yr)	758	7002	7760
Run-On (m^3/yr)	0	0	0
Other Inputs (m^3/yr)	0	0	0
Total Inputs (m^3/yr)	758	7002	7760
Outputs (Volumes)			
Precipitation Surplus (m^3/yr)	298	5602	5900
Net Surplus (m^3/yr)	298	5602	5900
Evapotranspiration (m^3/yr)	**460**	**1400**	**1861**
Infiltration (m^3/yr)	**149**	**0**	**149**
Runoff Pervious Areas	149	0	149
Runoff Impervious Areas	0	5602	5602
Total Runoff (m^3/yr)	**149**	**5602**	5751
Total Outputs (m^3/yr)	**758**	**7002**	**7760**
Difference (Inputs - Outputs)	0	0	0

***Evaporation from impervious areas was assumed to be: 20% of precipitation**

Infiltration, I = IF x (P-E) where IF is infiltration factor, P is precipitation and E is evapotranspiration

FISHER ENGINEERING

WATER BUDGET SUMMARY

Location: ***1144 Hugel Avenue, MIDLAND***
Project: ***FH 23-12806WB***
Date: ***5/1/2023***

Measurement	Pre - Development	Post - Development	Overall Change (Pre to Post) (m^3/yr)	Percentage Change (Pre- to Post-)
Inputs (Volumes)				
Precipitation (m^3/yr)	7760	7760	0	0%
Run-On (m^3/yr)	0	0	0	0%
Other Inputs (m^3/yr)	0	0	0	0%
Outputs (Volumes)				
Evapotranspiration (m^3/yr)	**2372**	**1861**	-511	**-22%**
Infiltration (m^3/yr)	**396**	**149**	-247	**-62%**
Runoff Pervious Areas	396	149	-247	**-62%**
Runoff Impervious Areas	4597	5602	1004	-
Total Runoff (m^3/yr)	**4993**	**5751**	758	15%

Effect of Development on Hydrologic Input and Output Characteristics of the Site

Category	Pre-Development Percentage of Precipitation	Post-Development Percentage of Precipitation
Evapotranspiration	**30.6%**	**24.0%**
Infiltration	**5.1%**	**1.9%**
Runoff Pervious Areas	**5.1%**	**1.9%**
Runoff Impervious Areas	**59.2%**	**72.2%**
Total Runoff	**64.3%**	**74.1%**

	Pre Development		Post Development	
	Pervious	Impervious	Pervious	Impervious
Land Area, m^2	1934.79	5522.65	728	6729.05
Precipitation, mm/yr	1040.60	1040.6	1040.60	1040.60
Evapotranspiration, mm/yr	631.74	208.12	631.74	208.12
Infiltration (mm/yr)	204.43	0.00	204.43	0.00
RunOff pervious areas, mm/yr	204.43	-	204.43	-
RunOff impervious areas, mm/yr	-	204.43	-	204.43

Examples of Mitigation Measures

Some measures that may be implemented to mitigate against reduction in groundwater recharge and reduce the amount of runoff are discussed:

- **Permeable pavement** – Based on the conceptual site plan some sections of the site area will be covered by pavement and sidewalks which will perhaps channel surface water to stormwater catchment systems. Some of these areas, where feasible, could be designed as permeable pavements to potentially mitigate against the reduction in infiltration and increased runoffs from the pre-development levels. The introduction of permeable pavements could potentially reduce the load on the stormwater management system. Volumetric runoff reduction between 45 and 90% over conventional impermeable pavements have been observed on some projects. Some examples of permeable pavements include,
    - Porous asphalt,
    - Pervious concrete,
    - Plastic or concrete grid systems (grid pavers), and
    - Permeable interlocking concrete pavers (block pavers).

  It should be noted however that there is a risk to groundwater quality if runoffs from parking lot pavements and roadways are allowed to infiltrate into the ground. The use of permeable pavements in parking areas should therefore only be considered after careful assessment of the potential impact on the quality of the groundwater.

