LONG-TERM WATER TAKING & DISCHARGE PLAN

2243 FAIRVIEW STREET, 2269 FAIRVIEW STREET & 864 DRURY LANE (PHASE I)

CITY OF BURLINGTON
HALTON REGION

PREPARED FOR:

FAIRVIEW LIMITED PARTNERSHIP

PREPARED BY:

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JULY 2022

CFCA FILE NO. 1486-4809

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CROZIER
CONSULTING ENGINEERS

Revision Number	Date	Comments
Rev.1	July 20, 2022	Issued for Building and Shoring Permit

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1.0 Introduction

C.F. Crozier & Associates Inc. (Crozier) was retained by Fairview Limited Partnership to prepare a consolidated Water Taking & Discharge Plan in support of a Site Plan Application (SPA) for the property known as Fairview and Drury, located at 2243 Fairview Street, 2269 Fairview Street and 864 Drury Lane in the City of Burlington. The purpose of this report is to outline the long-term groundwater taking activities, quality, treatment, and discharge plans for Phase One of the proposed development. Phase 1 of the development includes Building C, the Utility-Servicing Easement, and Central Station Common (the private east-west roadway). Refer to the Building C Site Plan and Phasing Plan drawings prepared by CORE Architects Inc. (July 20, 2022) enclosed with this report.

The subject property covers an area of approximately 3.27 ha, and currently consists of three commercial buildings with associated parking. The property is bounded by Fairview Street to the south, Drury Lane to the east, the Metrolinx Rail Corridor to the north, and a car dealership located to the west.

Per the Master Site Plan, prepared by CORE Architects Inc. (July 20, 2022), the ultimate re-development of the site will include demolition of the existing commercial buildings and construction of four mixed-use residential/commercial buildings with seven high-rise condominium towers and two (2) multi-story underground parking lots. A portion of the property is to be dedicated to the City of Burlington as parkland.

As noted above, Building C will be constructed during Phase 1 of the development, located within the northwest quadrant of the property. Two levels of underground parking are proposed at Building C, with the lower P2 level underside of footings proposed at an elevation 89.25 masl (metres above sea level). Due to high groundwater conditions on site, dewatering will be required on both a temporary (construction) and on-going (long-term) basis to facilitate this development.

This report has been prepared to outline the long-term groundwater dewatering activities proposed for the development.

The following reports and design standards were referenced during the preparation of this report:

- Technical Addendum – Hydrogeological and Global Stability Characterization – 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario (Pinchin Ltd., May 20, 2022)
- Revised Hydrogeological Assessment – Phase 1 Construction – Buildings C1 and C2, 2243 and 2269 Fairview Street, and 864 Drury Lane, Burlington, Ontario (Pinchin Ltd. November 22, 2021)
- Geotechnical Investigation – Phase 1 Construction – Buildings C1 and C2, 2243 and 2269 Fairview Street, and 864 Drury Lane, Burlington, Ontario (Pinchin Ltd., August 12, 2021)
- Site Servicing and Stormwater Management Report, 2243 and 2269 Fairview Street, and 864 Drury Lane, Burlington, Ontario (C.F. Crozier & Associates Inc., December 1, 2021)
- Long-Term Dewatering Filtration Plan, 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario (Aquatech, October 25, 2021)
- City of Burlington Storm Sewer Discharge By-Law 86-2002

2.0 Groundwater Monitoring

Water level measurements of the wells within the Construction Phase One area were undertaken by Pinchin on May 31, June 29, August 3, and October 6, 2021. Per the Revised Hydrogeological Assessment prepared by Pinchin Ltd. (November 22, 2021), groundwater levels measured in these monitoring wells fluctuated an average of 0.45 m between May and October, with an elevation range in May between 96.2 and 95.6 masl, and an elevation range in June between 96.6 and 95.7 masl. As noted within the Revised Hydrogeological Assessment (Pinchin, November 22, 2021), the water level within the Phase One construction zone of the Site can be evaluated using the monthly site average water levels of the five (5) wells which are screened within the excavation zone. The monthly averages are summarized in Table 1 below.

Table 1: Monthly Groundwater Level Averages (Pinchin, November 22, 2021)

Month	Monthly Average Groundwater Level (masl)
May	95.98
June	96.04
August	96.12
October	96.30

It is noted that the highest groundwater elevation measured on site was 96.64 masl.

3.0 Temporary (Construction) Dewatering

Building C proposes 2 levels of underground parking with bottom of excavation proposed at an elevation of 89.247 masl. As identified in the Technical Addendum to the Revised Hydrogeological Assessment (Pinchin, May 20, 2022), the excavation is anticipated to extend below the prevailing groundwater level.

Based on the observed groundwater trends, Pinchin has calculated the approximate dewatering rate during construction of Building C to be 97.52 m^3/day, as summarized in Table 2 below. Refer to the Technical Addendum to the Revised Hydrogeological Assessment (Pinchin, May 20, 2022) for details.

Table 2: Construction Dewatering Rates (Pinchin, May 20, 2022)

Time	Pumping Rates			
	m^3/day	m^3/hour	L/min.	L/day
Construction	97.52	4	68	97,520

As noted in the Technical Addendum to the Hydrogeological Assessment (Pinchin, May 20, 2022), the estimated construction dewatering rates are between 50,000 and 400,000 L/day, therefore a Ministry of the Environment, Conservation, and Parks (MECP) Permit to Take Water (PTTW) is not required during construction, however, the construction dewatering activities must be registered on the Environmental Activity and Sector Registry (EASR).

Multiplex is responsible for preparing the water taking and discharge plan detailing the temporary dewatering activities during construction, which is provided under separate cover included within this SPA submission.

4.0 Long-Term (Operational) Dewatering

4.1 Dewatering Quantities

Building C proposes 2 levels of underground parking with underside of footings (plus an allowance for the drainage network) is set at an elevation of 89.247 masl which is therefore anticipated to extend below the prevailing groundwater level. As previously noted in Section 2.0, the highest water elevation was measured at 96.64 masl, resulting in a saturated thickness of 7.4 m for long-term (operational) dewatering.

Based on the observed groundwater trends, Pinchin has estimated the long-term dewatering rate to be approximately 94 m^3/day, as summarized in Table 3 below. Refer to the Technical Addendum to the Hydrogeological Assessment (Pinchin, May 20, 2022) for details.

Table 3: Long-Term (Operational) Dewatering Rates (Pinchin, May 20, 2022)

Time	Pumping Rates			
	m^3/day	m^3/hour	L/min.	L/day
Long-Term	94	3.92	65	94,000

As noted in the Technical Addendum to the Hydrogeological Assessment (Pinchin, May 20, 2022), it is expected that the amount of groundwater inflow will diminish over time.

Since the estimated long-term dewatering rate exceeds 50,000 L/day, it is likely that a MECP Permit to Take Water (PTTW) will be required to facilitate dewatering. Requirements for a Permit to Take Water will be determined based on the approved receiving outlet for the dewatered flows.

4.2 Dewatering Zone of Influence

A Dewatering Plan titled "Dewatering Plan – Fairview and Drury Lane Phase 2, 2243 Fairview Street, Burlington, Ontario" has been prepared by WJ Groundwater Canada Limited to outline the proposed construction dewatering activities and is included within the Temporary Water Taking Report (Multiplex, May 20, 2022) included under a separate cover in this SPA package. Per this report, Pinchin has assessed the proposed zone of influence resulting from the proposed dewatering activities during construction. The zone of influence was calculated based on the maximum estimated construction dewatering rate of 298.1 m^3/s for conservatism. The construction dewatering rates are larger than the permanent (on-going) rates and therefore are the more conservative value.

Pinchin found that the radius of influence would follow a parabolic shape originating from the wells, results in a 0.2 m drawdown effect at a distance of 3.7 m from the wells. As concluded by Pinchin, these dewatering effects are within the range of the documented seasonal variations within the groundwater elevations and are insignificant with respect to the potential ground settlement effects on adjacent properties and/or infrastructure. Recommendations made within the Technical Addendum to the Hydrogeological Assessment (Pinchin, May 20, 2022) indicate that groundwater levels are to be monitored during the operation of the dewatering system to ensure the system can be managed and optimized such that an undesirable cone of influence does not extend beyond the required distance.

Since the long-term (operational) dewatering rate is significantly less than the 298.1 m^3/s rate used to calculate the above discussed zone of influence, it is similarly anticipated that the zone of influence resulting from long-term dewatering will be significantly less than the zone of influence discussed above. As noted in the Pinchin report, it is not anticipated that any settlement on adjacent properties would occur as a result of the proposed long-term (operational) dewatering.

4.3 Groundwater Collection

Smith and Andersen have designed the long-term groundwater collection system. Foundation drains surrounding the Building C foundation will collect and convey groundwater flows into a sump. Collected groundwater flows will then be pumped out of the sump and conveyed via the internal Building C mechanical system (designed by Smith and Andersen) to the proposed quality filtration system (designed by Aquatech and discussed in Section 4.5) located within the P2 level of the underground parking. The collection system is composed of:

- Slotted PVC pipe every 2 m around the perimeter of Building C
- Perforated subfloor drainage located every 4 m under the Building C footprint
- A set of 50 gpm duty-standby groundwater pumps that can operate 10 hours a day

For details regarding the proposed foundation drains, sump pumps, and building mechanical system, refer to the design drawings prepared by Smith and Andersen included.

4.4 Groundwater Quality Testing

City of Burlington Storm Sewer Discharge By-Law 86-2002 prescribes limitations for discharge of any gaseous, liquid, or solid matter into the municipal storm sewage works. It is understood that City of Burlington is currently updating this By-Law, which is anticipated to be available in the future. This report has been compared with the current City of Burlington Storm Sewer Discharge By-Law 86-2002.

A groundwater quality sample was collected by Pinchin on April 11, 2022. Laboratory results for the collected groundwater sample are provided in the Technical Addendum to the Revised Hydrogeological Assessment (Pinchin, May 20, 2022) and a copy of these results are provided in Appendix A.

Laboratory results of the groundwater sample obtained on April 11, 2022, showed two exceedances of the City of Burlington's Draft to amend By-Law No 86-2002 limits for Storm Sewer Discharges. Sampling events were conducted using low-flow techniques to reduce sediment entrainment in the collected samples. It is noted that collection of the sampling event (April 11, 2022) included field filtering to evaluate the effectiveness of filtering on reducing the elevated metal concentrations. Refer to the Technical Addendum to the Revised Hydrogeological Assessment (Pinchin, May 20, 2022) for additional details regarding collection methodologies for these samples.

Based on the current version of the City of Burlington Storm Sewer Discharge By-Law 86-2002 and the laboratory analysis results for the groundwater samples obtained using low-flow techniques (Pinchin, May 20, 2022), the following exceedances of the City's Storm Sewer quality requirements were identified, as summarized in Table 4.

Table 4: Exceedance Summary Table as per the Hydrogeological Investigation and Water Quality Reports (Pinchin, May 20, 2022)

Parameter	City of Burlington Storm Sewer Compliance Limits [1] (mg/L)	Result from April 11, 2022 Sample (unfiltered) [2] (mg/L)	Result from April 11, 2022 Sample (filtered) [2] (mg/L)
Total Suspended Solids (TSS)	15	84	2
Manganese (Mn)	0.05	0.120	0.085

Notes:
1. City of Burlington Storm Sewer Discharge By-Law 86-2002
2. Groundwater exceedance results from the single groundwater test. Concentrations presented in (# µg/L) are dissolved metals. (Pinchin, May 20, 2022)

As described within the Technical Addendum to the Revised Hydrogeological Assessment (Pinchin, May 20, 2022), given that the dewatering effects are localized to such a small zone of influence, it is unlikely that these dewatering effects (during either the construction or operational dewatering phase) would result in the migration/mobilization of contaminants.

4.5 Groundwater Quality Treatment

Aquatech has proposed a long-term dewatering filtration system to treat for Total Suspended Solids (TSS) and Manganese (Mn) exceedances summarized within Section 4.4 of this report to meet the City of Burlington Storm Sewer Discharge By-Law 86-2002.

The proposed filtration system consists of the following components:

- One (1) 1,550-Gallon Settling Tank
- Two (2) 2" Submersible Pumps (Primary and Backup)
- One (1) 2-POD Sand Filtration Unit
- One (1) Chlorine Dosing Unit
- One (1) 2-POD Greensand Filtration Unit
- Three (3) 1000-Pounds Granular Activated Carbon Vessels
- One (1) Remote Monitoring System
- One (1) 1,550-Gallon Backwash Water Collection Tank
- One (1) 1,550-Gallon Clean Water Tank
- One (1) 3" Submersible Pump in the Backwash Collection Tank
- One (1) 2" Submersible Pump in the Clean Water Collection Tank
- Two (2) 1000-Pounds Phosphorus Removal Vessels (Contingency)
- One (1) 1000-Pounds Zinc Removal Vessel

A schematic of the filtration system designed by Aquatech is provided in Appendix B. Refer to the Long-Term Dewatering Filtration Plan (Aquatech, June 3, 2022) for detailed information pertinent to the filtration system.

Preliminary design of the proposed filtration system has been prepared by Aquatech to treat the long-term discharge flow rate of 94 m^3/day (21 US GPM), based on water quality results (Certificate of Analysis, Bureau Veritas; Report Date: 2022/04/19 Report #: R7091700).

4.6 Groundwater Quantity Control & Discharge

Treated groundwater will be conveyed through the Building C mechanical system to the double-height stormwater management vault located within the P1 & P2 levels of the underground parking garage of Building C. The stormwater vault has been designed with sufficient capacity to receive both stormwater runoff from the surface areas of Building C and the perimeter areas, as well as to receive collected and treated groundwater from the Building C footprint. Flows collected into the stormwater vault will be pumped at a controlled rate and discharge to the on-site storm sewers. Proposed site storm sewers convey flows through the site, ultimately discharging to the existing storm sewers on Fairview Street. Refer to the Site Servicing and Stormwater Management Report (Crozier, December 1, 2021) included under a separate cover within the third Site Plan Application package for details. An Addendum to the Site Servicing and Stormwater Management Report will be submitted by Crozier under separate cover within the fourth Site Plan Application package.

4.7 Monitoring Plan

A monitoring plan is proposed to ensure the quality requirements set out in the City of Burlington Storm Sewer Discharge By-Law 86-2002 are met on an on-going basis. As described within the Dewatering Plan (WJ Groundwater, December 1, 2021), monitoring sensors and a sampling port have been proposed within the temporary dewatering and water quality treatment system to provide the ability to detect faults and collect samples of treated groundwater. WJ Groundwater has proposed water quality sampling to be completed daily for the first week, and weekly for the remainder of the system's implementation. The Aquatech Dewatering Filtration Proposal (June 3, 2022) has specified regular site inspections (3 days per week) of the filtration system to collect water samples, backwash as required, and check pressure differential, in addition to a 24/7 remote monitoring system equipped with an alarm which notifies an on-call technician. Pinchin has stated in their Revised Hydrogeological Assessment (November 22, 2021) that the dewatering effects are within the range of documented seasonal variations within groundwater elevations and are insignificant with respect to potential ground settlement effects on adjacent properties and/or infrastructure; however, groundwater levels are to be monitored during the system's operation. Through discussions with Pinchin, the monitoring plan will include conducting quarterly samples of treated groundwater with associated water quality test reports to be prepared by a third-party certified testing agency and lab. An annual water quality sampling report can be prepared by the third-party agency on behalf of the Phase 1 Condominium Corporation to provide the results of the quarterly groundwater quality sampling results to the City of Burlington for their review and records. Table 5 below outlines the required monitoring efforts for each component of the proposed dewatering system.

Table 5: Dewatering System Monitoring Plan

System Component	Required Monitoring	Personnel Responsible for Monitoring
Temporary Dewatering and Water Treatment System	• 24/7 monitoring via live monitoring system • Water quality sampling to be completed daily for first week, weekly thereafter	**WJ Groundwater** - Operation, maintenance & monitoring costs to be passed to general contractor, and eventually owner.
Permanent Dewatering Filtration System	• 24/7 monitoring via live monitoring system ("FloPro") • System checks to be completed three (3) times per week for a minimum of one (1) year, re-evaluation thereafter	**Aquatech** - Operation, maintenance & monitoring to be at the expense of the owner.
	• Water quality sampling to be conducted quarterly with associated test report • Water quality sampling reports to be prepared annually	**Owner** - Third-party to complete monitoring at the expense of the owner.

5.0 Conclusions

We trust that this Water Taking & Discharge Plan satisfies City of Burlington requirements per the current City of Burlington Storm Sewer Discharge By-Law 86-2002.

Should you have any questions or wish to discuss further, please contact the undersigned.

Yours truly,

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APPENDIX A

Hydrogeological Assessment and Sampling Results

May 20, 2022

Fairview Limited Partnership
485 Bank Street, Suite 200
Ottawa, Ontario K2P 1Z2

E-mail: oz.drewniak@clvgroup.com

Attention: Mr. Oz Drewniak

Re: Technical Addendum – Hydrogeological and Global Stability Characterization
2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario
Pinchin File: 225780.004 (Revised)

INTRODUCTION

Pinchin Ltd. (Pinchin) is pleased to provide the following Technical Memorandum, regarding the supplemental hydrogeological and global stability characterization, to Fairview Limited Partnership (Client) for the property located at 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario (Site). The purpose of this technical memorandum is to provided additional Site characterization information to support the City review comments on the previous Site Plan Approval (SPA) submission, as well as potential alternative dewatering strategies (which could be either sump and pump and/or a combination of sump and pump and extraction wells within the excavation limits).

PREVIOUS INVESTIGATIONS

Pinchin previously completed separate preliminary geotechnical investigations at 2243 Fairview Street and 864 Drury Lane, Burlington, Ontario, followed by combined hydrogeology and geotechnical reports for all Sites. The findings of those investigations were provided in the following reports:

- “Preliminary Geotechnical Investigation – Proposed Residential Development, 2243 Fairview Street, Burlington, Ontario”, Pinchin File 220515.001, dated April 20, 2018 (superseded – utilized for borehole logs);
- “Preliminary Geotechnical Investigation – Proposed Residential Development, 864 Drury Lane, Burlington, Ontario”, Pinchin File 224746.003, dated July 26, 2018 (superseded – utilized for borehole logs);
- “Preliminary Groundwater Summary Results - 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario” Pinchin File: 225780.004 Dated January 2020 (superseded – utilized for borehole logs and aquifer properties);
- “Water Taking and Discharge Plans - 2243 and 2269 Fairview Street and 864 Drury Lane Burlington, Ontario” Pinchin File 225780.004 Dated September 28, 2020 (superseded);

- Geotechnical Investigation Phase 1 Construction – Buildings C1 and C2, 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario" Pinchin File 225780.003 Dated October 19, 2021; and
- "Revised Hydrogeological Assessment – Phase I Construction- Buildings C1 and C2, 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario" Pinchin File 225780.004 Dated November 21, 2021.

The relevant information from the above noted reports has been included in this report.

SUMMARY OF FIELD EVENT

Pinchin completed a field investigation at the Site on April 11, 2022 by advancing a test pit (TP1) in the western corner of the Site. The test pit was advanced using a CAT 336 Hydraulic Excavator to 7.0 metres below ground surface (mbgs), where refusal was encountered on bedrock. Subsurface stratigraphy was documented and groundwater infiltration was observed for a three hour duration, after which the test pit was backfilled with the excavated material.

In addition to the collection of additional soil and infiltration data, Pinchin also utilized this field effort to confirm the seasonal groundwater elevations recorded during the previous studies. On April 11, 2022 the static water level at MW305 was recorded at 1.70 mbgs. This is within the 2021 range documented in Table 1 of the Revised Hydrogeological Assessment for this monitoring location (1.61 mbgs (October 2021) to 1.84 mbgs (May 2021)) and is indicative that the existing baseline data is sufficient to facilitate the estimates of potential seepage rates and impact effects.

Following the static water level readings, monitoring well MW305 was developed using an inertial pump system to reduce sediment in the well and to ensure a groundwater sample representative of the formation was obtained. Following development, a filtered and unfiltered groundwater sample was obtained using low-flow techniques to reduce sediment interference during the sample analysis. Groundwater samples were subsequently analyzed for metals, phosphorus and Total Suspended Solids (TSS) and were compared to the Regional Municipality of Halton (RMOH) Sewer By-law Use 2.03 Standards and future Sewer By-law Use Standards for the City of Burlington.

SUBSURFACE CONDITIONS

In general, the soil stratigraphy observed at TP1 was consistent with the stratigraphy encountered during previous geotechnical investigations. Findings consist of surficial sand and gravel fill overlying natural silt, with some clay and a bedrock refusal depth of approximately 7.0 mbgs.

Several concrete pathways were removed from the ground surface to prepare the area for excavation. The test pit was then advanced through the fill material (brown to grey sand and gravel) which was observed to be approximately 0.5 m thick.

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Underlying the sand and gravel fill, a native silt deposit was encountered, consistent with previous observations on Site. The material was a brown silt with some clay and was moist between 0.5 mbgs and 3.0 mbgs. The water table was then encountered within the silt material at approximately 3.0 mbgs. The silt material was observed to be very dense both above and below the water table. Bedrock refusal was encountered at 7.0 mbgs, consistent with previous findings on Site.

Infiltration Observations at 0 Hours

As TP1 was completed, the test pit walls indicated no evidence of infiltration either above or below the water table. A very small amount of infiltration was observed on the test pit bottom by the south wall. This groundwater covered <5% of the test pit bottom and was estimated to be approximately 0.1 m in depth. The rate of infiltration was very slow.

Infiltration Observations at 1 Hour

After one hour, the test pit walls continued to indicate little to no evidence of infiltration. Groundwater infiltration in the test pit covered approximately 20% of the test pit bottom to a depth of 0.1 m, where the infiltration extended from the south wall towards the north wall. The infiltration rate continued to be very slow.

Infiltration Observation at 3 Hours

After three hours, evidence of infiltration was observed through minor caving of the test pit walls. Caving was primarily observed at approximately 3.5 mbgs, where a horizontal cave-in of approximately 0.5 m in thickness spanned the length of the north wall. Due to this cave-in, the measured bottom depth of the test pit was approximately 6.5 m after three hours, due to the accumulation of cave-in material in the bottom of the test pit. Groundwater infiltration covered approximately 90% of the test pit bottom, with a water depth of approximately 0.15 m. The infiltration rate continued to be very slow.

Overall, a steady rate of infiltration was observed throughout the three hours that the excavation was held open. When the three-hour mark was reached, the test pit was backfilled using the previously excavated material.

DEWATERING ESTIMATES

As stated in the previous reports, maximum depth of excavation for the underground structure is +/-8 mbgs of the existing ground surface (i.e. 89.624 to account for subslab drainage etc.). For estimating groundwater inflow, a high-water table elevation of for the Site was assumed using the highest groundwater elevation from the monitoring within phase 1 construction area.

The dewatering estimates provided below include both the construction and operations phases of the first phase of development, as portions of the two levels of UPG will be under the water table during operation

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of the building, and it has been assumed that the building will not be designed as water tight to resist uplift. Conservative dewatering estimates were undertaken to cover the basement excavation scenario and the assumed presence of weeping tiles at the foundation elevations during building operation. The perimeter foundation trench estimate is covered in the excavation dewatering estimate for each of the building.

Construction

A conservative groundwater dewatering scenario during construction was undertaken using the methods presented by Powers (Powers, 1992) for systems which are less than Length/Width of 1.5, through the following equations, as described below:

$$Q = \frac{\pi K(H^2 - h^2)}{ln(\frac{R_o}{R_s})}$$

Where:
Q is in m^3/Day
K - Hydraulic Conductivity (m/Day)
H – Distance from Static water level to bottom of Aquifer (m)
h – lowest water level needed from static (m)
R_o- Radius of conical depression (m) (Taken from Equation 6.14)

$$Ro = 3(H - h)\sqrt{k}$$

Where
K- Hydraulic Conductivity (m/Sec)
R_s – Equivalent Radius (m)

$$R_s = \frac{l + w}{\pi}$$

l- Length of excavation/trench
w- width of trench

For the calculations the following parameters and assumptions were used:

- the bottom of the excavation was assigned an elevation of 89.247 masl (i.e. 1 m below the finish grade);
- the highest water elevation was 96.64 masl making a saturated thickness of 7.4 m for dewatering;
- the excavation dimensions were assigned a size of 88 m wide by 105 m long;
- the average hydraulic conductivity of $3.18x10^{-5}$ cm/s was used for the Site. A contingency factor of 25 % has been used to capture the variance in hydraulic conductivity based on the documented hydraulic conductivity testing results and the observed soils within the area to be excavated;

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- the storage capacity was based on conservative estimate of shale at 10% and 30% for the silt component (Freeze, et al., 1979); and
- based on the borehole logs an average elevation of 91 masl was calculated for the interface of the shale bedrock and the overlying silt.

Using these assumptions, the expected pumping rate of 97.5 cubic metres a day will be needed once steady state is reached.

The water held within storage of the proposed excavation is held within two formations the overburden of silt and the shale bedrock. Totaling 18,315 cubic metres with the individual volumes presented below:

Storage Volume in Proposed Excavation

	Thickness (m)	m^3	L
Silt	6.3	17,346	17,345,901
Shale Bedrock	1.1	969	968,687
Total	7.4	18,315	18,314,588

Table 1: The Calculated Storage Volume of the proposed excavation

Using these volumes and a reasonable thirty (30) day excavation/dewatering program volume of 305 cubic metres a day would be needed to remove the storage water and the bring the pumping to a steady state. If a sixty (60) day excavation/dewatering program is used then that volume would be decreased to 200 cubic metres a day.

In addition to the estimated dewatering rates associated with the Building C development, it is Pinchin's understanding that there is also a construction dewatering component required to facilitate Site servicing. The Site servicing will be via a linear excavation that will be approximately 300 m in length, be 5 m wide and extend to a depth of 92.5 masl (i.e. approximately 4 m into the water table).

Using input parameters and assumptions similar to that of construction dewatering (identified above), it is estimated that the Site servicing dewatering will require an additional withdrawal of 57.2 m^3/day, as there are potential mutual dewatering opportunities along the southern perimeter of the Building C excavation.

The approximate pumping rates are included in the table below:

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Pumping Rates			
Time	**m^3/day**	**m^3/hour**	**L/Min**
Storage (30-day excavation)	298.1	12	207
Storage (60-day excavation)	197.8	8	137
Building C Construction	97.52	4	68
Site Servicing	57.18	2	40

Table 2: Predicted pumping rates for construction dewatering

The dewatering estimates are indicative of low to moderate-permeability formations. The total under all three scenarios are above 50,000 L/day (50 m^3/day) which triggers the need for MECP approval, but are within the Environmental Activity Sector Registration (EASR) requirements for construction dewatering of 400,000 L/day (400 m^3/day), so the EASR permitting process is available.

Operation

For the calculations during the operation phase of the building the following parameters and assumptions were used:

- the bottom of the base of the P2A slab (plus an allowance for the drainage network) was assigned at 89.247 masl;
- the highest water elevation was 96.64 masl making a saturated thickness of 7.4 m for dewatering;
- the finished size remained the same at 88 m wide by 105 long; and
- the average hydraulic conductivity of $3.18x10^{-5}$ cm/s was used for the Site. A contingency factor of 25 % has been used to capture the variance in hydraulic conductivity based on the documented hydraulic conductivity testing results and the observed soils within the area to be excavated.

The expected long-term pumping rate of 94 cubic metres per day or 65 L per minute will be needed during the operational phase of the property.

It should be noted that it is expected that the amount of groundwater inflow will diminish over time, as the thin surficial layers surrounding drain to a point where recharge can not replace all of the water that has been lost from the continual drainage of the surrounding soils.

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Based on the documented geological conditions and the observed seepage rates, it may be advantageous to evaluate traditional means of excavation dewatering (i.e. sump and pump) as opposed to the development of perimeter eductor dewatering system. Even though the static groundwater elevations within the overburden deposits are within 2 mbgs, the results of the exploratory excavation exercise suggest that seepage rates and the release of this water from storage may be manageable within the excavation. This change in the dewatering strategy would allow for the water takings to be contained within the excavation area and not require extraction points outside the excavation support systems. As a result, this modification in the dewatering strategy would also reduce the potential dewatering effects in the direction of the Metrolinx infrastructure. The anticipated radius of influence from continuous dewatering of an excavation within an overburden aquifer system can be categorized by the equation:

$$R = b \times (\text{sqrt}\ (k/(2*N)))$$

Where R= Radius of influence (m)

b = depth of the excavation (m)

k = hydraulic conductivity of the formation (m/s)

N= recharge rate of the formation (m/s)

Assuming the depth of the excavation will be upwards of 7.4 m below the normal groundwater levels, and applying a conservative rate of recharge of approximately 1.0 m/year (6×10^{-8} m/s), the anticipated theoretical radius of influence beyond the face of the excavation can be expected to extend approximately 3.68 m.

GROUNDWATER QUALITY RESULTS

A groundwater sample was obtained from on-site monitoring well MW305 on April 11, 2022 to evaluate the water quality with reference to the Regional Municipality of Halton (RMOH) Sewer By-law Use 2.03 Standards and future Sewer By-law Use Standards for the City of Burlington. Bureau Veritas Laboratories is an independent laboratory accredited by the Standards Council of Canada. Laboratories. Both filtered and unfiltered samples were analyzed for metals, phosphorus and TSS. Formal chain of custody records of the sample submissions were maintained between Pinchin and the staff at Bureau Veritas. The Laboratory Certificate of Analysis is appended.

A review of the certificates of analysis indicated that no parameters exceeded the *Regional Municipality of Halton (RMOH) Sewer By-law Use 2.03 Standards.*

Similarly, a review of the unfiltered and filtered groundwater results quantified that the exceedances of the Future/Proposed City of Burlington Storm Sewer By-law Use Standards for the are limited to Manganese.

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Location	Parameter	Unit	Limit	Result (unfiltered)	Result (filtered)
MW305	Manganese (total)	mg/L	0.05	**0.120**	**0.085**

EXCAVATION STABILITY

It is understood that the excavations for the proposed construction are to be completed using a combination of shoring and open cut excavations. Shoring is planned for along the north excavation face adjacent to the Metrolinks corridor, and open cut excavations will be used for the remainder of the excavation faces. It is further understood that the open cut excavations are to be sloped at 1 horizontal to 1 vertical from the base of the excavation, additionally, the groundwater is to be controlled using a sump and pump method with a drawdown of approximately 0.2 meters below the base of the excavation.

With this design information, Pinchin completed a global stability analysis of the cut slope without dewatering and also of the cut slope with dewatering.

The slope analyses were modelled using Slope/W program part of the Geo-Studio 2021 software package, and the results are appended.

The soil parameters used in the analysis have been estimated based on the results of the previous geotechnical investigations and the recent field testing and are as follows:

Soil Type	Angle of Internal Friction (degrees)	Unit Weight (kN/m^3)	Cohesion (kPa)
Fill	28˚	17	0
Silt	32˚	20	5
Shale Bedrock	40˚	23	10

The water table was modeled at the highest level recorded at the Site at Elevation 96.6 masl. The slope stability analyses were carried out for a number of potential failure modes. The various failures analyzed include shallow transitional type failures of the residual soil, medium depth rotational failures at the bottom and top of the slope, and deep rotational failures through the entire height of the slope.

Based on our analyses, the cut slopes at 1 horizontal to 1 vertical prior to draw down of the water are unstable with factors of safety less than 1 for several medium depth rotational failures. Following draw

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down of the water the proposed 1 horizontal to 1 vertical slope sections achieve a factor of safety of 1.2 or higher, indicating that following the removal of the water the slopes are stable.

Observations from the test pit excavation, which extended 7 m down to bedrock, indicated that the vertical excavation walls exhibited minimal cave-in after being held open for three hours. Additionally, as noted above the anticipated cone of influence surrounding the excavation is anticipated to be small. As excavating to the designed underside of foundation depth will take time, and provided the water is pumped from the excavation as the excavations proceed down, the cut slopes at 1 horizontal to 1 vertical will remain stable. It is recommended that procedures are put into place to inspect the excavations daily for any signs of instability, especially following heavy rainfalls and corrective actions such as tarping are used to support the excavation face.

It is further recommended to ensure the stability of the cut slopes that any surface water be directed away from the excavation and not be allowed to flow over the side of the excavation walls. Additionally, all heavy machinery should not be allowed within 3 m of the crest of the excavation slope.

CLOSING REMARKS

We trust that the foregoing information is satisfactory for your present needs. Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Pinchin Ltd.

Prepared by:

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Reviewed by:

Tim McBride, P.Geo., QP$_{ESA}$
Practice Specialist - Hydrogeology

705.521.0560
tmcbride@pinchin.com

Encl.: BV Labs Certificate of Analysis (No. C297246)
Slope Stability Analysis Results

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Your Project #: 225780.004
Site Location: JMX C/O PINCHIN LTD.
Your C.O.C. #: 873513-01-01

Attention: Tim McBride

Pinchin Ltd
662 Falconbridge Road
Unit 3
Sudbury, ON
CANADA P3A 4S4

Report Date: 2022/04/19
Report #: R7091700
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C297246
Received: 2022/04/12, 16:05

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Metals by ICPMS	1	N/A	2022/04/18	CAM SOP-00447	EPA 6020B m
Total Metals Analysis by ICPMS	1	N/A	2022/04/16	CAM SOP-00447	EPA 6020B m
Low Level Total Suspended Solids	2	2022/04/14	2022/04/19	CAM SOP-00428	SM 23 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: 225780.004
Site Location: JMX C/O PINCHIN LTD.
Your C.O.C. #: 873513-01-01

Attention: Tim McBride

Pinchin Ltd
662 Falconbridge Road
Unit 3
Sudbury, ON
CANADA P3A 4S4

Report Date: 2022/04/19
Report #: R7091700
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C297246
Received: 2022/04/12, 16:05

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817

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This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C297246
Report Date: 2022/04/19

Pinchin Ltd
Client Project #: 225780.004
Site Location: JMX C/O PINCHIN LTD.
Sampler Initials: KM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		SIR350	SIR351			
Sampling Date		2022/04/11 16:30	2022/04/11 16:30			
COC Number		873513-01-01	873513-01-01			
	UNITS	GW-225780.004-041122-MW305A	GW-225780.004-041122-MW305B	RDL	MDL	QC Batch
Inorganics						
Total Suspended Solids	mg/L	84	2	1	0.6	7940455

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		SIR350				SIR351			
Sampling Date		2022/04/11 16:30				2022/04/11 16:30			
COC Number		873513-01-01				873513-01-01			
	UNITS	GW-225780.004-041122-MW305A	RDL	MDL	QC Batch	GW-225780.004-041122-MW305B	RDL	MDL	QC Batch
Metals									
Dissolved Aluminum (Al)	ug/L					<4.9	4.9	4.9	7940296
Total Aluminum (Al)	ug/L	480	4.9	2.0	7940593				
Dissolved Antimony (Sb)	ug/L					<0.50	0.50	0.50	7940296
Total Antimony (Sb)	ug/L	<0.50	0.50	0.30	7940593				
Dissolved Arsenic (As)	ug/L					2.4	1.0	1.0	7940296
Total Arsenic (As)	ug/L	2.9	1.0	0.50	7940593				
Dissolved Barium (Ba)	ug/L					21	2.0	2.0	7940296
Total Barium (Ba)	ug/L	18	2.0	0.50	7940593				
Dissolved Beryllium (Be)	ug/L					<0.40	0.40	0.40	7940296
Total Beryllium (Be)	ug/L	<0.40	0.40	0.10	7940593				
Dissolved Bismuth (Bi)	ug/L					<1.0	1.0	1.0	7940296
Total Bismuth (Bi)	ug/L	<1.0	1.0	0.070	7940593				
Dissolved Boron (B)	ug/L					2700	10	10	7940296
Total Boron (B)	ug/L	2800	10	0.30	7940593				
Dissolved Cadmium (Cd)	ug/L					<0.090	0.090	0.090	7940296
Total Cadmium (Cd)	ug/L	<0.090	0.090	0.090	7940593				
Dissolved Calcium (Ca)	ug/L					160000	1000	1000	7940296
Total Calcium (Ca)	ug/L	160000	1000	250	7940593				
Dissolved Chromium (Cr)	ug/L					<5.0	5.0	5.0	7940296
Total Chromium (Cr)	ug/L	<5.0	5.0	5.0	7940593				
Dissolved Cobalt (Co)	ug/L					<0.50	0.50	0.50	7940296
Total Cobalt (Co)	ug/L	0.59	0.50	0.10	7940593				
Dissolved Copper (Cu)	ug/L					5.4	0.90	0.90	7940296
Total Copper (Cu)	ug/L	2.8	0.90	0.50	7940593				
Dissolved Iron (Fe)	ug/L					370	100	50	7940296
Total Iron (Fe)	ug/L	1300	100	10	7940593				
Dissolved Lead (Pb)	ug/L					<0.50	0.50	0.50	7940296
Total Lead (Pb)	ug/L	<0.50	0.50	0.10	7940593				
Dissolved Lithium (Li)	ug/L					370	5.0	5.0	7940296
Total Lithium (Li)	ug/L	360	5.0	0.50	7940593				
Dissolved Magnesium (Mg)	ug/L					73000	50	50	7940296
Total Magnesium (Mg)	ug/L	71000	50	20	7940593				
Dissolved Manganese (Mn)	ug/L					85	2.0	2.0	7940296

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QC Batch = Quality Control Batch

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		SIR350				SIR351			
Sampling Date		2022/04/11 16:30				2022/04/11 16:30			
COC Number		873513-01-01				873513-01-01			
	UNITS	GW-225780.004-041122-MW305A	RDL	MDL	QC Batch	GW-225780.004-041122-MW305B	RDL	MDL	QC Batch
Total Manganese (Mn)	ug/L	120	2.0	0.50	7940593				
Dissolved Molybdenum (Mo)	ug/L					6.1	0.50	0.50	7940296
Total Molybdenum (Mo)	ug/L	6.3	0.50	0.20	7940593				
Dissolved Nickel (Ni)	ug/L					<1.0	1.0	1.0	7940296
Total Nickel (Ni)	ug/L	1.4	1.0	0.50	7940593				
Dissolved Phosphorus (P)	ug/L					<100	100	50	7940296
Total Phosphorus (P)	ug/L	<100	100	30	7940593				
Dissolved Potassium (K)	ug/L					26000	200	200	7940296
Total Potassium (K)	ug/L	25000	200	50	7940593				
Dissolved Selenium (Se)	ug/L					<2.0	2.0	2.0	7940296
Total Selenium (Se)	ug/L	<2.0	2.0	0.50	7940593				
Dissolved Silicon (Si)	ug/L					5700	50	50	7940296
Total Silicon (Si)	ug/L	6100	50	30	7940593				
Dissolved Silver (Ag)	ug/L					<0.090	0.090	0.090	7940296
Total Silver (Ag)	ug/L	<0.090	0.090	0.070	7940593				
Dissolved Sodium (Na)	ug/L					380000	100	100	7940296
Total Sodium (Na)	ug/L	380000	100	50	7940593				
Dissolved Strontium (Sr)	ug/L					15000	1.0	1.0	7940296
Total Strontium (Sr)	ug/L	15000	1.0	0.50	7940593				
Dissolved Tellurium (Te)	ug/L					<1.0	1.0	1.0	7940296
Total Tellurium (Te)	ug/L	<1.0	1.0	0.70	7940593				
Dissolved Thallium (Tl)	ug/L					<0.050	0.050	0.050	7940296
Total Thallium (Tl)	ug/L	<0.050	0.050	0.020	7940593				
Dissolved Tin (Sn)	ug/L					<1.0	1.0	1.0	7940296
Total Tin (Sn)	ug/L	<1.0	1.0	0.50	7940593				
Dissolved Titanium (Ti)	ug/L					<5.0	5.0	5.0	7940296
Total Titanium (Ti)	ug/L	10	5.0	4.0	7940593				
Dissolved Tungsten (W)	ug/L					<1.0	1.0	1.0	7940296
Total Tungsten (W)	ug/L	<1.0	1.0	0.50	7940593				
Dissolved Uranium (U)	ug/L					0.77	0.10	0.10	7940296
Total Uranium (U)	ug/L	0.85	0.10	0.050	7940593				
Dissolved Vanadium (V)	ug/L					<0.50	0.50	0.50	7940296
Total Vanadium (V)	ug/L	0.93	0.50	0.40	7940593				
Dissolved Zinc (Zn)	ug/L					<5.0	5.0	5.0	7940296

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C297246
Report Date: 2022/04/19

Pinchin Ltd
Client Project #: 225780.004
Site Location: JMX C/O PINCHIN LTD.
Sampler Initials: KM

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		SIR350				SIR351			
Sampling Date		2022/04/11 16:30				2022/04/11 16:30			
COC Number		873513-01-01				873513-01-01			
	UNITS	GW-225780.004-041122-MW305A	RDL	MDL	QC Batch	GW-225780.004-041122-MW305B	RDL	MDL	QC Batch
Total Zinc (Zn)	ug/L	5.7	5.0	3.0	7940593				
Dissolved Zirconium (Zr)	ug/L					<1.0	1.0	1.0	7940296
Total Zirconium (Zr)	ug/L	<1.0	1.0	0.50	7940593				

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C297246
Report Date: 2022/04/19

Pinchin Ltd
Client Project #: 225780.004
Site Location: JMX C/O PINCHIN LTD.
Sampler Initials: KM

TEST SUMMARY

Bureau Veritas ID: SIR350
Sample ID: GW-225780.004-041122-MW305A
Matrix: Water

Collected: 2022/04/11
Shipped:
Received: 2022/04/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Metals Analysis by ICPMS	ICP/MS	7940593	N/A	2022/04/16	Prempal Bhatti
Low Level Total Suspended Solids	BAL	7940455	2022/04/14	2022/04/19	Kristen Chan

Bureau Veritas ID: SIR351
Sample ID: GW-225780.004-041122-MW305B
Matrix: Water

Collected: 2022/04/11
Shipped:
Received: 2022/04/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	7940296	N/A	2022/04/18	Prempal Bhatti
Low Level Total Suspended Solids	BAL	7940455	2022/04/14	2022/04/19	Kristen Chan

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.3°C

Results relate only to the items tested.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7940296	Dissolved Aluminum (Al)	2022/04/18	97	80 - 120	98	80 - 120	<4.9	ug/L				
7940296	Dissolved Antimony (Sb)	2022/04/18	100	80 - 120	98	80 - 120	<0.50	ug/L	NC	20		
7940296	Dissolved Arsenic (As)	2022/04/18	98	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
7940296	Dissolved Barium (Ba)	2022/04/18	98	80 - 120	97	80 - 120	<2.0	ug/L	3.6	20		
7940296	Dissolved Beryllium (Be)	2022/04/18	100	80 - 120	98	80 - 120	<0.40	ug/L	NC	20		
7940296	Dissolved Bismuth (Bi)	2022/04/18	101	80 - 120	100	80 - 120	<1.0	ug/L				
7940296	Dissolved Boron (B)	2022/04/18	93	80 - 120	93	80 - 120	<10	ug/L	0.15	20		
7940296	Dissolved Cadmium (Cd)	2022/04/18	99	80 - 120	98	80 - 120	<0.090	ug/L	NC	20		
7940296	Dissolved Calcium (Ca)	2022/04/18	NC	80 - 120	99	80 - 120	<200	ug/L				
7940296	Dissolved Chromium (Cr)	2022/04/18	95	80 - 120	93	80 - 120	<5.0	ug/L	NC	20		
7940296	Dissolved Cobalt (Co)	2022/04/18	97	80 - 120	97	80 - 120	<0.50	ug/L	0.73	20		
7940296	Dissolved Copper (Cu)	2022/04/18	97	80 - 120	97	80 - 120	<0.90	ug/L	4.4	20		
7940296	Dissolved Iron (Fe)	2022/04/18	98	80 - 120	97	80 - 120	<100	ug/L				
7940296	Dissolved Lead (Pb)	2022/04/18	93	80 - 120	95	80 - 120	<0.50	ug/L	NC	20		
7940296	Dissolved Lithium (Li)	2022/04/18	102	80 - 120	103	80 - 120	<5.0	ug/L				
7940296	Dissolved Magnesium (Mg)	2022/04/18	95	80 - 120	97	80 - 120	<50	ug/L				
7940296	Dissolved Manganese (Mn)	2022/04/18	NC	80 - 120	97	80 - 120	<2.0	ug/L				
7940296	Dissolved Molybdenum (Mo)	2022/04/18	97	80 - 120	94	80 - 120	<0.50	ug/L	6.1	20		
7940296	Dissolved Nickel (Ni)	2022/04/18	93	80 - 120	94	80 - 120	<1.0	ug/L	10	20		
7940296	Dissolved Phosphorus (P)	2022/04/18	97	80 - 120	104	80 - 120	<100	ug/L				
7940296	Dissolved Potassium (K)	2022/04/18	98	80 - 120	94	80 - 120	<200	ug/L				
7940296	Dissolved Selenium (Se)	2022/04/18	102	80 - 120	100	80 - 120	<2.0	ug/L	NC	20		
7940296	Dissolved Silicon (Si)	2022/04/18	98	80 - 120	96	80 - 120	<50	ug/L				
7940296	Dissolved Silver (Ag)	2022/04/18	89	80 - 120	94	80 - 120	<0.090	ug/L	NC	20		
7940296	Dissolved Sodium (Na)	2022/04/18	93	80 - 120	93	80 - 120	<100	ug/L	1.4	20		
7940296	Dissolved Strontium (Sr)	2022/04/18	96	80 - 120	96	80 - 120	<1.0	ug/L				
7940296	Dissolved Tellurium (Te)	2022/04/18	102	80 - 120	97	80 - 120	<1.0	ug/L				
7940296	Dissolved Thallium (Tl)	2022/04/18	105	80 - 120	104	80 - 120	<0.050	ug/L	NC	20		
7940296	Dissolved Tin (Sn)	2022/04/18	100	80 - 120	99	80 - 120	<1.0	ug/L				
7940296	Dissolved Titanium (Ti)	2022/04/18	95	80 - 120	94	80 - 120	<5.0	ug/L				
7940296	Dissolved Tungsten (W)	2022/04/18	99	80 - 120	95	80 - 120	<1.0	ug/L				

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7940296	Dissolved Uranium (U)	2022/04/18	95	80 - 120	98	80 - 120	<0.10	ug/L	4.4	20		
7940296	Dissolved Vanadium (V)	2022/04/18	97	80 - 120	95	80 - 120	<0.50	ug/L	4.6	20		
7940296	Dissolved Zinc (Zn)	2022/04/18	96	80 - 120	96	80 - 120	<5.0	ug/L	NC	20		
7940296	Dissolved Zirconium (Zr)	2022/04/18	99	80 - 120	96	80 - 120	<1.0	ug/L				
7940455	Total Suspended Solids	2022/04/19					<1	mg/L	1.1	25	95	85 - 115
7940593	Total Aluminum (Al)	2022/04/16	100	80 - 120	102	80 - 120	<4.9	ug/L	2.9	20		
7940593	Total Antimony (Sb)	2022/04/16	105	80 - 120	103	80 - 120	<0.50	ug/L				
7940593	Total Arsenic (As)	2022/04/16	101	80 - 120	100	80 - 120	<1.0	ug/L				
7940593	Total Barium (Ba)	2022/04/16	97	80 - 120	96	80 - 120	<2.0	ug/L				
7940593	Total Beryllium (Be)	2022/04/16	98	80 - 120	102	80 - 120	<0.40	ug/L				
7940593	Total Bismuth (Bi)	2022/04/16	95	80 - 120	95	80 - 120	<1.0	ug/L				
7940593	Total Boron (B)	2022/04/16	94	80 - 120	95	80 - 120	<10	ug/L				
7940593	Total Cadmium (Cd)	2022/04/16	100	80 - 120	101	80 - 120	<0.090	ug/L				
7940593	Total Calcium (Ca)	2022/04/16	NC	80 - 120	100	80 - 120	<200	ug/L				
7940593	Total Chromium (Cr)	2022/04/16	98	80 - 120	98	80 - 120	<5.0	ug/L				
7940593	Total Cobalt (Co)	2022/04/16	99	80 - 120	101	80 - 120	<0.50	ug/L				
7940593	Total Copper (Cu)	2022/04/16	97	80 - 120	98	80 - 120	<0.90	ug/L				
7940593	Total Iron (Fe)	2022/04/16	99	80 - 120	100	80 - 120	<100	ug/L				
7940593	Total Lead (Pb)	2022/04/16	97	80 - 120	96	80 - 120	<0.50	ug/L				
7940593	Total Lithium (Li)	2022/04/16	102	80 - 120	109	80 - 120	<5.0	ug/L				
7940593	Total Magnesium (Mg)	2022/04/16	96	80 - 120	101	80 - 120	<50	ug/L				
7940593	Total Manganese (Mn)	2022/04/16	99	80 - 120	101	80 - 120	<2.0	ug/L				
7940593	Total Molybdenum (Mo)	2022/04/16	100	80 - 120	98	80 - 120	<0.50	ug/L				
7940593	Total Nickel (Ni)	2022/04/16	97	80 - 120	99	80 - 120	<1.0	ug/L				
7940593	Total Phosphorus (P)	2022/04/16	101	80 - 120	107	80 - 120	<100	ug/L				
7940593	Total Potassium (K)	2022/04/16	102	80 - 120	100	80 - 120	<200	ug/L				
7940593	Total Selenium (Se)	2022/04/16	101	80 - 120	103	80 - 120	<2.0	ug/L				
7940593	Total Silicon (Si)	2022/04/16	98	80 - 120	99	80 - 120	<50	ug/L				
7940593	Total Silver (Ag)	2022/04/16	97	80 - 120	98	80 - 120	<0.090	ug/L				
7940593	Total Sodium (Na)	2022/04/16	NC	80 - 120	99	80 - 120	<100	ug/L				
7940593	Total Strontium (Sr)	2022/04/16	NC	80 - 120	99	80 - 120	<1.0	ug/L				