  Provisions could also be made for the installation of infiltration boxes in the location of new catch basins and maintenance holes. The potential runoff to be directed for infiltration from the pavement area could then be calculated and included in the LID methods as part of the storm water management plan.

- **Roof drainage system/rainwater harvesting system** – Allowing water from rooftops to drain directly to landscaped areas increases the amount of infiltration. This however depends on the soil type and may not be suitable for soils of low permeability or soils that have been compacted during construction.

- **Rooftop Runoff to Infiltration Gallery/Trench** – This allows for the collection of water from the roof into an engineered infiltration trench or soak away pit. According to the MOE criteria (MOE, 2003), the infiltration trench should be to a maximum depth of 1.5 m to avoid compaction of the soil at the base of the trench which would cause a reduction in the infiltration rate. The base of the proposed infiltration trench should be vertically separated from the top of bedrock and seasonal high groundwater table by at least 1m.
- **Increasing the topsoil depth** - The thickness of the existing fill/topsoil varies in the areas investigated. This means that there will be a surplus of fill/topsoil on the site. This extra fill could be utilized, depending on the quality, to provide additional topsoil, thus increasing the soil water storage capacity to be used in time of low precipitation. It should be noted however, that construction activities will compact the existing topsoil. In order to fully benefit from increased topsoil thickness, it is recommended that the top 150-300 mm of soil be tilled or scarified to allow easier penetration.
- **Green roofs or rooftop gardens** – These consist of a thin layer of vegetation and growing medium installed on top of a flat or sloped roof. The benefits of a green roof include improved energy efficiency, reduced urban heat island effects, contribution to achieving the water balance objects and maintaining peak flow control. Green roofs act as lawns by storing rainwater in the growing medium and ponding areas. Excess rainfall enters underdrains and overflow points and is channeled to the building drainage system. Green roof incentives are also offered by some Municipalities.

  Green roofs can contribute to meeting the water balance objectives by potentially reducing the total annual runoff volumes by 45 to 55% (conservatively) relative to runoff from conventional roofs. The percentage contribution will however depend on the depth of the growing medium, roof slope, annual rainfall and season effects.
- **Vegetated Filter Strips** - These are buffer strips and grassed filter strips on flat or gently sloping, densely vegetated areas that treat runoff as sheet flow from adjacent impervious areas. Filter strips contribute to a reduction in the flow velocity of surface water while filtering out suspended sediments and pollutants and can also accommodate some amount of infiltration into the underlying soils. The grassed areas can also be used for snow storage and treatment and are useful due to their capacity for snowmelt infiltration.
- **Perforated Pipe Systems** – These systems perform the same functions as infiltration trenches or linear soakaways and are designed for both conveyance and infiltration of stormwater runoff. The

perforated pipe systems attenuate runoff volumes and consequently reduce contaminant loads in receiving waters. The systems are fairly simple and consist of perforated pipes installed in gently sloping granular stone beds lined with geotextile fabric to allow infiltration of runoff into a gravel bed and the underlying native soils while being conveyed to end-of-pipe facility. Perforated pipe systems are easily integrated cost effectively into a storm management system.

The vertical distance measured from the base of the perforated pipe storage medium to the bedrock and to seasonal high groundwater level should be equal to or greater than 1m. The storage bedding layer should be 75mm – 150mm deep above the perforated pipe and the depth below the pipe base should be calculated to permit the bedding to drain the stormwater in 24 hours.

The effectiveness of perforated pipe systems and the degree to which they meet the water balance objectives will depend on the underlying native soil type on which the system is located. This could be considered for the pipes draining overflow from an infiltration gallery to any underground storage tanks.

- **Bioretention** - This may be used to temporarily store, treat and infiltrate runoff. The design, however, depends on the permeability of the underlying soil. The main component of a bioretention plan is the filter bed comprising a mixture of sand, fines, organic material, mulch ground cover and plants suited to the conditions of a stormwater practice. Some amount of pre-treatment in the form of settling forebays, vegetated filter strips or stone diaphragms are often used to remove particles that would otherwise clog the filter bed. An overflow or bypass is usually necessary to pass large storm flows.

It should be noted that the above list is not exhaustive and that some of the LID practices outlined may not be suitable for all sites. For example, limited land area may preclude the implementation of some LID methods and may necessitate the use of underground systems such as infiltration galleries. There are additional limitations to implementing some LID practices including two-year time of travel to WHPA. Suitable examples of these practices can however be economically integrated into the stormwater management plan and the site landscaping and grading, thereby providing aesthetic benefits and satisfying the objectives of the water balance.

Table 6: Comparison of site constraints for a range of structural LID SWM practices

LID Stormwater Management Practice	Depth to high water table or bedrock[1] (m)	Typical Ratio of Impervious Drainage Area to Treatment Facility Area	Native Soil Infiltration Rate (mm/hr)[3]	Head[4] (m)	Space[5] %	Slope[6] %	Pollution Hot Spots[7]	Set backs[8]
Rain barrel	Not applicable	[5 to 50 m^2][2]	Not applicable	1	0	NA	Yes	None
Cistern	1	[50 to 3000 m^2][2]	Not applicable	1 to 2	0 to 1	NA	Yes	U, T
Green roof	Not applicable	1:1	Not applicable	0	0	0	Yes	None
Roof downspout disconnection	Not applicable	[5 to 100 m^2][2]	Amend if < 15 mm/hr[9]	0.5	5 to 20	1 to 5	Yes	B
Soakaway, infiltration trench or chamber	1	5:1 to 20:1	Not a constraint	1 to 2	0 to 1	< 15%	No	B, U, T, W
Bioretention	1	5:1 to 15:1	Underdrain required if < 15 mm/hr	1 to 2	5 to 10	0 to 2	No	B, U, W
Biofilter (filtration only Bioretention design)	Not applicable	5:1	Not applicable	1 to 2	2 to 5	0 to 2	Yes	B, T
Vegetated filter strip	1	5:1	Amend if < 15 mm/hr[9]	0 to 1	15 to 20	1 to 5	No	None
Permeable pavement	1	1:1 to 1.2:1	Underdrain required if < 15 mm/hr	0.5 to 1	0	1 to 5	No	U, W
Enhanced grass swale	1	5:1 to 10:1	Not applicable	1 to 3	5 to 15	0.5 to 6	No	B, U
Dry swale	1	5:1 to 15:1	Underdrain required if < 15 mm/hr	1 to 3	5 to 10	0.5 to 6	No	B, U, W
Perforated pipe system	1	5:1 to 10:1	Not a constraint	1 to 3	0	< 15%	No	B, U, T, W

Notes:
1. Minimum depth between the base of the facility and the elevation of the seasonally high water table or top of bedrock.
2 Values for rain barrels, cisterns and roof downspout disconnection represent typical ranges for impervious drainage area treated.
3. Infiltration rate estimates based on measurements of hydraulic conductivity under field saturated conditions at the proposed location and depth of the practice.
4. Vertical distance between the inlet and outlet of the LID practice.
5. Percent of open pervious land on the site that is required for the LID practice.
6. Slope at the LID practice location.
7. Suitable in pollution hot spots or runoff source areas where land uses or activities have the potential to generate highly contaminated runoff (*e.g.*, vehicle fueling, servicing or demolition areas, outdoor storage or handling areas for hazardous materials and some heavy industry sites).
8. Setback codes: B = Building foundation; U = Underground utilities; T = Trees; W = drinking water wellhead protection areas.
9. Native soils should be tilled and amended with compost to improve infiltration rate, moisture retention capacity and fertility.