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7940593	Total Tellurium (Te)	2022/04/16	98	80 - 120	97	80 - 120	<1.0	ug/L				
7940593	Total Thallium (Tl)	2022/04/16	98	80 - 120	101	80 - 120	<0.050	ug/L				
7940593	Total Tin (Sn)	2022/04/16	100	80 - 120	100	80 - 120	<1.0	ug/L				
7940593	Total Titanium (Ti)	2022/04/16	100	80 - 120	98	80 - 120	<5.0	ug/L				
7940593	Total Tungsten (W)	2022/04/16	98	80 - 120	100	80 - 120	<1.0	ug/L				
7940593	Total Uranium (U)	2022/04/16	105	80 - 120	101	80 - 120	<0.10	ug/L				
7940593	Total Vanadium (V)	2022/04/16	101	80 - 120	100	80 - 120	<0.50	ug/L				
7940593	Total Zinc (Zn)	2022/04/16	100	80 - 120	103	80 - 120	<5.0	ug/L				
7940593	Total Zirconium (Zr)	2022/04/16	102	80 - 120	99	80 - 120	<1.0	ug/L				

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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FUNDAMENTAL LABORATORY ACCEPTANCE GUIDELINE

Invoice To:
Pinchin Ltd
ATTN: Accounts Payable
662 Falconbridge Road
Unit 3
Sudbury, ON
CANADA P3A 4S4
Client Contact:
Tim McBride

Bureau Veritas Job #:	C297246
Date Received:	2022/04/12
Your C.O.C. #:	873513-01-01
Your Project #:	225780.004
Bureau Veritas Project Manager:	Antonella Brasil
Quote #:	C20345

[X] Bottles in shipment but not listed on Chain of Custody

Report Comments

Received Date:	**2022/04/12**	**Time:**	**16:05**	**By:**	**DSG**
Inspected Date:	**2022/04/12**	**Time:**	**19:45**	**By:**	**DSG**
FLAG Created Date:	**2022/04/12**	**Time:**	**20:19**	**By:**	**J1K**

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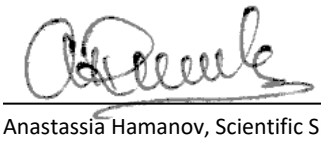
Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C297246
Report Date: 2022/04/19

Pinchin Ltd
Client Project #: 225780.004
Site Location: JMX C/O PINCHIN LTD.
Sampler Initials: KM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas
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CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#637 Pinchin Ltd	Company Name:		Quotation #:	C20345	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Tim McBride	P.O. #:			873513
Address:	225 Labrador Drive Unit #1	Address:		Project:	225780.004	COC #:	Project Manager:
	Waterloo ON N2K 4M8			Project Name:		C#873513-01-01	Antonella Brasil
Tel:	(519) 746-4210 Fax: (519) 746-7108	Tel:	Fax:	Site #:			
Email:	ap@pinchin.com	Email:	tmcbride@pinchin.com	Sampled By:	K. Murr		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
☐ Table 1 ☐ Res/Park ☐ Medium/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ For RSC
☐ Table ___

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ Reg 558. ☐ Storm Sewer Bylaw
☐ MISA Municipality ___
☐ PWQO ☐ Reg 406 Table ___
☐ Other ___

Special Instructions
→ Please compare to City of Burlington and Regional Municipality of Halton Sewer Use Bylaws

Include Criteria on Certificate of Analysis (Y/N)? ___

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): (Metals) Hg / Cr VI One filtered, one unfiltered	Total Metals Analysis by ICPMS	Dissolved Metals by ICPMS	Low Level Total Suspended Solids	phosphorus	# of Bottles	Comments
1		GW-225780.004-041122-MW305A	Apr. 11, 22	16:30	GW		✓		✓	✓	3	Total metals- preserved Dissolved metals- field filtered
2		GW-225780.004-041122-MW305B	Apr. 11, 22	16:30	GW			✓	✓	✓	3	MW305A phosphorus sample is not filtered. MW305B phosphorus sample is filtered.
3												
4												
5												
6												
7												
8												
9												
10												

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___
Rush Confirmation Number: ___ *(call lab for #)*

12-Apr-22 16:05
Antonella Brasil
C297246
DSG ENV-1110

REC'D IN WATERLOO

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
K. Murr	2022/04/12	16:04	Sarah Webster	2022/04/12	16:05	
K.M			Sarah Webster	2022/04/12	17:40	

Laboratory Use Only
Time Sensitive
Temperature (°C) on Recei: 4/5/4
Custody Seal Present ☐ Yes ☐ No ✓
Intact

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

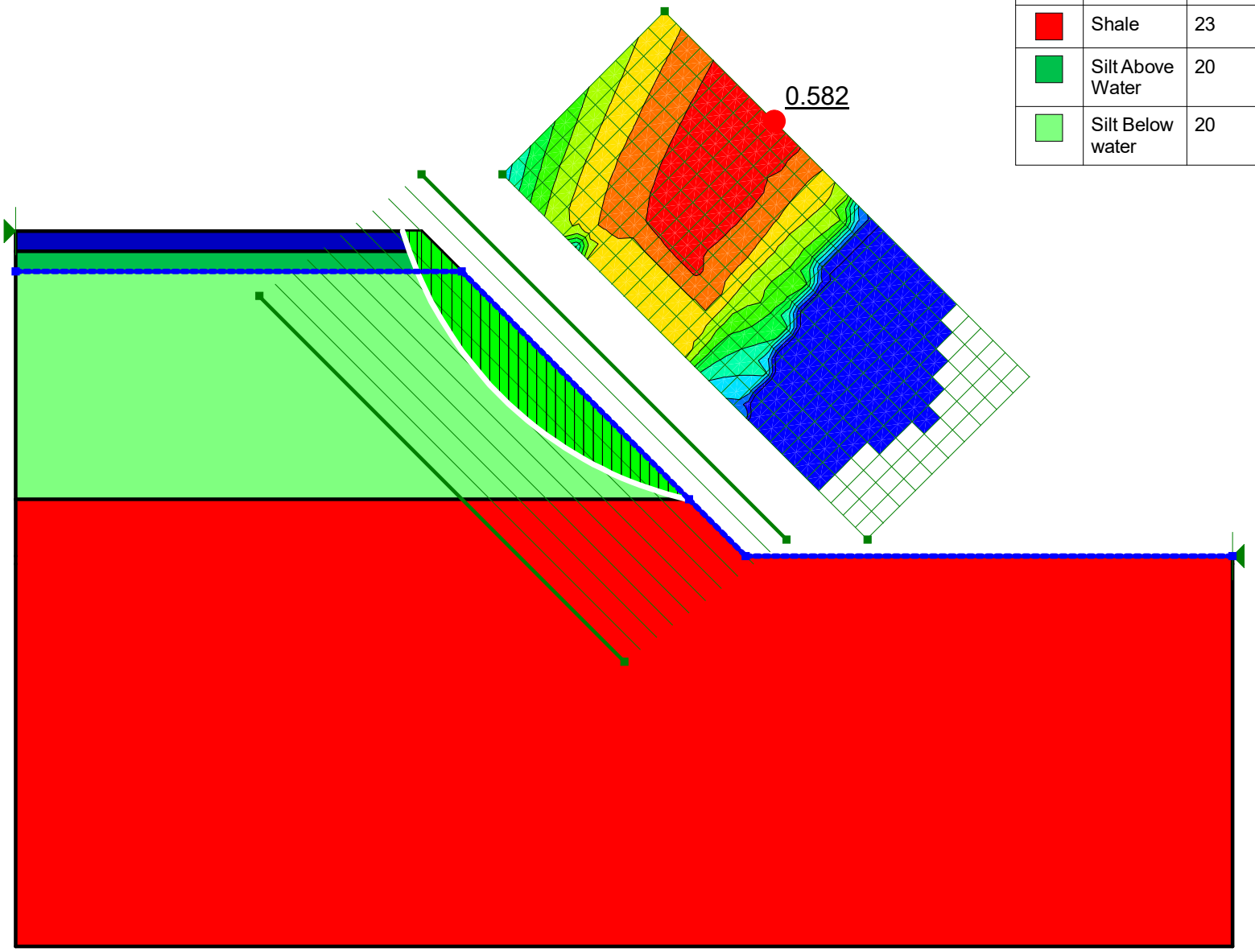
on ice

Bureau Veritas Canada (2019) Inc.

42313 0/0/4

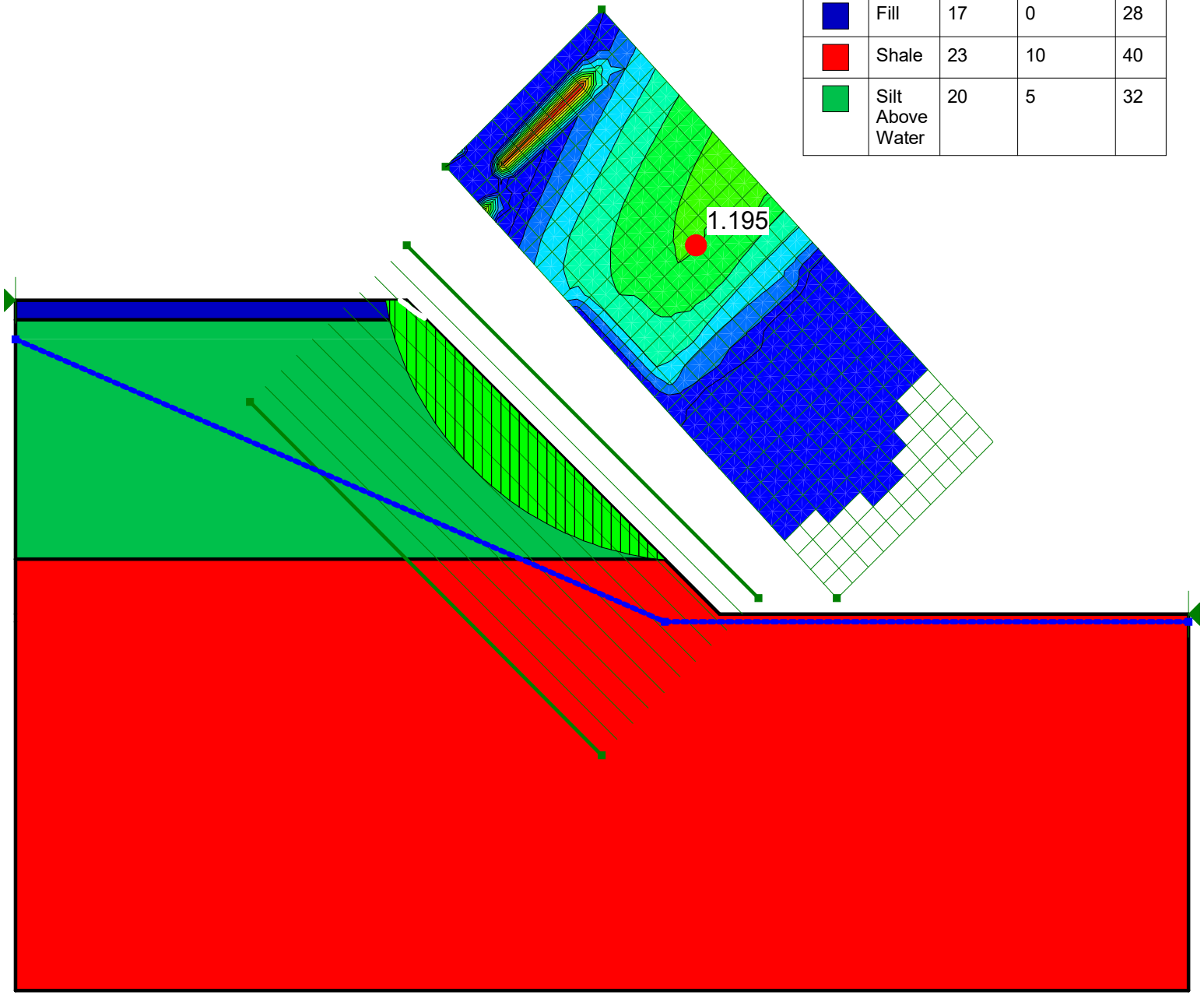
Cut Slope at 1H to 1V, Water at Spring Level

Color	Name	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)
	Fill	17	0	28
	Shale	23	10	40
	Silt Above Water	20	5	32
	Silt Below water	20	5	32



Cut Slope at 1H to 1V, Water Drawn Down

Color	Name	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)
	Fill	17	0	28
	Shale	23	10	40
	Silt Above Water	20	5	32



November 22, 2021

Fairview Limited Partnership
485 Bank Street, Suite 200
Ottawa, Ontario K2P 1Z2

E-mail: oz.drewniak@clvgroup.com

Attention: Mr. Oz Drewniak

Re: Revised Hydrogeological Assessment – Phase 1 Construction – Buildings C1 and C2
2243 and 2269 Fairview Street, and 864 Drury Lane, Burlington, Ontario
Pinchin File: 225780.004 (Revised)

Pinchin Ltd. (Pinchin) is pleased to provide Fairview Limited Partnership (Client) this letter report which provides a supplemental hydrogeological assessment of the property located at 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario (Site). The Site location is indicated on Figure 1. The property is presently developed with a single-storey commercial building and a partial two-storey commercial building (Site Buildings A and B, respectively) that were occupied by Holland Park Gardens, a two-storey commercial building (Site Building C) that was occupied by Liz@Home, and a single-storey multi-tenant commercial building (Site Building D). The current Site layout is presented in Figure 2.

In order facilitate the required subgrade construction activities, the contractor will be required to manage surface water and infiltrated groundwater within the excavation, until the subgrade components of the construction activities are completed.

1.0 INTRODUCTION AND BACKGROUND

Pinchin Ltd. (Pinchin) was retained by Fairview Limited Partnership (Client) to conduct a Supplemental Hydrogeological Investigation and provide subsequent dewatering requirements for the proposed commercial/residential development to be located at 2243 & 2269 Fairview Street and 864 Drury Lane Burlington, Ontario (Site).

The Client provided proposed future development plans for the Site, which include a series of four (4) buildings (A to D) for mixed commercial and residential use, with underground parking garages (UPG) connecting the buildings subgrade (A to B and C to D). Currently the proposed construction sequencing involves construction of Building C first, with Building D commencing 24 to 36 months thereafter.

These two buildings will each have two levels of UPG and these underground structures will connect the buildings subgrade. Based on the proposed UPG levels, Pinchin anticipates that excavations will extend upwards of 7 metres below existing ground surface (mbgs) for the two (2) levels of UPG. The proposed development plan is provided in Appendix I. The average current Site elevation is approximately 97.3 metres above sea level (masl). The contractor intends to complete a mass excavation to an elevation of approximately 90.227 masl to accommodate the 2-level UPG.

As a result of the duration of the anticipated construction for Buildings C1 and C1 as Phase 1 of Construction, this report does not consider Buildings A, B and D.

Pinchin has previously completed separate both preliminary geotechnical and hydrogeological investigations as well as provided the water taking and discharge plans for the development at 2243 Fairview Street and 864 Drury Lane, Burlington, Ontario. The findings of those investigations were provided in the following reports:

- “Preliminary Geotechnical Investigation – Proposed Residential Development, 2243 Fairview Street, Burlington, Ontario”, Pinchin File 220515.001, dated April 20, 2018;
- “Preliminary Geotechnical Investigation – Proposed Residential Development, 864 Drury Lane, Burlington, Ontario”, Pinchin File 224746.003, dated July 26, 2018;
- “Preliminary Groundwater Summary Results - 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario” Pinchin File: 225780.004 Dated January 2020; and
- “Water Taking and Discharge Plans - 2243 and 2269 Fairview Street and 864 Drury Lane Burlington, Ontario” Pinchin File 225780.004 Dated September 28, 2020.

The relevant information from the above noted reports has been included in this report and the borehole logs have been included within Appendix II along with the additional boreholes advanced for this project.

It is Pinchin’s understanding that the proposed phase one (1) of the development consists of the following:

- Building C: Five storey mixed use residential/commercial building complete with towers 33 stories (Building C1) and 37 stories (Building C2) in height. Building C is also complete with two (2) levels of underground parking.

It is noted that the proposed depth to the underside of the footings for the two (2) level parking garage is approximately 90.3 Metres Above Sea Level (masl) or approximately 7 metres below grade surface. This is based on the client provided drawings provided in Appendix I on Drawing A400.

2.0 PURPOSE

It is Pinchin's understanding that the Client is in the process of completing the design activities and in preparation to apply for the permits that are required as part of the City's Development Application Process, as well as under the Ministry of the Environment, Conservation and Parks (MECP) Permit to Take Water. Both the City and the Province require a Hydrogeological Assessment to provide the appropriate data for planning potential dewatering during construction, as well as during building operation, along with the preparation of applications for discharge permits from the City.

The purpose of this supplemental study is to further aid in the:

- Support of the registration of the water taking activity with the Ministry of the Environment Conservation and Parks (MECP) Environmental Activities & Sectors Registry (EASR);
- Confirm that the takings do not result in unacceptable impacts on the natural environment or on existing water users;
- Confirm water discharge requirements;
- Establish a monitoring program for the volume of water taken daily as required by Ontario Regulation 387/04: Water Taking and Transfer;
- Affirm any significant deviation between actual and predicted impact; and
- Trigger contingency measures if unacceptable impacts do occur.

To fulfill these objectives, sampling frequency must be adequate, suitable sample locations must be identified, proper parameters must be monitored, and appropriate mitigation measures must be defined.

A contingency plan is required to provide recommended mitigation measures that should be implemented to protect the natural environment and existing water users, if potential impacts and/or interference associated with the permitted water-taking is suspected.

2.1 Proposed Development Parameters

This report is focused on the first phase of the development for the construction of Buildings C1 and C2 found within the client provided drawings included in Appendix I. From this the excavation will be assumed to be the extent of the phase one boundary or 105 m along the northern property boundary (along the Railway tracks) extending 88 m to the south. The depth of the excavation has been taking from drawing A400 in Appendix I and has been assigned at 90.227 masl.

3.0 GEOLOGY

This portion of the City of Burlington is mapped with a surficial quaternary geology of a thin layer of Paleozoic Glaciomarine deposits of silt and clay, minor sand basin and quiet water deposits (Ontario Geoloical Survey, 2000). This is underlain by a bedrock formation of the Queenston formation consisting of Shale, Limestone, Dolostone and Siltstone (Ontario Geological Survey, 2009). This is further confirmed through the Ontario Water Well Records search completed within a 500 m radius of the search. From the 69 reported well records, the shale bedrock ranges from approximately 2 to 7 mbgs.

The Site has had 21 boreholes drilled recently within its boundary In general, the soil stratigraphy across the Site consists of a current layer of asphalt overlying sand and silt deposits, which increases in clay content with depth and a bedrock layer starting between 91.9 and 89.7 meters above sea level (masl) and continues with decreasing weathering to the maximum investigation depth of 79.5 masl.

3.1 SURFACE WATER

The nearest surface in the immediate vicinity of the Site is Rambo Creek, which is located a minimum distance of 55 m southwest of the property, it is part of a drainage system which drains to Lake Ontario, located approximately 2.2 km south of the Site.

4.0 METHODOLOGY – HYDROGEOLOGY ASSESSMENT

The scope of work for the dewatering estimates and groundwater quality evaluation included the following:

- Prepare a summary of regional geology and hydrogeology, and its linkage to the site-specific geology and hydrogeology;
- Conduct a desktop review of available water well records within 500 m of the subject Site through accessing the Ontario Water Well Information System database;
- Installation of six additional monitoring wells as described below, in conjunction with the geotechnical investigation field work;
- Perform rising head hydraulic conductivity tests on the following five (5) monitoring wells: MW301, MW302, MW303, MW305, MW306;
- Water Level monitoring every month for a period of 3 months, in order to capture some seasonal variation in the water table elevations;
- Completion of a pump test in the deep monitoring well (MW 304), utilizing a temporary submersible pump, generator and variable flow controller;
- Seasonal (June, August, October of 2021) groundwater contours and flow directions;

- Preparation of local scale geologic cross-sections;
- Dewatering estimates for construction and operations (post-construction) from groundwater inflows and from precipitation (stormwater) inflows during construction;
- A mitigation analysis and proposed monitoring program, if required (construction phase) Conduct dewatering estimates for construction and operations (post-construction) from groundwater inflows (if applicable), and from precipitation (stormwater) inflows during construction;
- Submit three (3) samples for analysis of background groundwater quality;
- Prepare a report outlining the findings of the assessment; and
- Liaison with Client staff and their assigns (other consultants, contractors) as required.

The scope of work does not include any permitting (e.g. Discharge Permit from the City) that may be required for the construction and post-construction (operations) phase of the development, nor does it include responding to any comments that the City may have concerning the hydrogeological assessment report and findings.

5.0 WATER WELL RECORDS

Water well records from within a 500 m radius of the Site were accessed from the Ontario Ministry of the Environment, Conservation and Parks (MECP) Water Well Information System (WWIS). A total of 69 individual water well records were reviewed within this radius and are presented on Figure 3.

The well records from the WWIS database are water supply well records and geotechnical or environmental monitoring wells, as well as two (2) abandonment records. Within the study area there were records indicating six (6) water supply records as denoted with a “28-“prefix, four (4) of which were records of monitoring well records that were installed prior to 2006, all were plotted within the radius. The remaining sixty-three (63) water well records denoted as geotechnical and monitoring well records, are denoted by a Well Number with a “7x-“prefix, of these 2 were records of abandonment (7114984, and 7119497). Twelve (12) of the records were records of well clusters of one or more well on a single property which have a single identification number. Three records had no information on the record other than the GPS location at the time of review (No’s. 7225148, 7307838, 7323581).

The records for the sixty-nine (69) water wells are included in the 54 well records attached as Appendix III. The water well records generally indicate different colours of “silt sand and clay” to 2 to 7 mbgs, where shale bedrock was encountered or inferred within the records. Both of the supply well records indicate that the shale is the formation used for the water supply at depths greater than 6 mbgs, neither of the supply wells could be correlated to a decommissioned well.

6.0 RESULTS

The existing 2018 borehole/monitoring well locations, as well as the new included 6 monitoring wells are identified on Figure 2. The borehole logs for the current monitoring wells which were employed in the Hydrogeology Assessment are included in Appendix II. The existing wells were employed for the inferred groundwater elevation and flow directions.

6.1 Water Level Elevations and Groundwater Flow Regime

Water level measurements of the wells within the Construction Phase One were undertaken May 31st, June 29th, August 3rd, and October 6th, 2021. Water levels are presented in Table 1 of this letter report.

Water levels in with relation to depth below grade ranged from 1.19 mbgs at MW 301 in October to 4.22 mbgs at MW304 in June.

The water fluctuated an average of 0.45 m within each well between May and October. The water level elevation range across the phase one section in May was between 96.2 and 94.3 masl indicating a large hydraulic gradient, however since MW304 is screened significantly deeper than the other 5 wells, if removed the water level ranges between 96.2 and 95.6 masl with an average elevation of 96.0 masl. The water level elevation range across the phase one section in June was between 96.5 and 93.5 masl indicating a large hydraulic gradient, again since MW304 is screened significantly deeper than the other 5 wells, if removed the water level ranges between 96.6 and 95.7 masl with an average elevation of 96.1 masl. As can be observed in Table 1, the August and October monitoring efforts followed a similar trend, with MW304 presenting a groundwater elevation within the screened stratigraphic unit approximately 2.6 m lower than the remainder of the monitoring wells. In general, the remaining 5 monitoring wells had a difference in water levels of less than 1 m, with 0.79 m in May, 0.58 m in June, 0.5 m in August and 0.49 m in October.

A groundwater elevation plan for the shallow groundwater (above the bedrock) and bedrock groundwater elevations are included as Figure 4 A and B respectively.

The inferred shallow groundwater flow direction across the Site appears to be towards the southeast. Within the boundaries of initial phase of construction, the water flow is approximated to be south. Cross-sections created from the borehole logs are included as Figures 5, 5A, and 5B.

The water level within the phase one construction zone of the Site can be evaluated using the monthly site average water levels of the 5 wells which are screened within the excavation zone MW301, MW302, MW303, MM305, and MW306. In May, the Site average water level was 95.98 masl, in June the Site average had risen to be 96.04 masl, with the average of 96.12 masl and 96.30 masl recorded for August and October, respectively.

6.2 Pump Test Results

A planned 8 hour pump test was preformed on the deepest well MW304, located in the center of the proposed excavation on May 31, 2021.

The well was pumped for a total of 56 minutes over a 90-minute period at a rate of 3-5 l/min. During the pump test the well ran dry and as the pump was unable to produce water at which point the pump test was concluded.

There was no change in the water levels within the surrounding 5 wells. On recovery the well was monitored over the next three hours at which point it achieved a total of 16% recovery. The wells on site remained unchanged. The transducer data was analysed using Aqutisolv, the results can be found in Appendix IV.

6.3 Hydraulic Conductivity Estimates

Hydraulic conductivity, which is a measure of water's ability to move through the aquifer medium, is one of the important factors in monitoring the fate and transport of contaminants in the subsurface and yields of the aquifer. This characteristic controls the rate and the distribution of the water within the overburden, as well as the bedrock. Hydraulic conductivity (permeability) of a geological formation is determined by the rate of the recovery of the water level after a known volume of water is added or removed.

A negative hydraulic head displacement (rising head test) was created by removing the standing water in the monitoring well using dedicated inertial pumps comprised of Waterra polyethylene tubing and foot valves to draw the groundwater to the surface. The hydraulic recovery within the monitoring wells was recorded over the course of the rising head tests.

Rising head hydraulic conductivity (K-) tests were conducted at six of the monitoring wells (MW301, MW302, MW303, MW304, MW305, MW306).

The rising head test procedure employs the hydrostatic time-lag method for groundwater recovery following the removal of a volume of water from a monitoring well and makes use of the theory of Hvorslev (1951), as described in Freeze and Cherry (1979). Hvorslev's method is expressed by the following equation:

where:

$$K = \frac{r2\ln\left(\frac{L}{R}\right)}{2LT_0}$$

K = hydraulic conductivity of the tested material (m/sec)

r = inner radius of the well riser pipe (m)

R = outer radius of the well riser pipe (m)

L = length of screen and sand pack (m)

To = time lag (s), where (H-h)/(H-Ho) = 0.37

h = water level at each time of measurement (m)

Ho = initial water level (m, start of test)

H = stabilized water level prior to introducing slug (m)

The time lag, T_0, is defined as the time required for the water level to recover to 63% of the stabilized level if the initial flow rate into the well is maintained. This time lag is determined graphically as the time for which (H-h) divided by (H-Ho) is equal to 0.37.

Table 2 below summarizes the results, with the testing results provided in Appendix V of the report:

Well	Test Date	Screen Interval (MBGS)	Screen Material	Hydraulic Conductivity (cm/sec)
MW301	6/30/2021	7.40-10.45	Fractured Shale	7.35E-06
MW302	6/29/2021	7.37-10.42	Fractured Shale	4.33E-05
MW303	6/29/2021	7.40-10.45	Fractured Shale	3.49E-07
MW304	5/31/2021	15.35-18.40	Fractured Shale	1.11E-07
MW305	6/30/2021	6.56-8.83	Fractured Shale	1.37E-05
MW306	6/30/2021	7.31-10.36	Fractured Shale	1.26E-04
Site Average				3.18E-05

Table 2: The estimated Hydraulic Conductivity of the six (6) bedrock wells tested in 2021.

The estimated hydraulic conductivities (K-values) in the six (6) tested wells indicates a fairly wide distribution which can be expected when dealing with a fractured bedrock in which all of the wells are screened.

All of the wells have a 3.05 m long screen with the exception of MW305 which is a 1.52 m screen to ensure the well has a seal within the bedrock. The highest hydraulic conductivity was documented within MW306 at 1.26 x10^{-4} cm/sec. The lowest hydraulic conductivity was quantified within MW303 at 3.49 x10^{-7} cm/sec.

Overall the average for the six (6) tested wells across the phase 1 construction zone was 3.18x10^{-5} cm/sec, this falls above the range presented by Freeze Cherry (Freeze, et al, 1979) for shale with K values of 1x10^{-11} cm/sec to 1x10^{-7} cm/sec, this may be contributed by the amount of fracturing within the sections of bedrock where the wells were screened.

In 2018, hydraulic conductivity testing was completed at monitoring wells MW201 to MW205, which targeted the overburden deposits. Similar to the methodology described above, the depth to groundwater was measured at each of the monitoring wells prior to the completion of the hydraulic conductivity testing activities in order to determine static water levels. The hydraulic conductivities estimated from the rising head tests conducted on the overburden deposits in 2018 are presented in Table 3 below, as follows:

Well ID	K-Value (cm/s) Best Fit Curve	K-Value (cm/s) Low Curve	K-Value (cm/s) High Curve	Average K-Value (cm/s)
MW201	3.27 x 10^{-5}	2.65 x 10^{-5}	3.88 x 10^{-5}	3.23 x 10^{-6}
MW202	2.37 x 10^{-5}	1.96 x 10^{-5}	3.40 x 10^{-5}	2.51 x 10^{-5}
MW203	7.60 x 10^{-6}	4.50 x 10^{-6}	1.32 x 10^{-5}	7.67 x 10^{-6}
MW204	5.81 x 10^{-6}	4,24 x 10^{-6}	1.61 x 10^{-5}	7.34 x 10^{-6}
MW205	5.46 x 10^{-5}	3.71 x 10^{-5}	9.48 x 10^{-5}	5.77 x 10^{-5}

Table 3: The estimated Hydraulic Conductivity of the five (5) overburden wells tested in 2018.

The final hydraulic conductivity values for each of the tested monitoring wells were utilized to calculate geometric mean hydraulic conductivity value for the overburden aquifer at the Site. Calculated hydraulic conductivity values ranged from 3.23 x 10^{-6} cm/s to 5.77 x 10^{-5} cm/s, with an overall geometric mean of 1.92 x 10^{-5} cm/s.

The calculated results are consistent with the recovery observations made during the field program and are consistent with the range of hydraulic conductivities for the Site-specific silt with clay that range from 10^{-4} to 10^{-7} cm/s (Freeze & Cherry, 1979). Therefore, Pinchin has determined that the calculated hydraulic conductivities are acceptable for use as an approximation of the hydraulic conductivity for the Site.

6.4 Dewatering Estimates – Groundwater Inflow

As stated above in Section 2.1, maximum depth of excavation for the underground structure is +/-7 metres below grade surface of the existing ground surface. For estimating groundwater inflow, a high-water table elevation of for the Site was assumed using the highest groundwater elevation from the monitoring within phase 1 construction area.

The dewatering estimates provided below include both the construction and operations phases of the first phase of development, as portions of the two levels of UPG will be under the water table during operation of the building, and it has been assumed that the building will not be designed water tight to resist uplift. Conservative dewatering estimates were undertaken to cover the basement excavation scenario and the assumed presence of weeping tiles at the foundation elevations during building operation. The perimeter foundation trench estimate is covered in the excavation dewatering estimate for each of the building.

6.4.1 Construction

A conservative groundwater dewatering scenario during construction was undertaken using the methods presented by Powers (Powers, 1992) for systems which are less than Length/Width of 1.5, through equations 6.03 through 6.14 as described below:

$$Q = \frac{\pi K (H^2 - h^2)}{ln(\frac{R_o}{R_s})}$$

Where:
Q is in m^3/Day
K - Hydraulic Conductivity (m/Day)
H – Distance from Static water level to bottom of Aquifer (m)
h – lowest water level needed from static (m)
R_o- Radius of conical depression (m) (Taken from Equation 6.14)

$$Ro = 3(H - h)\sqrt{k}$$

Where
K- Hydraulic Conductivity (m/Sec)
R_s – Equivalent Radius (m)

$$R_s = \frac{l + w}{\pi}$$

l- Length of excavation/trench
w- width of trench

For the calculations the following parameters and assumptions were used:

- the bottom of the excavation was assigned an elevation of 90.227 masl (i.e. 1 m below the finish grade);

- the highest water elevation was 96.64 masl making a saturated thickness of 6.413 m for dewatering;
- the excavation dimensions were assigned a size of 88 m wide by 105 m long;
- the average hydraulic conductivity of $3.18x10^{-5}$ cm/s was used for the site, with a contingency factor of 50 % used to capture the variance in hydraulic conductivity within the area to be excavated;
- the storage capacity was based on conservative estimate of shale at 10% and 30% for the silt component (Freeze, et al., 1979); and
- based on the borehole logs an average elevation of 91 masl was calculated for the interface of the shale bedrock and the overlying silt.

Using these assumptions, the expected pumping rate of 118.03 cubic metres a day will be needed once steady state is reached.

The water held within storage of the proposed excavation is held within two formations the overburden of silt and the shale bedrock. Totaling 18,396 cubic metres with the individual volumes presented below:

Storage Volume in Proposed Excavation

	Thickness (m)	m^3	L
Silt	6.3	17,346	17,345,901
Shale Bedrock	0.8	706	706,411
Total	7.1	18,052	18,052,311

Table 4: The Calculated Storage Volume of the proposed excavation

Using these volumes and a reasonable thirty (30) day advance dewatering program a volume of 314 cubic metres a day would be needed to remove the storage water and the bring the pumping to a steady state. If a sixty (60) day advance dewatering program is used then that volume would be decreased to 214 cubic metres a day.

In addition to the estimated dewatering rates associated with the Building C development, it is Pinchin's understanding that there is also a construction dewatering component required to facilitate Site servicing. The Site servicing will be via a linear excavation that will be approximately 300 m in length, be 5 m wide and extend to a depth of 92.5 masl (i.e. approximately 4 m into the water table).

Similar to the dewatering program proposed for the Building C foundations, the dewatering program to accommodate installation of the Site services will comprise of a series of 38 mm diameter eductor wells at a 1.5 to 3 m spacing. The wellpoints will be drilled to an elevation of approximately 92 masl (assuming a Ground Surface Elevation of 97.327 obtained from Drawing A400). Using input parameters and assumptions similar to that of construction dewatering (identified above), it is estimated that the Site servicing dewatering will require an additional withdrawal of 57.2 m^3/day, as there are potential mutual dewatering opportunities along the southern perimeter of the Building C excavation.

The approximate pumping rates are included in the table below:

Pumping Rates			
Time	**m^3/day**	**m^3/hour**	**L/Min**
Storage (30-day pre excavation)	314.3	13	218
Storage (60-day pre excavation)	214	9	149
Building C Construction	113.75	5	79
Site Servicing	57.18	2	40

Table 5: Predicted pumping rates for construction dewatering

The supporting calculations are included within Appendix VI.

The dewatering estimates are indicative of moderate-permeability formations. The total under all three scenarios are above 50,000 L/day (50 m^3/day) which triggers the need for MECP approval, but are below the requirements for both the Permit to Take Water (PTTW) and Environmental Activity Sector Registration (EASR) requirements for construction dewatering of 400,000 L/day (400 m^3/day), so permitting process is available.

6.4.2 Operation

For the calculations during the operation phase of the building the following parameters and assumptions were used:

- the bottom of the base of the P2 slab was assigned at 90.2 masl;
- the highest water elevation was 96.64 masl making a saturated thickness of 6.413 m for dewatering;
- the finished size remained the same at 88 m wide by 105 long; and

- the average hydraulic conductivity of $3.18x10^{-5}$ cm/sec was again used for the Site with a contingency factor of 50 % used to capture the variance in hydraulic conductivity within the area to be excavated.

The expected long-term pumping rate of 112 cubic metres per day or 78 L per minute will be needed during the operational phase of the property.

It should be noted that it is expected that the amount of groundwater inflow will diminish over time, as the thin surficial layers surrounding drain to a point where recharge can not replace all of the water that has been lost from the continual drainage of the surrounding soils.

6.5 Dewatering Estimates – Stormwater Inflow

A significant amount of the dewatering demand from any construction project is the volume of water that is derived from stormwater that is generated during and after precipitation events. For planning purposes, dewatering estimates are developed assuming the potential occurrence of “design storm” events, which are based upon events that have an observed “return period” or period of recurrence. The design storms represent singular events which can entail the handling of larger volumes of water over a short period of time. In the case of the proposed development, handling stormwater over the basement excavation footprint during construction will be required.

For the subject site, the volume of water that can be generated within the footprint was estimated looking at the total proposed excavation and was estimated for four different significant design storms. These estimates are summarized as follows:

Precipitation Event into excavation			
Storm Event	**Depth (mm)**	**Volume (m^3)**	**Volume (L)**
2-yr 24-hr.	56	512	511,759
5-yr 24-hr.	73.7	674	673,512
25-yr 24-hr.	99.9	913	912,942
100-yr 24-hr.	110.9	1014	1,013,466
Climate Normals (Yr/183 days)	2.09	19	19,103

Table 5: Precipitation inflow form design storm events based on the MTO IDF Curve result.

The dewatering requirements from four low-frequency, high-volume precipitation events (Design Storms) can range from approximately 511,759, to 1,013,466 L (56 to 1,014 m^3) over a 24-hour period. Note that the above estimates do not take into account any infiltration or evaporation of the precipitation. However, it should also be noted that, for infrequent Design Storm events such as those itemized above, the great majority of the generated stormwater becomes run-off, due to the fixed assimilative capacity of the surficial soils and the minimal evaporation until the cessation of the event.

A dewatering estimate from precipitation can also be averaged based on the "Climate Normals" for a given location (i.e. the average annual precipitation at a given location).

Assuming a 6-month excavation construction window, and a Climate Normal precipitation amount for Burlington of 763 mm/yr. (Government of Canada, 2021), a total of 3,486 m^3 of water from precipitation could be expected to be generated within the phase 1 construction excavation, which can be converted to an average of 19.1 m^3/day over 183 days. This value is also conservative, in that it does not take into account infiltration or precipitation.

6.6 Dewatering Estimates – Zone of Influence

As a conservative estimate of the zone of influence associated with the proposed dewatering Pinchin calculated the radius of the cone influence for the construction dewatering phase (as this active pumping phase results in the largest influence, as compared to the more passive dewatering efforts related to the long-term operation of the building). In order to understand the proposed dewatering methodology Pinchin reviewed the "Dewatering Plan – Fairview and Drury Lane Phase 1, 2243 Fairview Street, Toronto, Ontario" prepared by WJ Groundwater Canada Limited. The dewatering plan is appended to this report as Appendix VII. According to this plan, as prepared by an experienced dewatering subcontractor, the Site will be dewatered by a series of inclined wellpoints, with wells distributed around the shoring perimeter. Due to the low hydraulic conductivity of the silt layer, it is proposed the wells will be drilled with a 1.5 m spacing, with a total of 250, 38 mm diameter wells for the phase one building excavation. The inclined wellpoints will be drilled at an elevation of approximately 94 masl (modified from 95.5 masl to account for the discrepancy in the assumed ground surface elevation), in an angle through the shoring walls, assuming it will be shored with Soldier Pile and Lagging. In locations where the Site will be shored with caisson walls, the same wellpoints will have to be installed vertically inside the shoring walls. In both cases, the wells will be toed into the shale bedrock. The average length of the wells will be approximately 6 m. Utilizing this proposed dewatering arrangement and the conservative (i.e. the highest) 30 day storage dewatering rate 314.3 m^3/day, it is estimated that each well will extract an average of 1.21 m^3/day. Based on this average extraction rate, Pinchin has calculated the potential cone of influence associated with the proposed eductor well arrangement.

The mutual interference profile generated by the eductor wells extracting at this rate results in a cone of influence which follows a parabolic shape originating from the wells that results in a 0.2 m drawdown effect at a distance of 4 m from the wells, with a 0.1 m drawdown effect estimated at a distance of 4.2 m from the wells.

These dewatering effects are within the range of the documented seasonal variations within the groundwater elevations and are insignificant with respect to potential ground settlement effects on adjacent properties and/or infrastructure. As the dewatering effects are localized to such a small zone of influence, it is unlikely that these dewatering effects (during either the construction or operational dewatering phase) would result in the migration/mobilization of contaminants.

It is recommended that the groundwater levels be monitored during the operation of the dewatering system to ensure that the operation of the dewatering system can be managed and optimized such that an undesirable cone of influence does not propagate beyond the required distance.

7.0 GROUNDWATER QUALITY

Three (3) groundwater samples were obtained from the MW302 on June 29th, August 3rd and October 6th, 2021 to evaluate the water quality with reference to the City of Burlington Draft to amend By-Law No 86-2002 Limits for Storm Sewer Discharges. The Certificate of Analysis for the three groundwater samples are presented in Appendix VIII and the exceedances are summarized in the table below.

Parameter	TSS	As	Cu	Mn	Ni	P	Z
Proposed Storm Sewer Limit	15 mg/L	20 µg/L	40 µg/L	50 µg/L	80 µg/L	400 µg/L	40 µg/L
Result 06-29-2021	11,000 mg/L	23 µg/L	110 µg/L	5,700 µg/L	120 µg/L	4,700 µg/L	280 µg/L
Result 08-03-2021	790 mg/L			610 µg/L		460 µg/L	
Result 10-06-2021	1,400 mg/L			1,200 µg/L (0.21 µg/L)		(160 µg/L)	86 µg/L (5.1 µg/L)

Table 6: Groundwater Exceedance results from the single groundwater test. The concentrations presented in (#.## $\mu g/L$) are dissolved metals.

The results in the sample taken in July had seven (7) exceedances, Total Suspended Solids, Arsenic (As), Copper (Cu), Manganese (Mn), Nickel (Ni), Total Phosphorus (P), and Total Zinc (Zn), all exceeded draft Storm Sewer guidelines.

Given the quantified TSS concentrations, it is anticipated that several of the marginal metal exceedances are attributed to sediment entrainment within the sample and will be reduced to acceptable levels following treatment for TSS prior to discharge. Manganese is often more persistent and may require additional, focused treatment.

Following these results, a second sample was collected on August 3rd, 2021. This sample was collected using a low flow technique to reduce the amount of sediment entrained in the water. The results from this event had 3 parameters that continued to exceed the bylaw criteria (TSS, Mn, P). This sampling event supports the conclusion that the sediment entrained in the water sample is responsible for many of the previously quantified exceedances.

A third groundwater sample was collected from MW302 on October 6th, 2021. This sample was again collected utilizing the low flow technique, but a component of the sample was also field filtered prior to preservation, in order to evaluate the effectiveness of filtering on reducing the some of the elevated metals concentrations. Filtering was completed using an in-line 0.45 µm filter prior to transferring the sample to the laboratory pre-preserved/prepared bottle. These results of this third sampling effort had 2 parameters that continued to exceed the bylaw criteria (TSS and Mn). Dissolved Phosphorous was quantified at concentrations that were below the bylaw criteria. Total zinc concentrations marginally exceeded the bylaw criteria, however the field filtered component quantified a dissolved zinc concentration that was below the associated bylaw criteria.

Additional sampling and analysis of filtered groundwater for select parameters (TSS and Mn) from several wells within or near the excavation footprint is recommended, prior to construction, to finalize whether treatment options (i.e. filtration) will need to be evaluated for the construction discharge water to be discharged to the Storm Sewer, as well as for the operational phase of the development.

8.0 CONCLUSIONS

Pinchin provides the following conclusions arising out of the Hydrogeology Assessment activities to date:

- The local geology consists of a thin layer of Paleozoic Glaciomarine deposits of silt and clay, minor sand basin and quiet water underlain by a bedrock formation of the Queenston formation consisting of Shale, Limestone, Dolostone and Siltstone (Ontario Geological Survey, 2009). In general, the soil stratigraphy at the Site consists of asphalt with fill overlying silt deposits, which overlie the shale bedrock assumed to be 6 mbgs;

- The water level within the construction phase one section on the site in May had an average water level was 96.0 masl, in June the average had risen to be 96.1 masl, with the average of 96.12 masl and 96.30 masl recorded for August and October, respectively;
- The inferred shallow groundwater flow direction across the development Site and within the phase 1 construction zone area appears to be the south to southeast;
- The hydraulic ranged between 1.26 $x10^{-4}$ cm/sec and 3.49 $x10^{-7}$ cm/sec. The overall the average for the six (6) tested wells across the phase 1 construction zone was 3.18 $x10^{-5}$ cm/sec;
- The dewatering estimates provided herein cover the phase 1 construction zone of the development and operation based on the client provided drawings; The dewatering estimates apply a further 50% contingency amount to take into account possible variability in K-values throughout the Site;
- It is considered that the bulk hydraulic conductivity beneath the building footprint will likely be within the range of 1.26$x10^{-4}$ and 3.49 $x10^{-7}$ cm/sec, (the high and low calculated averages for each site). Using a reasonable thirty (30) day advance dewatering program a volume of 314 cubic metres a day would be needed to remove the storage water and the bring the pumping to a steady state of 122 cubic metres per day. If a sixty (60) day advance dewatering program is used then that volume would be decreased to 214 cubic metres a day; The above volume estimates are within the acceptable threshold for an Environmental Activity Sector Registration (EASR) requirement for construction dewatering of 50,000 to 400,000 L/day (50 to 400 m^3/day);
- During building operation, the water column to be dewatered is estimated to be up to 7.1 m thick. Similar to the construction dewatering estimate, It is considered that the bulk hydraulic conductivity beneath the building footprint will likely be within the range of 1.26 $x10^{-4}$ and 3.49 $x10^{-7}$ cm/sec (the high and low Hydraulic Conductivity). It is considered that the estimate incorporating the 7.4 $x10^{-4}$ cm/sec value with contingency, or 112 m^3/day, is appropriate for design purposes;
- Conservatively estimated stormwater dewatering requirements from four low-frequency, high-volume precipitation events (Design Storms) can range from approximately 106,628, to 518,846 L (107 to 519 m^3) over a 24-hour period. Note that the above estimates do not take into account any infiltration or evaporation of the precipitation.

- However, it should also be noted that, for infrequent Design Storm events such as those itemized above, the great majority of the generated stormwater becomes run-off, due to the fixed assimilative capacity of the surficial soils and the minimal evaporation until the cessation of the event;
- The dewatering requirements from four low-frequency, high-volume precipitation events (Design Storms) can range from approximately 511,759, to 1,013,466 L (56 to 1,014 m^3) over a 24-hour period. Note that the above estimates do not take into account any infiltration or evaporation of the precipitation. However, it should also be noted that, for infrequent Design Storm events such as those itemized above, the great majority of the generated stormwater becomes run-off, due to the fixed assimilative capacity of the surficial soils and the minimal evaporation until the cessation of the event;
- A dewatering estimate from precipitation can also be averaged based on the "Climate Normals" for a given location (i.e. the average annual precipitation at a given location). Assuming a 6-month excavation construction window, and a Climate Normal precipitation amount for Burlington of 763 mm/yr. (Government oc Canada, 2021), a total of 3,486 m^3 of water from precipitation could be expected to be generated within the Phase 1 Construction excavation, which can be converted to an average of 19.1 m^3/day over 183 days This value is also conservative, in that it does not take into account infiltration or precipitation;
- The most conservative zone of influence estimate is that resulting from the proposed construction dewatering system, comprised of 250, 38 mm diameter eductors wells, spaced at 1.5 m and extracting an average rate of 1.21 m^3/day/well results in a cone of influence which follows a parabolic shape originating from the wells that results in a 0.2 m drawdown effect at a distance of 4 m from the wells, with a 0.1 m drawdown effect estimated at a distance of 4.2 m from the wells;
- These dewatering effects are within the range of the documented seasonal variations within the groundwater elevations and are insignificant with respect to potential ground settlement effects on adjacent properties and/or infrastructure. However, it is recommended that the groundwater levels be monitored during the operation of the dewatering system to ensure that the operation of the dewatering system can be managed and optimized such that an undesirable cone of influence does not propagate beyond the required distance;
- The zone of influence associated with the construction or operational phase dewatering is localized that the potential mobilization of contaminants is considered minimal; and

- Three (3) groundwater samples were obtained from MW 302, the results of which had seven (7) exceedances in the first sample, Total Suspended Solids, Arsenic (As), Copper (Cu), Manganese (Mn), Nickel (Ni), Total Phosphorus (P), and Total Zinc (Zn). The second sample had three parameters (TSS, Mn, P) which were still above the criteria. However, it was confirmed with the second sample that, with the reduction of sediment entrained in the water, arsenic, copper, nickel and zinc were reduced to acceptable levels. Both Phosphorous and Manganese were greatly reduced and saw reductions that were within the same order of magnitude as the reduction in TSS. Manganese is often more persistent and may required additional, focused treatment. Similarly, the third sample quantified exceedances of the bylaw criteria for TSS and Mn. The dissolved phosphorous concentration was below the associated bylaw criteria. In addition, the zinc exceedance in the total metals analysis and the absence of this elevated metal exceedance in the dissolved metals scan suggests that filtering may be effective in the management of several parameters.

9.0 REFERENCES

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10.0 LIMITATIONS

Conclusions derived are specific to the immediate area of study and cannot be extrapolated extensively away from sample or testing locations. Samples have been analyzed for a limited number of parameters, and the absence of information relating to a specific contaminant does not indicate that it is not present.

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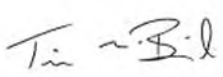
11.0 CLOSING REMARKS

We trust that the information provided in this letter meets your requirements. If you have any questions, or require additional information, please do not hesitate to contact either of the undersigned.

Yours truly,

Pinchin Ltd.

Prepared by:



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Encl.:

Table 1- Ground Water Elevations
Figure 1 Site location
Figure 2 Current Site Layout
Figure 3 500 m Water Well Information Search Results
Figure 4A Shallow Groundwater Contour
Figure 4B Bedrock Groundwater Counter
Figure 5 Geologic Cross-Section Locations
Figure 5A Cross-section A to A’
Figure 5B Cross-section B to B’

Appendix I – Client provided Site Plans

Appendix II - Borehole Logs

Appendix III –Water Well Records

Appendix IV – Pump Test Results

Appendix V - Hydraulic Conductivity Test Curves

Appendix VI - Dewatering Calculations

Appendix VII – Dewatering Plan (WJ Groundwater Canada Limited)

Appendix VIII – Laboratory Certificate of Analysis

\\PIN-OTT-FS01\job\225000s\0225780.000 CLVGroup,Fairview&Drury,EDR,SA1\0225780.004 CLVGroup,Fairview&Drury,GEO,OTH\Deliverables\July 2021 Report\0225780.004 Revised Report Hydrogeological Assessment 2 Level Parking Basement CLV (Nov 2021).docx

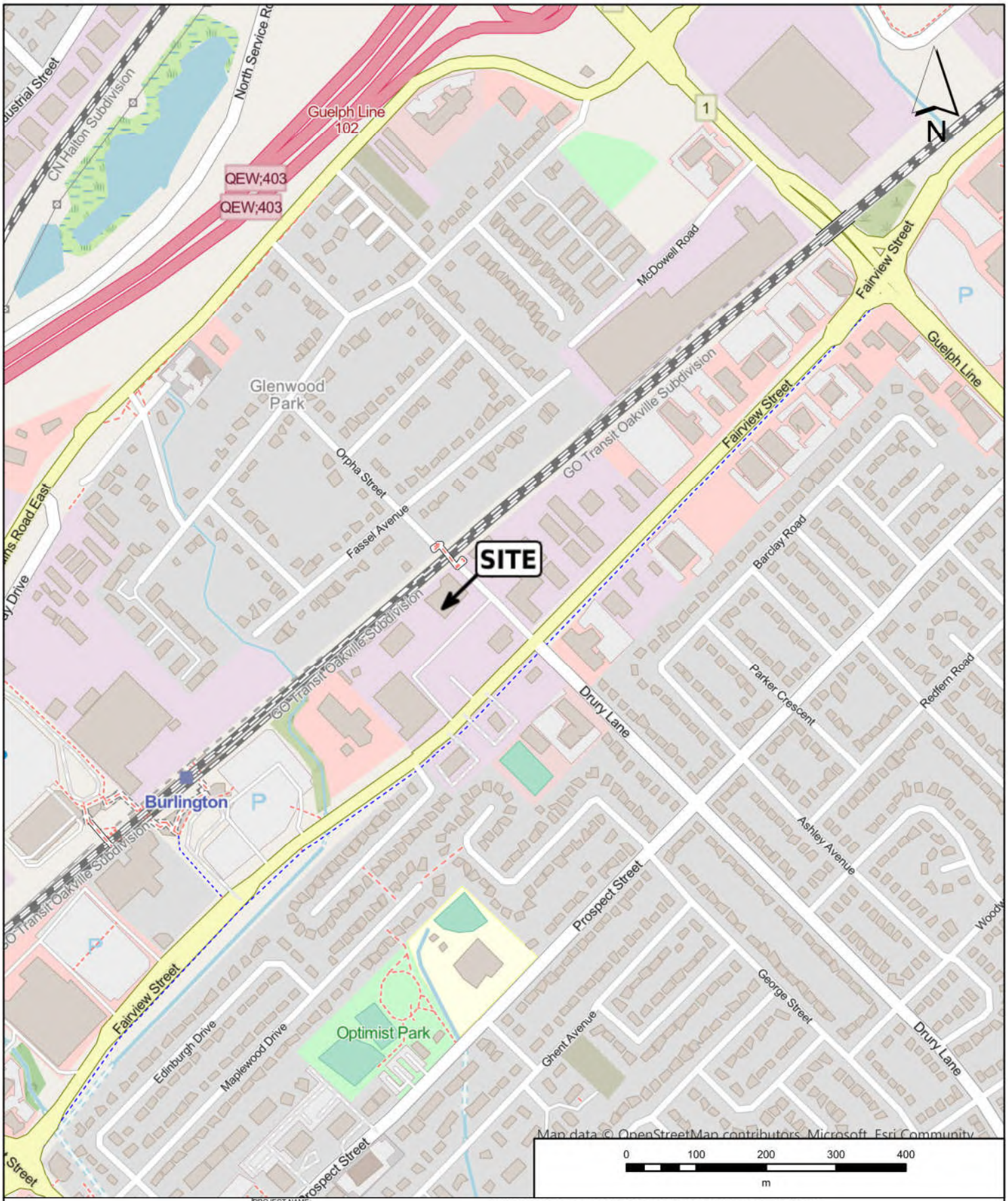
Template: Master Letter Template, October 1, 2019

Table 1

Hydrogeological Assessment - Phase 1 Construction -Buildings C1 and C2
2243 and 2269 Fairview Street and Dury Lane
Fairview Limited
Pinchin File 225780.004

Borehole	Grade Elevation (MaSL)	T.O.P. Elevation (MaSL)	Stick Up (M)	Screen Interval (MBGS)	Date	Water Level (MBTOC)	Water level (MBGS)	Water Levels (MaSL)
MW301	97.46	97.35	-0.11	7.40-10.45	5/31/2021	1.40	1.51	95.95
					6/29/2021	1.70	1.81	95.65
					8/3/2021	1.35	1.47	95.99
					10/6/2021	1.19	1.30	96.16
MW302	98.61	98.51	-0.10	7.37-10.42	5/31/2021	2.15	2.25	96.36
					6/29/2021	2.01	2.11	96.50
					8/3/2021	2.08	2.17	96.44
					10/6/2021	1.88	1.98	96.63
MW303	97.77	97.63	-0.14	7.40-10.45	5/31/2021	2.07	2.20	95.57
					6/29/2021	1.67	1.81	95.97
					8/3/2021	1.69	1.83	95.94
					10/6/2021	1.45	1.58	96.19
MW304	97.76	97.61	-0.15	15.35-18.40	5/31/2021	3.30	3.45	94.32
					6/29/2021	4.07	4.22	93.54
					8/3/2021	4.04	4.04	93.72
					10/6/2021	4.06	4.21	93.55
MW305	98.00	97.90	-0.10	5.79-8.83	5/31/2021	1.74	1.84	96.16
					6/29/2021	1.71	1.82	96.18
					8/3/2021	1.65	1.75	96.25
					10/6/2021	1.51	1.61	96.39
MW306	98.21	98.08	-0.13	7.31-10.36	5/31/2021	2.23	2.36	95.85
					6/29/2021	2.16	2.29	95.92
					8/3/2021	2.09	2.22	95.99
					10/6/2021	1.94	2.07	96.14

T.O.P.= Top of pipe; MBGS= Meters Below Grade Surface; MBTOC= Meters below Top of Casing; MaSL= Meters above Sea Level ;



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PROJECT NAME:	SUPPLEMENTAL HYDROGEOLOGICAL INVESTIGATION				
CLIENT NAME:	FAIRVIEW LIMITED PARTNERSHIP C/O CLV GROUP INC.				
PROJECT LOCATION:	2243 AND 2269 FAIRVIEW STREET AND 864 DRURY LANE, BURLINGTON, ONTARIO				
FIGURE NAME:	KEY MAP				FIGURE NUMBER: 1
PROJECT NUMBER: 225780.004	SCALE: 1:10,000	DRAWN BY: SR	REVIEWED BY: BM	DATE: JUNE 2021	



N

LEGEND

- SITE BOUNDARY
- SITE BUILDING
- BOREHOLE
- MONITORING WELL

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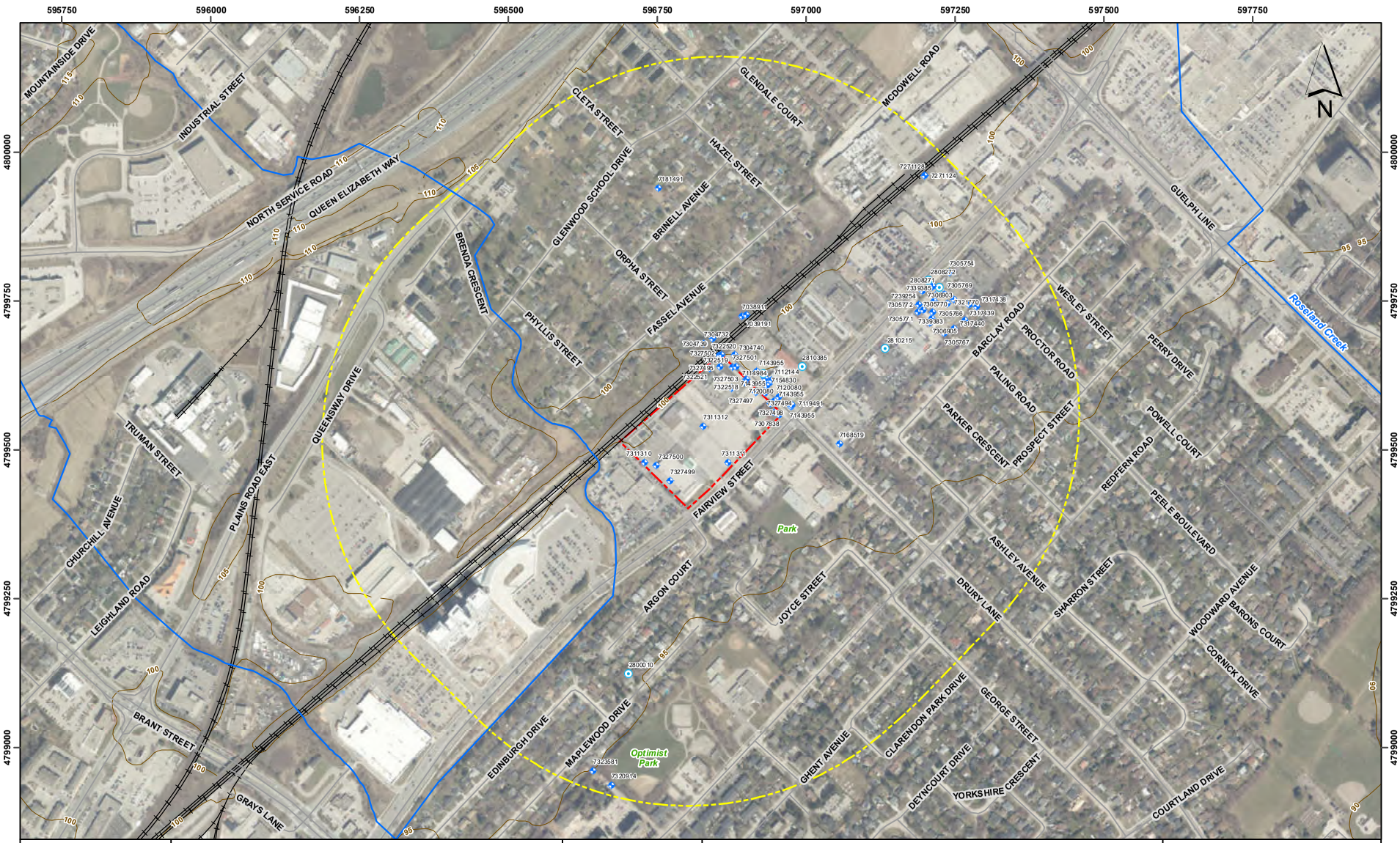
PROJECT NAME:
SUPPLEMENTAL HYDROGEOLOGICAL INVESTIGATION

CLIENT NAME:
FAIRVIEW LIMITED PARTNERSHIP C/O CLV GROUP INC.

PROJECT LOCATION:
2243 AND 2263 FAIRVIEW STREET AND 864 DRURY LANE BURLINGTON, ONTARIO

FIGURE NAME:
BOREHOLE LOATION PLAN

PROJECT NUMBER:	SCALE:
225780.004	AS SHOWN
DRAWN BY:	REVIEWED BY:
SR	BM
DATE:	FIGURE NUMBER:
JUNE 2021	2



PINCHIN

PROJECT NAME:	Supplemental Hydrogeological Investigation
CLIENT NAME:	Fairview Limited Partnership c/o CLV Group Inc.
PROJECT LOCATION:	2243 and 2263 Fairview Street and 864 Drury Lane, Burlington, Ontario
FIGURE NAME:	Ontario Water Well Records (500 m Radius)

PROJECT NO.	225780.004
DATE:	July 2021
SCALE:	1:6,000
FIGURE NO.	3

LEGEND

- Site Boundary
- 500 m Radius
- Watercourse
- Roadway
- Railway
- Topography Contours (5 m)

Ontario Water Well Records

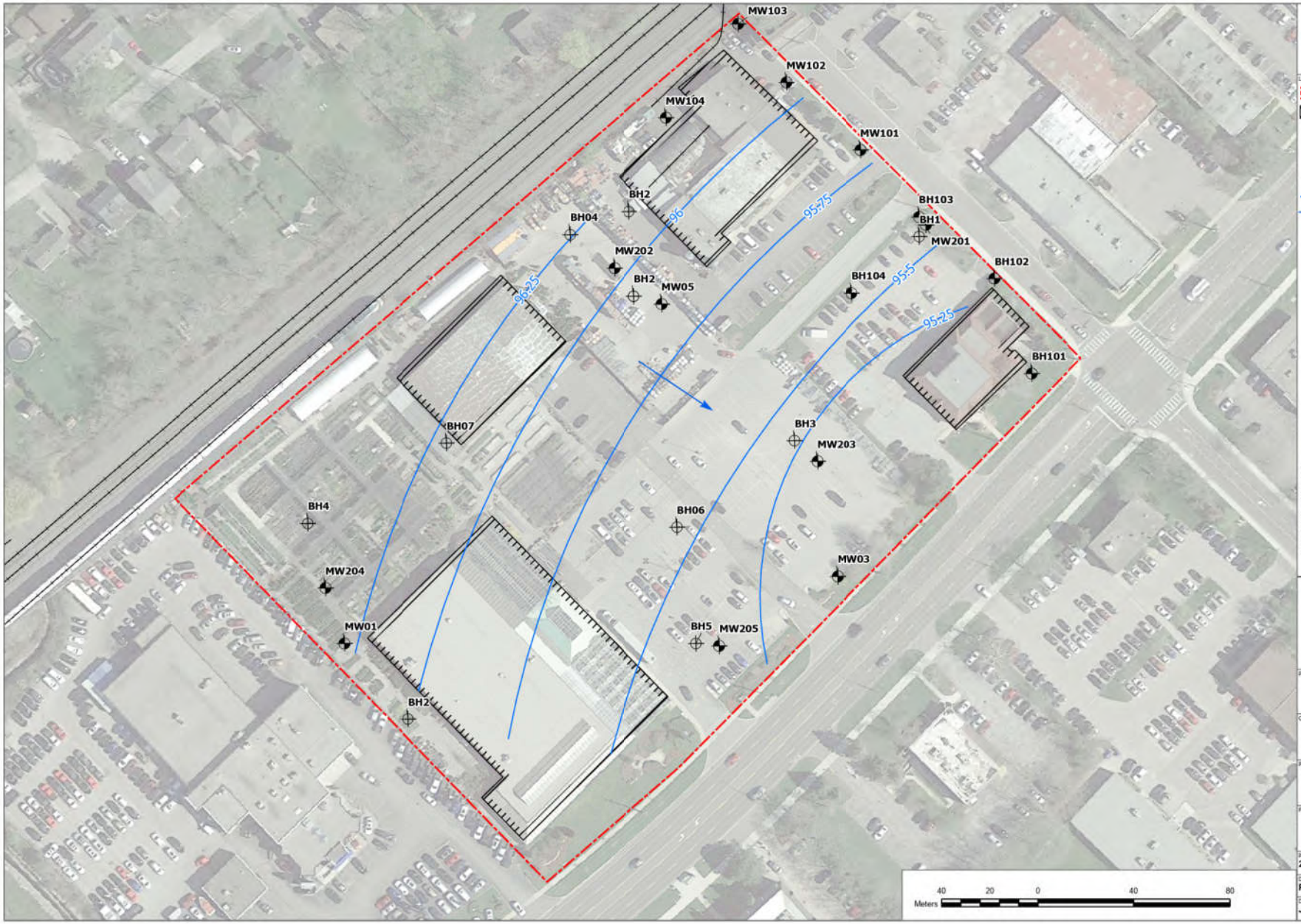
- Monitoring Well
- Water Supply Well

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 60 120 240 Metres

Coordinate System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

DRAWN BY: MH REVIEWED BY: BM REVISION: 1



N

LEGEND

- SITE BOUNDARY
- SITE BUILDING
- BOREHOLE
- MONITORING WELL
- RAILWAY LINE
- GROUNDWATER CONTOURS (15 JULY 2020)
- GROUNDWATER FLOW DIRECTION

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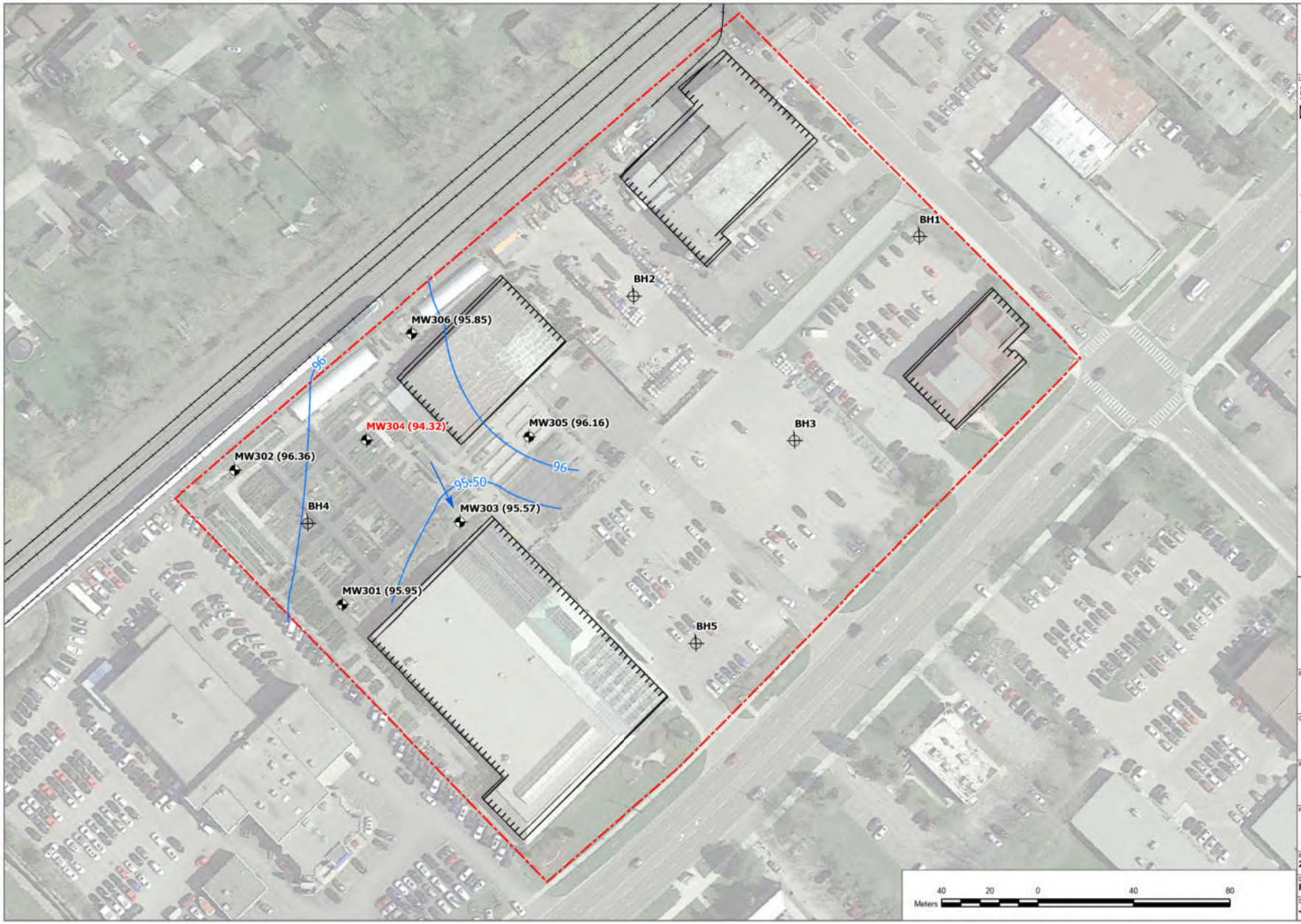
PROJECT NAME
SUPPLEMENTAL HYDROGEOLOGICAL INVESTIGATION

CLIENT NAME
FAIRVIEW LIMITED PARTNERSHIP

PROJECT LOCATION
2243 & 2269 FAIRVIEW STREET AND 864 DRURY LANE, BURLINGTON, ONTARIO

FIGURE NAME
SHALLOW GROUNDWATER CONTOUR PLAN

PROJECT NUMBER:	SCALE
225780.004	1:1,500
DRAWN BY: PKM	REVIEWED BY: TIM
DATE: JUNE 2021	FIGURE NUMBER: 4A


BH1
BH2
BH3
BH4
BH5
MW301 (95.95)
MW302 (96.36)
MW303 (95.57)
MW304 (94.32)
MW305 (96.16)
MW306 (95.85)
96
96
95.50
N
LEGEND
SITE BOUNDARY
SITE BUILDING
BOREHOLE
MONITORING WELL
RAILWAY LINE
GROUNDWATER CONTOUR
GROUNDWATER FLOW DIRECTION
GROUNDWATER ELEVATION 05/31/2021
GROUNDWATER ELEVATION - NOT INCLUDED DUE TO SCREEN INTERVAL
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40 20 0 40 80
Meters
PINCHIN
PROJECT NAME
SUPPLEMENTAL HYDROGEOLOGICAL INVESTIGATION
CLIENT NAME
FARIVIEW LIMITED PARTNERSHIP
PROJECT LOCATION
2243 & 2269 FAIRVIEW STREET AND 864 DRURY LANE, BURLINGTON, ONTARIO
FIGURE NAME
BEDROCK GROUNDWATER CONTOUR PLAN
PROJECT NUMBER: 225780.004
SCALE: 1:1,500
DRAWN BY: PKM
REVIEWED BY: TIM
DATE: JUNE 2021
FIGURE NUMBER: 4B



N

LEGEND

- SITE BOUNDARY
- SITE BUILDING
- CROSS-SECTION
- BOREHOLE
- MONITORING WELL

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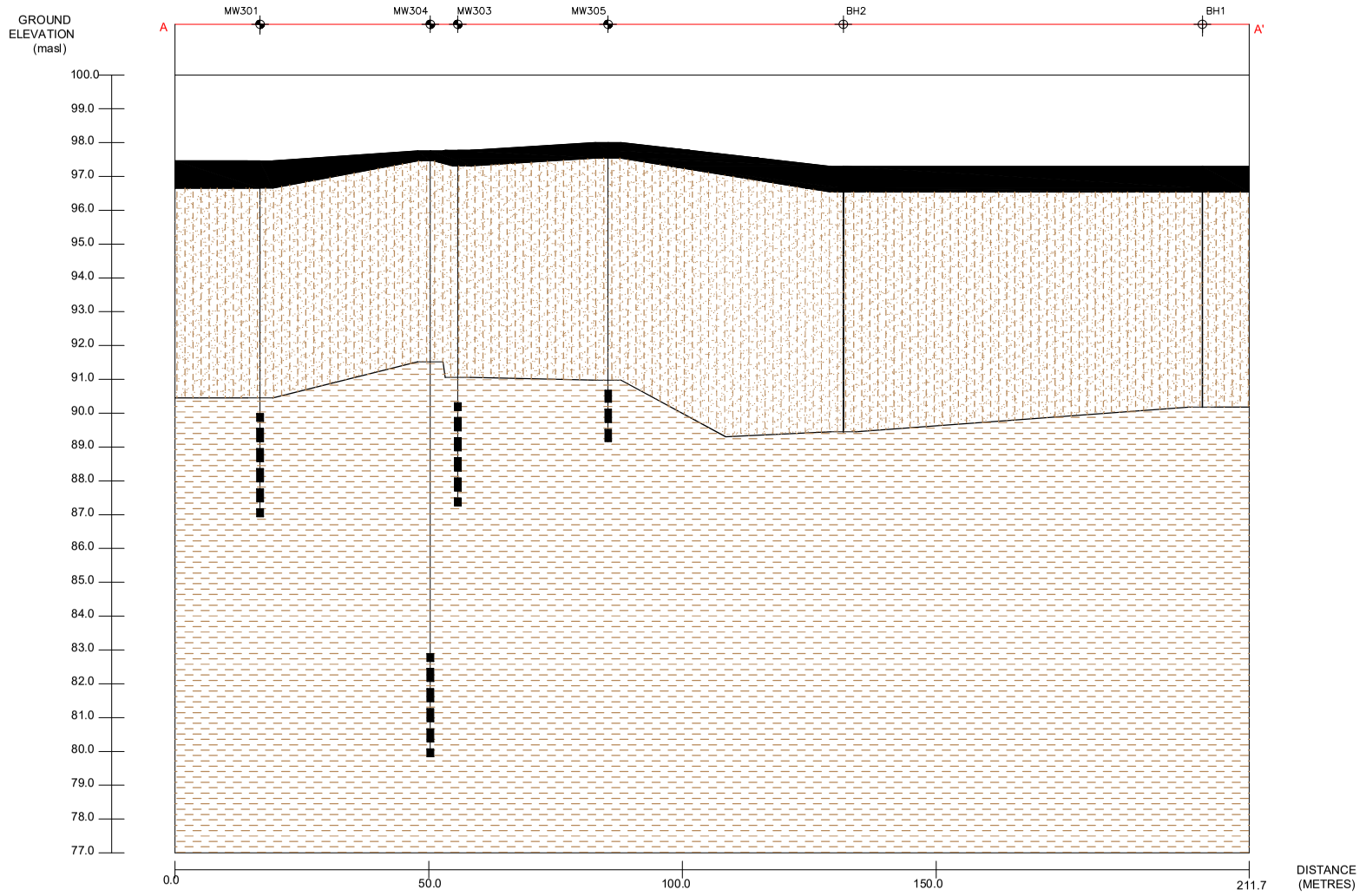
PROJECT NAME:
SUPPLEMENTAL HYDROGEOLOGICAL INVESTIGATION

CLIENT NAME:
FAIRVIEW LIMITED PARTNERSHIP C/O CLV GROUP INC.

PROJECT LOCATION:
2243 AND 2263 FAIRVIEW STREET AND 864 DRURY LANE BURLINGTON, ONTARIO

FIGURE NAME:
CROSS SECTION

PROJECT NUMBER:	SCALE:
225780.004	AS SHOWN
DRAWN BY:	REVIEWED BY:
SR	BM
DATE:	FIGURE NUMBER:
JUNE 2021	5



N

LEGEND

- CROSS-SECTION
- BOREHOLE
- MONITORING WELL
- CLAYEY SILT/SILTY CLAY
- SILT/SILTY SAND/SANDY SILT/SAND WITH SOME SILT
- CONCRETE
- ASPHALT
- FILL
- BEDROCK
- WELL CASING/ BENTONITE
- MEASURED GROUNDWATER ELEVATION
- WELL SCREEN

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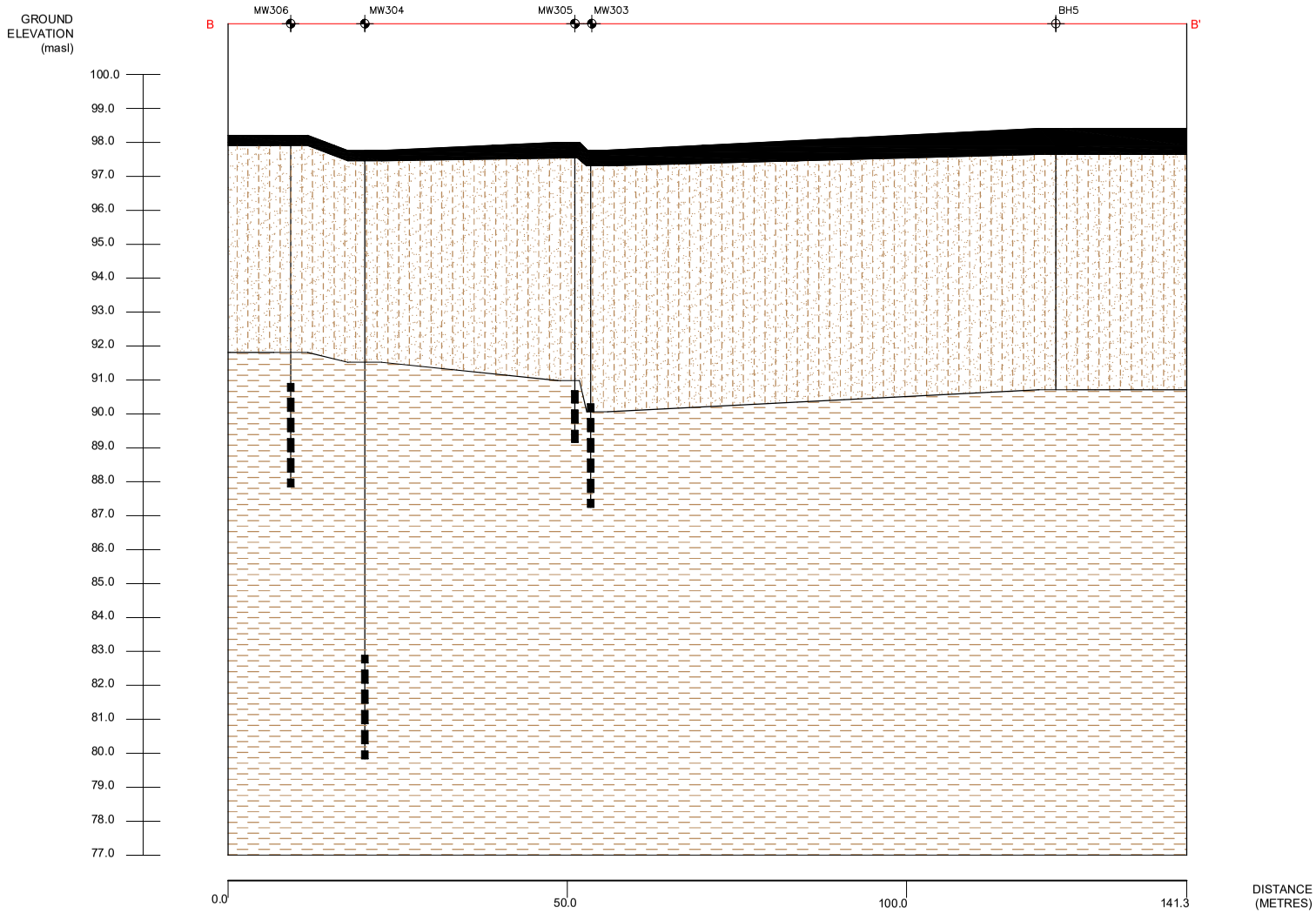
PROJECT NAME:
SUPPLEMENTAL HYDROGEOLOGICAL INVESTIGATION

CLIENT NAME:
FAIRVIEW LIMITED PARTNERSHIP C/O CLV GROUP INC.

PROJECT LOCATION:
2243 AND 2263 FAIRVIEW STREET AND 864 DRURY LANE BURLINGTON, ONTARIO

FIGURE NAME:
CROSS SECTION A-A'

PROJECT NUMBER:	SCALE:
225780.004	AS SHOWN
DRAWN BY:	REVIEWED BY:
SR	BM
DATE:	FIGURE NUMBER:
JUNE 2021	5A



N

LEGEND

- CROSS-SECTION
- BOREHOLE
- MONITORING WELL
- CLAYEY SILT/SILTY CLAY
- SILT/SILTY SAND/SANDY SILT/SAND WITH SOME SILT
- CONCRETE
- ASPHALT
- FILL
- BEDROCK
- WELL CASING/ BENTONITE
- MEASURED GROUNDWATER ELEVATION
- WELL SCREEN

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PROJECT NAME:
SUPPLEMENTAL HYDROGEOLOGICAL INVESTIGATION

CLIENT NAME:
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PROJECT LOCATION:
2243 AND 2263 FAIRVIEW STREET AND 864 DRURY LANE BURLINGTON, ONTARIO

FIGURE NAME:
CROSS SECTION B-B'

PROJECT NUMBER:	SCALE:
225780.004	AS SHOWN
DRAWN BY:	REVIEWED BY:
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DATE:	FIGURE NUMBER:
JUNE 2021	5B

APPENDIX I

Client Provided Site Plans

FAIRVIEW AND DRURY

BURLINGTON

DATE/TIME PRINTED: 2021-01-28 11:58:33 AM

NO.	REVISIONS	DATE
5	Issued for Consultant Coordination 13	January, 28, 2021
4	Issued for 100 % DD Coordination	January, 01, 2021
3	Issued for Consultant Coordination 12	December, 10, 2020
2	Reissued for Site Plan Approval	September, 25, 2020
1	Issued for Site Plan Approval	January, 02, 2020

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Fax 416 343 0401
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2243 FAIRVIEW STREET
BURLINGTON ON
L7R 2E1
CANADA

Fairview Limited Partnership:

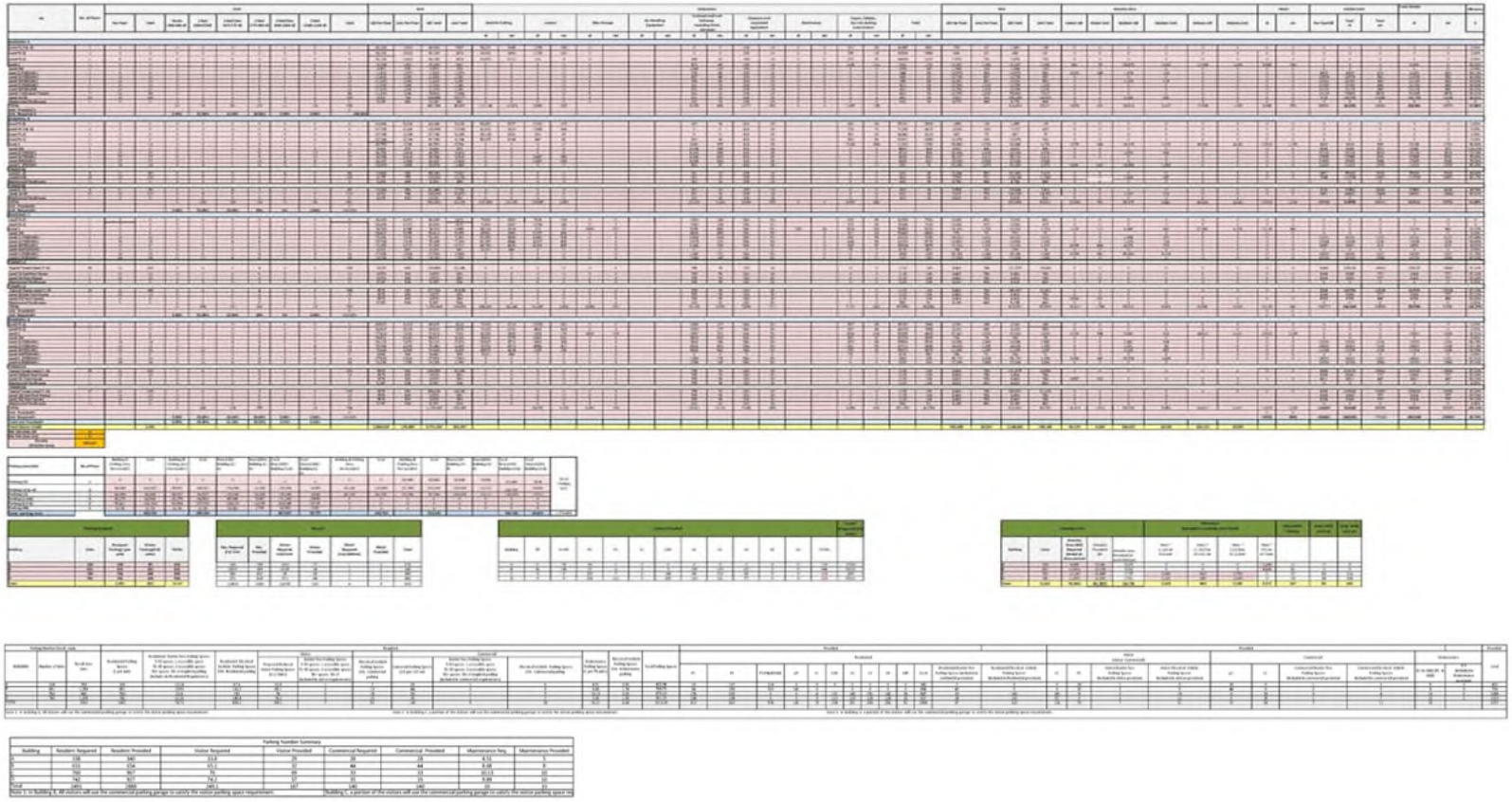
c/o Brookfield Properties
Servioeco Inc.
181 Bay Street
Toronto, ON M5J 2T3

cc CLV Group Developments Inc.
485 Bank Street, Suite 200
Ottawa, ON K2P 1Z2

DRAWN	SCALE
Author	
CHECKED	DATE
Checker	Issue Date

TITLE
TITLE PAGE

PROJECT NO.	DRAWING NO.
18-223	A000



7	Issued for Consultant Coordination 13	January, 28, 2021
6	Issued for 100 % DD Coordination	January, 01, 2021
5	Issued for Consultant Coordination 12	December, 10, 2020
4	Reissued for Site Plan Approval	September, 25, 2020
3	Issued for Site Plan Approval	January, 02, 2020
2	Issued for pre-con	December, 05, 2019
1	Issued for pre-consultation	November, 22, 2019
NO.	REVISIONS	DATE

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Fairview Limited Partnership:

c/o Brookfield Properties
Servoco Inc.
181 Bay Street
Toronto, ON M5J 2T3

cc CLV Group Developments Inc.
485 Bank Street, Suite 200
Ottawa, ON K2P 1Z2

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DRAWN: Author	SCALE: 1 : 750 (11xxx scale)
CHECKED: Checker	DATE: Issue Date

TITLE: STATS PAGE

PROJECT NO.: 18-223	DRAWING NO.: **A002**

DATE/TIME PRODUCED: 2021-01-28 11:55:38 AM

Building A							
	Count	area (sm)	area (sf)	Percent	Avg (sf)		Area Ranges
Studio	20	956	10290	6%	515		467 sf
1	74	3851	41452	34%	560		529sf - 722 sf
1.5	83	5595	60224	19%	726		751 sf- 821 sf
2	122	10071	108403	35%	889		888 sf- 943 sf
2.5	11	956	10290	4%	935		987 sf- 1013 sf
3	28	2855	30731	3%	1,098		1147 sf
Total	338	24284	261391	100%	773		

Building B							
	Count	area (sm)	area (sf)	Percent	Avg (sf)		Area Ranges
Studio	0	0	0	4%	-		519 sf - 522 sf
1	209	11470	123462	50%	591		543 sf- 733 sf
1.5	189	12836	138166	15%	731		753 sf- 899 sf
2	117	9757	105024	24%	898		887 sf- 962 sf
2.5	71	6294	67748	4%	954		968 sf- 1050 sf
3	55	6174	66456	3%	1,208		1076 sf- 1161 sf
TOWN HOUSE	10	1768	19031		1,903		
Total	651	48299	519886	100%	799		

Building C							
	Count	area (sm)	area (sf)	Percent	Avg (sf)		Area Ranges
				Core	Core	Recommended	
Studio	0	0	0	0%	-	425	400 sf - 500 sf
1	354	19619	211177	47%	597	625	500 sf-675sf
1.5	132	8277	89093	17%	675	725	675 sf- 775 sf
2	260	20793	223814	34%	861	850	775 sf- 900 sf
2.5	0	0	0	0%	#DIV/0!	950	900 sf- 1000 sf
3	15	1980	21313	2%	1,421	1,050	1000 sf- 1100sf
TOWN HOUSE	0						
Total	761	50669	545397	100%	717	740	

Building D							
	Count	area (sm)	area (sf)	Percent	Avg (sf)		Area Ranges
				Core	Core	Recommended	
Studio	0	0	0	0%	-	425	400 sf - 500 sf
1	346	19231	207001	47%	598	625	500 sf-675sf
1.5	124	7812	84088	17%	678	725	675 sf- 775 sf
2	255	20451	220133	34%	863	850	775 sf- 900 sf
2.5	0	0	0	0%	-	950	900 sf- 1000 sf
3	19	2302	24779	3%	1,304	1,050	1000 sf- 1100sf
TOWN HOUSE	0						
Total	744	49796	536000	100%	720	740	

Full Project A,B,C,D							
	Count	area (sm)	area (sf)	Percent	Avg (sf)		Area Ranges
Studio	20	956	10290	4%	515		343 sf- 522 sf
1	983	54171	583092	40%	593		551 sf - 745 sf
1.5	528	34520	371570	13%	704		751 sf-899 sf
2	754	61072	657374	30%	872		885 sf- 962 sf
2.5	82	7250	78038	5%	952		966 sf - 1065 sf
3	117	13311	143278	9%	1,225		1065 sf - 1189 sf
Town	10	1768	19031		1,903		
Total	2494	173048	1862674	100%	747		

Zoning Summary

Provision	Required		Proposed		
Site Area	0.1ha (0.25sc)min		3.43ha(8.48ac)		
GFA	N/A		Residential	sf	sm
				2,139,831	198,797
			Commercial	10,823	1,005
			Total	2,150,654	199,802
Number of Residential Units	N/A		2,494		
Average Unit size	N/A		818 sf		
Building Height	No Minimum		Tower A	33+ Mech	
			Tower B1	29+Mech	
			Tower B2	34+Mech	
			Tower C1	33+Mech	
			Tower C2	37+Mech	
			Tower D1	33+Mech	
			Tower D2	35+Mech	
Front Yard Setback	3m		5m		
Rear Yard Setback	No Minimum Except to rail line - 30 m		30m		
Side Yard Setback			3m		
Parking Spaces	1.2/ 1 &1+Den bdrm	1914	Resident	2499	(97 B.F)
	1.5 /2 &2+Den bdrm	1272	Retail/Visitor	336	(7 B.F)
	1.75/3 &3+Den bdrm	103.3	Maintenance	33	
	0.35 visitor	872.9			
	5 spaces per 100 sm	199.6			
Proposed Loading Spaces	7		7		
Bicycle Parking	1247		1531		
Amenity Space	15sm/unit – bach	300.0	Building A: 15.2sm Building B: 15.6sm Building C: 17.7sm Building D: 17.4sm		
	20sm /unit – 1 bdrm &1+Den	30220			
	35sm/unit– 2+ bdrm	33145			
	25sm/unit– back to back townhouse	400			
Density Calculation	No Minimum		725 Units per hectare(UPH)		

NO.	REVISIONS	DATE
8	Issued for Consultant Coordination 13	January, 28, 2021
7	Issued for 100 % OD Coordination	January, 01, 2021
6	Issued for Consultant Coordination 12	December, 10, 2020
5	Reissued for Site Plan Approval	September , 25, 2020
4	Issued for Site Plan Approval	January, 02, 2020
3	Issued for precon	December, 09, 2019

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cc CLV Group Developments Inc.
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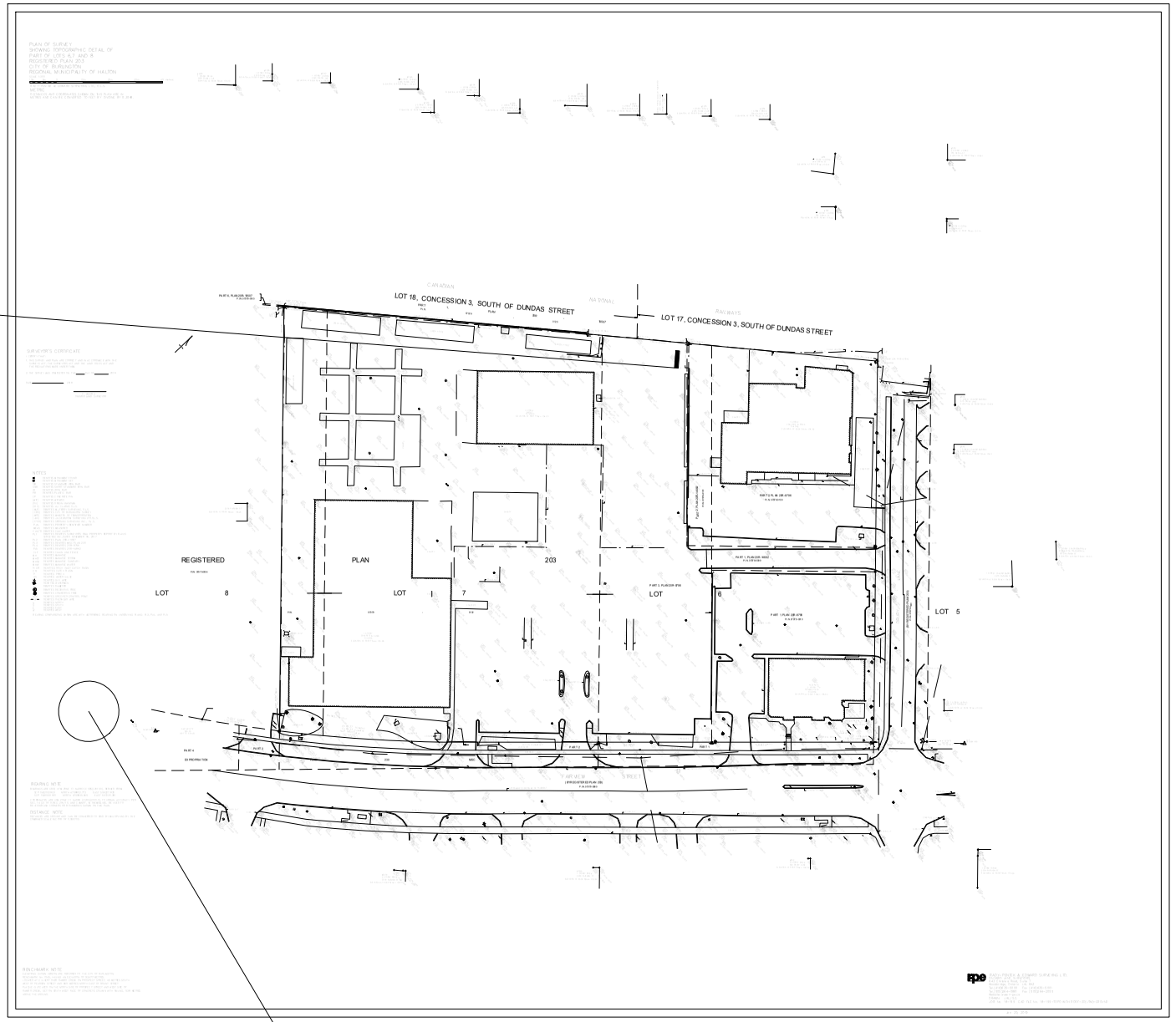
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SCALE: 1 : 750 1Xxx scale
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TITLE: UNIT MIX

PROJECT NO.: 18-223
DRAWING NO.: A003

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GROUND–SCALE TRANSLATION POINT
NAD83(CSRS–2010.0) UTM POSITION OF RPE (CC) – #103

DATE/TIME PRODUCED 2021-01-28 11:59:44 AM

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7	Issued for Consultant Coordination 13	January, 28, 2021
6	Issued for 100 % DD Coordination	January, 01, 2021
5	Issued for Consultant Coordination 12	December, 10, 2020
4	Reissued for Site Plan Approval	September, 25, 2020
3	Issued for Site Plan Approval	January, 02, 2020
2	Issued for pre-con	December, 05, 2019
1	Issued for pre-consultation	November, 22, 2019

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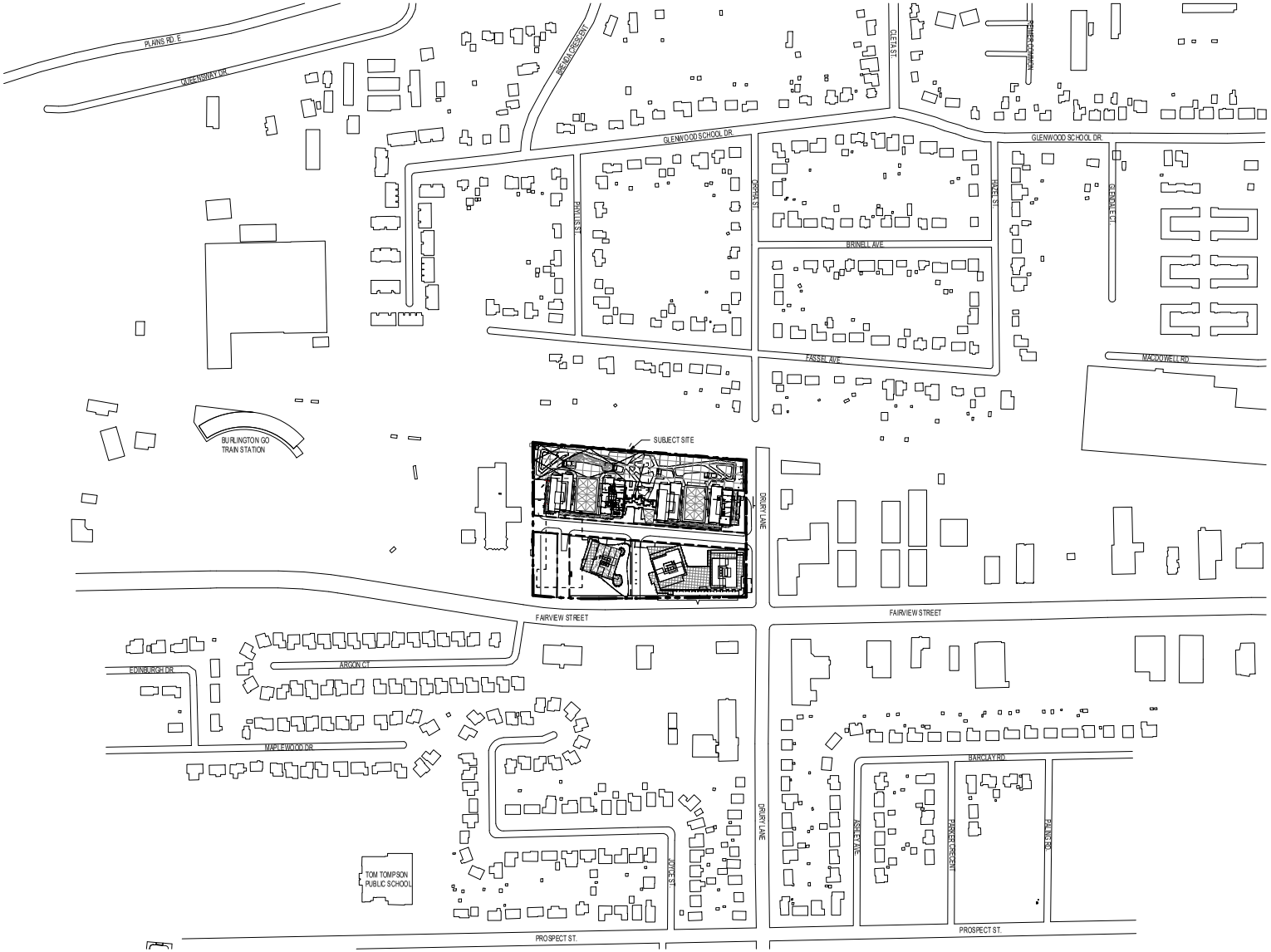
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CHECKED: Checker
DATE: Issue Date

TITLE: SURVEY

PROJECT NO.: 18-223
DRAWING NO.: **A004**



NOTE: ROAD WIDTHS ARE APPROXIMATIONS TAKEN FROM AERIAL PHOTOGRAPHY.