APPENDIX G – INFILTRATION TESTS

Percolation Test Data Sheet

Project:	1144 Hugel Avenue, Midland	Project No	23-12809	Date:	4/5/2023
Test Hole No:	INF8	Tested By:	Priyank		
Depth of Test Hole, D_T:	1.98	**USCS** Soil Classification:	S.M		
Test Hole Dimensions (cm)			Length	Width	
Radius (if round) =	4"	Sides (if rectangular) =			

Sandy Soil Criteria Tests

Trial No.	StartTime	Stop Time	Time Interval (min)	Initial Depth to Water (cm)	Final Depth to Water (cm)	Change in Water Level (cm)	Greater than or Equal to 6"
1	11:00	11:05	0:05	100	120	20	Greater
2	11:10	11:15	0:05	95	117	22	Greater

If two consecutive measurements show that six inches of water seeps away in less than 25 minutes (150mm), the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Test No.	Start Time	Stop Time	**Δt** Time Interval (min)	D_0 Initial Depth to Water (cm)	D_f Final Depth to Water (cm)	**ΔD** Change in Water Level (cm)	Percolation Rate (min/cm)
1	11:40	11:42	2.00	95.0	107.5	12.50	0.16
2	11:42	11:44	2.00	107.5	116.0	8.50	0.24
3	11:44	11:46	2.00	116.0	123.2	7.20	0.28
4	11:46	11:48	2.00	123.2	129.7	6.50	0.31
5	11:48	11:50	2.00	129.7	135.7	6.00	0.33
6	11:50	11:52	2.00	135.7	140.7	5.00	0.40
7	11:52	11:54	2.00	140.7	144.7	4.00	0.50
8	11:54	11:56	2.00	144.7	148.7	4.00	0.50
9	11:56	11:58	2.00	148.7	151.0	2.30	0.87
10	11:58	12:00	2.00	151.0	152.2	1.20	1.67
11	12:00	12:02	2.00	152.2	153.1	0.90	2.22
12	12:02	12:04	2.00	153.1	154.0	0.90	2.22
13	12:04	12:06	2.00	154.0	154.9	0.90	2.22

COMMENTS: Rainy (-1°C to 2°C).

Percolation Test Data Sheet

Project:	1144 Hugel Avenue, Midland	Project No	23-12809	Date:	4/5/2023
Test Hole No:	INF9	Tested By:	Priyank		
Depth of Test Hole, D_T:	1.98	**USCS** Soil Classification:	S.M		
Test Hole Dimensions (cm)			Length	Width	
Radius (if round) =	4"	Sides (if rectangular) =			

Sandy Soil Criteria Tests

Trial No.	StartTime	StopTime	Time Interval (min)	Initial Depth to Water (cm)	Final Depth to Water (cm)	Change in Water Level (cm)	Greater than or Equal to 6"
1	11:15	11:20	0:05	75	92.5	17.5	Greater
2	11:25	11:30	0:05	90	109.5	19.5	Greater

If two consecutive measurements show that six inches of water seeps away in less than 25 minutes (150mm), the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Test No.	Start Time	Stop Time	**Δt** Time Interval (min)	D_0 Initial Depth to Water (cm)	D_f Final Depth to Water (cm)	**ΔD** Change in Water Level (cm)	Percolation Rate (min/cm)
1	11:41	11:43	2.00	53.0	64.5	11.50	0.17
2	11:43	11:45	2.00	64.5	74.0	9.50	0.21
3	11:45	11:47	2.00	74.0	83.0	9.00	0.22
4	11:47	11:49	2.00	83.0	90.5	7.50	0.27
5	11:49	11:51	2.00	90.5	96.7	6.20	0.32
6	11:51	11:53	2.00	96.7	102.0	5.30	0.38
7	11:53	11:55	2.00	102.0	107.0	5.00	0.40
8	11:55	11:57	2.00	107.0	111.0	4.00	0.50
9	11:57	11:59	2.00	111.0	113.5	2.50	0.80
10	11:59	12:01	2.00	113.5	115.0	1.50	1.33
11	12:01	12:03	2.00	115.0	116.0	1.00	2.00
12	12:03	12:05	2.00	116.0	117.0	1.00	2.00
13	12:05	12:07	2.00	117.0	118.0	1.00	2.00

COMMENTS: Rainy (-1°C to 2°C).