NO.	REVISIONS	DATE
8	Issued for Consultant Coordination 13	January, 28, 2021
7	Issued for 100 % OD Coordination	January, 01, 2021
6	Issued for Consultant Coordination 12	December, 10, 2020
5	Reissued for Site Plan Approval	September , 25, 2020
4	Issued for Site Plan Approval	January, 02, 2020
3	Issued for precon	December, 09, 2019

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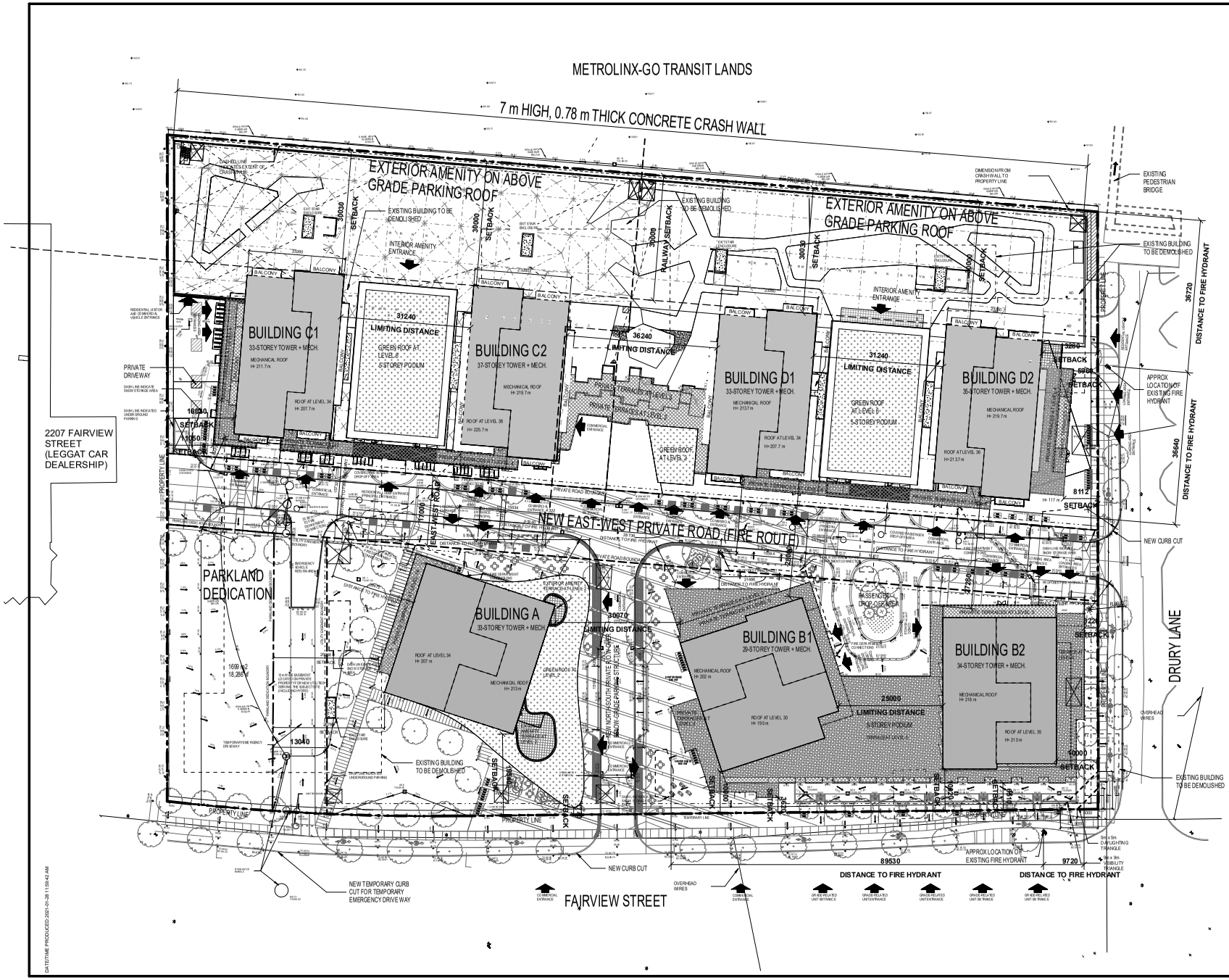
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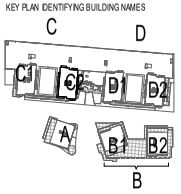
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PROJECT NO. 18-223
DRAWING NO. A005

DATE/TIME PRODUCED 2021-01-28 11:59:03 AM



KEY PLAN IDENTIFYING BUILDING NAMES



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6	Issued for 100 % DD Coordination	January, 01, 2021
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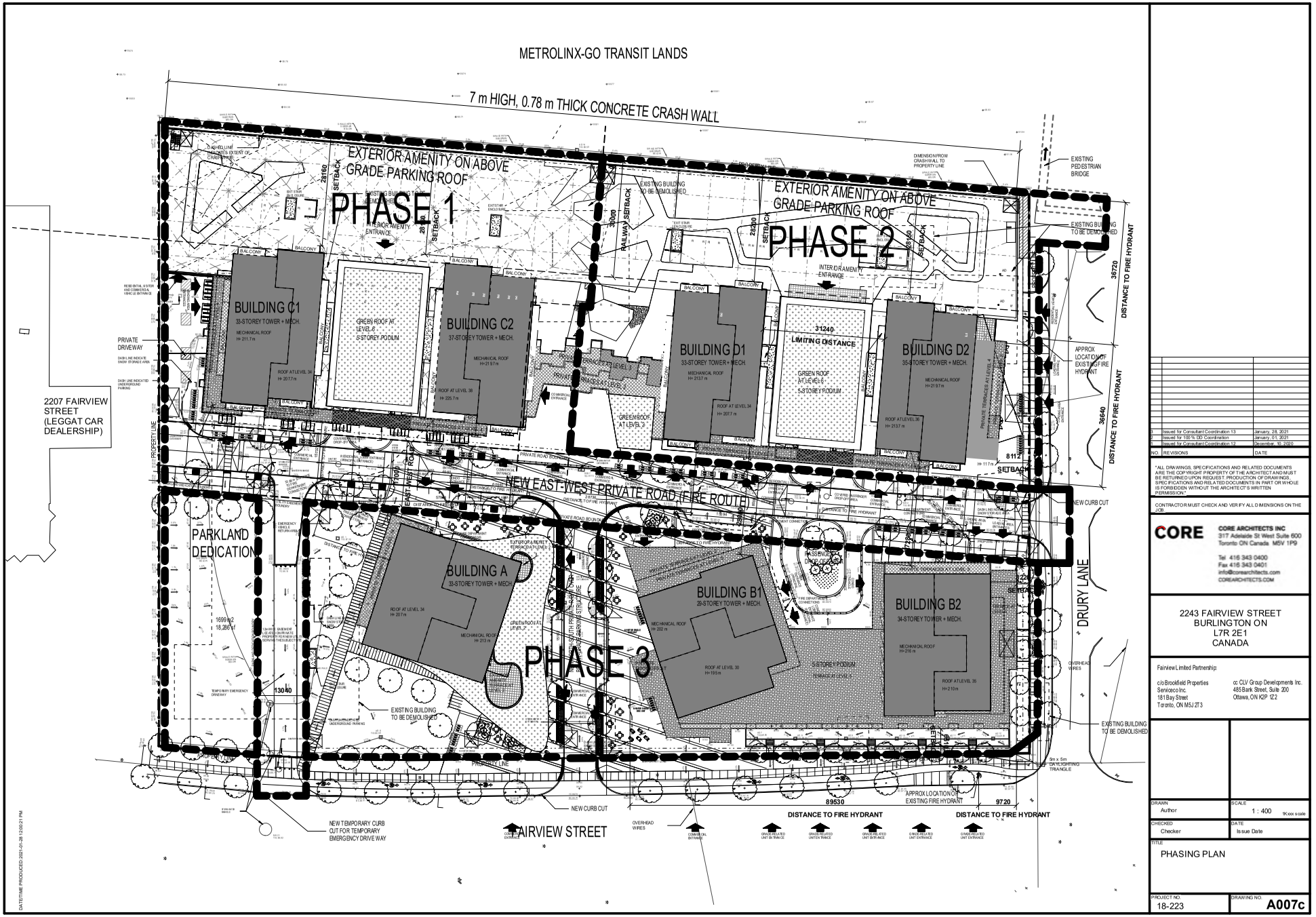
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CHECKED: Checker	DATE: Issue Date

TITLE: SITE PLAN

PROJECT NO.	DRAWING NO.
18-223	A006

DATE/TIME PRODUCED: 2021-01-28 11:59:42 AM



NO.	REVISIONS	DATE
0	Issued for Consultant Coordination 13	January, 28, 2021
1	Issued for 100 % DD Coordination	January, 01, 2021
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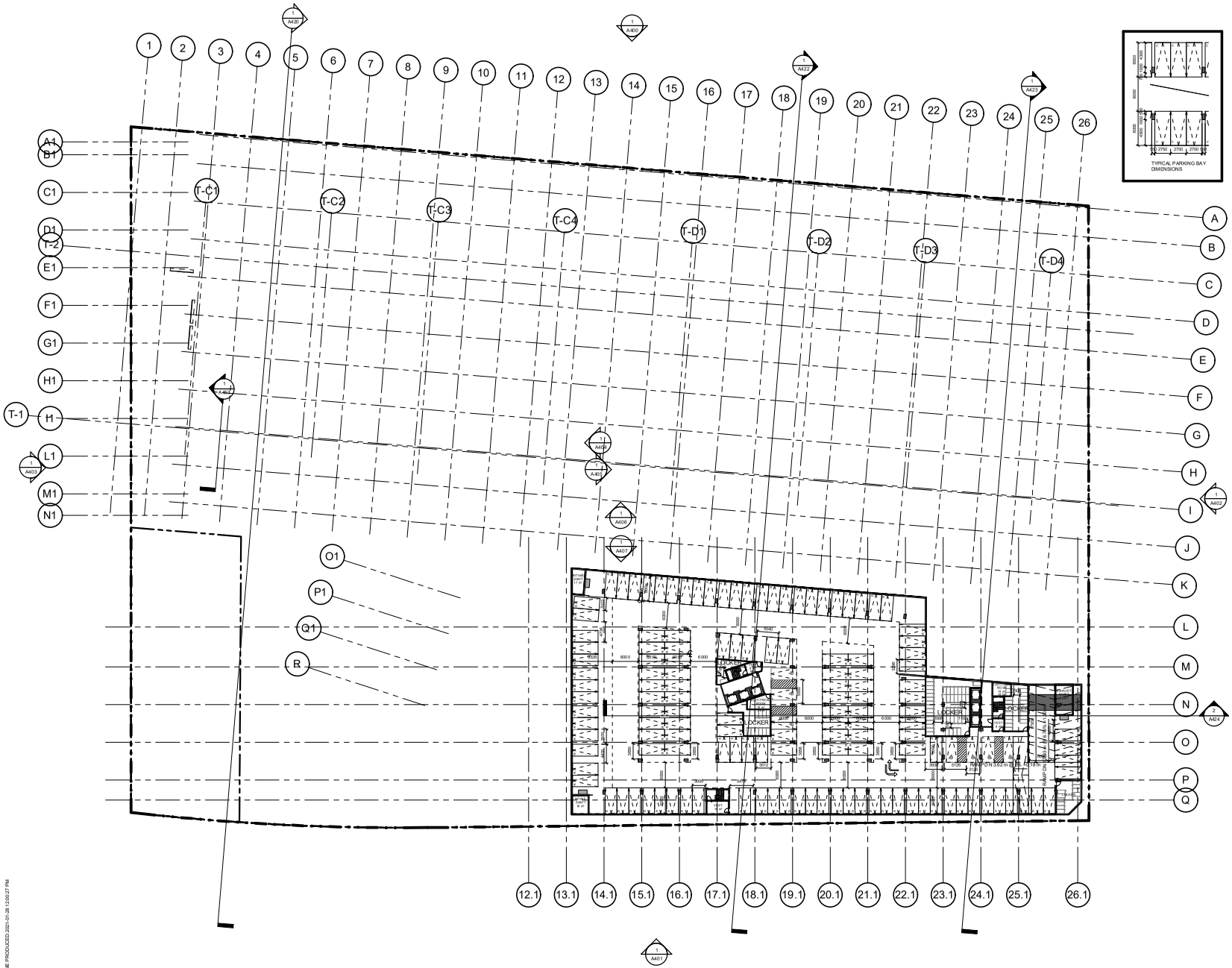
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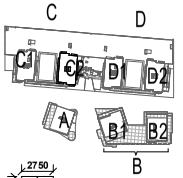
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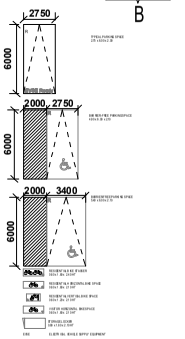
PROJECT NO.	DRAWING NO.
18-223	A007c

DATE/TIME PRODUCED: 2021-01-28 12:00:21 PM



KEY PLAN IDENTIFYING BUILDING NAMES





NO.	REVISIONS	DATE
5	Issued for Consultant Coordination 13	January. 28. 2021
4	Issued for 100 % DD Coordination	January. 01. 2021
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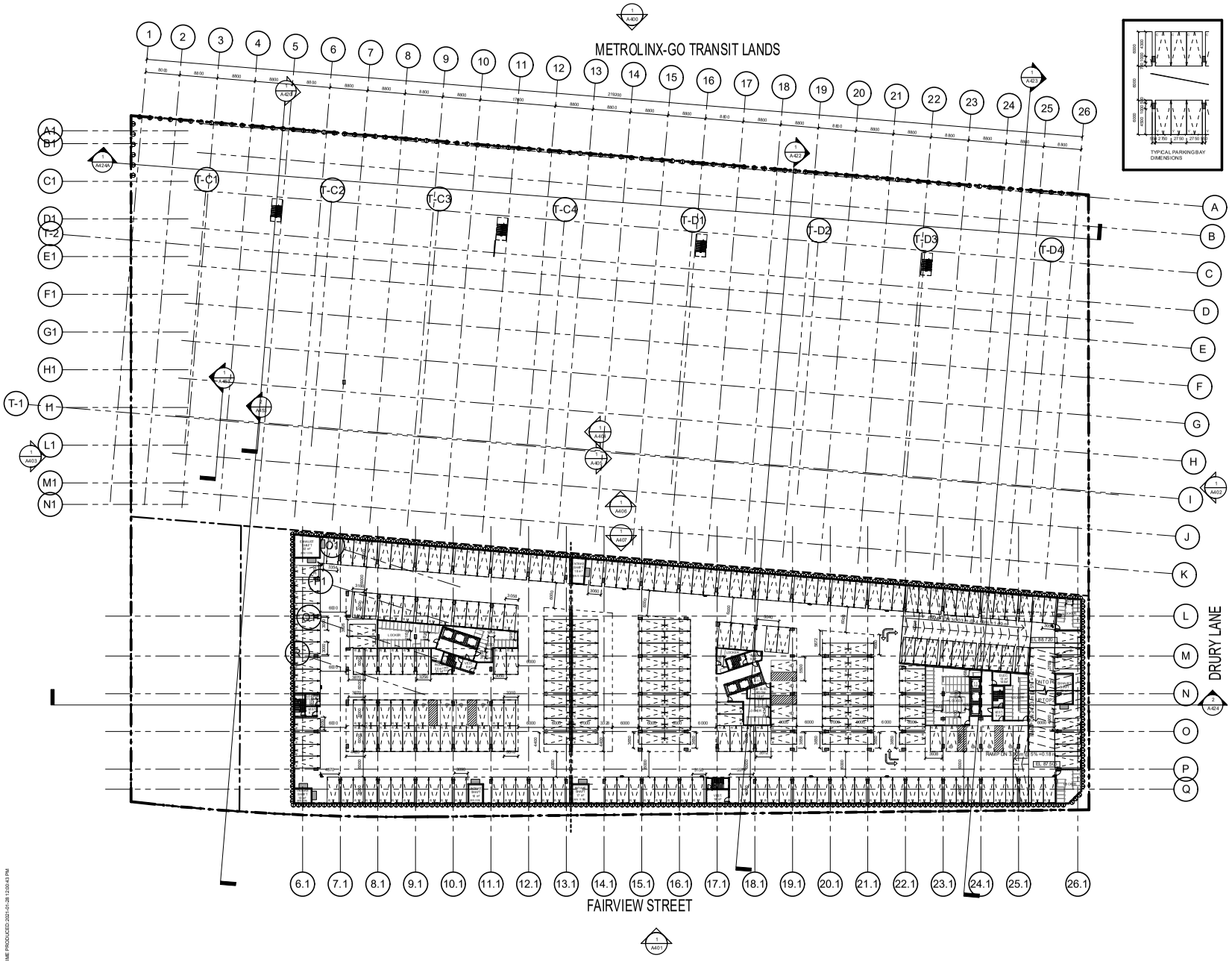
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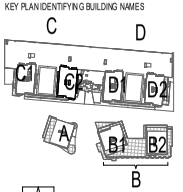
AREA PLAN LEVEL P5

PROJECT NO.	DRAWING NO.
18-223	A100

DATE/TIME PRODUCED: 2021-01-28 12:20:27 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
9	Issued for Consultant Coordination 13	January. 28, 2021
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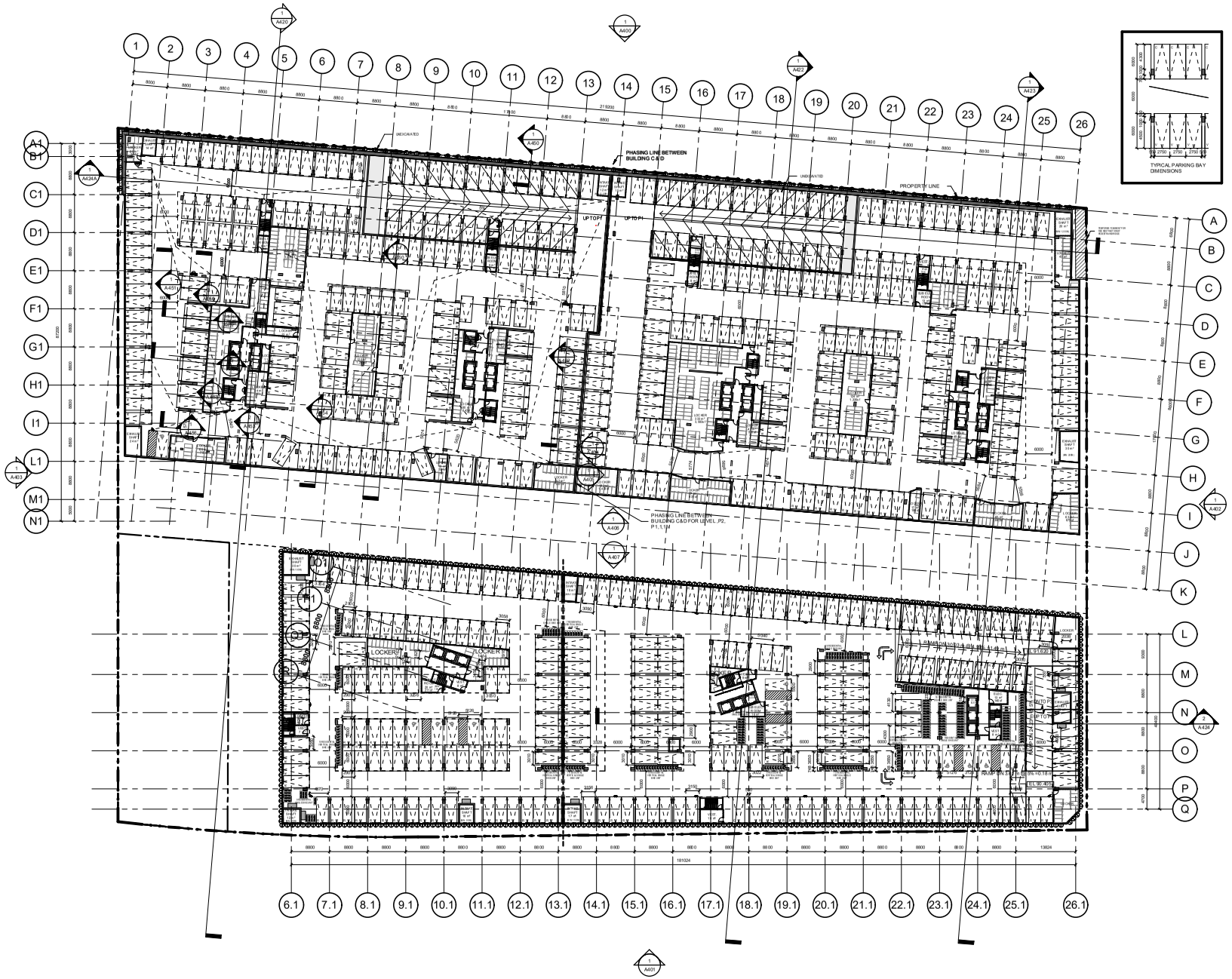
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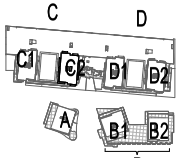
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PROJECT NO. 18-223
DRAWING NO. **A100a**

DATE/TIME PRODUCED 2021-01-28 12:20:43 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
7	Issued for Consultant Coordination 13	January, 28, 2021
6	Issued for 100 % DD Coordination	January, 01, 2021
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1	Presentation	June 27, 2019

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Author	As indicated 1%xxx scale
CHECKED	DATE
Checker	Issue Date

TITLE

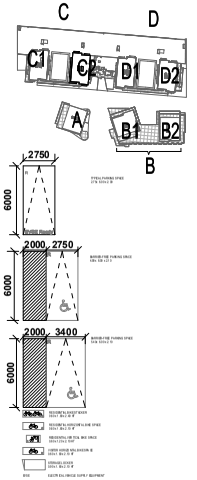
FLOOR PLAN LEVEL P2

PROJECT NO.	DRAWING NO.
18-223	A101

DATE/TIME PRODUCED:2021-01-28 12:33:14 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
8	Issued for Consultant Coordination 13	January, 28, 2021
7	Issued for 100 % DD Coordination	January, 01, 2021
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4	Issued for Site Plan Approval	January, 02, 2020
3	Issued for pre-con	December, 05, 2019
2	Issued for information	July 3, 2019
1	Presentation	June 27, 2019

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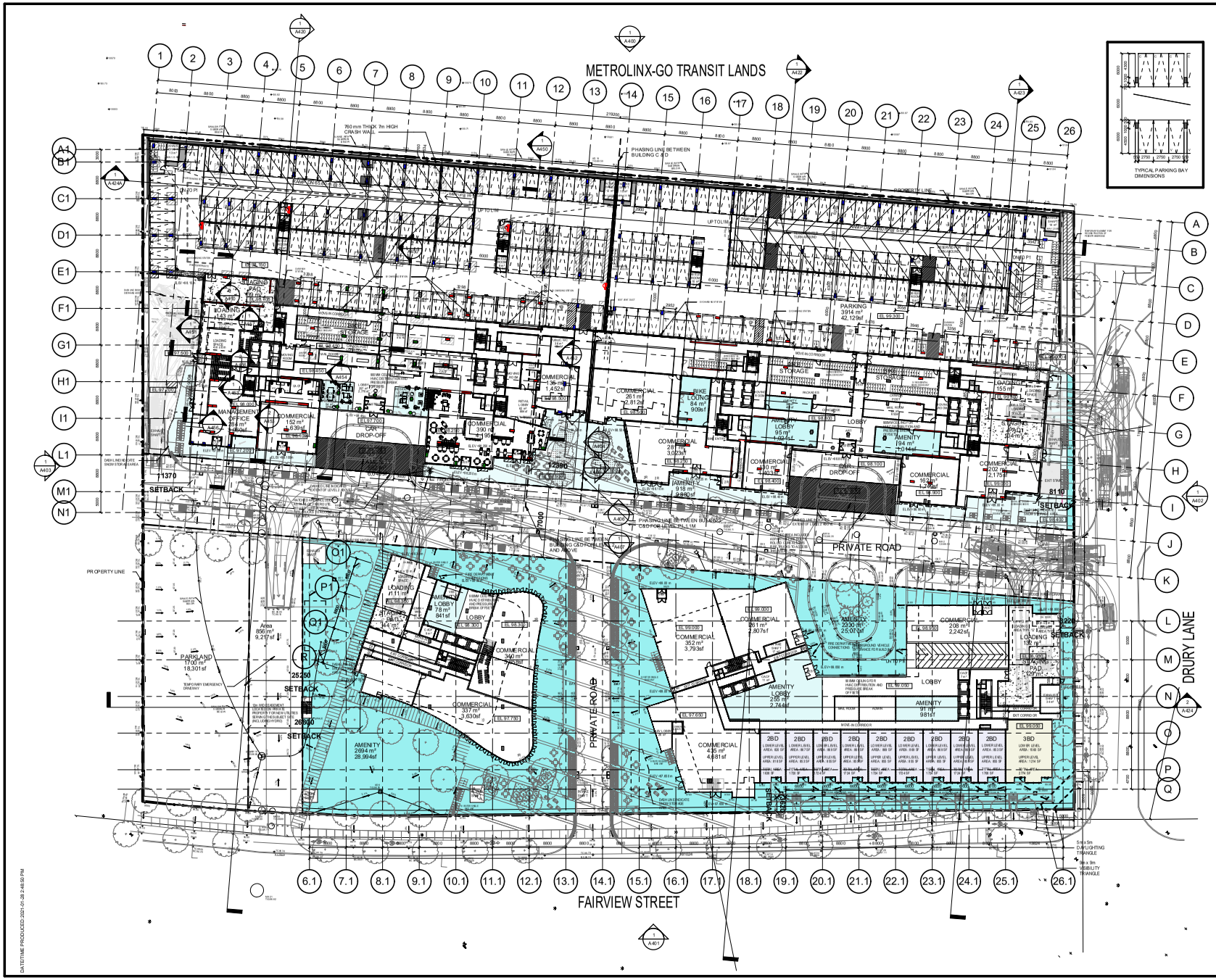
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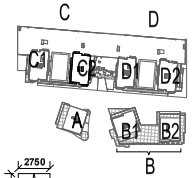
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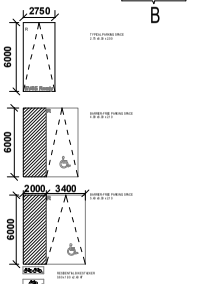
PROJECT NO.: 18-223
DRAWING NO.: A102

DATE/TIME PRODUCED 2021-01-28 2:40:03 PM



KEY PLAN IDENTIFYING BUILDING NAMES





NO.	REVISIONS	DATE
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E	Issued for 100 % DD Coordination	January, 01, 2021
D	Issued for Consultant Coordination 12	December, 10, 2020
C	Reissued for Site Plan Approval	September, 25, 2020
B	Issued for Site Plan Approval	January, 02, 2020
A	Issued for pre-con	December, 05, 2019
1	Presentation	June 27, 2019

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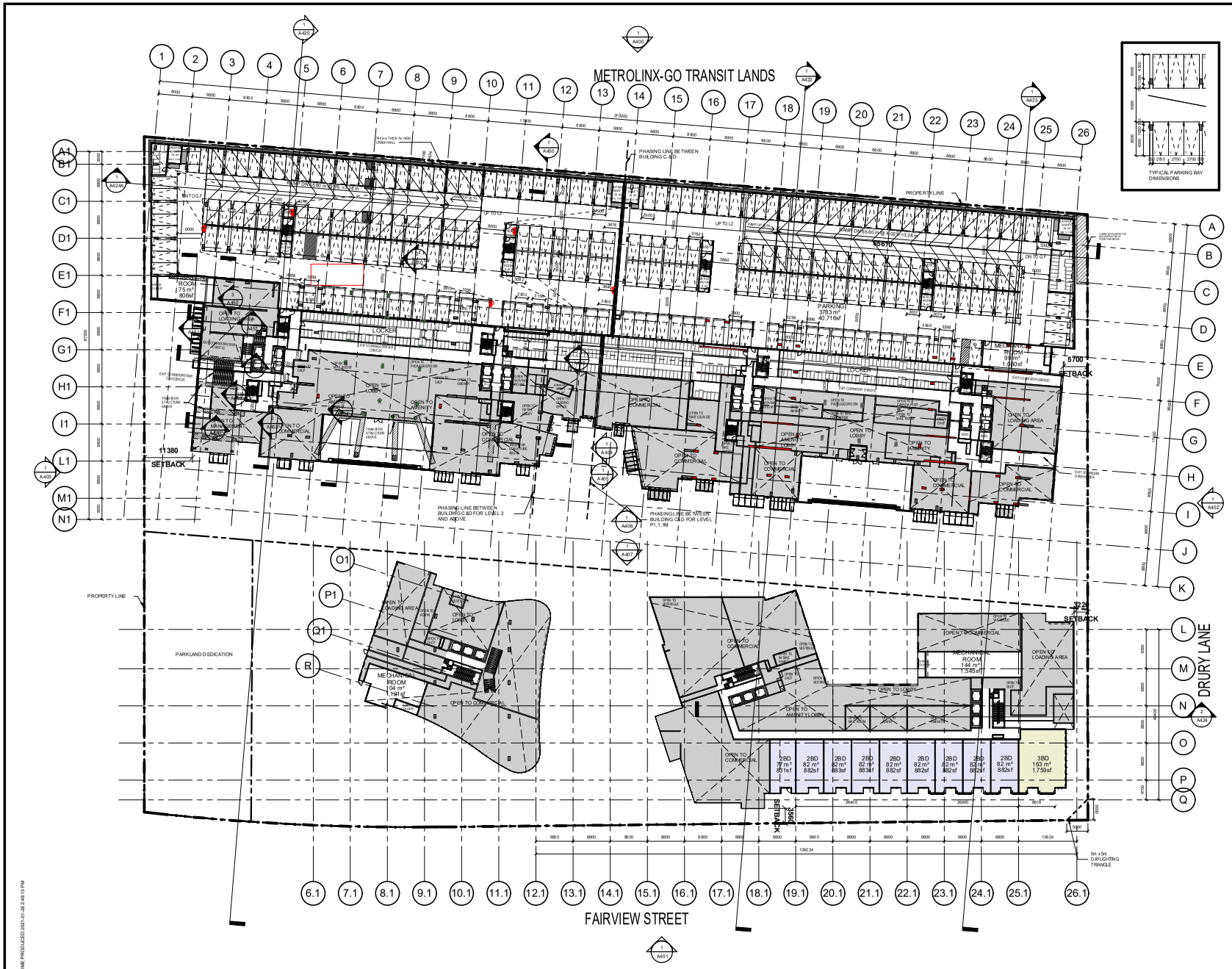
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DATE: Issue Date

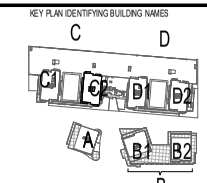
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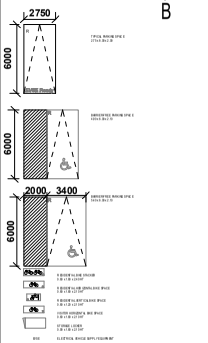
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DRAWING NO.: A103

DATE/TIME PRODUCED: 2021-01-28 2:49:59 PM



KEY PLAN IDENTIFYING BUILDING NAMES





NO.	REVISIONS	DATE
9	Issued for Consultant Coordination 13	January, 28, 2021
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Author	1/400
CHECKED	DATE
Checker	Issue Date

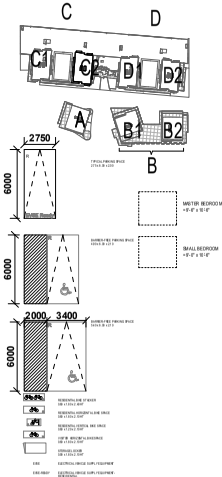
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FLOOR PLAN LEVEL 1M

PROJECT NO.	DRAWING NO.
18-223	A104

DATE/TIME PRODUCED 2021-01-28 2:49:13 PM



KEY PLAN IDENTIFYING BUILDING NAMES



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9	Issued for Consultant Coordination 13	January, 28, 2021
8	Issued for 100 % OD Coordination	January, 01, 2021
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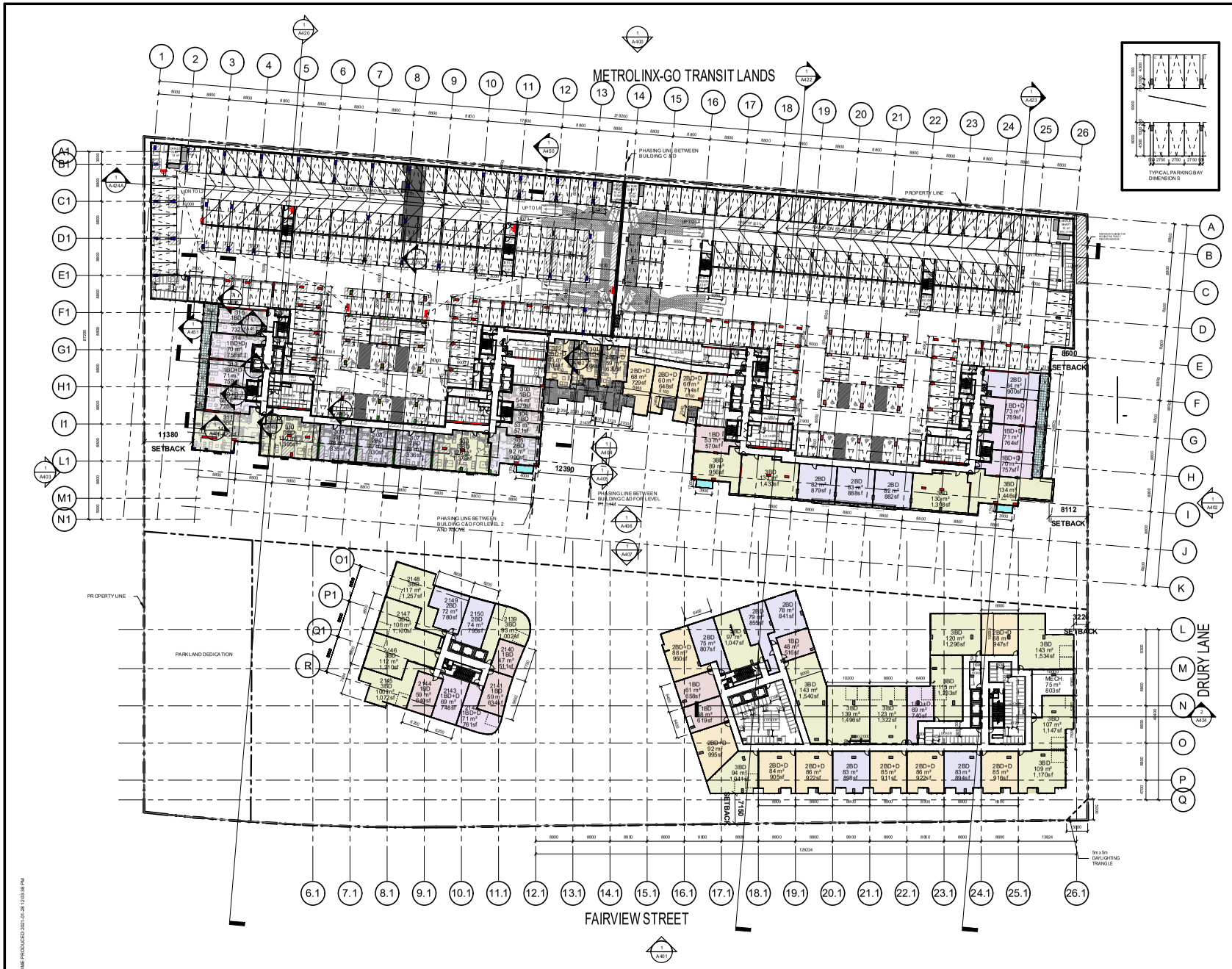
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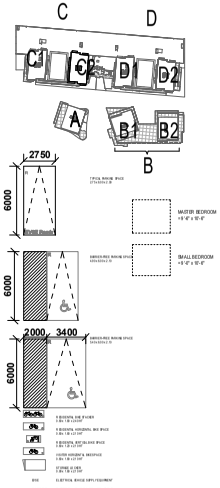
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PROJECT NO. 18-223
DRAWING NO. A105

DATE/TIME PRODUCED: 2021-01-28 12:03:13 PM



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9	Issued for Consultant Coordination 13	January, 28, 2021
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3	Issued for information	July 3, 2019
2	Presentation	June 27, 2019

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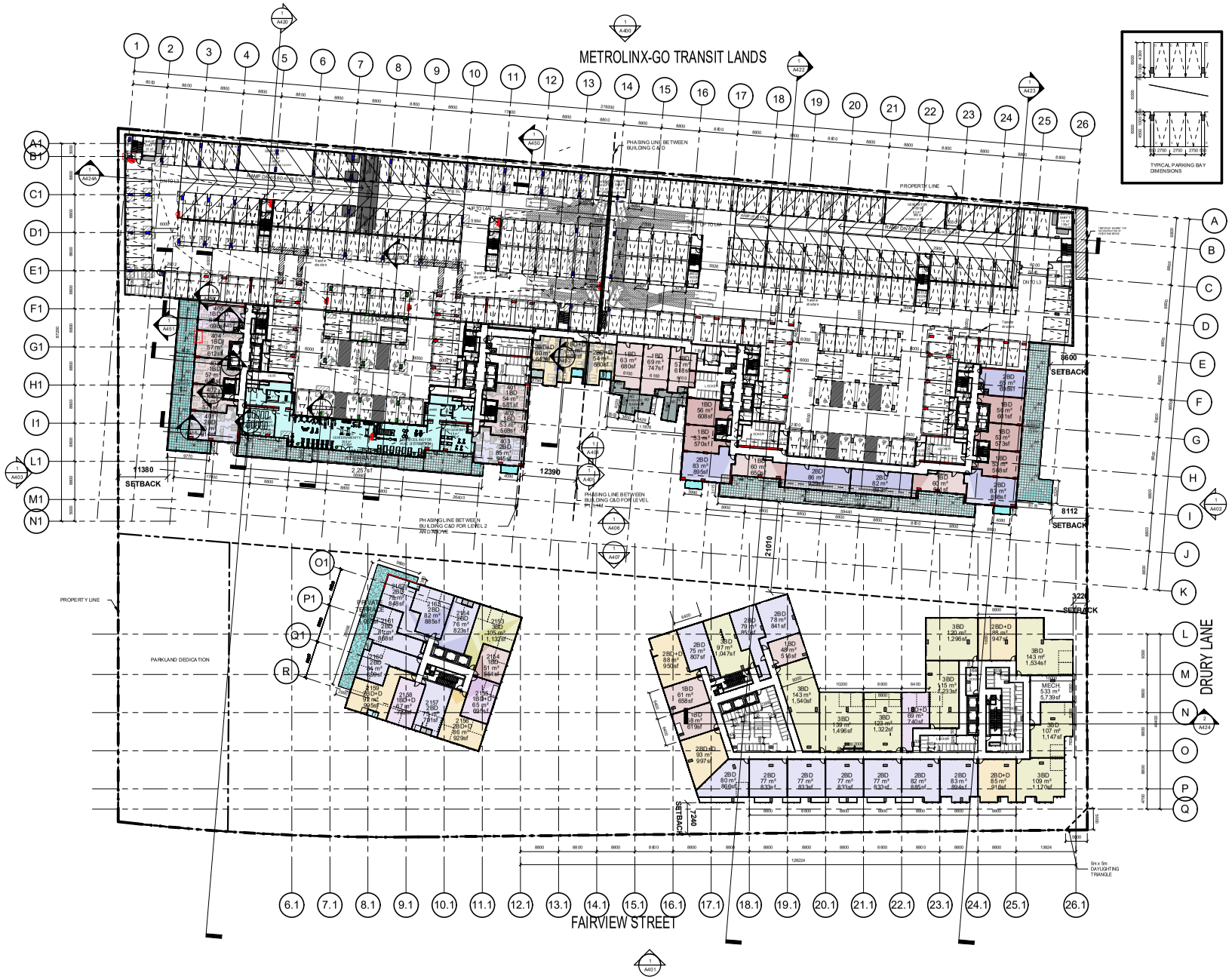
cc: CLV Group Developments Inc.
485 Bank Street, Suite 200
Ottawa, ON K2P 1Z2

DRAWN: Author
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CHECKED: Checker
DATE: Issue Date

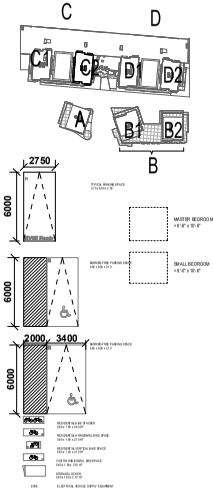
TITLE: FLOOR PLAN LEVEL 3

PROJECT NO.: 18-223
DRAWING NO.: A106

DATE/TIME PRODUCED: 2021-01-28 12:03:38 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
9	Issued for Consultant Coordination 13	January, 28, 2021
8	Issued for 100 % CD Coordination	January, 01, 2021
7	Issued for Consultant Coordination 12	December, 10, 2020
6	Reissued for Site Plan Approval	September , 25, 2020
5	Issued for Site Plan Approval	January, 02, 2020
4	Issued for pre-con	December, 05, 2019
3	Issued for information	July 3, 2019
2	Presentation	June 27, 2019

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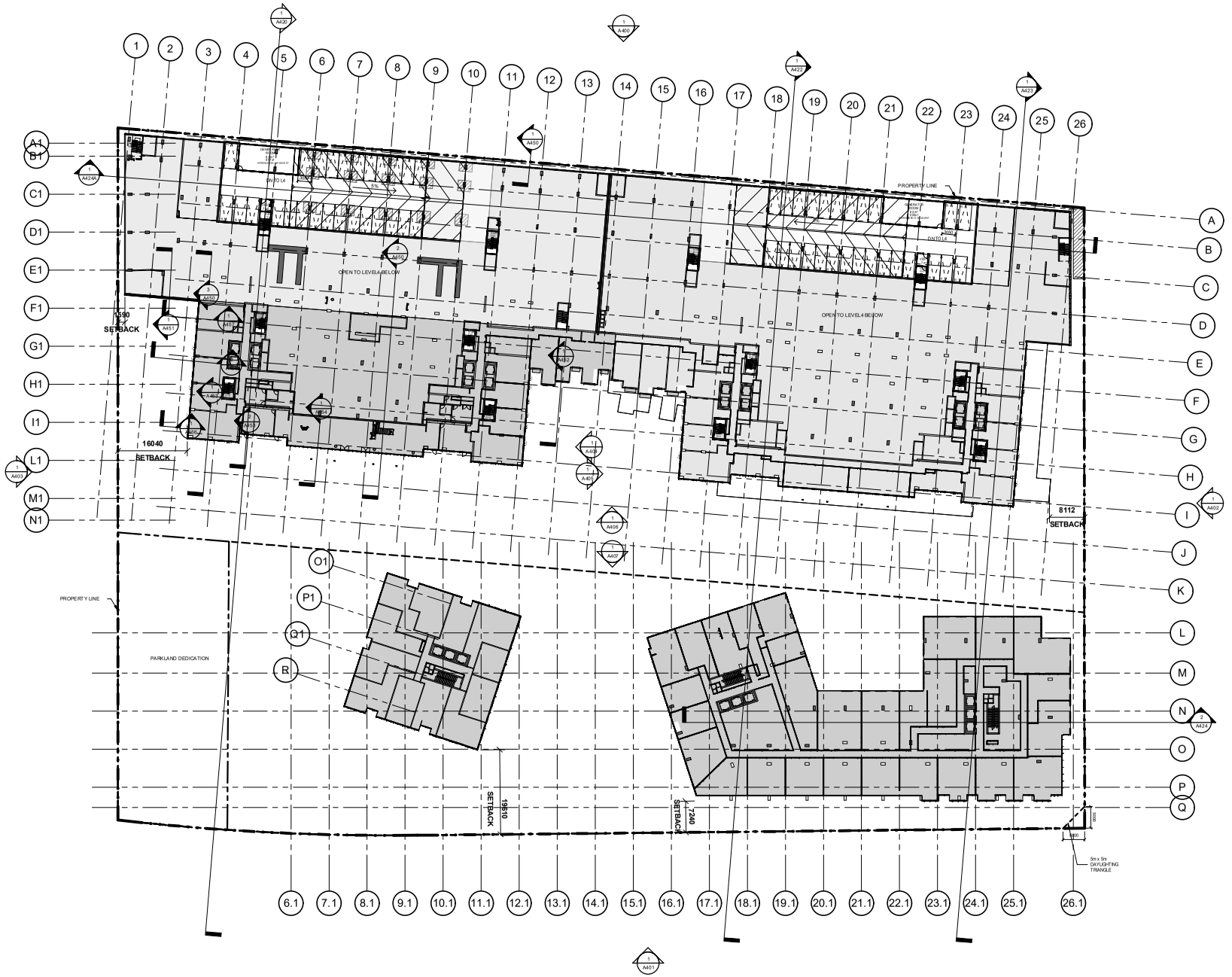
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CHECKED: Checker	DATE: Issue Date

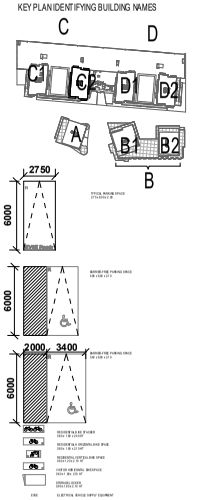
TITLE
FLOOR PLAN LEVEL 4

PROJECT NO.	DRAWING NO.
18-223	A107

DATE/TIME PRODUCED 2021-01-28 11:51:26 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
4	Issued for Consultant Coordination 13	January, 28, 2021
3	Issued for 100 % DD Coordination	January, 01, 2021
2	Issued for Consultant Coordination 12	December, 10, 2020
1	Reissued for Site Plan Approval	September, 23, 2020

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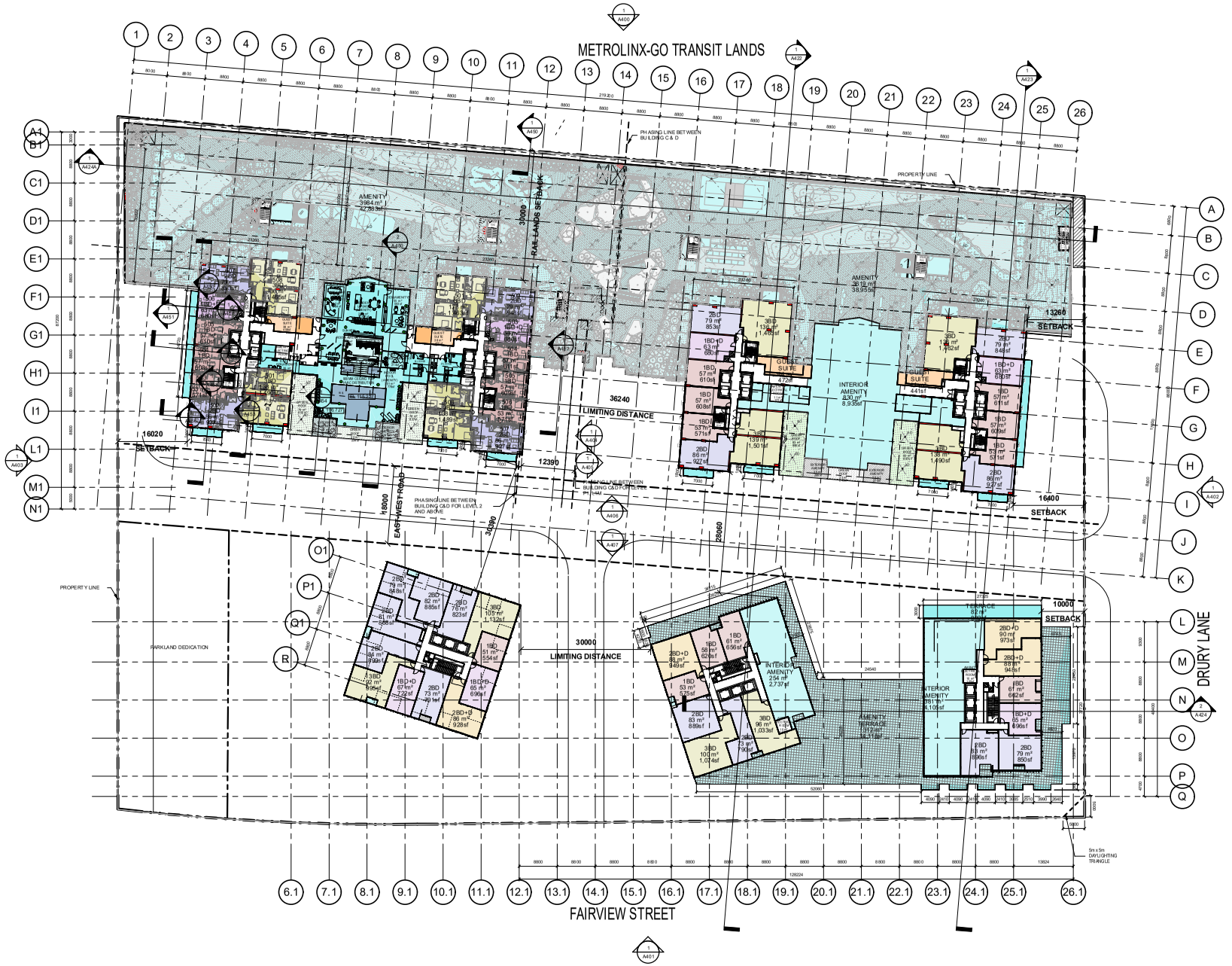
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Author	As indicated 1%xx scale
CHECKED	DATE
Checker	Issue Date

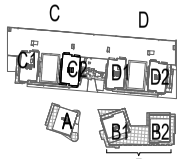
TITLE
FLOOR PLAN LEVEL 4A

PROJECT NO.	DRAWING NO.
18-223	A107A

DATE/TIME PRODUCED 2021-01-28 3:43:53 PM



KEY PLAN IDENTIFYING BUILDING NAMES



MASTER BEDROOM = 9'4" x 10'4"

SMALL BEDROOM = 9'4" x 10'4"

NO.	REVISIONS	DATE
9	Issued for Consultant Coordination 13	January, 28, 2021
8	Issued for 100 % CD Coordination	January, 01, 2021
7	Issued for Consultant Coordination 12	December, 10, 2020
6	Reissued for Site Plan Approval	September , 25, 2020
5	Issued for Site Plan Approval	January, 02, 2020
4	Issued for pre-con	December, 05, 2019
3	Issued for Information	July 3, 2019
2	Presentation	June 27, 2019

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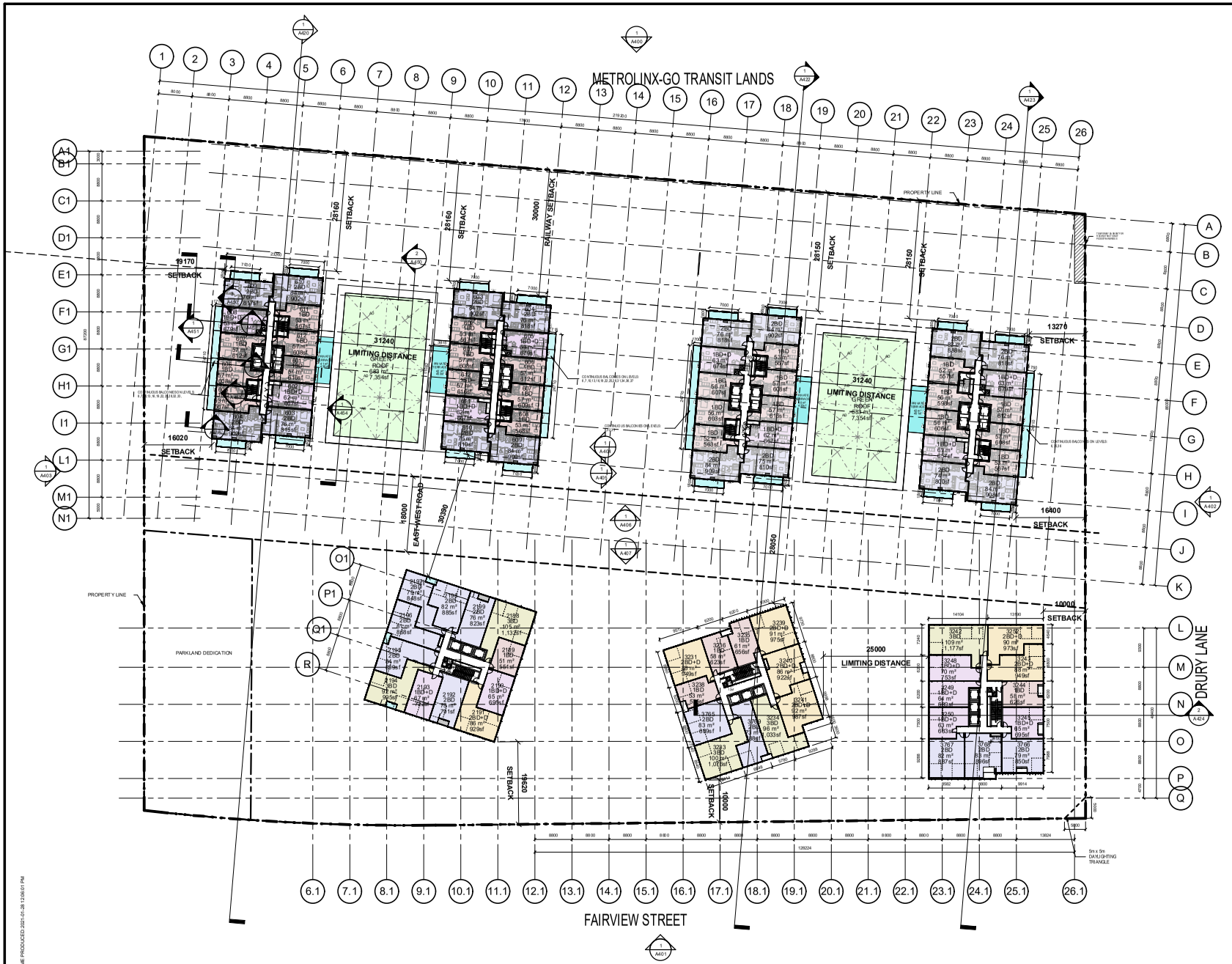
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CHECKED: Checker	DATE: Issue Date

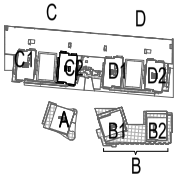
TITLE: FLOOR PLAN LEVEL 5

PROJECT NO.	DRAWING NO.
18-223	A108

DATE/TIME PRODUCED: 2021-01-28 12:05:39 PM



KEY PLAN IDENTIFYING BUILDING NAMES



MASTER BEDROOM = 9'4" x 10'4"

SMALL BEDROOM = 9'4" x 10'4"

NO.	REVISIONS	DATE
9	Issued for Consultant Coordination 13	January, 28, 2021
8	Issued for 100 % OD Coordination	January, 01, 2021
7	Issued for Consultant Coordination 12	December, 10, 2020
6	Reissued for Site Plan Approval	September , 25, 2020
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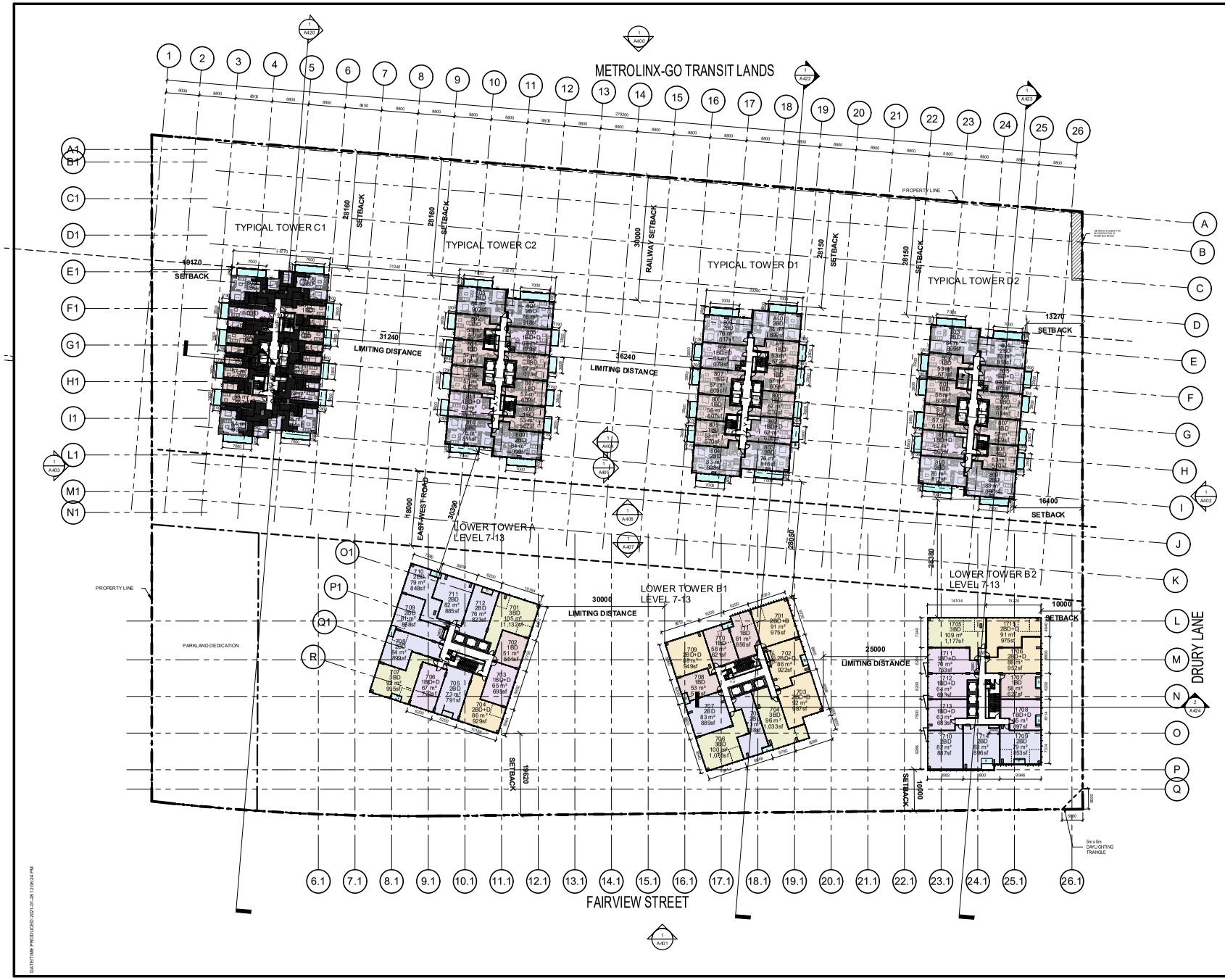
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CHECKED: Checker	DATE: Issue Date

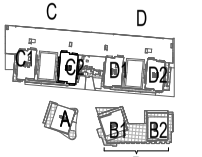
TITLE
FLOOR PLAN LEVEL 6

PROJECT NO.	DRAWING NO.
18-223	A109

DATE/TIME PRODUCED 2021-01-28 12:09:01 PM



KEY PLAN IDENTIFYING BUILDING NAMES



MASTER BEDROOM = 9'-6" X 10'-0"

SMALL BEDROOM = 9'-0" X 10'-0"

NO.	REVISIONS	DATE
13	Issued for Consultant Coordination 13	January. 28, 2021
12	Issued for 100 % DD Coordination	January. 01, 2021
11	Issued for Consultant Coordination 12	December. 10, 2020
10	Reissued for Site Plan Approval	September., 25, 2020
9	Issued for Site Plan Approval	January. 02, 2020
8	Issued for pre-con	December., 05, 2019
7	December., 05, 2019	November 04,2019
6	Issued for Consultant Coordination 05	October 15, 2019
5	Issued for Consultant Coordination 04	September 26, 2019
4	Issued for Consultant Coordination 03	September 05, 2019
3	Issued for Consultant Coordination 02	August 23,2019
2	Issued for Consultant Coordination 01	July 18,2019
1	Issued for Information	July 3, 2019

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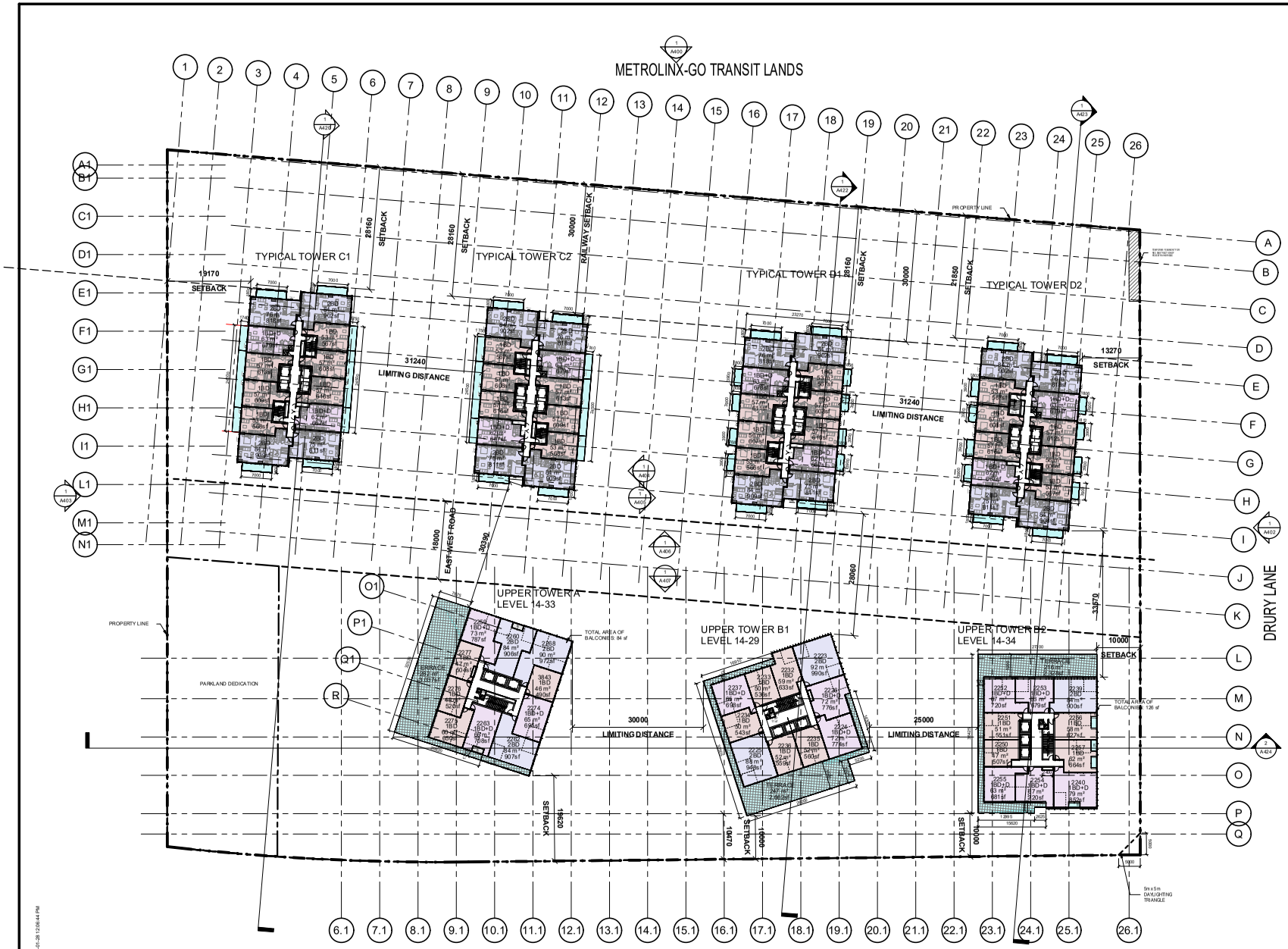
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Author	1/400
CHECKED	DATE
Checker	Issue Date

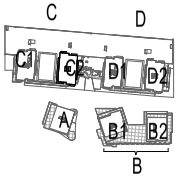
TITLE
FLOOR PLAN LOWER TOWER

PROJECT NO.	DRAWING NO.
18-223	A111

DATE/TIME PRODUCED: 2021-01-28 12:26:24 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
9	Issued for Consultant Coordination 13	January. 28, 2021
8	Issued for 100 % DD Coordination	January. 01, 2021
7	Issued for Consultant Coordination 12	December. 10, 2020
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5	Issued for Site Plan Approval	January. 02, 2020
4	Issued for precon	December. 09, 2019

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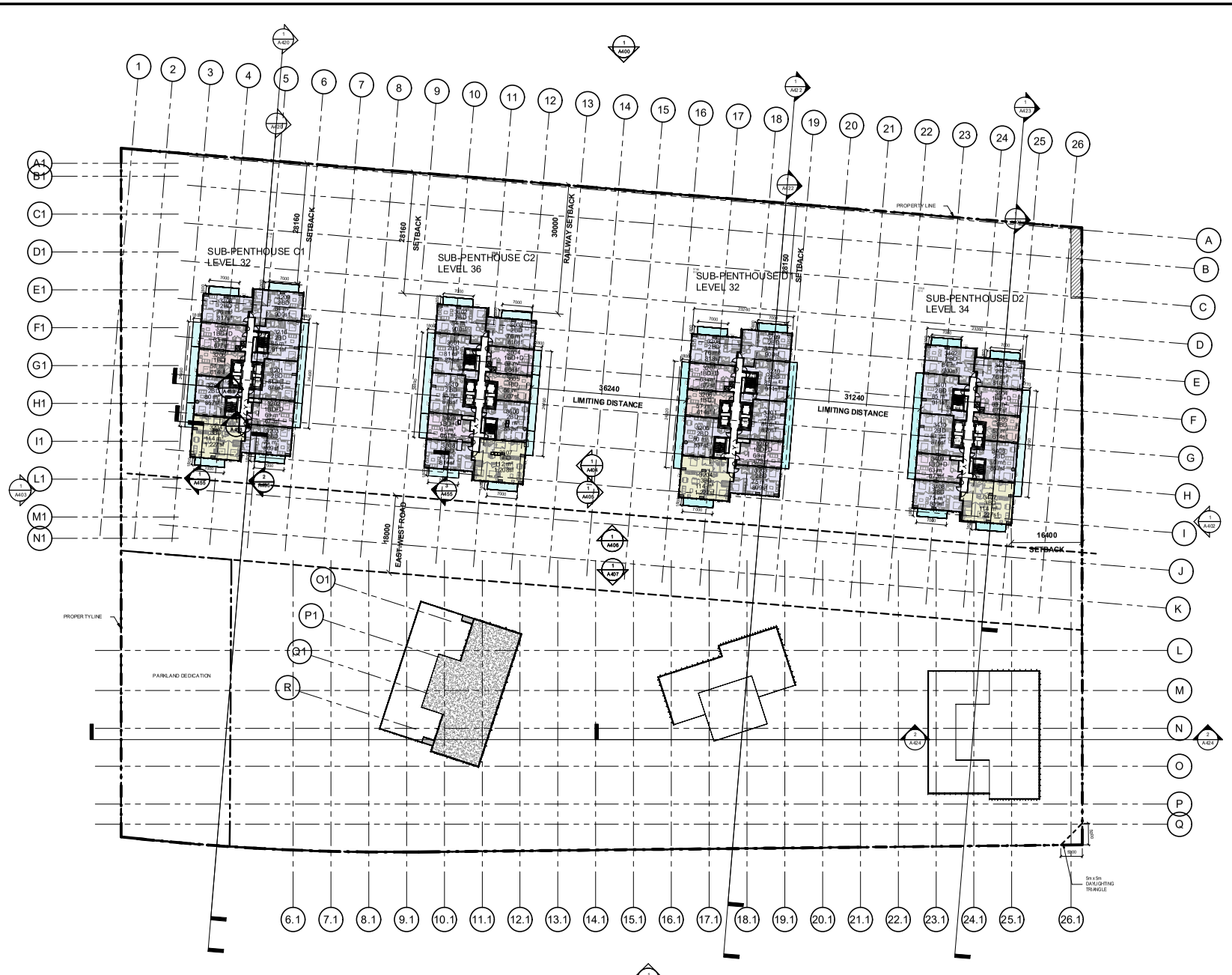
cc: CLV Group Developments Inc.
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Ottawa, ON K2P 1Z2

DRAWN: Author
SCALE: 1/400
CHECKED: Checker
DATE: Issue Date

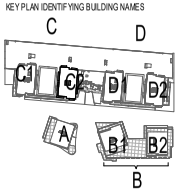
TITLE: FLOOR PLAN UPPER TOWER

PROJECT NO.: 18-223
DRAWING NO.: A116

DATE/TIME PRODUCED:2021-01-28 12:26:44 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
4	Issued for Consultant Coordination 13	January, 28, 2021
3	Issued for 100 % DD Coordination	January, 01, 2021
2	Issued for Consultant Coordination 12	December, 10, 2020
1	Released for Site Plan Approval	September, 23, 2020

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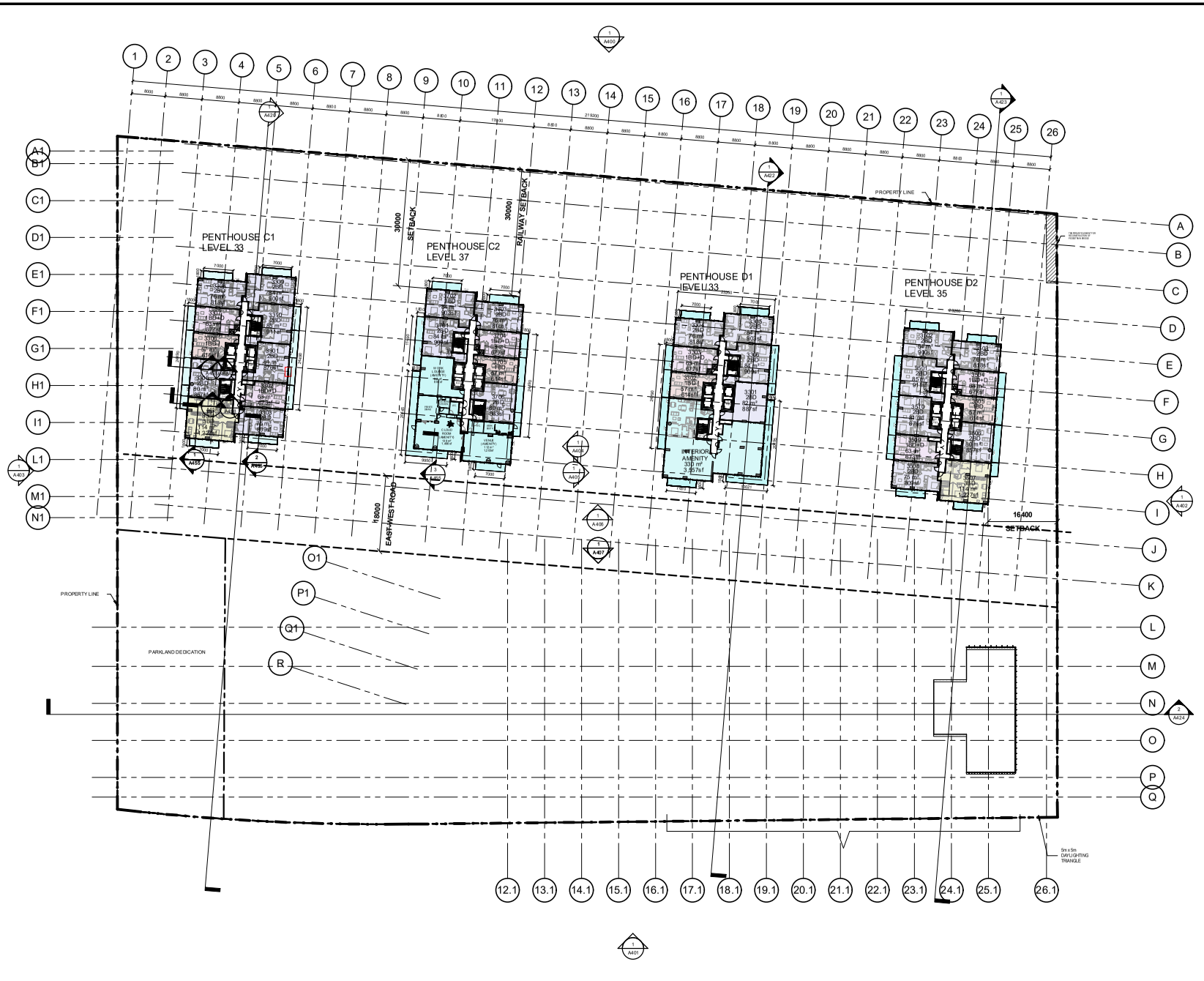
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DATE: Issue Date

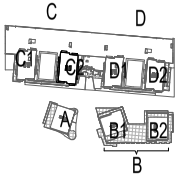
TITLE
FLOOR PLAN SUB-PENTHOUSE

PROJECT NO. 18-223
DRAWING NO. A116A

DATE/TIME PRODUCED 2021-01-28 12:07:09 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
12	Issued for Consultant Coordination 13	January, 28, 2021
11	Issued for 100 % DD Coordination	January, 01, 2021
10	Issued for Consultant Coordination 12	December, 10, 2020
9	Reissued for Site Plan Approval	September , 25, 2020
8	Issued for Site Plan Approval	January, 02, 2020
7	Issued for pre-con	December, 05, 2019
6	December, 05, 2019	November 06,2019
5	Issued for Consultant Coordination 05	October 15, 2019
4	Issued for Consultant Coordination 04	September 26, 2019
3	Issued for Consultant Coordination 03	September 05, 2019
2	Issued for Consultant Coordination 02	August 23,2019
1	Issued for Consultant Coordination 01	July, 18,2019

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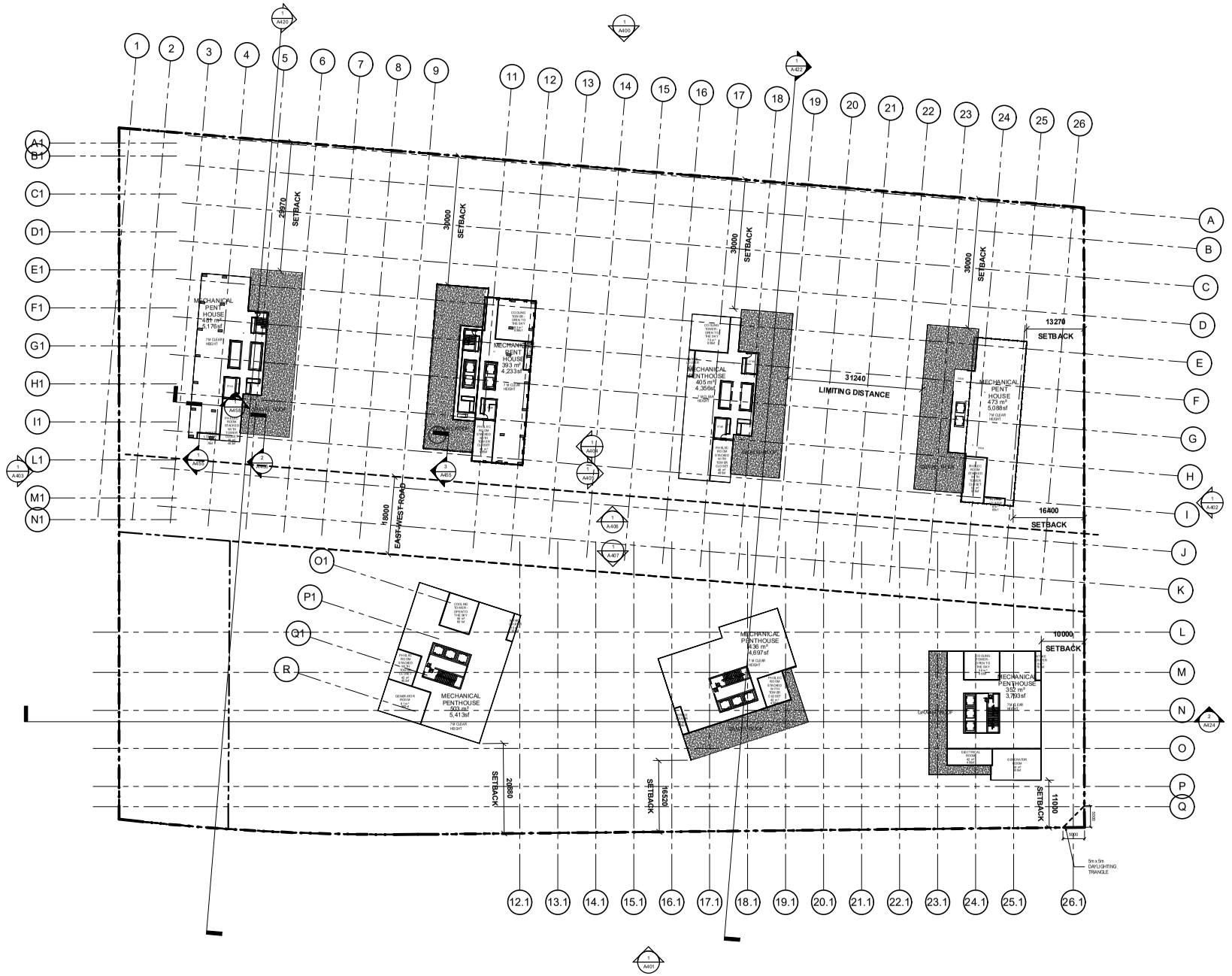
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Author	1/400
CHECKED	DATE
Checker	Issue Date

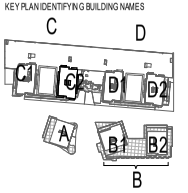
TITLE
FLOOR PLAN PENTHOUSE LEVELS

PROJECT NO.	DRAWING NO.
18-223	A117

DATE/TIME PRODUCED 2021-01-28 1:20:31 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
9	Issued for Consultant Coordination 13	January. 28, 2021
8	Issued for 100 % DD Coordination	January. 01, 2021
7	Issued for Consultant Coordination 12	December. 10, 2020
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5	Issued for Site Plan Approval	January. 02, 2020
4	Issued for precon	December. 09, 2019

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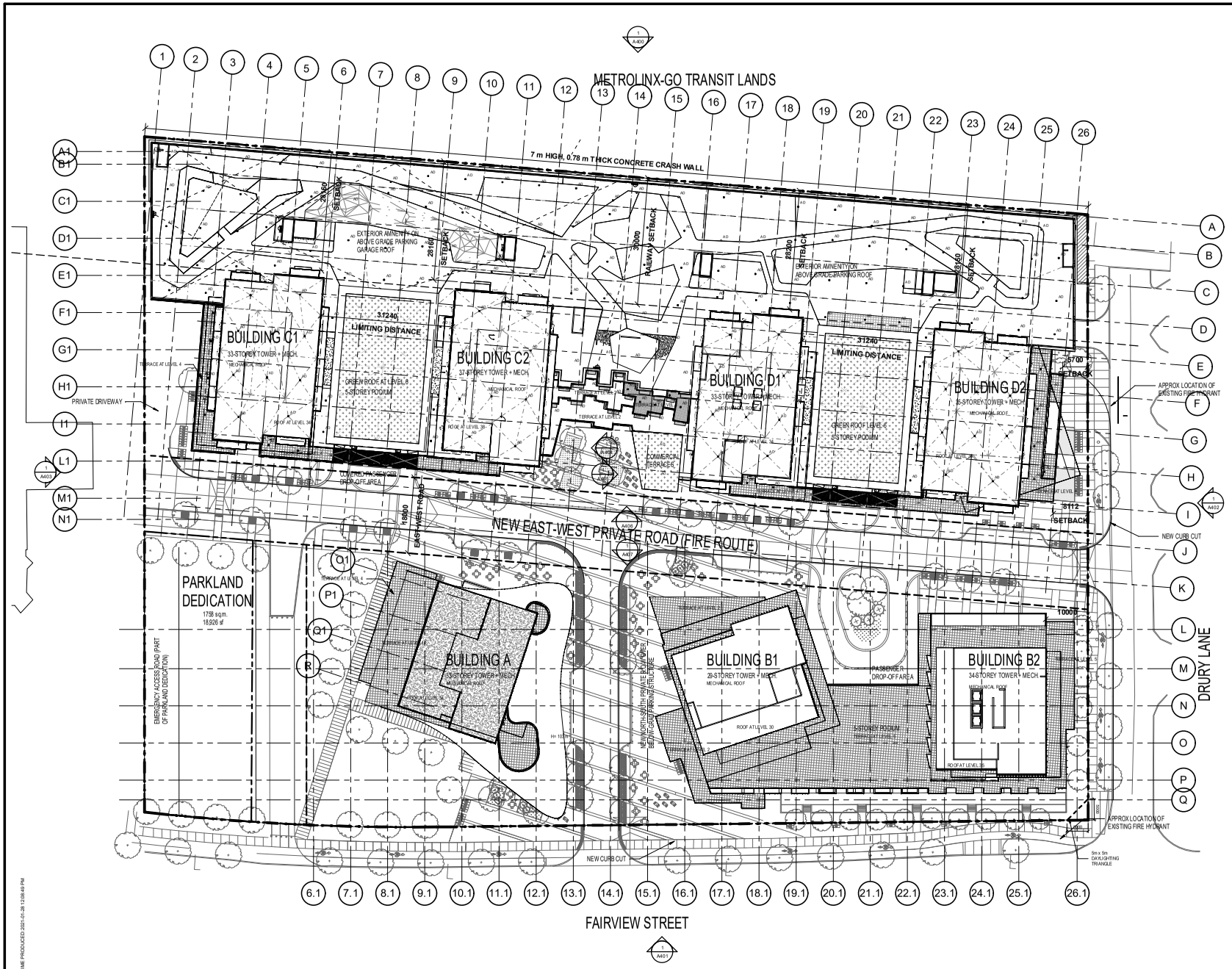
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CHECKED	DATE
Checker	Issue Date

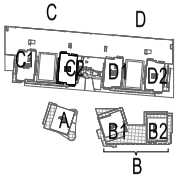
TITLE
FLOOR PLAN LEVEL Mech. Penthouse

PROJECT NO.	DRAWING NO.
18-223	A118

DATE/TIME PRODUCED 2021-01-28 12:07:41 PM



KEY PLAN IDENTIFYING BUILDING NAMES



NO.	REVISIONS	DATE
0	Issued for Consultant Coordination 13	January, 28, 2021
5	Issued for 100 % DD Coordination	January, 01, 2021
4	Issued for Consultant Coordination 12	December, 10, 2020
3	Released for Site Plan Approval	September , 25, 2020
2	Issued for Site Plan Approval	January, 02, 2020
1	Issued for precon	December, 09, 2019

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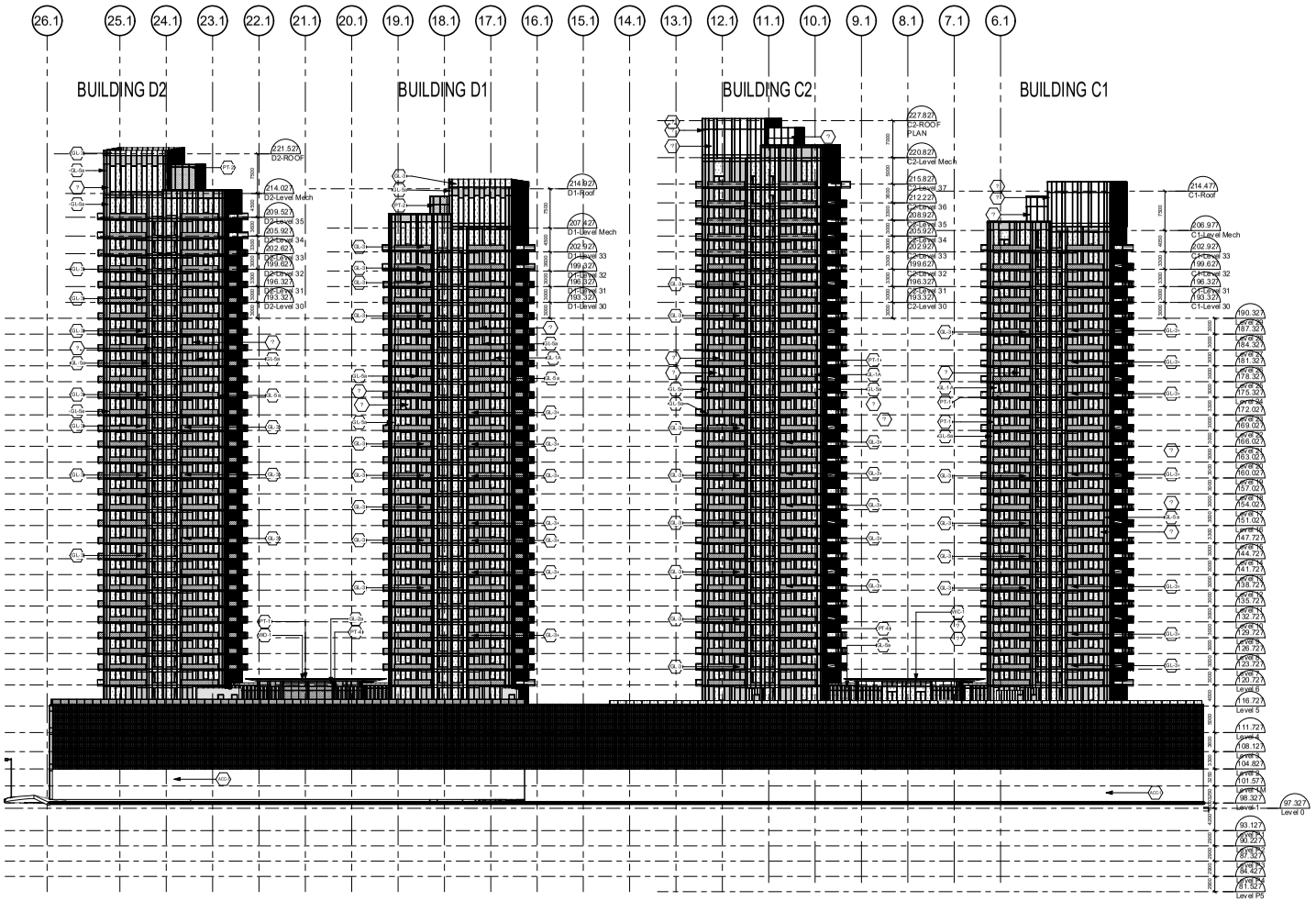
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DRAWN: Author	SCALE: As indicated 1=xxx scale
CHECKED: Checker	DATE: Issue Date

TITLE: ROOF PLAN

PROJECT NO.	DRAWING NO.
18-223	A119

DATE/TIME PRODUCED 2021-01-28 12:08:49 PM



MATERIAL LEGEND

GL-1a: 6MM ANNEALED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-2a: 6MM TEMPERED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-3: CLEAR BALCONY GUARDRAIL GLAZING. DESIGNED TO SUIT APPLICABLE LOADS. REQUIRED TO CONFORM TO OBC SUPPLEMENTARY STANDARD SB-13. (ALL GLASS GUARD RAILS ARE SET BACK 150MM FROM SLAB EDGE)

GL-5a: MEDIUM GREY LOW-REFLECTIVE BACK-PAINTED SPANDREL GLAZING. 6MM CLEAR HEAT STRENGTHENED GLASS W/ WATER-BASED SILICONE-EMULSION- COATING APPLIED TO SURFACE 2.

PT-1: PAINT TYPE 1 (DURANAR FINISHED METAL - BRONZE FLECK)

PT-2: PAINT TYPE 1 (DURANAR FINISHED METAL - CHARCOAL FLECK)

PT-3: PAINT TYPE 3 (DURANAR FINISHED METAL - COPPER FLECK)

PT-4: PAINT TYPE 4 (DURANAR FINISHED METAL - BLACK MATTE)

PT-5: PAINT TYPE 5 (DURANAR FINISHED METAL - BRIGHT SILVER)

MT-2: METAL PANEL RAILING

MT-3: PICKET RAILING

AL-1: ARCHITECTURAL LOUVRES TO MATCH MULLION COLOUR.

ACC-1: ARCHITECTURAL CONCRETE FINISH.

CF-1: SMOOTH CONCRETE FINISH.

PC-1: PRECAST CONCRETE - NATURAL FINISH

GFRC-1: LIGHT GREY FINISH

BR-1: PRECAST BRICK PANEL - DARK IRONSPOT

BR-2: PRECAST BRICK PANEL - LIGHT GREY BLEND

ST-1: DARK GREY FLASHING

WD-1: WOOD TYPE 1 PRODEMA

NO.	REVISIONS	DATE
5	Issued for Coordination 13	January, 28, 2021
4	Issued for 100% DD Coordination	January, 15, 2021
3	Issued for Coordination 12	December , 10, 2020
2	Reissued for Site Plan Approval	September, 25, 2020
1	Issued for Site Plan Approval	January, 02, 2020

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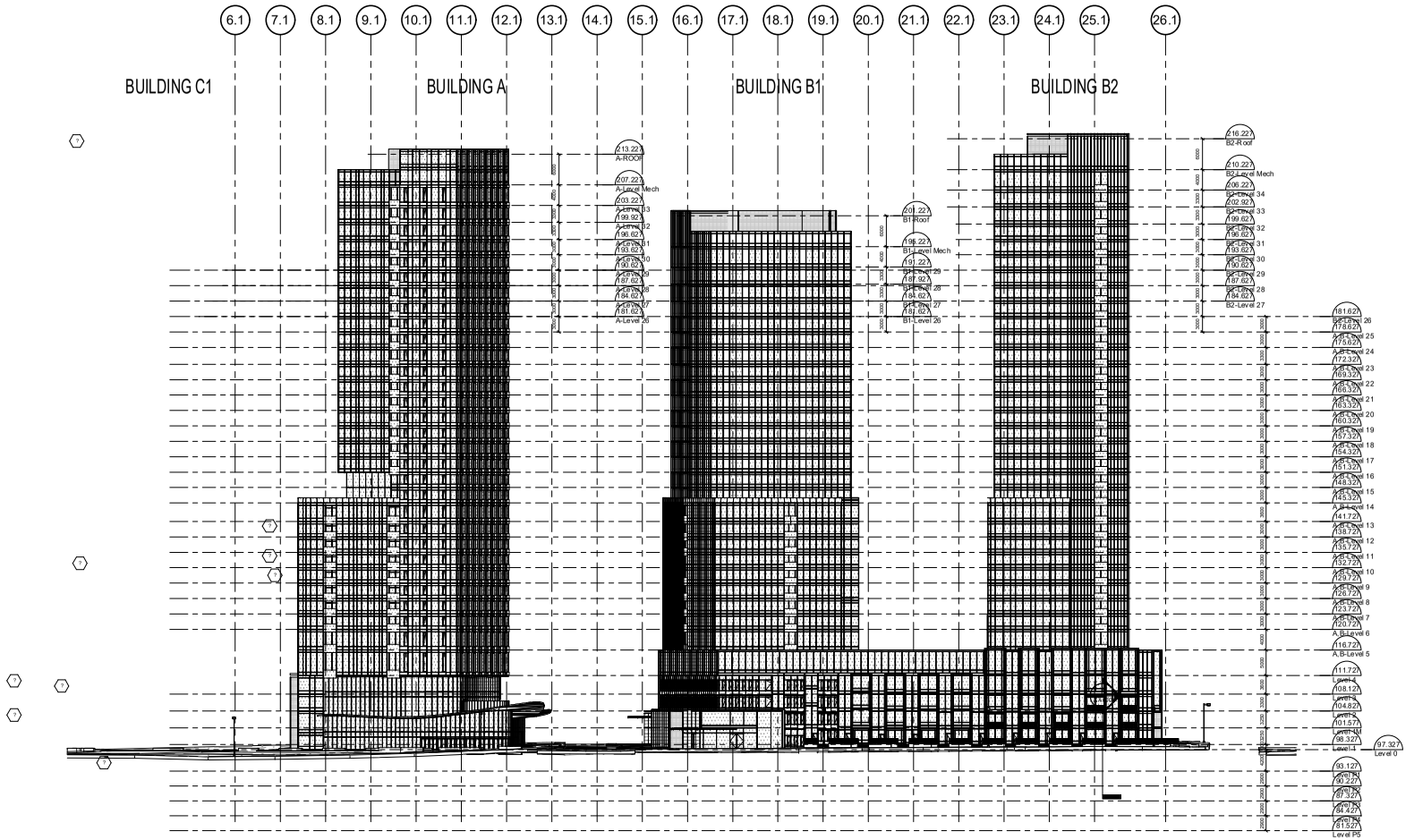
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485 Bank Street, Suite 200
Ottawa, ONK2P 1Z2

DRAWN: Author
SCALE: 1 : 400 1Kxx scale
CHECKED: Checker
DATE: Issue Date

TITLE
NORTH ELEVATION- C&D

PROJECT NO. 18-223
DRAWING NO. A400

DATE/TIME PRODUCED: 2021-01-28 3:22:38 PM



MATERIAL LEGEND

GL-1a: 6MM ANNEALED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-2a: 6MM TEMPERED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-3 : CLEAR BACLONY GUARDRAIL GLAZING. DESIGNED TO SUIT APPLICABLE LOADS. REQUIRED TO CONFORM TO OBC SUPPLEMENTARY STANDARD SB-13. (ALL GLASS GUARD RAILS ARE SET BACK 150MM FROM SLAB EDGE)

GL-5a: MEDIUM GREY LOW-REFLECTIVE BACK-PAINTED SPANDREL GLAZING. 6MM CLEAR HEAT-STRENGTHENED GLASS W/ WATER-BASED SILICONE-EMULSION- COATING APPLIED TO SURFACE 2.

PT-1: PAINT TYPE 1 (DURANAR FINISHED METAL - BRONZE FLECK)

PT-2: PAINT TYPE 1 (DURANAR FINISHED METAL - CHARCOAL FLECK)

PT-3: PAINT TYPE 3 (DURANAR FINISHED METAL - COPPER FLECK)

PT-4: PAINT TYPE 4 (DURANAR FINISHED METAL - BLACK MATTE)

PT-5: PAINT TYPE 5 (DURANAR FINISHED METAL - BRIGHT SILVER)

MT-2: METAL PANEL RAILING

MT-3: PICKET RAILING

AL-1: ARCHITECTURAL LOUVRES TO MATCH MULLION COLOUR.

ACC-1: ARCHITECTURAL CONCRETE FINISH.

CF-1: SMOOTH CONCRETE FINISH.

PC-1: PRECAST CONCRETE - NATURAL FINISH

GFRC-1: LIGHT GREY FINISH

BR-1: PRECAST BRICK PANEL - DARK IRONSPOT

BR-2: PRECAST BRICK PANEL - LIGHT GREY BLEND

ST-1: DARK GREY FLASHING

WD-1: WOOD TYPE 1 PRODEMA

DATE/TIME PRODUCED: 2021-01-28 3:24:28 PM

NO.	REVISIONS	DATE
3	Issued for Coordination 13	January. 28. 2021
4	Issued for 100% DD Coordination	January. 15. 2021
3	Issued for Coordination 12	December. 10. 2020
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1	Issued for Site Plan Approval	January. 02. 2020

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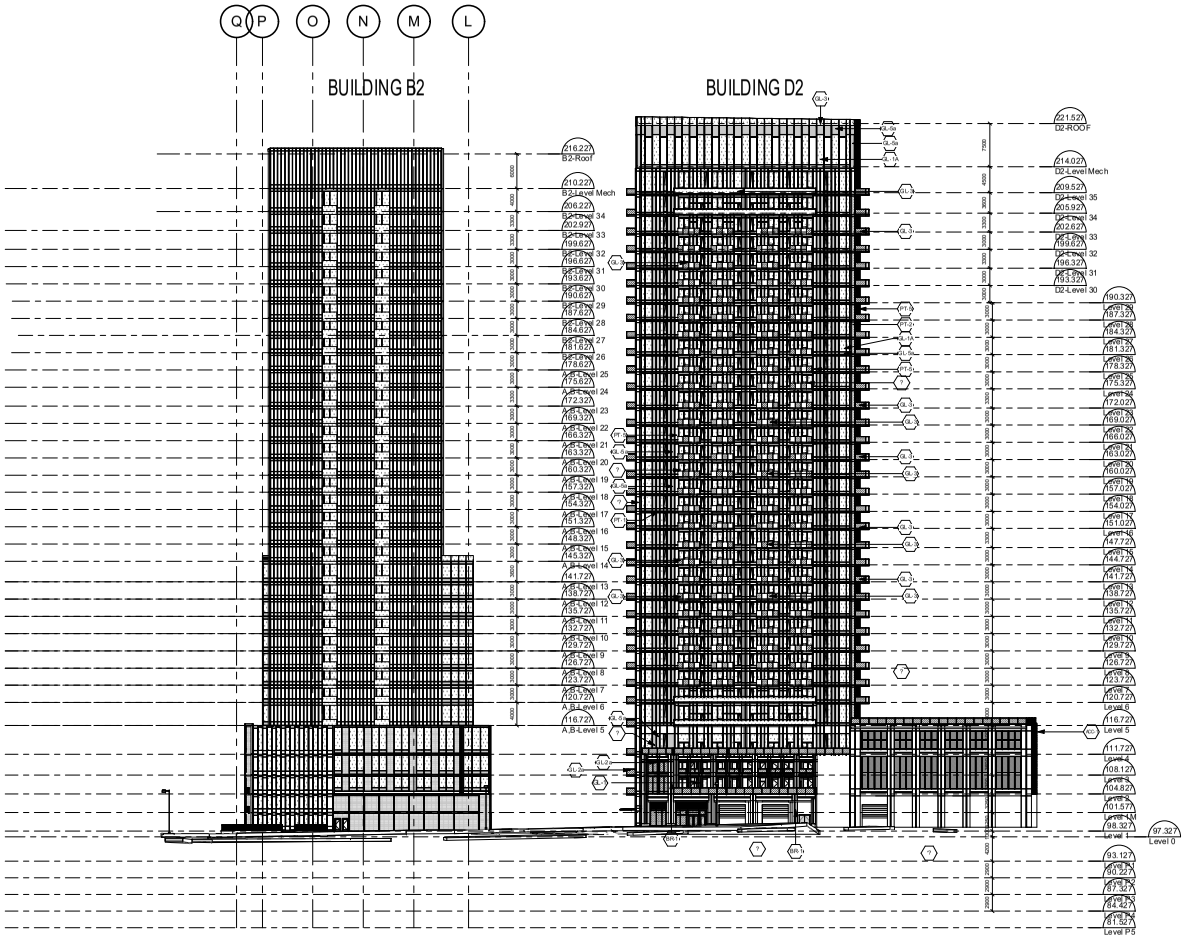
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cc CLV Group Developments Inc.
485 Bank Street, Suite 200
Ottawa, ONK2P 1Z2

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CHECKED: Checker
DATE: Issue Date

TITLE
SOUTH ELEVATION-A&B

PROJECT NO. 18-223
DRAWING NO. **A401**



MATERIAL LEGEND

GL-1a: 6MM ANNEALED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-2a: 6MM TEMPERED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-3: CLEAR BALCONY GUARDRAIL GLAZING. DESIGNED TO SUIT APPLICABLE LOADS. REQUIRED TO CONFORM TO OBC SUPPLEMENTARY STANDARD SB-13. (ALL GLASS GUARD RAILS ARE SET BACK 150MM FROM SLAB EDGE)

GL-5a: MEDIUM GREY LOW-REFLECTIVE BACK-PAINTED SPANDREL GLAZING. 6MM CLEAR HEAT-STRENGTHENED GLASS W/ WATER-BASED SILICONE-EMULSION COATING APPLIED TO SURFACE 2.

PT-1: PAINT TYPE 1 (DURANAR FINISHED METAL - BRONZE FLECK)

PT-2: PAINT TYPE 1 (DURANAR FINISHED METAL - CHARCOAL FLECK)

PT-3: PAINT TYPE 3 (DURANAR FINISHED METAL - COPPER FLECK)

PT-4: PAINT TYPE 4 (DURANAR FINISHED METAL - BLACK MATTE)

PT-5: PAINT TYPE 5 (DURANAR FINISHED METAL - BRIGHT SILVER)

MT-2: METAL PANEL RAILING

MT-3: PICKET RAILING

AL-1: ARCHITECTURAL LOUVRES TO MATCH MULLION COLOUR.

ACC-1: ARCHITECTURAL CONCRETE FINISH.

CF-1: SMOOTH CONCRETE FINISH.

PC-1: PRECAST CONCRETE - NATURAL FINISH

GFRC-1: LIGHT GREY FINISH

BR-1: PRECAST BRICK PANEL - DARK IRONSPOT

BR-2: PRECAST BRICK PANEL - LIGHT GREY BLEND

ST-1: DARK GREY FLASHING

WD-1: WOOD TYPE 1 PRODEMA

NO.	REVISIONS	DATE
3	Issued for Coordination 13	January, 28, 2021
4	Issued for 100% DD Coordination	January, 15, 2021
3	Issued for Coordination 12	December, 10, 2020
2	Reissued for Site Plan Approval	September, 25, 2020
1	Issued for Site Plan Approval	January, 02, 2020

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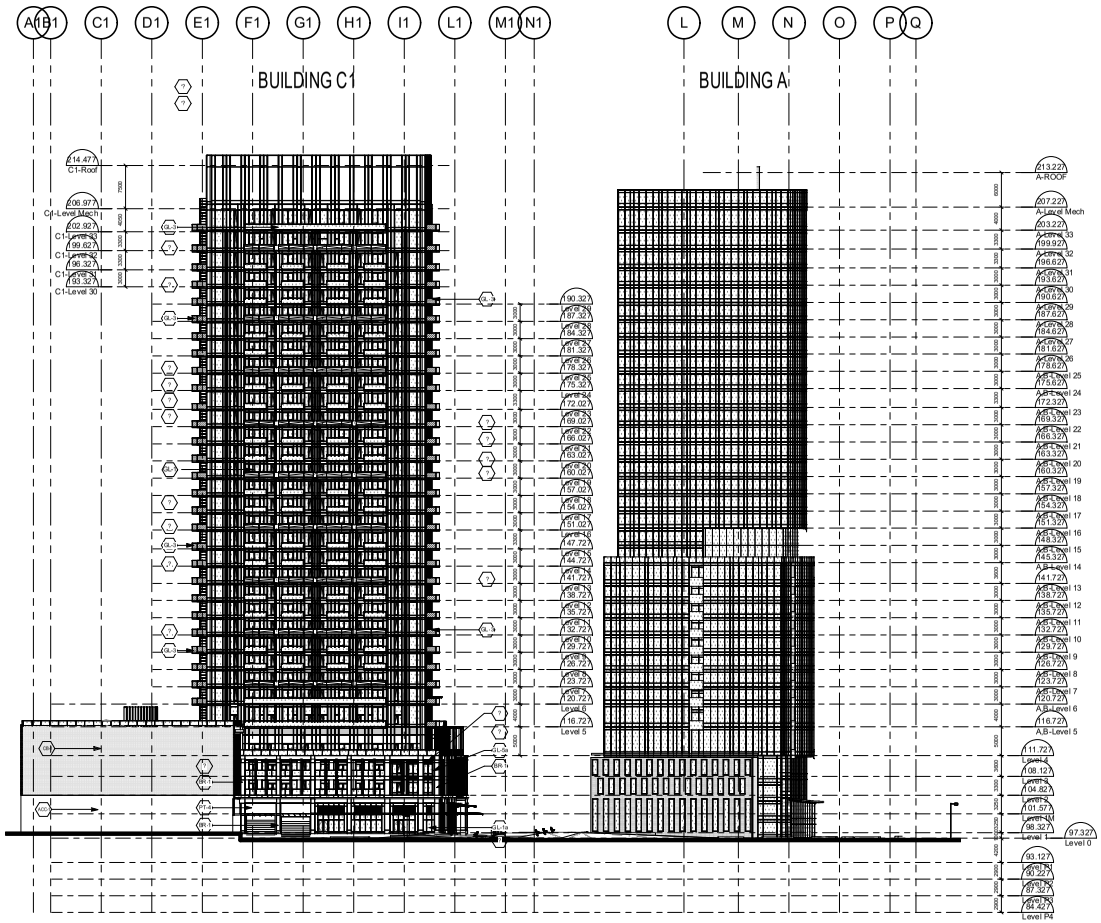
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SCALE: 1 : 400 1Kxxx scale
CHECKED: Checker
DATE: Issue Date

TITLE
EAST ELEVATION-B2&D2

PROJECT NO. 18-223
DRAWING NO. **A402**

DATE/TIME PRODUCED: 2021-01-28 3:25:01 PM



MATERIAL LEGEND

GL-1a: 6MM ANNEALED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-2a: 6MM TEMPERED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-3: CLEAR BACLOW GUARDRAIL GLAZING. DESIGNED TO SUIT APPLICABLE LOADS. REQUIRED TO CONFORM TO OBC SUPPLEMENTARY STANDARD SB-13. (ALL GLASS GUARD RAILS ARE SETBACK 150MM FROM SLAB EDGE)

GL-5a: MEDIUM GREY LOW-REFLECTIVE BACK-PAINTED SPANDREL GLAZING. 6MM CLEAR HEAT-STRENGTHENED GLASS W/ WATER-BASED SILICONE EMULSION- COATING APPLIED TO SURFACE 2.

PT-1: PAINT TYPE 1 (DURANAR FINISHED METAL - BRONZE FLECK)

PT-2: PAINT TYPE 1 (DURANAR FINISHED METAL - CHARCOAL FLECK)

PT-3: PAINT TYPE 3 (DURANAR FINISHED METAL - COPPER FLECK)

PT-4: PAINT TYPE 4 (DURANAR FINISHED METAL - BLACK MATTE)

PT-5: PAINT TYPE 5 (DURANAR FINISHED METAL - BRIGHT SILVER)

MT-2: METAL PANEL RAILING

MT-3: PICKET RAILING

AL-1: ARCHITECTURAL LOUVRES TO MATCH MULLION COLOUR.

ACC-1: ARCHITECTURAL CONCRETE FINISH.

CF-1: SMOOTH CONCRETE FINISH.

PC-1: PRECAST CONCRETE - NATURAL FINISH

GFRC-1: LIGHT GREY FINISH

BR-1: PRECAST BRICK PANEL - DARK IRONSPOT

BR-2: PRECAST BRICK PANEL - LIGHT GREY BLEND

ST-1: DARK GREY FLASHING

WD-1: WOOD TYPE 1 PRODEMA

DATE/TIME PRODUCED: 2021-01-28 3:25:34 PM

NO.	REVISIONS	DATE
3	Issued for Coordination 13	January, 28, 2021
4	Issued for 100% DD Coordination	January, 15, 2021
3	Issued for Coordination 12	December , 10, 2020
2	Reissued for Site Plan Approval	September, 25, 2020
1	Issued for Site Plan Approval	January, 02, 2020

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DRAWN: Author

SCALE: 1 : 400 1Kxx scale

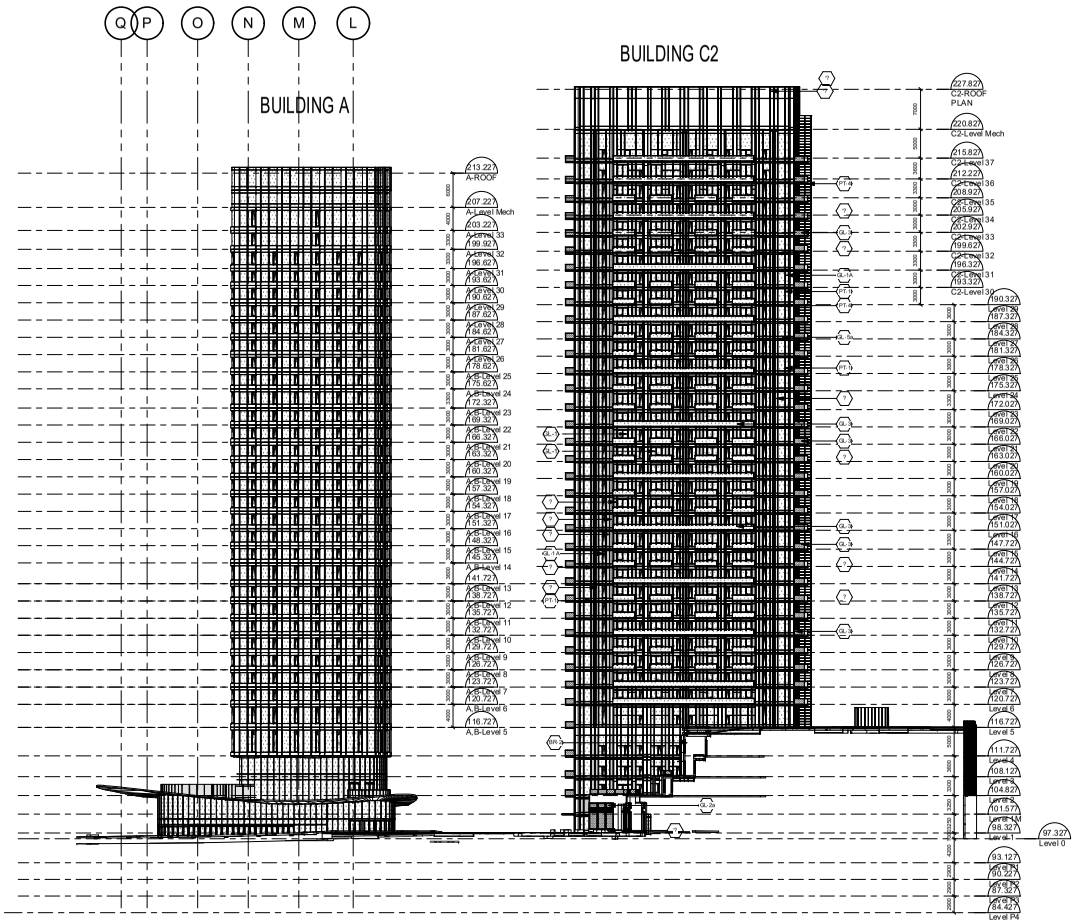
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DATE: Issue Date

TITLE: WEST ELEVATION- A&C1

PROJECT NO.: 18-223

DRAWING NO.: A403



MATERIAL LEGEND

GL-1a: 6MM ANNEALED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-2a: 6MM TEMPERED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-3: CLEAR BACLOMY GUARDRAIL GLAZING. DESIGNED TO SUIT APPLICABLE LOADS. REQUIRED TO CONFORM TO OBC SUPPLEMENTARY STANDARD SB-13. (ALL GLASS GUARD RAILS ARE SET BACK 150MM FROM SLAB EDGE)

GL-5a: MEDIUM GREY LOW-REFLECTIVE BACK-PAINTED SPANDREL GLAZING. 6MM CLEAR HEAT-STRENGTHENED GLASS W/ WATER-BASED SILICONE-EMULSION COATING APPLIED TO SURFACE 2.

PT-1: PAINT TYPE 1 (DURANAR FINISHED METAL - BRONZE FLECK)

PT-2: PAINT TYPE 1 (DURANAR FINISHED METAL - CHARCOAL FLECK)

PT-3: PAINT TYPE 3 (DURANAR FINISHED METAL - COPPER FLECK)

PT-4: PAINT TYPE 4 (DURANAR FINISHED METAL - BLACK MATTE)

PT-5: PAINT TYPE 5 (DURANAR FINISHED METAL - BRIGHT SILVER)

MT-2: METAL PANEL RAILING

MT-3: PICKET RAILING

AL-1: ARCHITECTURAL LOUVRES TO MATCH MULLION COLOUR.

AC-1: ARCHITECTURAL CONCRETE FINISH.

CF-1: SMOOTH CONCRETE FINISH.

PC-1: PRECAST CONCRETE - NATURAL FINISH

GFRC-1: LIGHT GREY FINISH

BR-1: PRECAST BRICK PANEL - DARK IRONSPOT

BR-2: PRECAST BRICK PANEL - LIGHT GREY BLEND

ST-1: DARK GREY FLASHING

WD-1: WOOD TYPE 1, PRODEMA

NO.	REVISIONS	DATE
5	Issued for Coordination 13	January, 28, 2021
4	Issued for 100% DD Coordination	January, 15, 2021
3	Issued for Coordination 12	December, 10, 2020
2	Reissued for Site Plan Approval	September, 25, 2020
1	Issued for Site Plan Approval	January, 02, 2020

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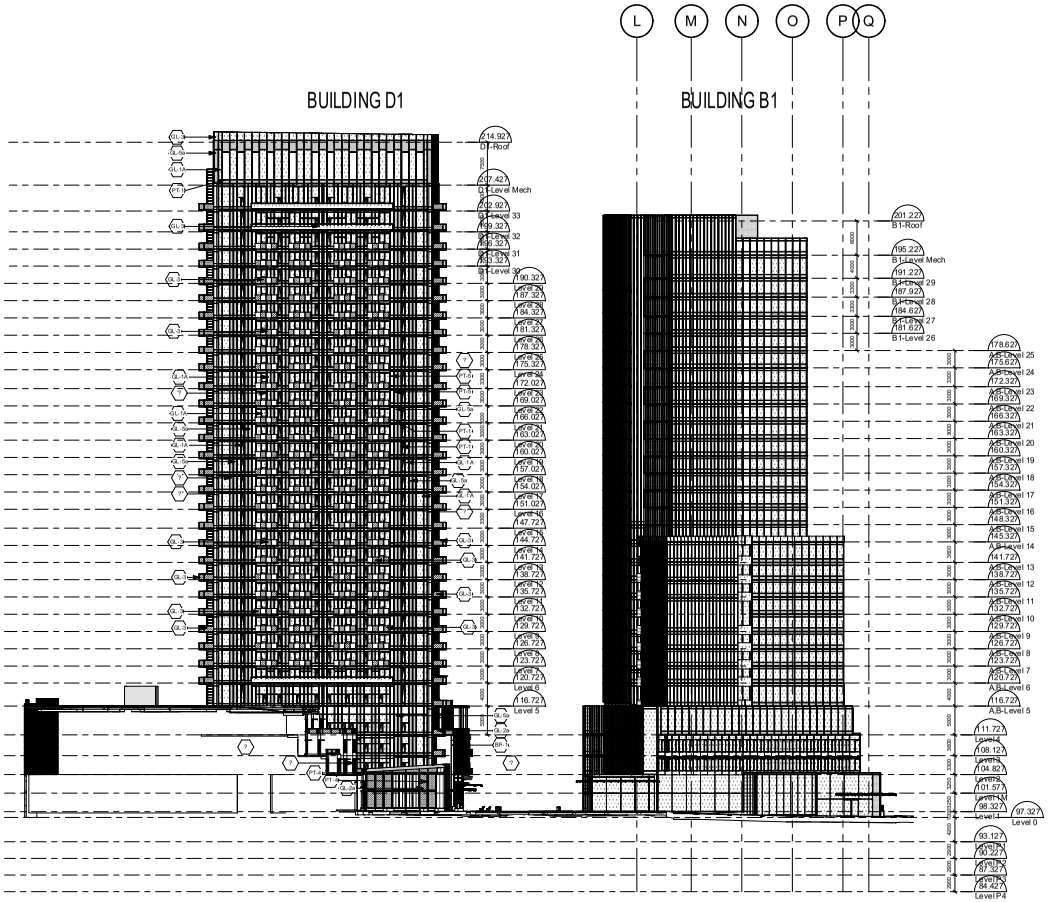
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485 Bank Street, Suite 200
Ottawa, ONK2P 1Z2

DRAWN: Author
SCALE: 1 : 400 1/4xxx scale
CHECKED: Checker
DATE: Issue Date

TITLE: EAST ELEVATION_BUILDING A,C2

PROJECT NO.: 18-223
DRAWING NO.: A404

DATE/TIME PRODUCED: 2021-01-28 3:25:58 PM



MATERIAL LEGEND

GL-1a 6MM ANNEALED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-2a 6MM TEMPERED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-3 CLEAR BACLONY GUARDRAIL GLAZING. DESIGNED TO SUIT APPLICABLE LOADS. REQUIRED TO CONFORM TO OBC SUPPLIMENTARY STANDARD SB-13. (ALL GLASS GUARD RAILS ARE SET BACK 150MM FROM SLAB EDGE)

GL-5a MEDIUM GREY LOW-REFLECTIVE BACK-PAINTED SPANDREL GLAZING. 6MM CLEAR HEAT-STRENGTHENED GLASS W/ WATER-BASED SILICONE-EMULSION- COATING APPLIED TO SURFACE 2.

PT-1: PAINT TYPE 1 (DURANAR FINISHED METAL - BRONZE FLECK)

PT-2: PAINT TYPE 1 (DURANAR FINISHED METAL - CHARCOAL FLECK)

PT-3: PAINT TYPE 3 (DURANAR FINISHED METAL - COPPER FLECK)

PT-4: PAINT TYPE 4 (DURANAR FINISHED METAL - BLACK MATTE)

PT-5: PAINT TYPE 5 (DURANAR FINISHED METAL - BRIGHT SILVER)

MT-2: METAL PANEL RAILING

MT-3: PICKET RAILING

AL-1: ARCHITECTURAL LOUVRES TO MATCH MULLION COLOUR.

ACC-1: ARCHITECTURAL CONCRETE FINISH.

CF-1: SMOOTH CONCRETE FINISH.

PC-1: PRECAST CONCRETE - NATURAL FINISH

GFRC-1: LIGHT GREY FINISH

BR-1: PRECAST BRICK PANEL - DARK IRONSPOT

BR-2: PRECAST BRICK PANEL - LIGHT GREY BLEND

ST-1: DARK GREY FLASHING

WD-1: WOOD TYPE 1 PRODEMA

DATE/TIME PRODUCED: 2021-01-28 3:26:39 PM

NO.	REVISIONS	DATE
5	Issued for Coordination 13	January, 28, 2021
4	Issued for 100% DD Coordination	January, 15, 2021
3	Issued for Coordination 12	December , 10, 2020
2	Reissued for Site Plan Approval	September, 25, 2020
1	Issued for Site Plan Approval	January, 02, 2020

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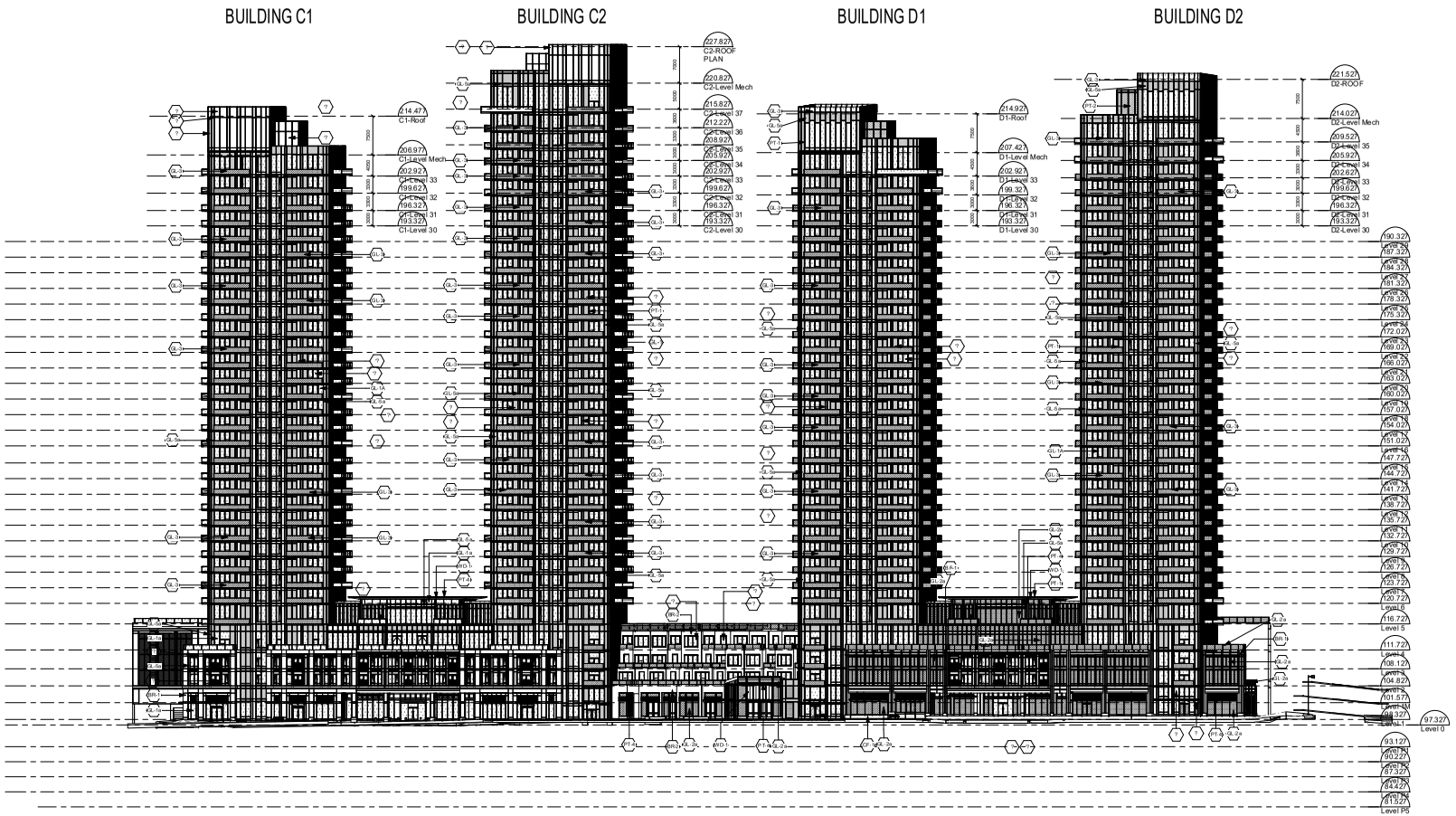
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cc CLV Group Developments Inc.
485 Bank Street, Suite 200
Ottawa, ONK2P 1Z2

DRAWN: Author	SCALE: 1 : 400 1Kxx scale
CHECKED: Checker	DATE: Issue Date

TITLE: WEST ELEVATION_BUILDING B1,D1

PROJECT NO.	DRAWING NO.
18-223	A405



MATERIAL LEGEND

GL-1a 6MM ANNEALED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-2a 6MM TEMPERED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-3 CLEAR BALCONY GUARDRAIL GLAZING. DESIGNED TO SUIT APPLICABLE LOADS. REQUIRED TO CONFORM TO OBC SUPPLEMENTARY STANDARD SB-13. (ALL GLASS GUARD RAILS ARE SET BACK 150MM FROM SLAB EDGE)

GL-5a MEDIUM GREY LOW-RE FLECTIVE BACK-PAINTED SPANDREL GLAZING. 6MM CLEAR HEAT-STRENGTHENED GLASS W/ WATER-BASED SILICONE-EMULSION- COATING APPLIED TO S URFACE 2.

PT-1: PAINT TYPE 1 (DURANAR FINISHED METAL - BRONZE FLECK)

PT-2: PAINT TYPE 1 (DURANAR FINISHED METAL - CHARCOAL FLECK)

PT-3: PAINT TYPE 3 (DURANAR FINISHED METAL - COPPER FLECK)

PT-4: PAINT TYPE 4 (DURANAR FINISHED METAL - BLACK MATTE)

PT-5: PAINT TYPE 5 (DURANAR FINISHED METAL - BRIGHT SILVER)

MT-2: METAL PANEL RAILING

MT-3: PICKET RAILING

AL-1: ARCHITECTURAL LOUVRES TO MATCH MULLION COLOUR

ACC-1: ARCHITECTURAL CONCRETE FINISH.

CF-1: SMOOTH CONCRETE FINISH.

PC-1: PRECAST CONCRETE - NATURAL FINISH

GFRC-1: LIGHT GREY FINISH

BR-1: PRECAST BRICK PANEL - DARK IRONSPOT

BR-2 PRECAST BRICK PANEL - LIGHT GREY BLEND

ST-1: DARK GREY FLASHING

WD-1: WOOD TYPE 1.PRODEMA

DATE/TIME PRODUCED: 2021-01-28 3:27:38 PM

NO.	REVISIONS	DATE
3	Issued for Coordination 13	January, 28, 2021
4	Issued for 100% DD Coordination	January, 15, 2021
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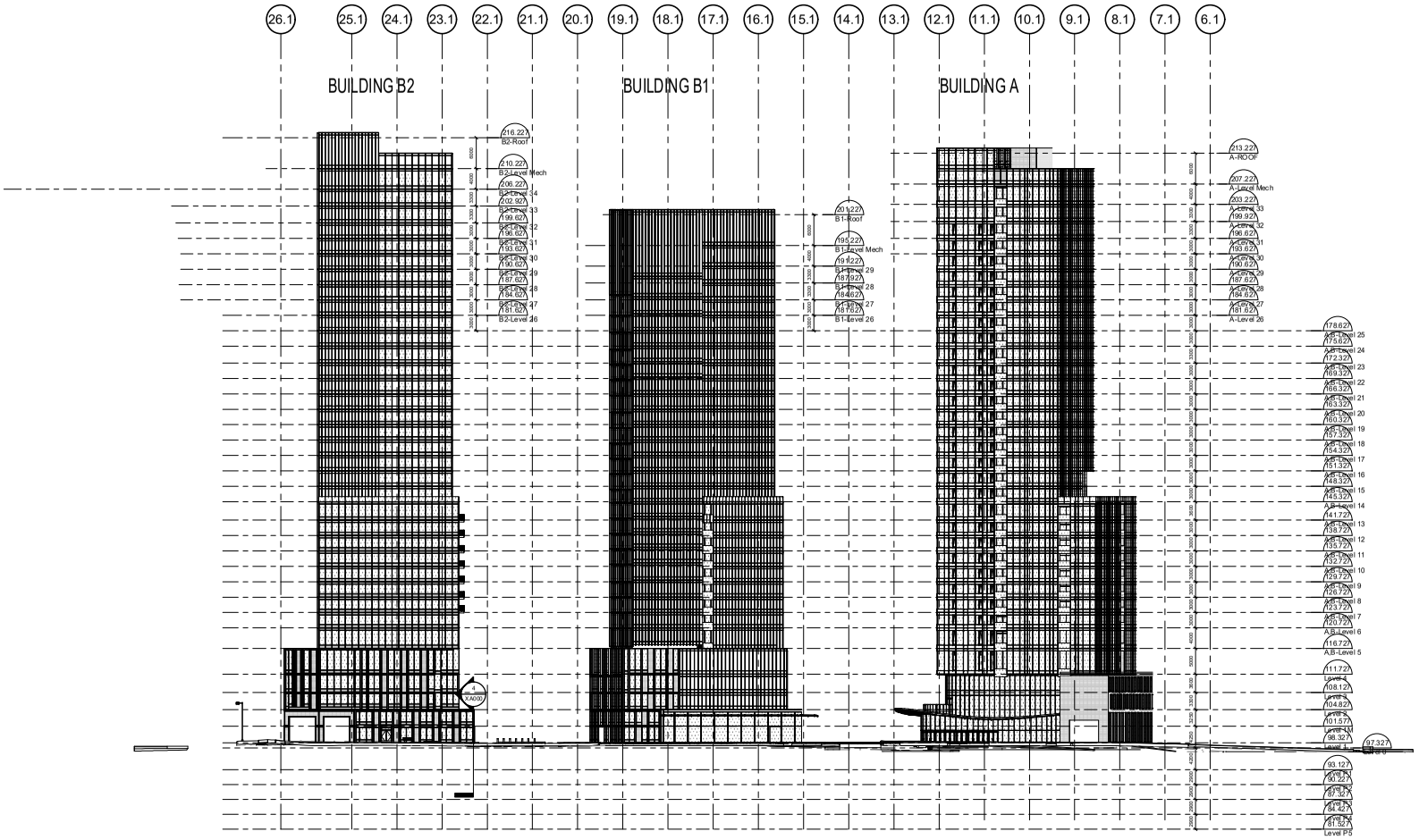
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cc CLV Group Developments Inc.
485 Bank Street, Suite 200
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DRAWN: Author
SCALE: 1 : 400 1Kxxx scale
CHECKED: Checker
DATE: Issue Date

TITLE: SOUTH ELEVATION BUILDING C,D

PROJECT NO.: 18-223
DRAWING NO.: A406



MATERIAL LEGEND

GL-1a: 6MM ANNEALED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-2a: 6MM TEMPERED GLASS, AGC ENERGY SELECT 40, LOW-E, ARGON GAS FILLED, DOUBLE GLAZED UNIT.

GL-3: CLEAR BALCONY GUARDRAIL GLAZING, DESIGNED TO SUIT APPLICABLE LOADS. REQUIRED TO CONFORM TO OBC SUPPLEMENTARY STANDARD SB-13. (ALL GLASS GUARD RAILS ARE SET BACK 150MM FROM SLAB EDGE)

GL-5a: MEDIUM GREY LOW-REFLECTIVE BACK-PAINTED SPANDREL GLAZING, 6MM CLEAR HEAT-STRENGTHENED GLASS W/ WATER-BASED SILICONE-EMULSION- COATING APPLIED TO SURFACE 2.

PT-1: PAINT TYPE 1 (DURANAR FINISHED METAL - BRONZE FLECK)

PT-2: PAINT TYPE 1 (DURANAR FINISHED METAL - CHARCOAL FLECK)

PT-3: PAINT TYPE 3 (DURANAR FINISHED METAL - COPPER FLECK)

PT-4: PAINT TYPE 4 (DURANAR FINISHED METAL - BLACK MATTE)

PT-5: PAINT TYPE 5 (DURANAR FINISHED METAL - BRIGHT SILVER)

MT-2: METAL PANEL RAILING

MT-3: PICKET RAILING

AL-1: ARCHITECTURAL LOUVRES TO MATCH MULLION COLOUR.

ACC-1: ARCHITECTURAL CONCRETE FINISH.

CF-1: SMOOTH CONCRETE FINISH.

PC-1: PRECAST CONCRETE - NATURAL FINISH

GFRC-1: LIGHT GREY FINISH

BR-1: PRECAST BRICK PANEL - DARK IRONSPOT

BR-2: PRECAST BRICK PANEL - LIGHT GREY BLEND

ST-1: DARK GREY FLASHING

WD-1: WOOD TYPE 1 PRODEMA

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5	Issued for Coordination 13	January, 28, 2021
4	Issued for 100% DD Coordination	January, 15, 2021
3	Issued for Coordination 12	December, 10, 2020
2	Reissued for Site Plan Approval	September, 25, 2020
1	Issued for Site Plan Approval	January, 02, 2020

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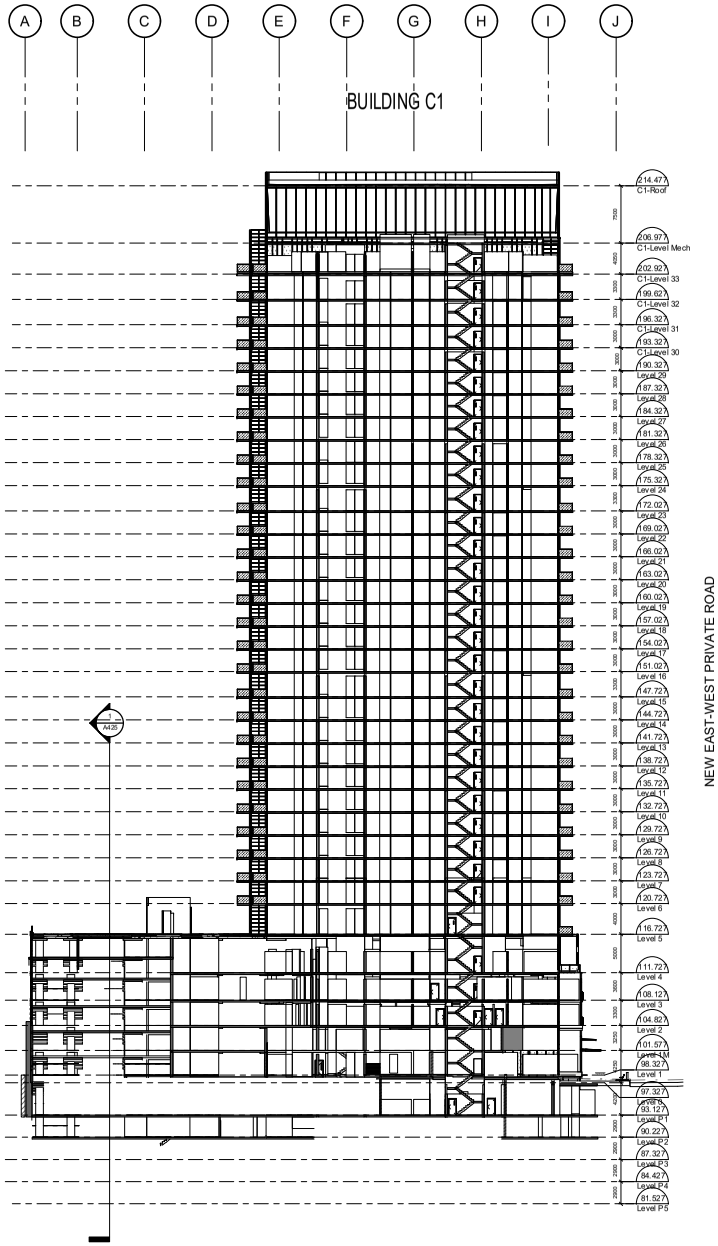
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TITLE
NORTH ELEVATION-BUILDING A,B

PROJECT NO. 18-223
DRAWING NO. A407



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NO.	REVISIONS	DATE
7	Issued for Coordination 13	January, 28, 2021
6	Issued for 100% DD Coordination	January, 15, 2021
5	Issued for Coordination 12	December , 10, 2020
4	Reissued for Site Plan Approval	September, 25, 2020
3	Issued for Site Plan Approval	January, 02, 2020
2	Issued for pre-con	December, 05, 2019
1	Issued for pre-consultation	November, 22, 2019

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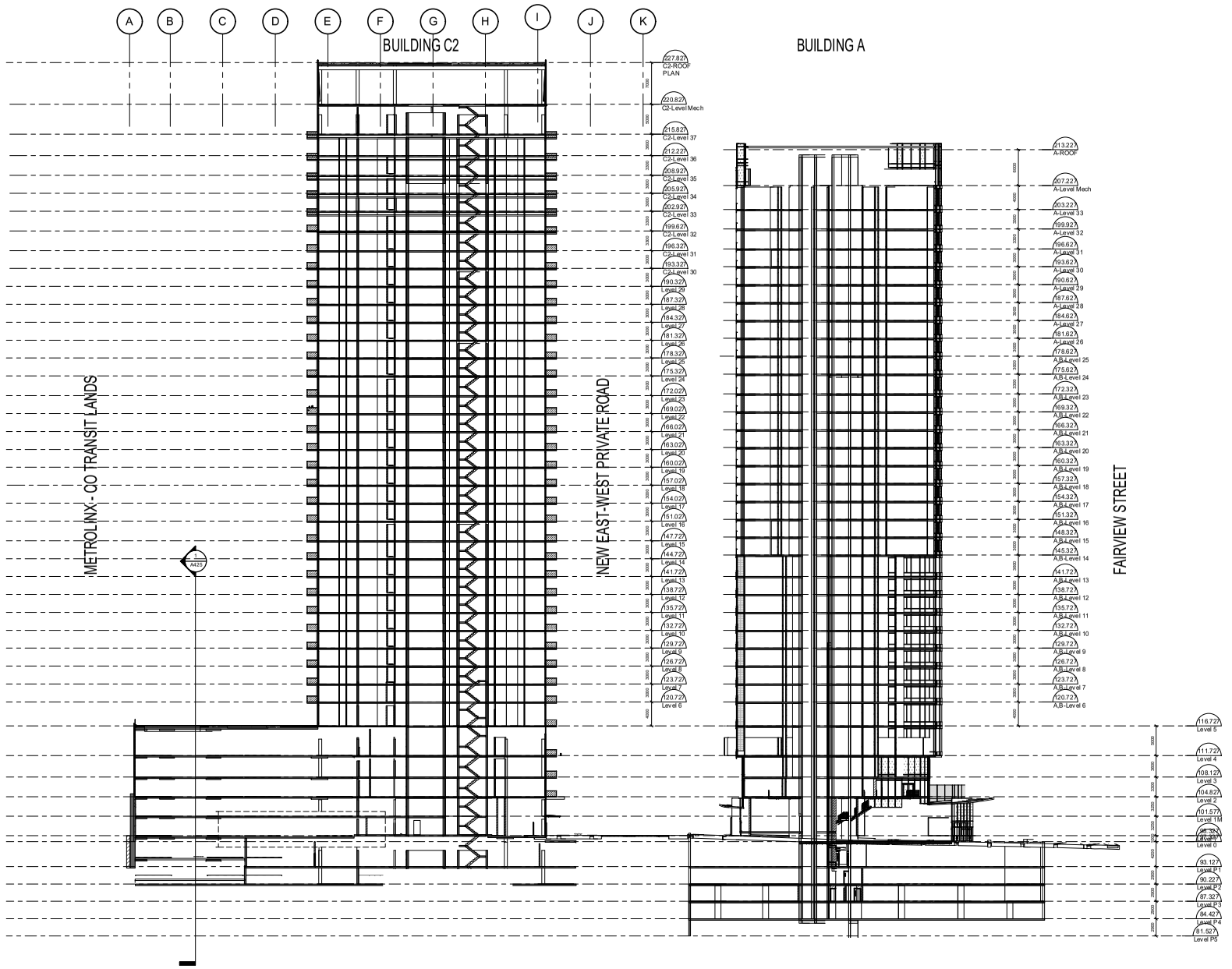
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TITLE
NORTH-SOUTH SECTION-C1

PROJECT NO. 18-223
DRAWING NO. A420



NO.	REVISIONS	DATE
7	Issued for Coordination 13	January, 28, 2021
6	Issued for 100% DD Coordination	January, 15, 2021
5	Issued for Coordination 12	December, 10, 2020
4	Reissued for Site Plan Approval	September, 25, 2020
3	Issued for Site Plan Approval	January, 02, 2020
2	Issued for pre-con	December, 05, 2019
1	Issued for pre-consultation	November, 22, 2019

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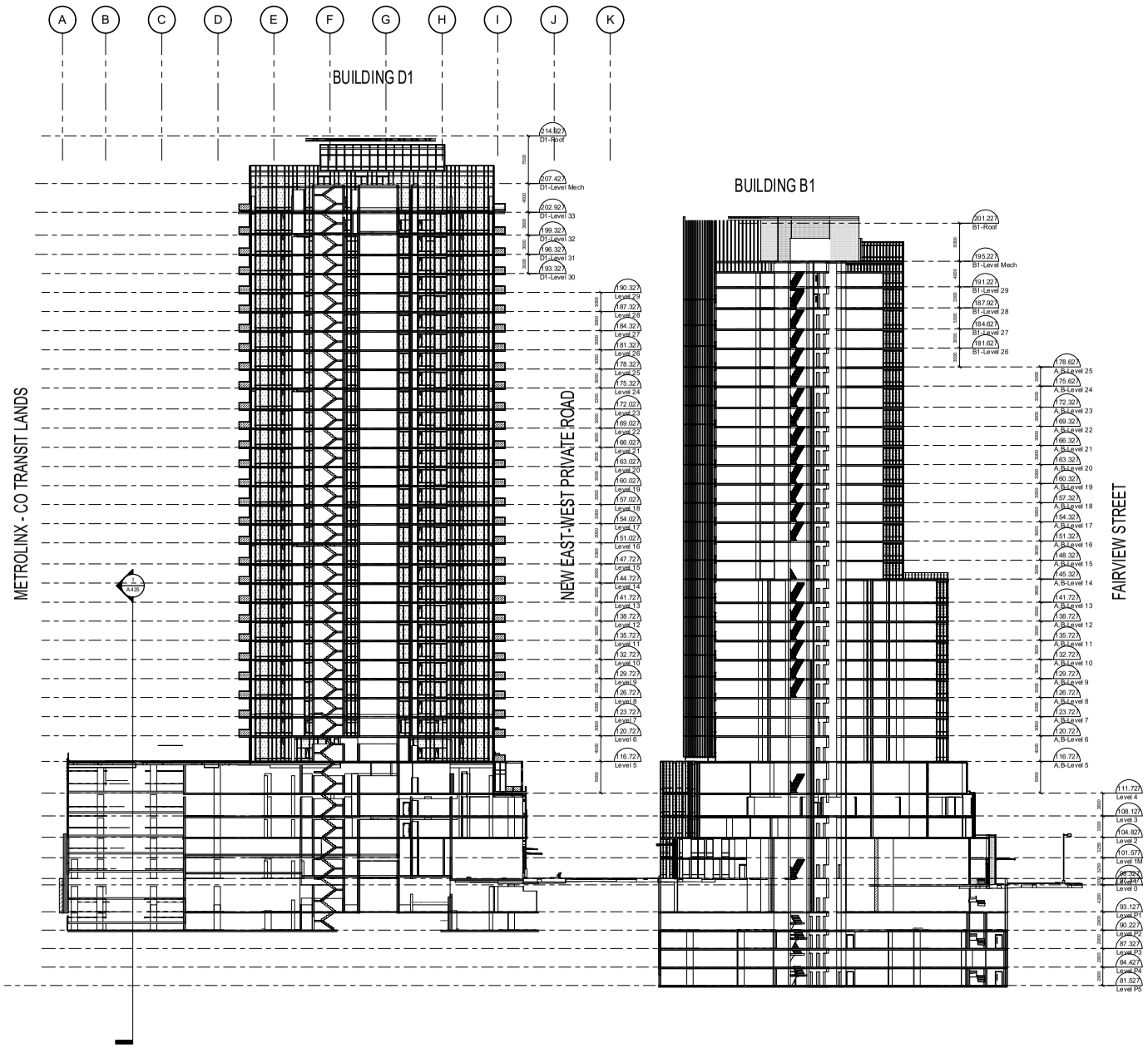
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TITLE
NORTH - SOUTH SECTION-A&C2

PROJECT NO. 18-223
DRAWING NO. A421

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NO.	REVISIONS	DATE
7	Issued for Coordination 13	January, 28, 2021
6	Issued for 100% DD Coordination	January, 15, 2021
5	Issued for Coordination 12	December, 10, 2020
4	Reissued for Site Plan Approval	September, 25, 2020
3	Issued for Site Plan Approval	January, 02, 2020
2	Issued for pre-con	December, 05, 2019
1	Issued for pre-consultation	November, 22, 2019

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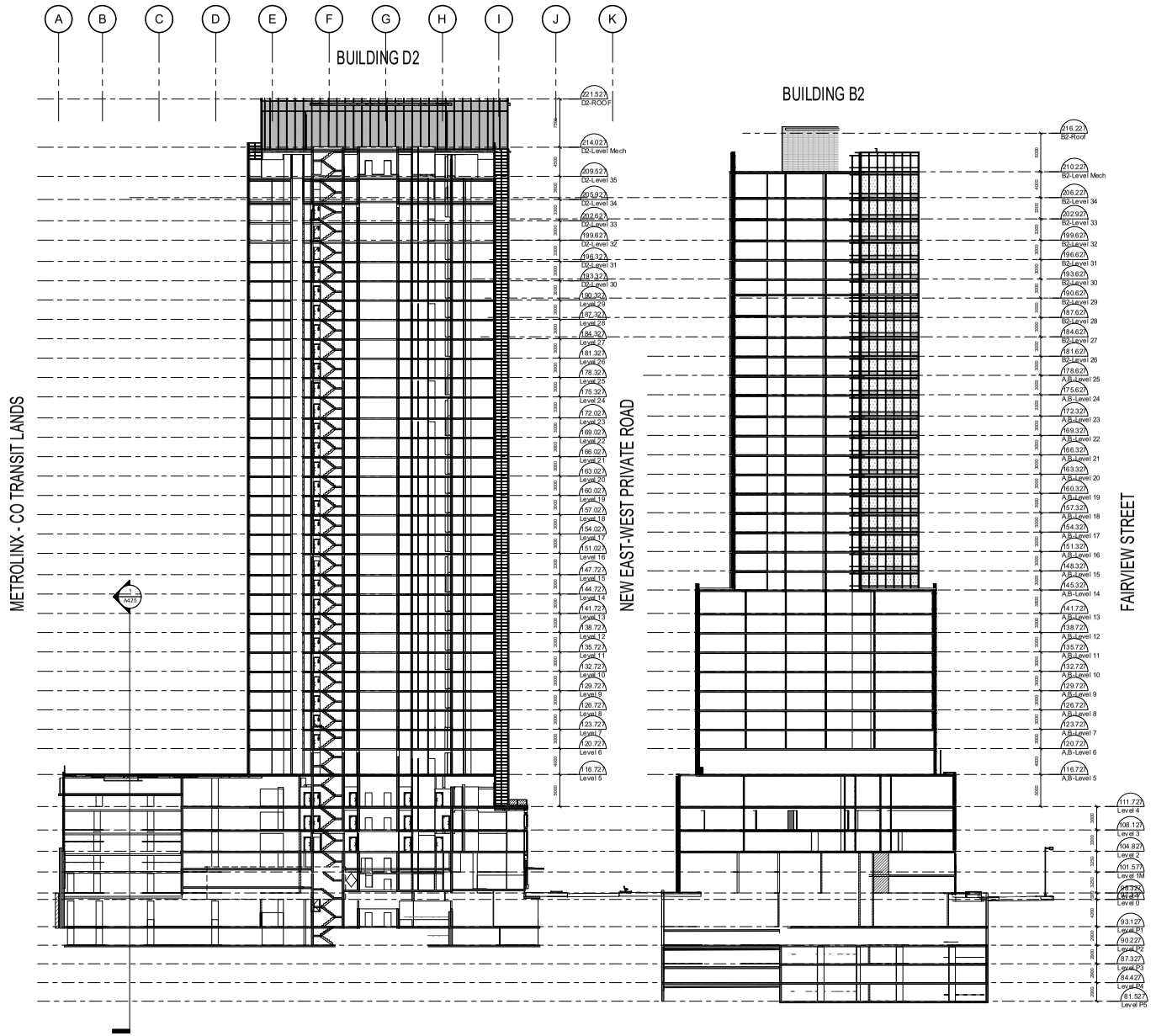
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TITLE
NORTH- SOUTH SECTION-D1&B1

PROJECT NO. 18-223
DRAWING NO. A422

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NO.	REVISIONS	DATE
7	Issued for Coordination 13	January, 28, 2021
6	Issued for 100% DD Coordination	January, 15, 2021
5	Issued for Coordination 12	December, 10, 2020
4	Reissued for Site Plan Approval	September, 25, 2020
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2	Issued for pre-con	December, 05, 2019
1	Issued for pre-consultation	November, 22, 2019

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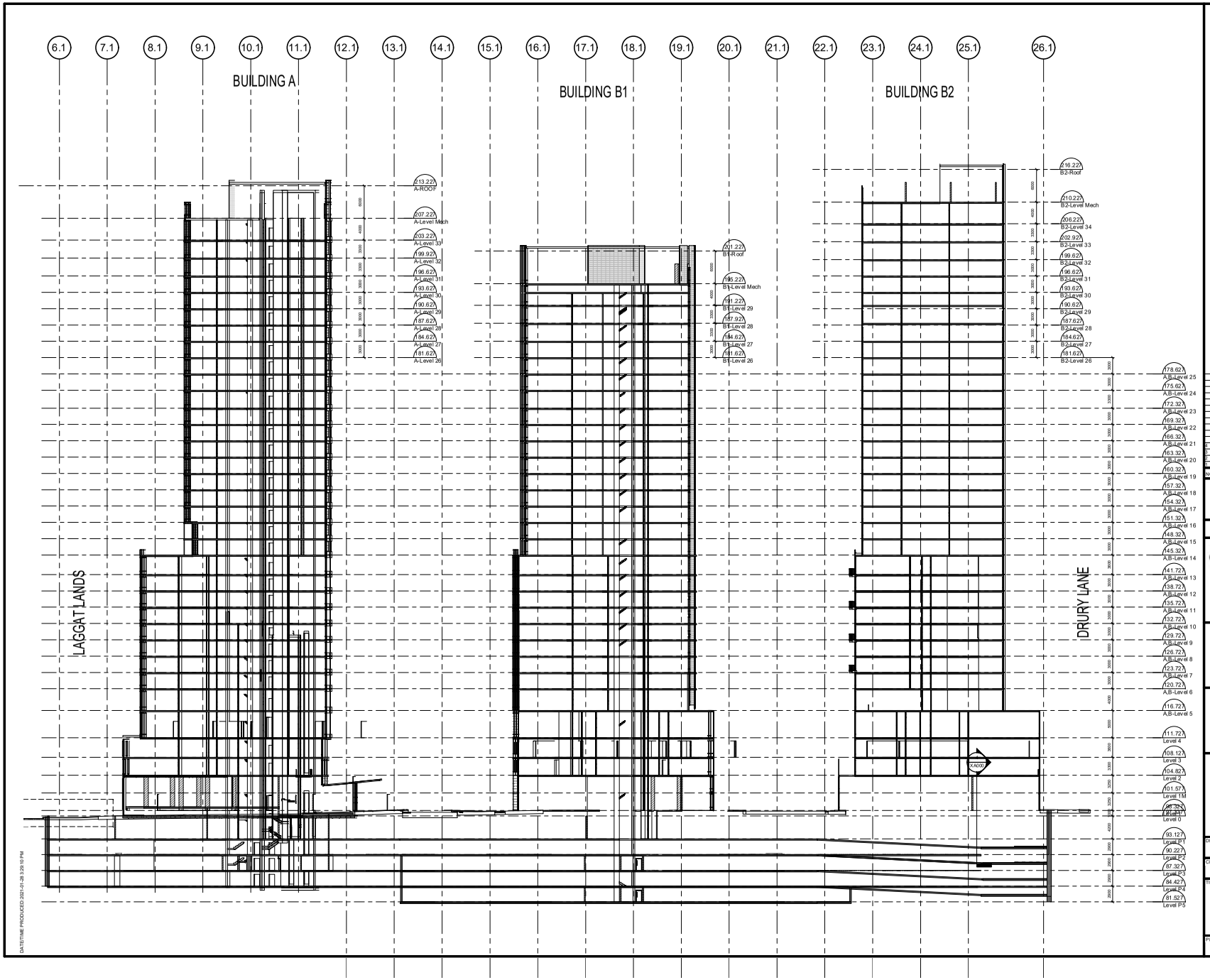
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DATE: Issue Date

TITLE
NORTH- SOUTH SECTION-B2&D2

PROJECT NO. 18-223
DRAWING NO. A423

DATE/TIME PRODUCED: 2021-01-28 3:29:00 PM



NO.	REVISIONS	DATE
6	Issued for Coordination 13	January, 28, 2021
5	Issued for 100% DD Coordination	January, 15, 2021
4	Issued for Coordination 12	December, 10, 2020
3	Released for Site Plan Approval	September, 25, 2020

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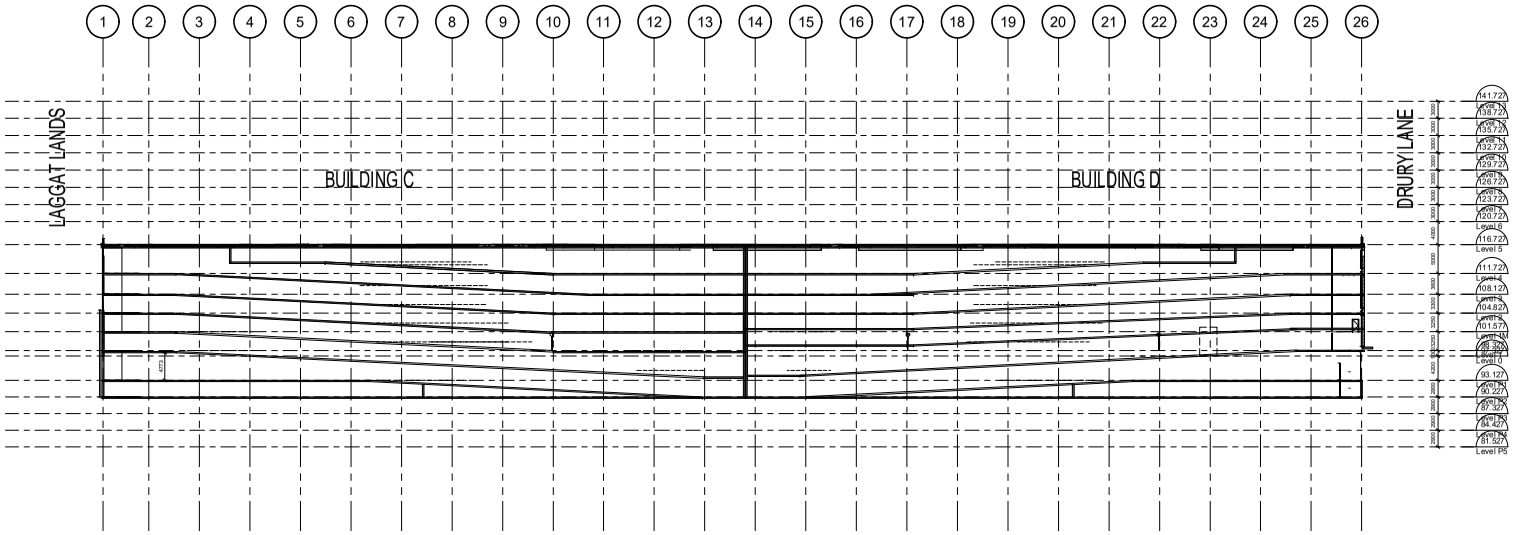
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DATE: Issue Date

TITLE: EAST- WEST SECTION- A&B

PROJECT NO.: 18-223
DRAWING NO.: A424

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NO.	REVISIONS	DATE
4	Issued for Coordination 13	January, 28, 2021
3	Issued for 100% DD Coordination	January, 15, 2021
2	Issued for Coordination 12	December, 10, 2020
1	Released for Site Plan Approval	September, 25, 2020

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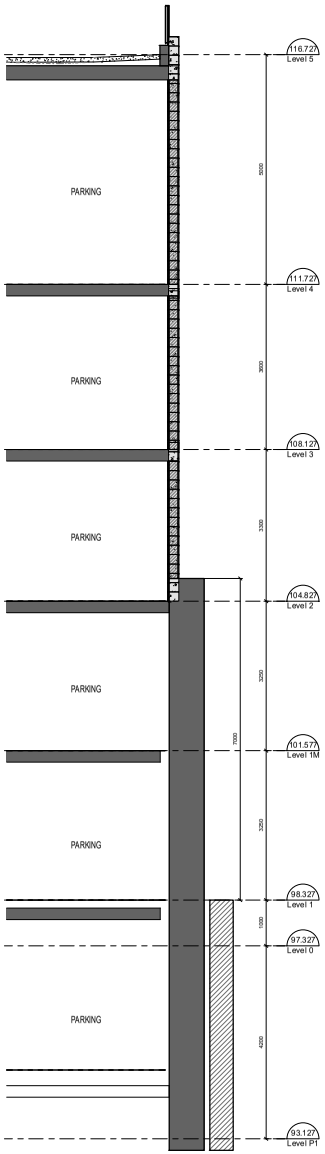
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TITLE: EAST- WEST SECTION- C&D

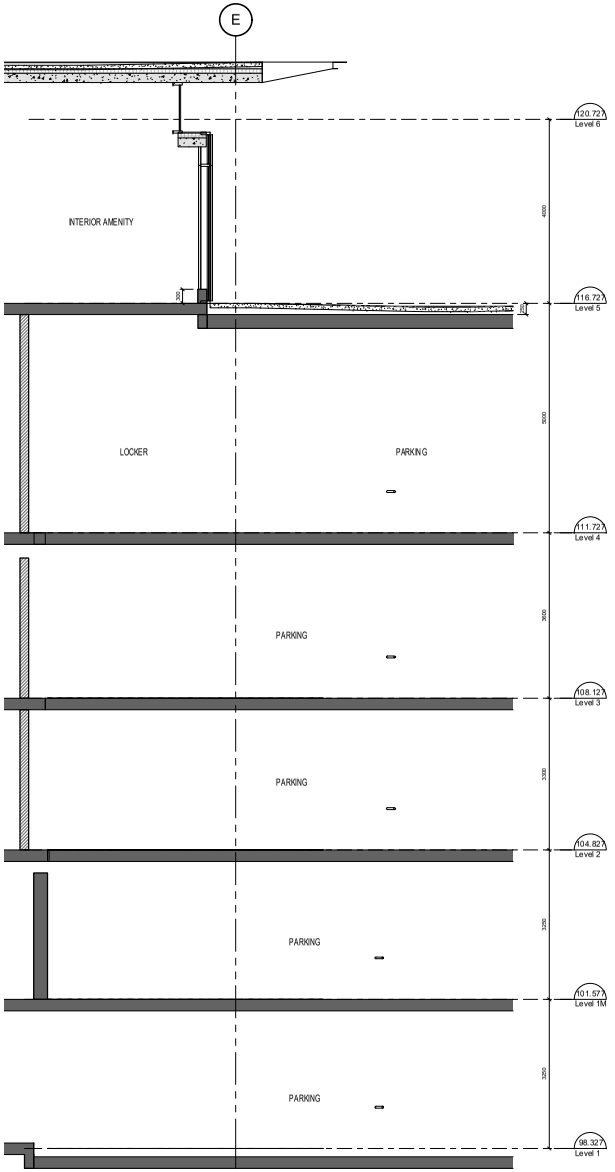
PROJECT NO.: 18-223

DRAWING NO.: A425

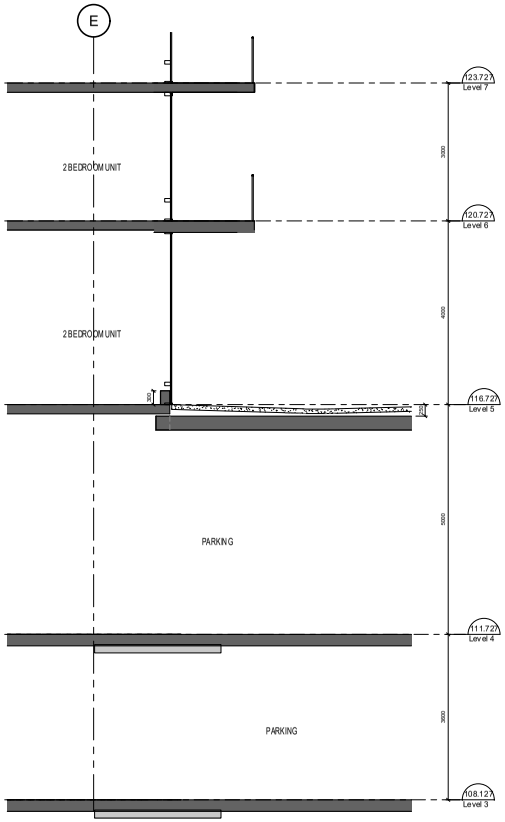
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SECTION 1



SECTION 2



SECTION 3

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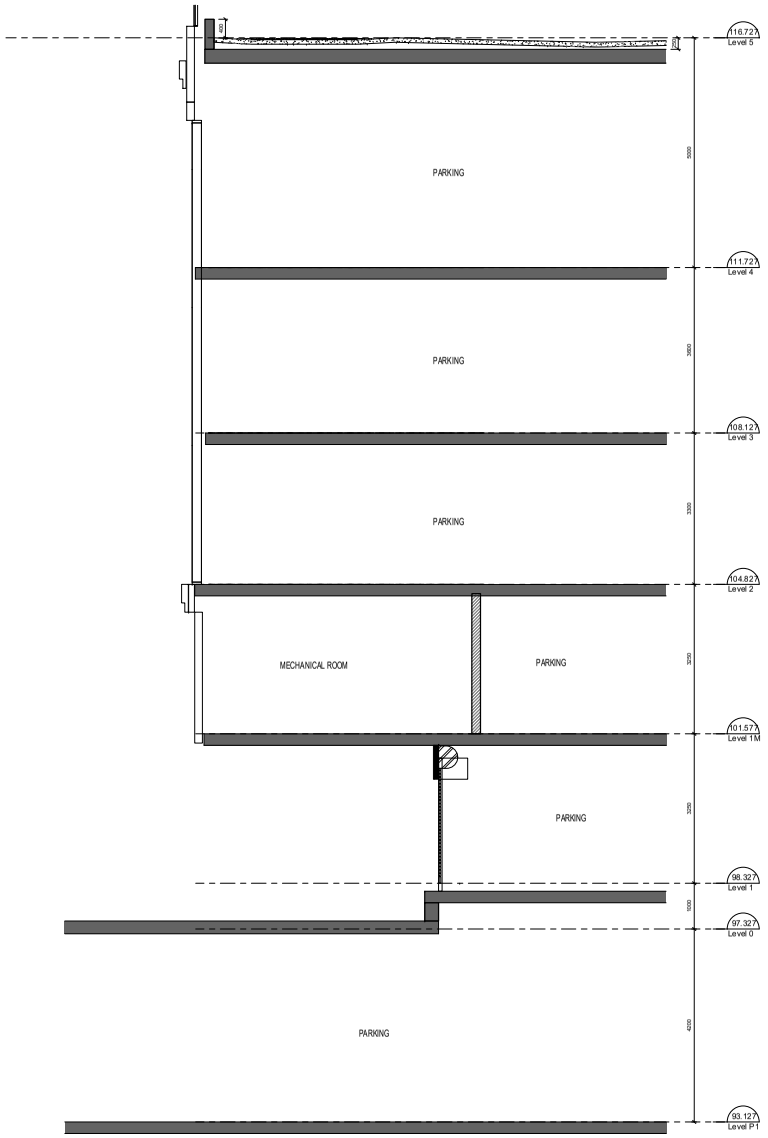
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CHECKED: Checker
DATE: Issue Date

TITLE: Podium Wall Section

PROJECT NO.: 18-223
DRAWING NO.: A450



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NO.	REVISIONS	DATE
2	Issued for Coordination 13	January, 28, 2021
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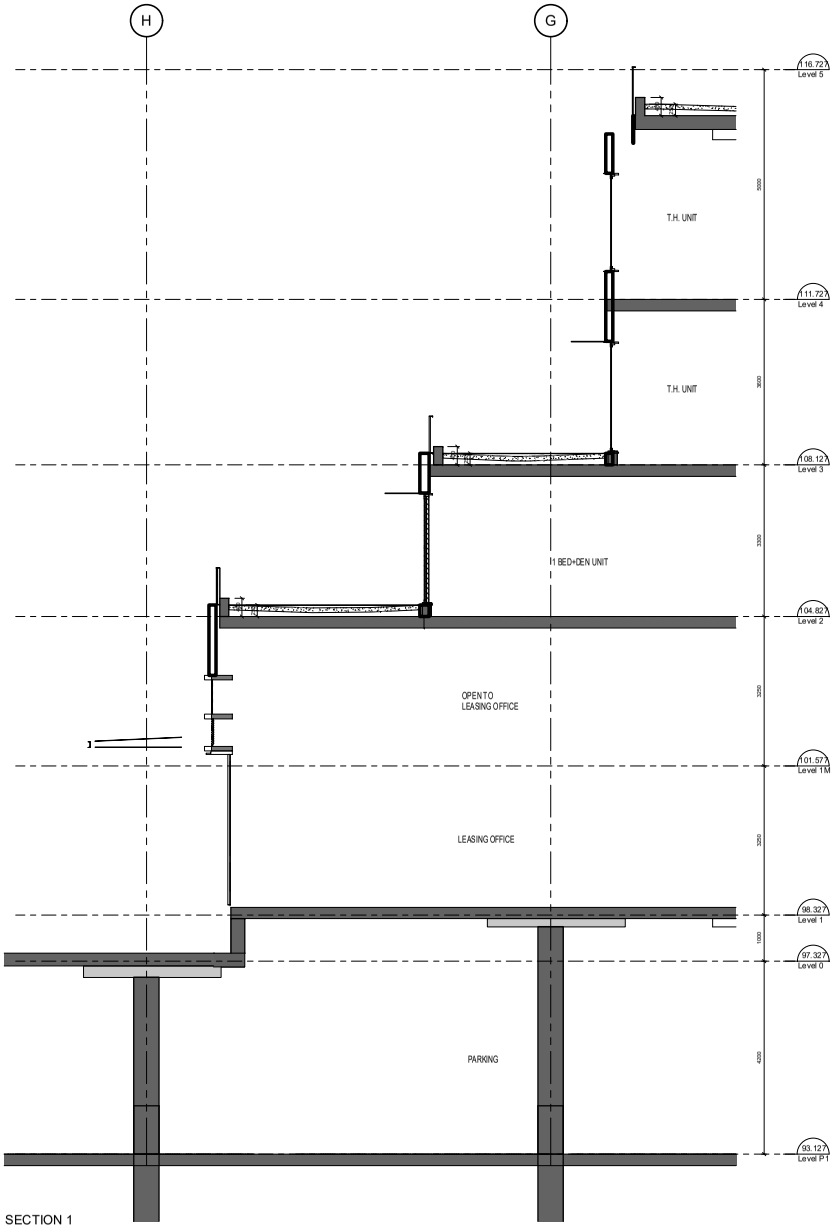
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DATE: Issue Date

TITLE: Podium Wall Section

PROJECT NO.: 18-223
DRAWING NO.: A451

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SECTION 1

NO.	REVISIONS	DATE
2	Issued for Coordination 13	January. 28, 2021
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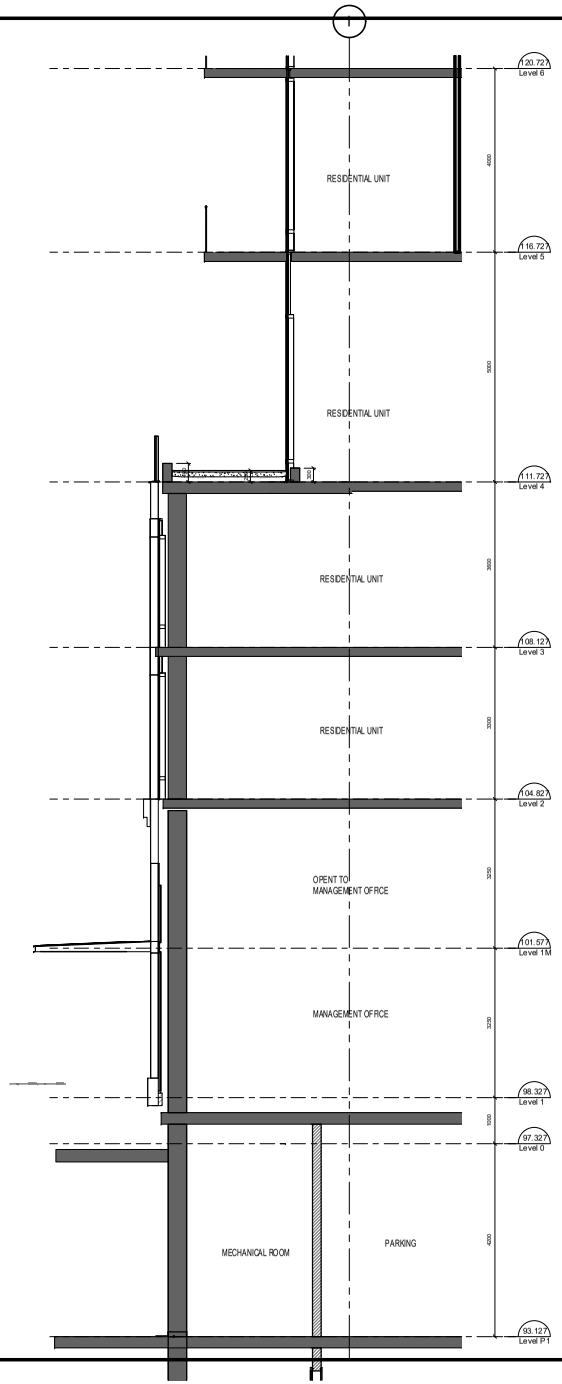
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TITLE: Podium Wall Section

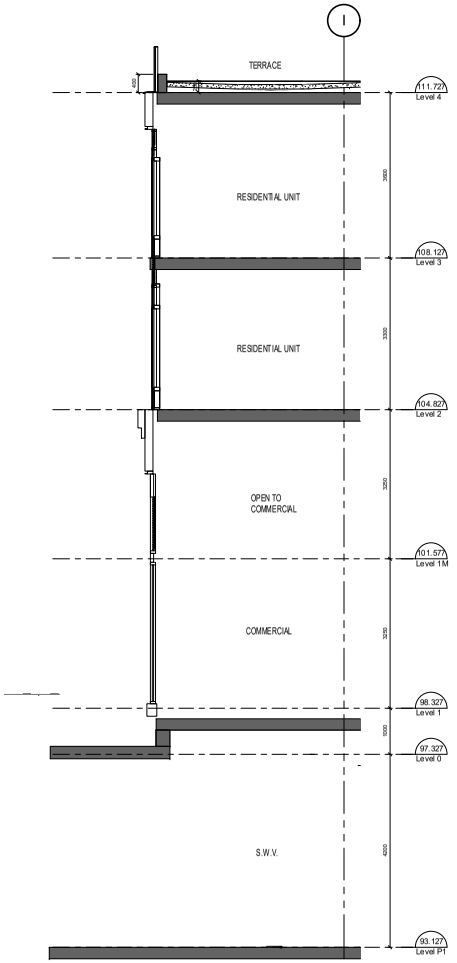
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DRAWING NO.: A452

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SECTION 1



SECTION 2

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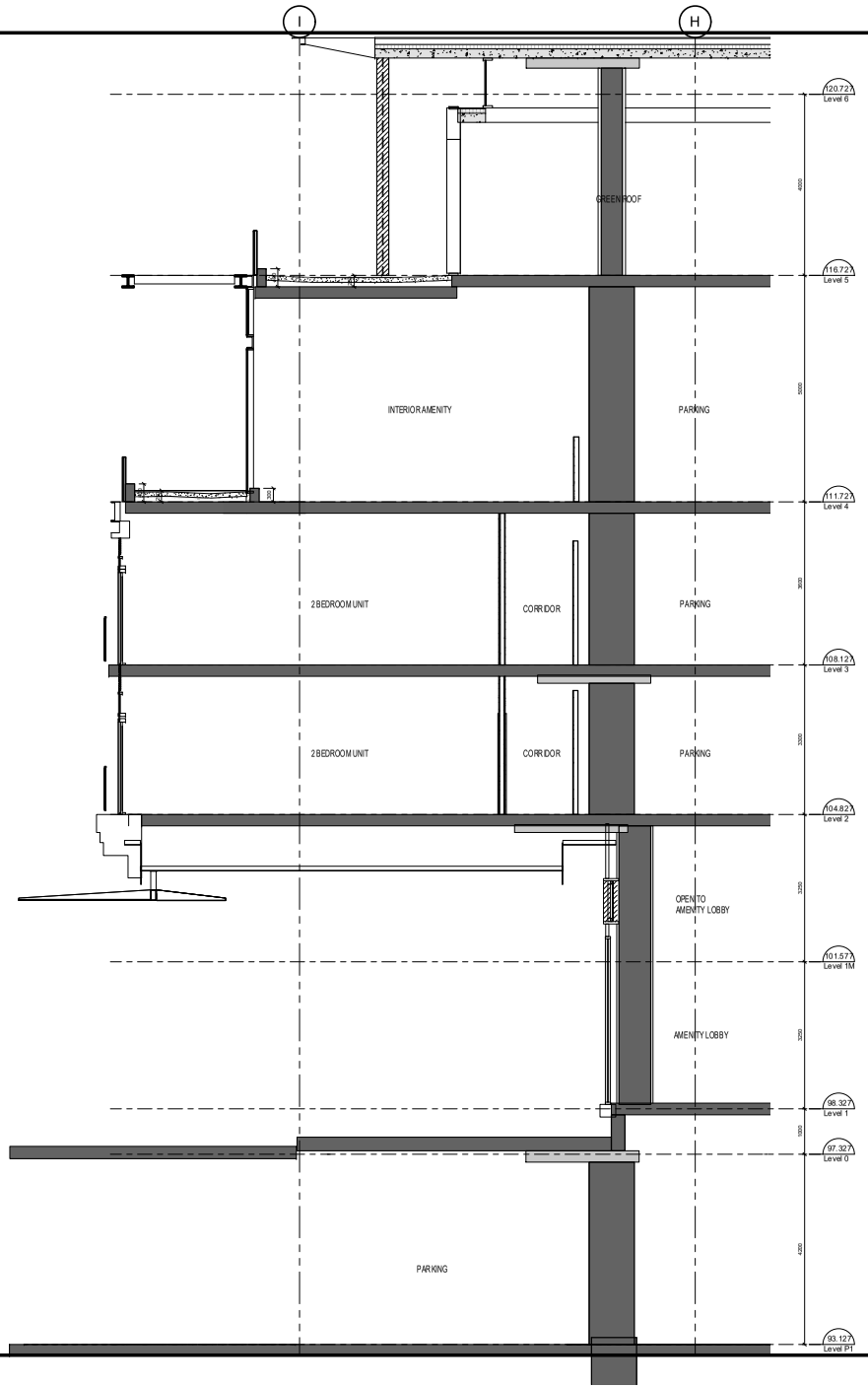
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SCALE: 1 : 50 1/4xxx scale
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DATE: Issue Date

TITLE: Podium Wall Section

PROJECT NO.: 18-223
DRAWING NO.: A453



SECTION 1

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2	Issued for Coordination 13	January. 28, 2021
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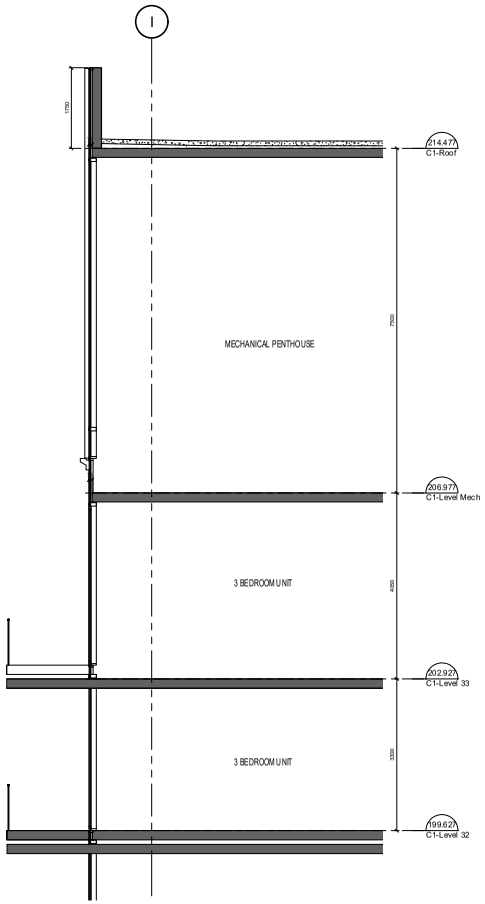
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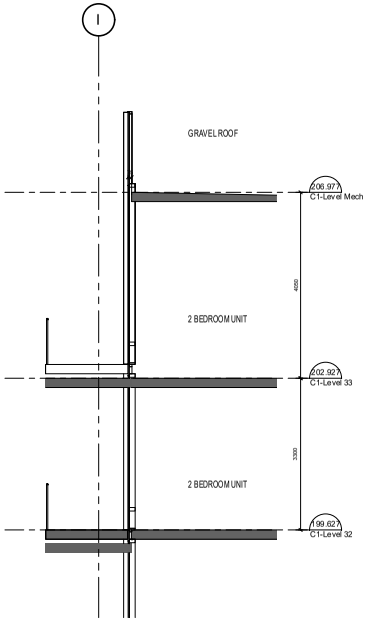
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TITLE: Podium Wall Section

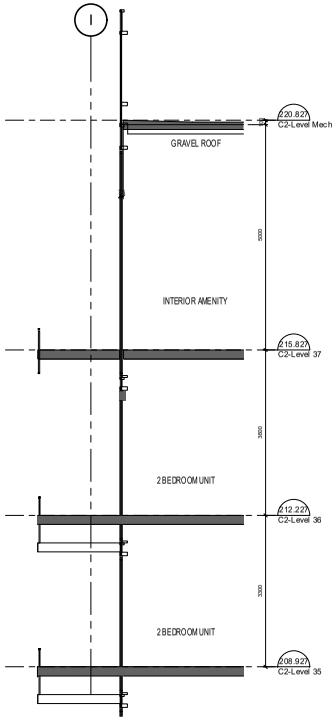
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DRAWING NO.: A454



SECTION 1



SECTION 2



SECTION 3

DATE/TIME PRODUCED: 2021-01-28 3:29:45 PM

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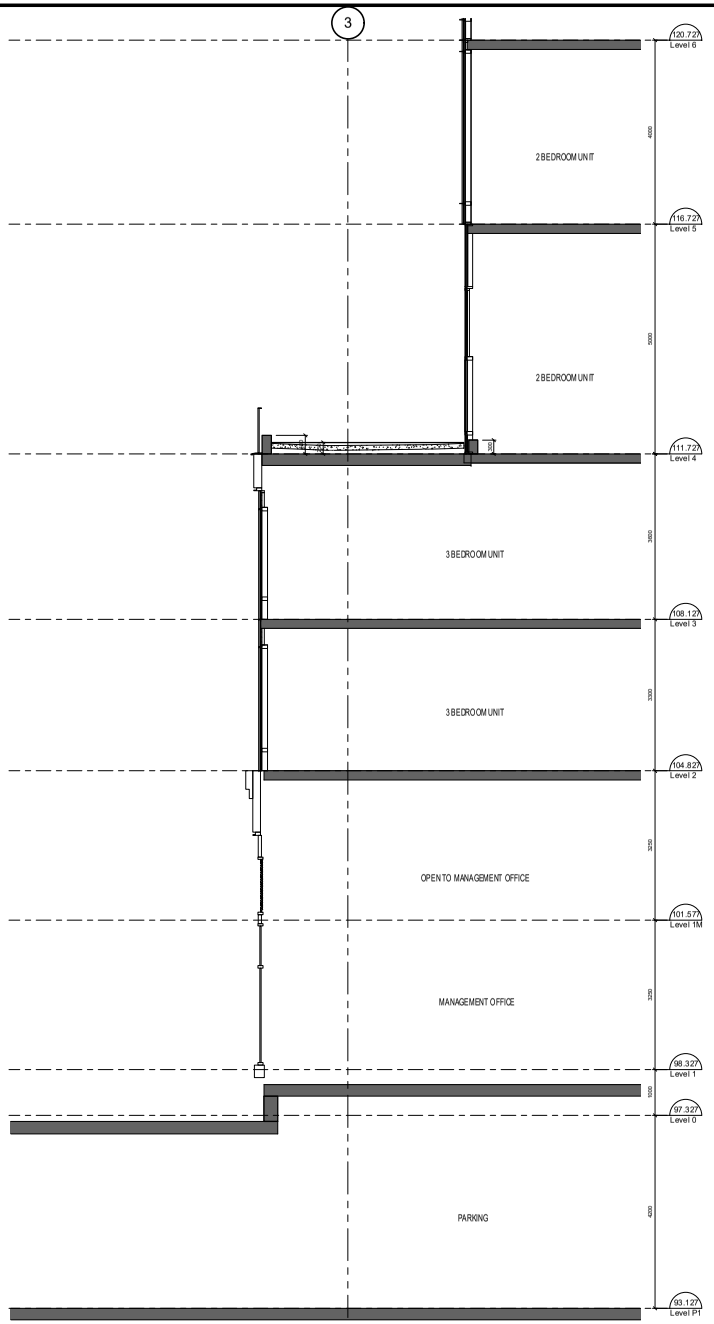
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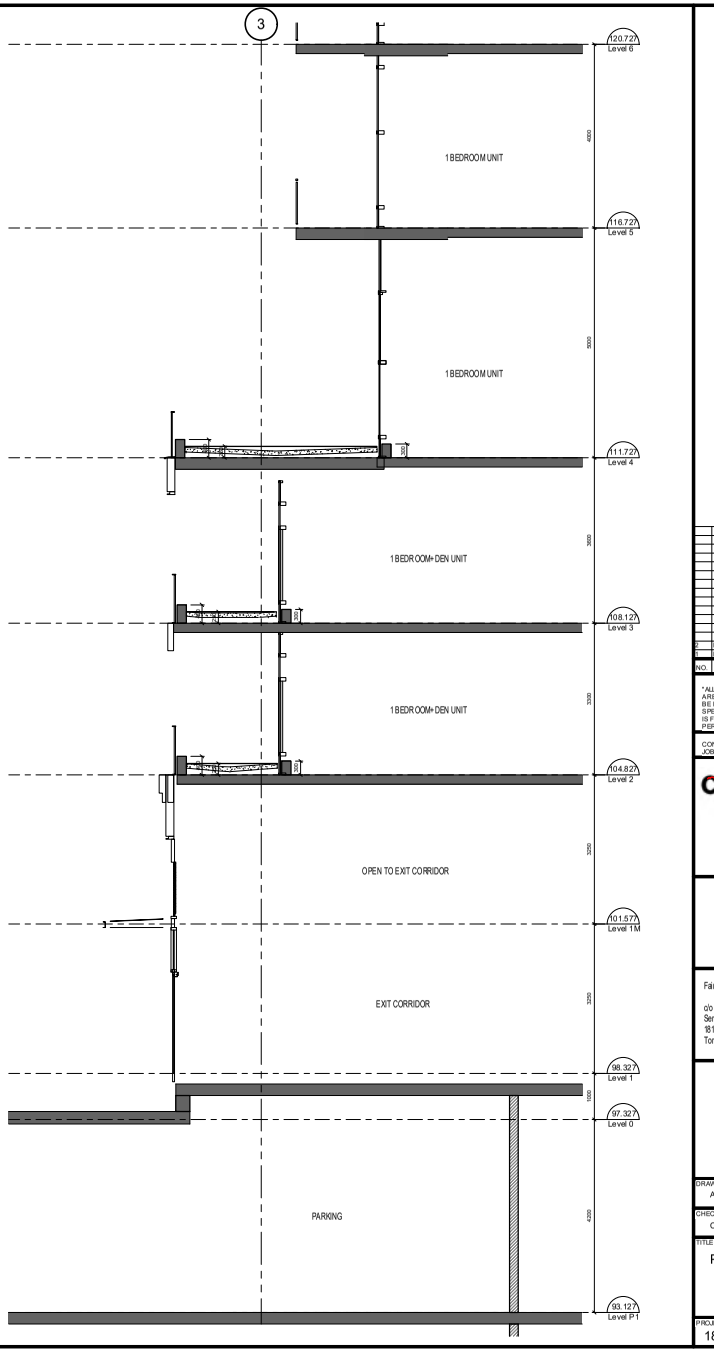
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CHECKED: Checker
DATE: Issue Date

TITLE: Tower Wall Section

PROJECT NO.: 18-223
DRAWING NO.: A455



SECTION 1



SECTION 2

NO.	REVISIONS	DATE
2	Issued for Coordination 13	January. 28, 2021
1	Issued for 100% DD Coordination	January. 15, 2021

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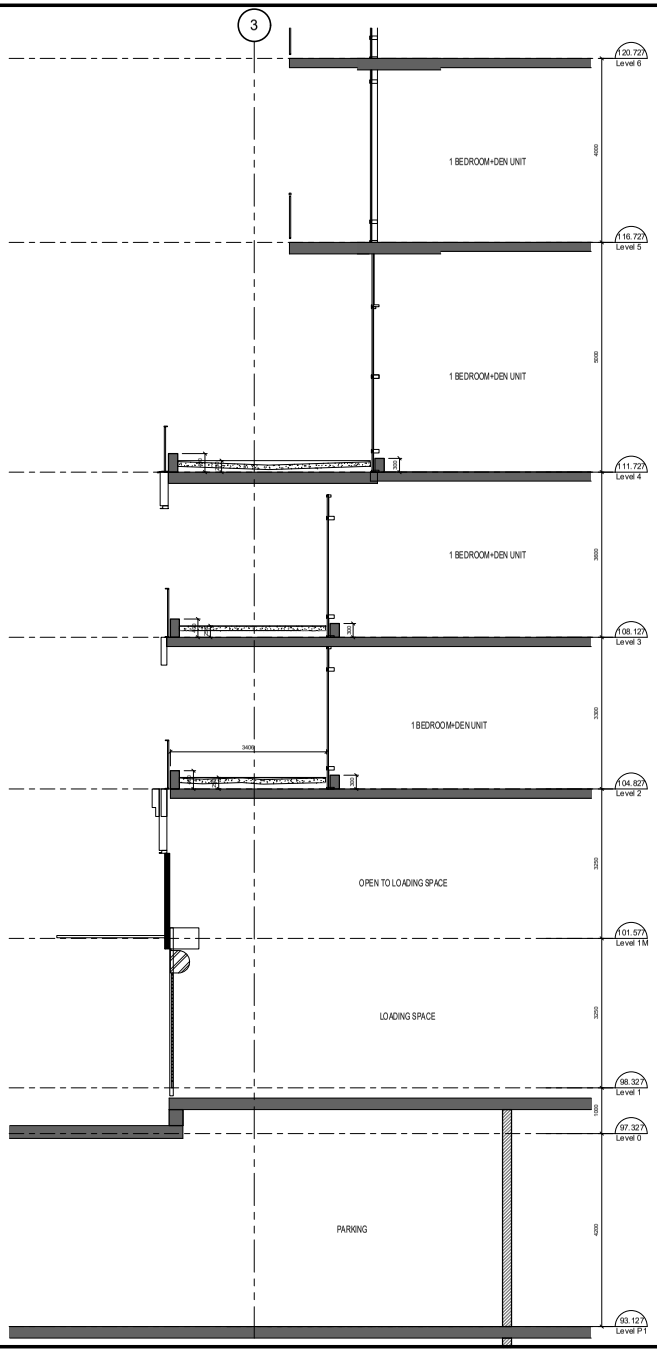
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CHECKED: Checker	DATE: Issue Date

TITLE: Podium Wall Section

PROJECT NO.	DRAWING NO.
18-223	A456

DATE/TIME PRODUCED: 2021-01-28 3:29:51 PM



SECTION 1

DATE/TIME PRODUCED: 2021-01-28 3:29:55 PM

NO.	REVISIONS	DATE
2	Issued for Coordination 13	January. 28, 2021
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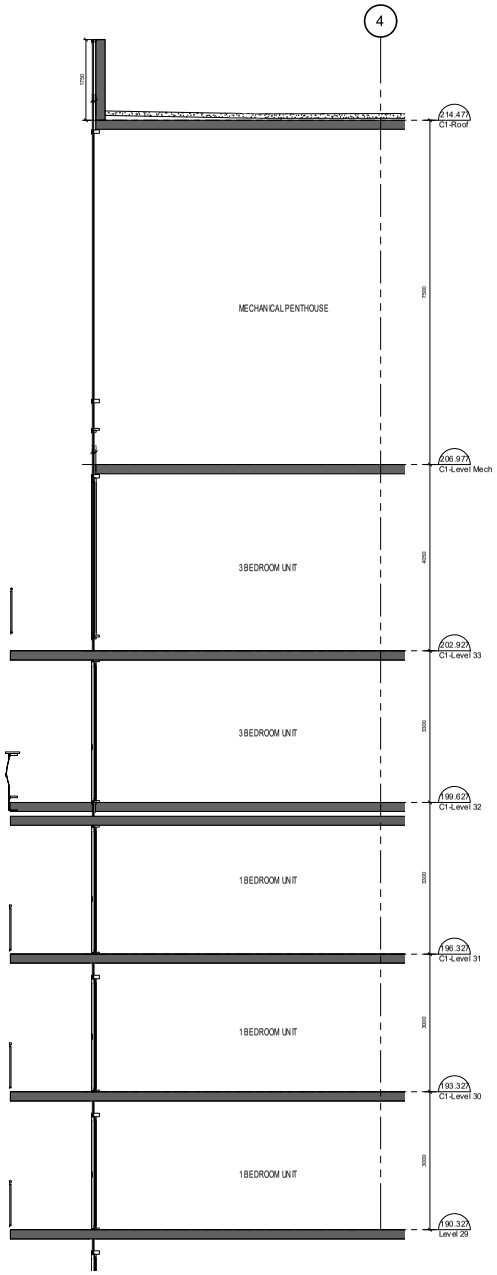
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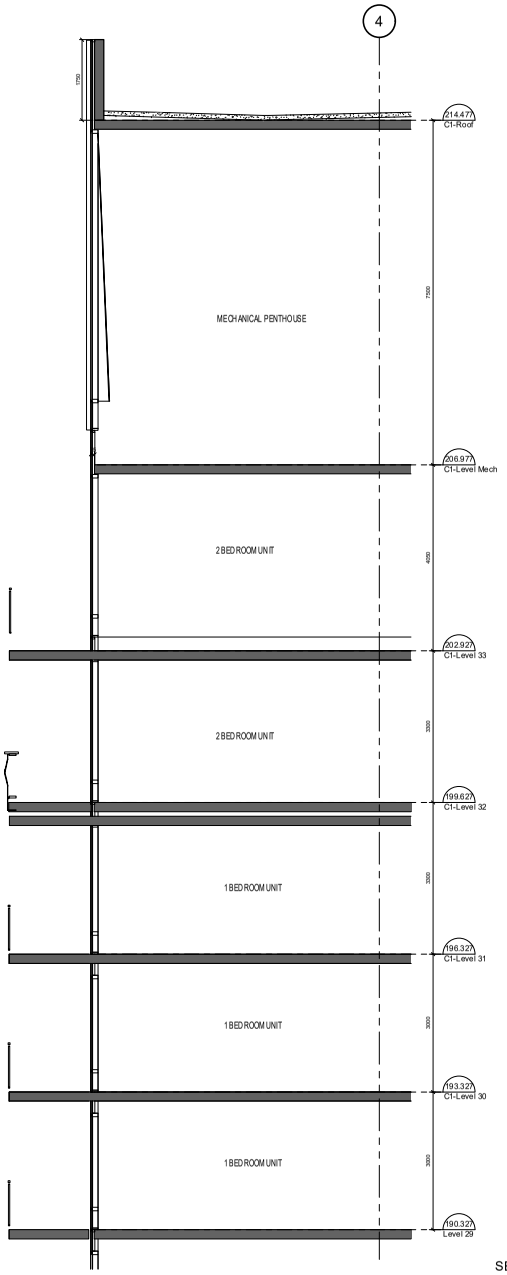
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Author	1 : 50 1/4xxx scale
CHECKED	DATE
Checker	Issue Date

TITLE
Podium Wall Section

PROJECT NO.	DRAWING NO.
18-223	A457



SECTION 1



SECTION 2

NO.	REVISIONS	DATE
2	Issued for Coordination 13	January. 28, 2021
1	Issued for 100% DD Coordination	January. 15, 2021

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DRAWN: Author	SCALE: 1 : 50 1Kxx scale
CHECKED: Checker	DATE: Issue Date

TITLE:
Tower Wall Section

PROJECT NO.	DRAWING NO.
18-223	A458

DATE/TIME PRODUCED: 2021-01-28 3:30:00 PM

APPENDIX II

Borehole Logs

Log of Borehole: MW301

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 6, 2021 **Project Manager:** BM

Depth (m)	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Water Content (%)
0	Ground Surface	97.46						
	Asphaltic Concrete ~ 152mm	0.00						
	Fill Grey sand and gravel, moist.	96.77		SS	1	90	17	5.5
		0.69						
1	***Silt*** Dark brown silt, some clay, moist. Brown, damp below 0.75 mbgs.			SS	2	80	14	12.5
		95.94						
	Trace gravel.	1.52	Riser	SS	3	100	52	9.1
2								
			Bentonite	SS	4	90	44	8.2
3				SS	5	100	34	9.7
		93.65						
	Dark brown below 3.81 mbgs.	3.81		SS	6	90	28	8.5
4	Moist below 4.57 mbgs.							
				SS	7	20	50	21.4
	Limestone fragments below 4.81 mbgs.							
5		92.13						
	Brown, some sand, wet.	5.33		SS	8	70	49	11.1
	Reddish brown, moist below 5.64mbgs.							
6	Sampler refusal around 6.40 mbgs.							

Standard Penetration N-Value: 20, 40, 60

Shear Strength: kPa 100, 200

Sample ID

Soil Vapour Concentration (ppm)

Laboratory Analysis

Contractor: Geo-Environmental Drilling Inc. **Grade Elevation:** 97.46 mamsl

Drilling Method: Hollow Stem/Split Spoon **Top of Casing Elevation:** NM

Well Casing Size: 5.08 cm **Sheet:** 1 of 2

Log of Borehole: MW301

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 6, 2021 **Project Manager:** BM

SUBSURFACE PROFILE					SAMPLE										
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value (20, 40, 60)	Shear Strength kPa (100, 200)	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
7			90.45		SS	9	30	50			12.3			
					SS	10	10	50						
		Bedrock	7.01		HQ	Run1	71							RQD = 29%
8		Reddish-brown, shale.		Screen / Silica Sand	HQ	Run2	104							RQD= 89%
9					HQ	Run3	99							RQD= 83%
10			86.94											
		End of Borehole	10.52	Water level was measured at 1.36 mbgs on June 30, 2021.										
11														
12														

Contractor: Geo-Environmental Drilling Inc. **Grade Elevation:** 97.46 mamsl

Drilling Method: Hollow Stem/Split Spoon **Top of Casing Elevation:** NM

Well Casing Size: 5.08 cm **Sheet:** 2 of 2

Log of Borehole: MW302

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 4, 2021 **Project Manager:** BM

Depth (m)	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Water Content (%)
0	Ground Surface	98.61						
	Concrete ~150mm	0.00						
	Fill Grey sand and gravel, moist.			SS	1	70	7	13.4
	Silt Dark brown silt, some clay, moist.			SS	2	50	41	12.1
1	Brown, damp below 0.75 mbgs.							
				SS	3	90	48	11.1
2			Riser					
				SS	4	100	69	9.6
			Bentonite					
3		95.56						
	Trace gravel at 3.05 mbgs.	3.05		SS	5	80	51	9.0
	Some sand from 3.96 to 4.27 mbgs.							
4				SS	6	76	70	8.4
				SS	7	87	80	12.1
5								
				SS	8	5	50	13.8
6								

Standard Penetration N-Value: 20, 40, 60

Shear Strength △ kPa △: 100, 200

Sample ID

Soil Vapour Concentration (ppm)

Laboratory Analysis

Contractor: Geo-Environmental Drilling Inc. **Grade Elevation:** 98.61 mamsl

Drilling Method: Hollow Stem/Split Spoon **Top of Casing Elevation:** NM

Well Casing Size: 5.08 cm **Sheet:** 1 of 2

Log of Borehole: MW302

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 4, 2021 **Project Manager:** BM

SUBSURFACE PROFILE					SAMPLE									
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value (□ 20 40 60 □)	Shear Strength (△ kPa △ 100 200)	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
7			91.91											RQD= 88%
		Bedrock	6.71		HQ	Run1	88							
		Reddish-brown shale.												
8				Screen	HQ	Run2	98							RQD= 42%
				Silica Sand										
9					HQ	Run3	98							RQD= 92%
10			88.10											
		End of Borehole	10.52	Water level was measured at 2.01 mbgs on June 30, 2021.										
11														
12														

Contractor: Geo-Environmental Drilling Inc. **Grade Elevation:** 98.61 mamsl

Drilling Method: Hollow Stem/Split Spoon **Top of Casing Elevation:** NM

Well Casing Size: 5.08 cm **Sheet:** 2 of 2

Log of Borehole: MW303

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 7, 2021 **Project Manager:** BM

Depth (m)	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Water Content (%)
0	Ground Surface	97.77						
	Asphaltic Concrete ~ 150mm	0.00						
	Fill Grey sand and gravel, damp.	97.31 0.46		SS	1	80	15	13.4
1	**Silt** Dark brown, some clay, moist.			SS	2	90	29	10.2
			Riser	SS	3	90	23	9.6
2			Bentonite	SS	4	100	56	8.3
3		94.72 3.05		SS	5	100	52	9.2
	Trace gravel at 3.05 mbgs.							
	Grey gravel at 3.96 mbgs.			SS	6	60	80	11.5
4	Reddish brown, moist at 6.01 mbgs.							
				SS	7	70	51	13.3
5				SS	8	70	69	12.4
6								

Standard Penetration N-Value: 20, 40, 60

Shear Strength kPa: 100, 200

Sample ID | Soil Vapour Concentration (ppm) | Laboratory Analysis

Contractor: Geo-Environmental Drilling Inc. **Grade Elevation:** 97.77 mamsl

Drilling Method: Hollow Stem/Split Spoon **Top of Casing Elevation:** NM

Well Casing Size: 5.08 cm **Sheet:** 1 of 2

Log of Borehole: MW303

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 7, 2021 **Project Manager:** BM

SUBSURFACE PROFILE					SAMPLE										
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value (20, 40, 60)	Shear Strength kPa (100, 200)	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
			91.06		SS	9	70	78			10.4			
		Bedrock	6.71											
7		Reddish-brown shale.			HQ	Run1	98							RQD= 98%
														RQD= 93%
8				Screen / Silica Sand	HQ	Run2	100							
9														RQD= 97%
					HQ	Run3	100							
10			87.25											
		End of Borehole	10.52	Water level was measured at 6.99 mbgs on June 30, 2021.										
11														
12														

Contractor: Geo-Environmental Drilling Inc.

Grade Elevation: 97.77 mamsl

Drilling Method: Hollow Stem/Split Spoon

Top of Casing Elevation: NM

Well Casing Size: 5.08 cm

Sheet: 2 of 2

Log of Borehole: MW304

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 4, 5 and 6, 2021 **Project Manager:** BM

SUBSURFACE PROFILE					SAMPLE									
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value (20, 40, 60)	Shear Strength kPa (100, 200)	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
0		Ground Surface	97.76											
		0.00												
		Fill	97.46											
		Grey sand and gravel, brick fragments, moist.	0.30											
		Silt												
1		Brown, some clay and damp.			SS	1	70	21			11			
					SS	2	80	44			10.9			
2				Riser	SS	3	60	58			8.8			
				Bentonite	SS	4	90	36			8.7			
3			94.72											
			3.05		SS	5	90	75			9.4			
		Reddish-brown, some sand, trace gravel at 4.57 mbgs.			SS	6	50	49			11.1			
4					SS	7	90	86			13.6			
5					SS	8	25	56			14.1			
6						9		50						

Contractor: Geo-Environmental Drilling Inc.

Grade Elevation: 97.76 mamsl

Drilling Method: Hollow Stem/Split Spoon

Top of Casing Elevation: NM

Well Casing Size: 5.08 cm

Sheet: 1 of 3

Log of Borehole: MW304

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 4, 5 and 6, 2021 **Project Manager:** BM

SUBSURFACE PROFILE					SAMPLE										
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value (20, 40, 60)	Shear Strength △ kPa △ (100, 200)	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
			91.52		SS	9	10	50						
		Bedrock	6.25											
		Reddish-brown shale.												
					Air	Run1	83							RQD= 40%
7														
					Air	Run2	98							RQD= 88%
8				Screen / Silica Sand										
					Air	Run3	100							RQD= 98%
9														
10														
					Air	Run4	100							RQD= 100%
11														
12			85.57											
			12.19											

Contractor: Geo-Environmental Drilling Inc.

Grade Elevation: 97.76 mamsl

Drilling Method: Hollow Stem/Split Spoon

Top of Casing Elevation: NM

Well Casing Size: 5.08 cm

Sheet: 2 of 3

Log of Borehole: MW304

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 4, 5 and 6, 2021 **Project Manager:** BM

SUBSURFACE PROFILE					SAMPLE									
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value □ 20 40 60 □	Shear Strength △ kPa △ 100 200	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
13		***Shale***			Air	Run5	100							RQD= 94%
14					Air	Run6	98							RQD= 92%
15					Air	Run7	100							RQD = 86%
16														
17					Air	Run8	98							RQD= 94%
18			79.48 18.29											

Contractor: Geo-Environmental Drilling Inc. **Grade Elevation:** 97.76 mamsl

Drilling Method: Hollow Stem/Split Spoon **Top of Casing Elevation:** NM

Well Casing Size: 5.08 cm **Sheet:** 3 of 3

Log of Borehole: MW305

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 7, 2021 **Project Manager:** BM

SUBSURFACE PROFILE					SAMPLE									
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value (20, 40, 60)	Shear Strength kPa (100, 200)	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
0		Ground Surface	98.00											
		Asphaltic Concrete ~150mm	0.00											
		Fill Grey sand and gravel, damp.	97.54 0.46		SS	1	80	12			15.1			
1		**Silt** Dark brown, some clay, moist.			SS	2	60	7			10.6			
				Riser	SS	3	60	21			10.2			
2				Bentonite	SS	4	80	70			8.7			
3			94.95 3.05		SS	5	60	79			8.5			
		Trace gravel at 3.05 mbgs. Grey gravel at 3.96 mbgs.												
4		Reddish brown, moist at 6.01 mbgs.			SS	6	80	69			10.6			
					SS	7	20	59			15.1			
5					SS	8	70	39			9.7			
6						9		50						

Contractor: Geo-Environmental Drilling Inc. **Grade Elevation:** 98.00 mamsl

Drilling Method: Hollow Stem/Split Spoon **Top of Casing Elevation:** NM

Well Casing Size: 5.08 cm **Sheet:** 1 of 2

Log of Borehole: MW305

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 7, 2021 **Project Manager:** BM

SUBSURFACE PROFILE					SAMPLE									
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value (20, 40, 60)	Shear Strength kPa (100, 200)	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
		Sampler refusal around 6.24 mbgs.			SS	9	30	50						
7			90.98											
		Bedrock Reddish-brown shale.	7.01		HQ	Run1	100							RQD= 100%
8				Screen / Silica Sand	HQ	Run2	95							RQD= 76%
		End of Borehole	89.16 8.84	Water level was measured at 1.70 mbgs on June 30, 2021.										
9														
10														
11														
12														

Contractor: Geo-Environmental Drilling Inc. **Grade Elevation:** 98.00 mamsl

Drilling Method: Hollow Stem/Split Spoon **Top of Casing Elevation:** NM

Well Casing Size: 5.08 cm **Sheet:** 2 of 2

Log of Borehole: MW306

Project #: 225780.004 **Logged By:** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 3, 2021 **Project Manager:** BM

SUBSURFACE PROFILE					SAMPLE									
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value (20, 40, 60)	Shear Strength kPa (100, 200)	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
0		Ground Surface	98.21											
		0.00												
		Fill												
		Brown, sand and gravel, some silt, damp.	97.91											
		0.30												
		Silt												
		Brown, some clay, damp.			SS	1	60	17			11			
1		Trace gravel at 0.91 mbgs.			SS	2	70	80			11.3			
				Riser										
					SS	3	100	75			9.6			
2														
					SS	4	90	46			8.1			
				Bentonite										
3			95.16											
		3.05												
		Dark grey, some gravel, moist.			SS	5	20	85			8.1			
		Reddish brown, wet at 3.81 mbgs.												
4					SS	6	90	80			11.2			
					SS	7	30	74			12.9			
5														
					SS	8	20	80			9.2			
6														

Contractor: Geo-Environmental Drilling Inc. **Grade Elevation:** 98.21 mamsl

Drilling Method: Hollow Stem/Split Spoon **Top of Casing Elevation:** NM

Well Casing Size: 5.08 cm **Sheet:** 1 of 2

Log of Borehole: MW306

Project #: 225780.004 ***Logged By:*** JL

Project: Geotechnical and Hydrogeological Services

Client: Fairview Limited Partnership c/o CLV Group Inc.

Location: 2243-2269 Fairview Street, Burlington, Ontario

Drill Date: May 3, 2021 ***Project Manager:*** BM

SUBSURFACE PROFILE | **SAMPLE**

Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value (20, 40, 60)	Shear Strength kPa (100, 200)	Water Content (%)	Sample ID	Soil Vapour Concentration (ppm)	Laboratory Analysis
			91.81		SS	9	20	86						
		Bedrock Reddish-brown shale.	6.40											RQD= 67%
7					HQ	Run1	98							
														RQD= 98%
8				Screen / Silica Sand	HQ	Run2	99							
9														RQD= 93%
					HQ	Run3	100							
10			87.85											
		End of Borehole	10.36	Water level was measured at 2.13 mbgs on June 30, 2021.										
11														
12														

Contractor: Geo-Environmental Drilling Inc.

Grade Elevation: 98.21 mamsl

Drilling Method: Hollow Stem/Split Spoon

Top of Casing Elevation: NM

Well Casing Size: 5.08 cm

Sheet: 2 of 2

APPENDIX III

Water Well Records

Ontario is now in Step 2 of the **Roadmap to Reopen (/page/reopening-ontario)**. Follow the **restrictions and public health measures (https://covid-19.ontario.ca/public-health-measures)**.

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7305765
Well Audit Number: *Z280361*
Well Tag Number: *A205897*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597274.00 Northing: 4799744.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY	SILT	TILL	0 ft	

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	4 ft	HOLEPLUG	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z280361

Date Well Completed: November 16, 2017

Date Well Record Received by MOE: February 13, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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UTM 17 Z 596688 E
5 R 4798901 N
Elev. 4 R 0315
Basin 24

30 M5C

28 No 10

GROUND WATER BRANCH
DEC 2 1959
ONTARIO WATER RESOURCES COMMISSION

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

BRANTS BLOCK

Water-Well Record

County or Territorial District ..... Halton ..... ~~Township, Village,~~ Town ~~or City~~ ..... Nelson .....
Con. BRANT'S Block Lot ..... Street and Number (if in Village, Town or City) .....
Owner [redacted] ..... Address 2133 Maple Wood Drive, Burlington
Date completed 28 (day) Oct (month) 58 (year)

Pipe and Casing Record

Casing diameter(s) ..... 6¼"
Length(s) ..... 31' 7"
Type of screen ..... —
Length of screen ..... —

Pumping Test

Static level ..... 11½'
Pumping rate ..... 70 g.p.h.
Pumping level ..... 40'
Duration of test ..... 1 hour

Well Log

Overburden and Bedrock Record	From ft.	To ft.
Black top soil	0'	1'
Red sand	1'	6'
Grey clay & gravel	6'	20'
Red sand, Red clay & gravel	20'	29'
Red shale	29'	54'

Water Record

Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
50'	42½'	Salty

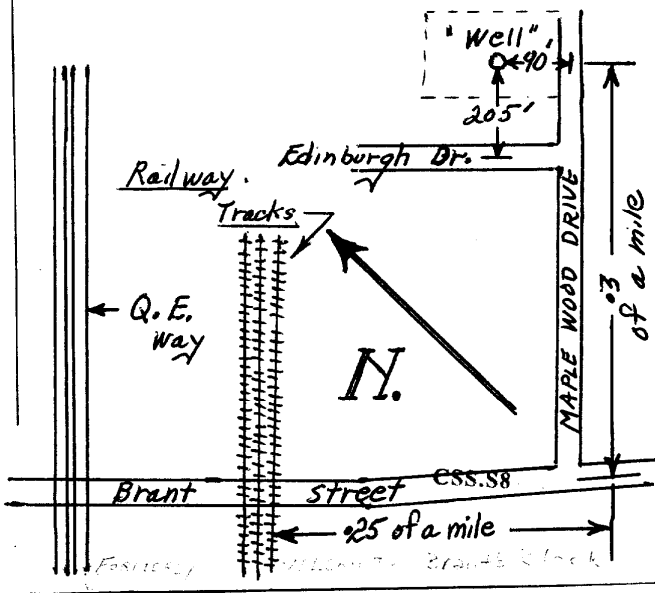
For what purpose(s) is the water to be used?
Domestic
Is water clear or cloudy? clear
Is well on upland, in valley, or on hillside?
upland
Drilling firm George J. Wallis
Address R.R. # 5
Hamilton
Name of Driller Same
Address
Licence Number 1098

I certify that the foregoing statements of fact are true.

Date Oct 27/58 George J. Wallis
Signature of Licensee

Location of Well

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



Form 5

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

HALTON

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

11 — 2808271 — MUNICIP 28602 — CON.

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON	BLOCK, TRACT, SURVEY, ETC	LOT
[redacted]	Burlington (Nelson)	3	SDS	6-10

[redacted] Fairview Street — DATE COMPLETED: DAY 19 MO 10 YR 94

RNG | 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
			Replace old Monitoring well with a new one.		

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	DEPTH - FEET TO
10-11	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	12		13-16
17-18	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	19		20-23
24-25	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	26		27-30

SCREEN

SIZE(S) OF OPENING (SLOT NO.) 10 — DIAMETER 2 INCHES — LENGTH 5 FEET

MATERIAL AND TYPE: P.V.C. — DEPTH TO TOP OF SCREEN 30 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
33	29	#3 filter sand
29	26	Hole plug
26	7	#3 filter sand
7'	4'	Hole plug
4'	0	#3 filter sand

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — PUMPING RATE — DURATION OF PUMPING: ____ HOURS ____ MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
19-21 FEET	22-24 FEET		28-28 FEET	29-31 FEET	32-34 FEET	35-37 FEET

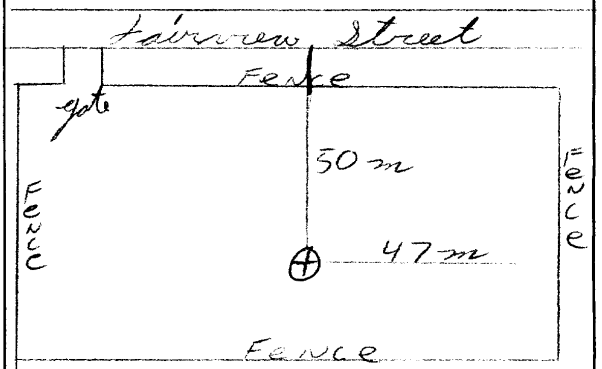
IF FLOWING, GIVE RATE: 38-41 GPM — PUMP INTAKE SET AT: FEET — WATER AT END OF TEST: 1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☐ DEEP — RECOMMENDED PUMP SETTING: 43-45 FEET — RECOMMENDED PUMPING RATE: 46-49 GPM

50-53

LOCATION OF WELL

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



DRILLERS REMARKS

56609

FINAL STATUS OF WELL

62

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

55-56

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

METHOD OF CONSTRUCTION

57

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: Boart Longyear — WELL CONTRACTOR'S LICENCE NUMBER

ADDRESS: 61 Malmo Crt. Maple Ont.

NAME OF WELL TECHNICIAN: Mike Sokolow — WELL TECHNICIAN'S LICENCE NUMBER: T-2381

SIGNATURE OF TECHNICIAN/CONTRACTOR — SUBMISSION DATE: DAY ____ MO ____ YR ____

OFFICE USE ONLY

DATA SOURCE 58 — CONTRACTOR 59-62: 1508 — DATE RECEIVED 63-66: OCT 27 1994 — 80

DATE OF INSPECTION — INSPECTOR

REMARKS

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

HALTON

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

11 2808272 MUNICIP 28602 CON.

COUNTY OR DISTRICT: HALTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Burlington (Nelson)
CON. BLOCK, TRACT, SURVEY, ETC.: 3 SDS
LOT: 6-10
[redacted] Fairview Street
DATE COMPLETED: DAY 19 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	DEPTH - FEET TO
dark	Brown		top soil	0	6"
red			gravely till	0	15'
red			shale	15'	17'
red			shale	17'	35'

31
32

41 WATER RECORD

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

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
3,5 00	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		0'	20'
	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	2 INCHES	5 FEET

MATERIAL AND TYPE: P.V.C.
DEPTH TO TOP OF SCREEN: 27 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
35'	23'	#3 filter sand
23'	15'	Hole plug
15'	6'	#3 filter sand
6'	+2'	Portland cement

71 PUMPING TEST

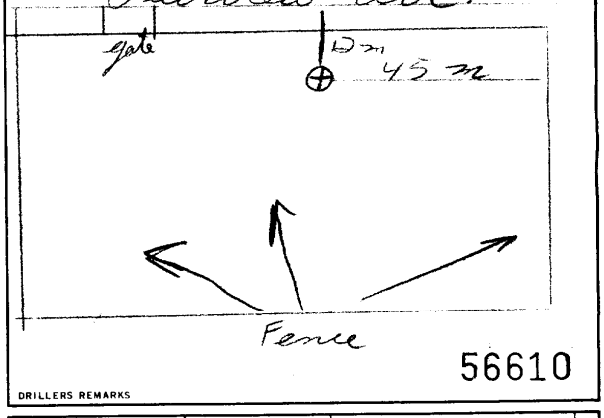
PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER
PUMPING RATE: GPM
DURATION OF PUMPING: HOURS MINS

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

LOCATION OF WELL

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



56610

DRILLERS REMARKS

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Boart Longyear
WELL CONTRACTOR'S LICENCE NUMBER:
ADDRESS: 61 Malmo Crt. Maple Ont
NAME OF WELL TECHNICIAN: Mike Sokolow
WELL TECHNICIAN'S LICENCE NUMBER: T-2581
SIGNATURE OF TECHNICIAN/CONTRACTOR: Mike Sokolow
SUBMISSION DATE: DAY MO YR

OFFICE USE ONLY

DATA SOURCE 58
CONTRACTOR 59-62: 1508
DATE RECEIVED 63-68: OCT 27 1994
DATE OF INSPECTION
INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ontario — Ministry of the Environment

Well Tag Number A 023406
A023406

Well Record
Regulation 903 Ontario Water Resources Act

page ___ of ___

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)
QUINN MOTORS LTD		2332 FAIRVIEW ~~ST BURL~~

County/District/Municipality	Township/City/Town/Village	Province	Postal Code	Telephone Number (include area code)
	BURLINGTON	Ontario	L7R 2E3	905 639 0035

Address of Well Location (County/District/Municipality)	Township	Lot	Concession
BURLINGTON	BURLINGTON		

RR#/Street Number/Name	City/Town/Village	Site/Compartment/Block/Tract etc.
2332 FAIRVIEW ST.	BURLINGTON	

GPS Reading: NAD 8 3 | Zone 17 | Easting 7142097 | Northing 4320616 | Unit Make/Model GARMIN/ETREX | Mode of Operation: [X] 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
Grey	GRANULAR	SILT	Grey GRANULAR	0	0.2
BROWN	CLAY	SILT	BROWN SILTY CLAY	0.2	3.7
Red/BROWN	SHALE		Reddish BROWN SHALE	3.7	6.7

well 1 well 2

Hole Diameter

Depth From	Depth To	Diameter Centimetres
0	6.7	15
0	5	15

Water Record

Water found at ___ Metres / Kind of Water
[ ] 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				
4	[ ] Steel [ ] Fibreglass [X] Plastic [ ] Concrete [ ] Galvanized	0.6	0	1.6
4	[ ] Steel [ ] Fibreglass [X] Plastic [ ] Concrete [ ] Galvanized	0.6	0	~~3.7~~ 3.5
	[ ] Steel [ ] Fibreglass [ ] Plastic [ ] Concrete [ ] Galvanized			
Screen				
Outside diam	Material	Slot No.		
4	[ ] Steel [ ] Fibreglass [X] Plastic [ ] Concrete [ ] Galvanized	160	5	
		0.6 ~~320~~	6.7	

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

[X] Annular space [ ] Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	~~0.5~~ 1.3	BENTONITE CHIPS	0.021
1.3	5	Silica sand.	0.061
0	2.7	BENTONITE CHIPS	0.044
2.7	6.7	SILICA SAND.	0.066

well 1 well 2

Method of Construction

[ ] Cable Tool [ ] Rotary (air) [ ] Diamond [ ] Digging
[ ] Rotary (conventional) [ ] Air percussion [ ] Jetting [ ] Other
[ ] Rotary (reverse) [X] Boring [ ] Driving

Water Use

[ ] Domestic [ ] Industrial [ ] Public Supply [X] Other
[ ] Stock [ ] Commercial [ ] Not used MONITORING well
[ ] Irrigation [ ] Municipal [ ] Cooling & air conditioning

Final Status of Well

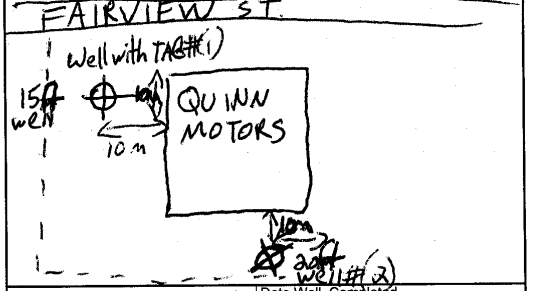
[ ] Water Supply [ ] Recharge well [ ] Unfinished [ ] Abandoned, (Other)
[X] Observation well [ ] Abandoned, insufficient supply [ ] Dewatering
[ ] Test Hole [ ] Abandoned, poor quality [ ] Replacement well

Well Contractor/Technician Information

Name of Well Contractor: DETERMINATION DRILLING — Well Contractor's Licence No.: 7295
Business Address (street name, number, city etc.): 321 GUYATT RD E HAMILTON LORICO
Name of Well Technician (last name, first name): CARROCCI, DAN — Well Technician's Licence No.: T-3215
Signature of Technician/Contractor: x Dan Carrocci — Date Submitted: 2005 04 20

Location of Well

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



Audit No. Z 23652 — Date Well Completed: 2005 04 19
Was the well owner's information package delivered? [ ] Yes [ ] No — Date Delivered

Ministry Use Only

Data Source — Contractor: 7295
Date Received: APR 26 2005 — Date of Inspection
Remarks — Well Record Number

0506E (09/03) Contractor's Copy [ ] Ministry's Copy [X] Well Owner's Copy [ ]

Cette formule est disponible en français

Ontario Ministry of the Environment

Well Tag A 034529 (er below) A034529

051015 - J.W.E. [redacted] Oct 4/05

Well Record

Regulation 903 Ontario Water Resources Act

page ___ of ___

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- **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)
Halton Honda		2300 Fairview St.

County/District/Municipality	Township/City/Town/Village	Province	Postal Code	Telephone Number (include area code)
	Burlington	Ontario	L7L 6N5	905-632-5371

Address of Well Location (County/District/Municipality)	Township	Lot	Concession

RR#/Street Number/Name	City/Town/Village	Site/Compartment/Block/Tract etc.
2279 Fairview St.	Burlington	

GPS Reading: NAD 83 | Zone 17 | Easting 596994 | Northing 4799640 | Unit Make/Model Magellan | Mode of Operation: ☐ 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
grey	Asphalt			0	.15
brown	gravel	~~sand~~ Sand.		.15	.9
red/brown	silt	sand	hard.	.9	4.5
red/brown	silt	sand	hard, wet	4.5	6

Hole Diameter

Depth From	Depth To	Diameter Centimetres
0	6	21

Water Record

Water found at 4.5 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				
5	☐ Steel ☐ Fibreglass ☑ Plastic ☐ Concrete ☐ Galvanized	.7	0	3
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam 6.4	☐ Steel ☐ Fibreglass ☑ Plastic ☐ Concrete ☐ Galvanized	Slot No. 10	3	6
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)
0	.3	concrete	
.3	2.8	bentonite	

Method of Construction

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

Water Use

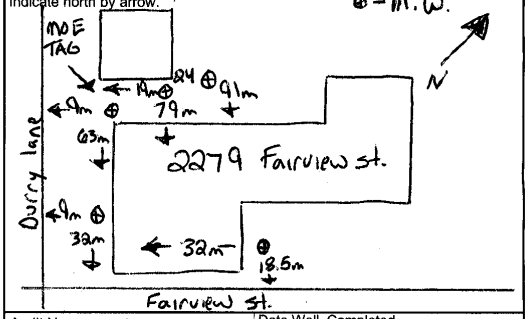
☐ Domestic ☐ Industrial ☐ Public Supply ☑ Other
☐ Stock ☐ Commercial ☐ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

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

Location of Well

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



Audit No. Z 38219 | Date Well Completed 2005 10 04 | Was the well owner's information package delivered? ☐ Yes ☐ No | Date Delivered

Well Contractor/Technician Information

Name of Well Contractor	Well Contractor's Licence No.
Geofirma Geo Environmental	6607

Business Address (street name, number, city etc.): 340 Market Dr. Milton, ON

Name of Well Technician (last name, first name)	Well Technician's Licence No.
Hails, Ryan	T3212

Signature of Technician/Contractor: X [signature] | Date Submitted 2005 10 04

Ministry Use Only

Data Source	Contractor
Date Received OCT 24 2005	Date of Inspection
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 (Yellow sticker below) A 036839 / A036839.

JWB 051231 Dec 15/05 Sean Cole

Well Record

Regulation 903 Ontario Water Resources Act

, page ___ of ___

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

[redacted]

RR#/Street Number/Name: 2279 Fairview St. | City/Town/Village: Burlington (Halton) | Site/Compartment/Block/Tract etc.:

GPS Reading: NAD 83 | Zone 17 | Easting 596929 | Northing 4799628 | Unit Make/Model: Magellan | Mode of Operation: ☐ 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 (Metres)
Brown	Gravel			0	.3
Red	Silty Clay.			.3	6.0

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	6.0	15

Water Record

Water found at 3.0 Metres / Kind of Water

- 3.0 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 (Metres)
Casing				
5.1	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	.65	0	2.7
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam		Slot No.		
6.4	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	10	2.7	6.0
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)
0	2.7	Bentonite	

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 TEST
☐ 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: Geo-Environmental | Well Contractor's Licence No.: 6607

Business Address (street name, number, city etc.): 340 Market Dr. Milton

Name of Well Technician (last name, first name): PANETTA LAWRENCE | Well Technician's Licence No.: 05-1431

Signature of Technician/Contractor: X [signature] | Date Submitted: 2005 12 15

Location of Well

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

See Attached.

Audit No. Z 42190 | Date Well Completed: 2005 12 15

Was the well owner's information package delivered? ☐ Yes ☐ No | Date Delivered

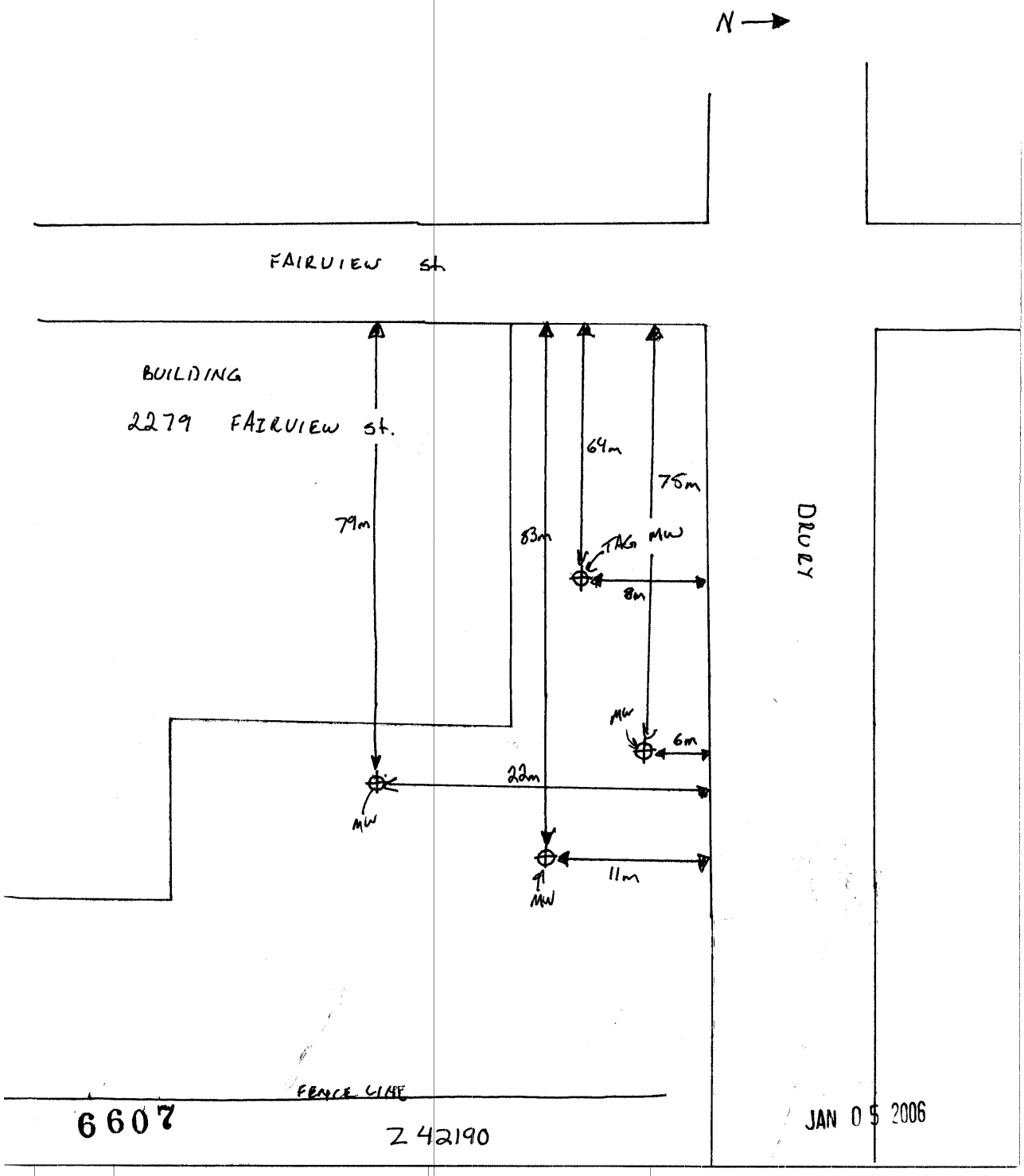
Ministry Use Only

Data Source | Contractor: 6607

Date Received: JAN 05 2006 | Date of Inspection

Remarks | Well Record Number

0506E (09/03) Contractor's Copy ☐ Ministry's Copy ☐ Well Owner's Copy ☐ *Cette formule est disponible en français*


N
FAIRVIEW st
BUILDING
2279 FAIRVIEW st.
79m
83m
64m
75m
MW
TAG
8m
DRURY
MW
6m
22m
MW
11m
MW
FENCE LINE
6607
Z 42190
JAN 05 2006

Ontario Ministry of the Environment

Kirchin 060077
Oct. 24/06

Well Record

Regulation 903 Ontario Water Resources Act

[redacted] page ___ of ___

Well Tag Number (Place sticker and print number below): A 048455

Instructions for Completing Form

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- 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 Help Desk (Toll Free) at 1-888-396-9355.
- **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)
Pioneer	Petroleums	5360 South Service Rd

County/District/Municipality	Township/City/Town/Village	Province	Postal Code	Telephone Number (include area code)
	Burlington	Ontario	L7R 5L1	905-633-3407

Address of Well Location (County/District/Municipality)	Township	Lot	Concession
2279 Fairview St			

RR#/Street Number/Name	City/Town/Village	Site/Compartment/Block/Tract etc.
2279 Fairview St	Burlington	

GPS Reading: NAD 83 | Zone 17 | Easting 596893 | Northing 4799725

Unit Make/Model: | Mode of Operation: ☐ 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 (Metres)
brn	silty sand	shale	Redish brn silty sand & gravel	0	6.0
Redish	shale	—	Redish weathered shale & into limestone	6.0	10.6

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	7.5	21
2.5	10.6	10

Water Record

Water found at Metres	Kind of Water
6.1 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

Casing

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To (Metres)
5.1	☐ Steel ☐ Fibreglass ☑ Plastic ☐ Concrete ☐ Galvanized	0.65	0	9.1
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			

Screen

Outside diam	Material	Slot No.	Depth From	Depth To (Metres)
6.4	☐ Steel ☐ Fibreglass ☑ Plastic ☐ Concrete ☐ Galvanized	10	9.1	10.6

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)
0.3	8.6	bentonite chips	
0.	0.3	concrete	

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.
Geo Environmental Drilling Inc	6607

Business Address (street name, number, city etc.): 340 Market Dr. Milton L9T 5A4

Name of Well Technician (last name, first name)	Well Technician's Licence No.
Gordon Taylor	1345

Signature of Technician/Contractor: X [signature] Date Submitted YYYY MM DD: 2006 10 24

Location of Well

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

See Attached Fax/Map

Audit No. Z 56614

Date Well Completed YYYY MM DD: 2006 10 24

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

Date Delivered YYYY MM DD

Ministry Use Only

Data Source: RECEIVED

Contractor: 6607

Date Received: JAN 03 2007 MM DD

Date of Inspection YYYY MM DD

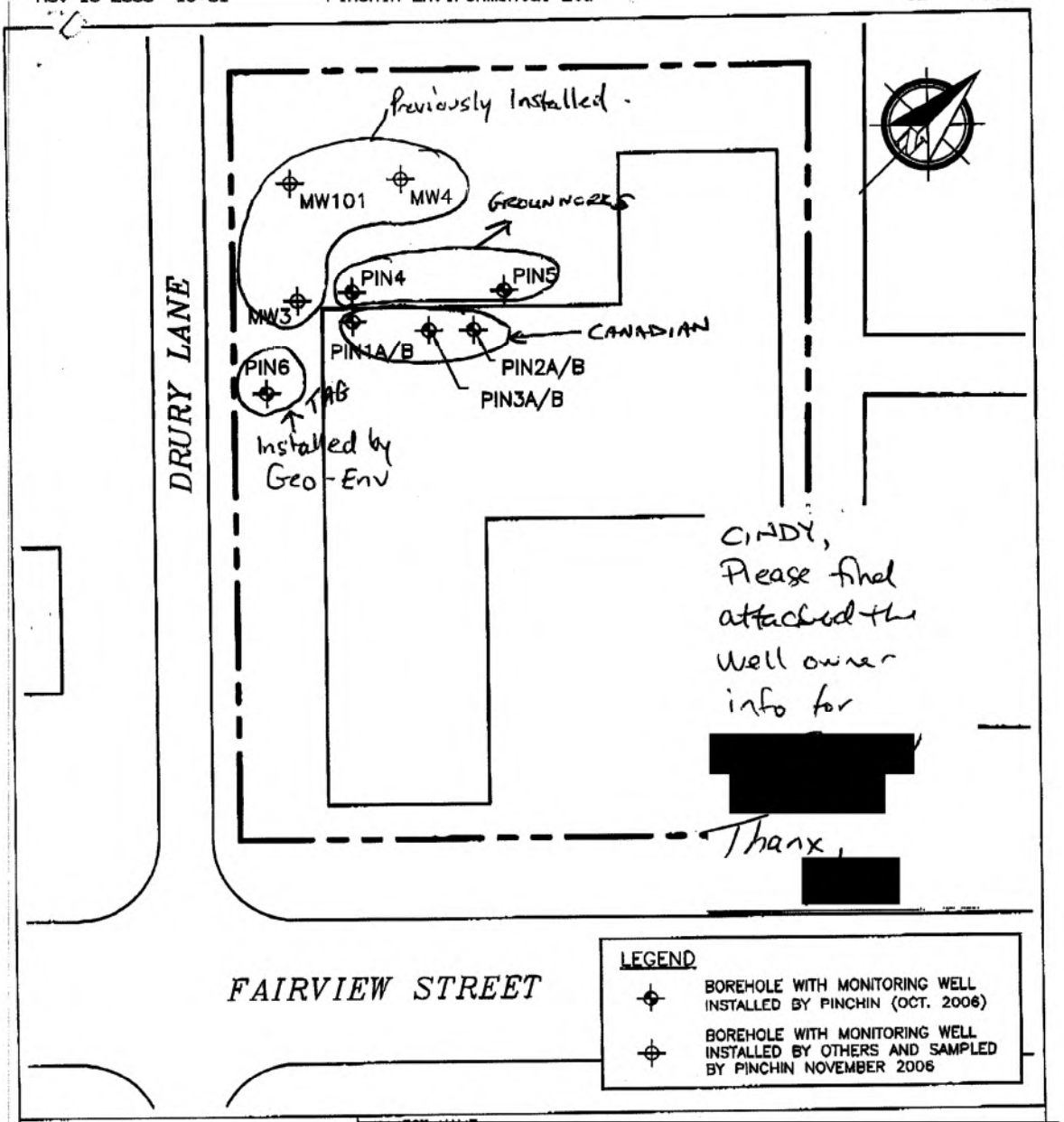
Remarks

Well Record Number

0506E (05/2006)

Ministry's Copy

Cette formule est disponible en français



PINCHIN ENVIRONMENTAL

[redacted]

6607 Z56614

JAN 0 5 2007

#061170 JWE-13

Ontario Ministry of the Environment

Well Tag Number (Place sticker and print number below) A 043832

Well Record

Regulation 903 Ontario Water Resources Act

Nov. 16/06

page ___ of ___

Instructions for Completing Form

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- **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

[redacted]

Mailing Address (Street Number/Name, RR,Lot,Concession)

[redacted]

Address of Well Location (County/District/Municipality): between houses 614 & 634 Hwy #6

Township: Lot 27 Concession 1

RR#/Street Number/Name: south side of road (farm feild)

City/Town/Village: Port Dover

Site/Compartment/Block/Tract etc.

GPS Reading: NAD 83 | Zone 17 | Easting 596909 | Northing 4799727

Unit Make/Model

Mode of Operation: ☐ 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 (Metres)
brn	silt	sand	brn silt & sand	0	6.0

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	6.0	15

Water Record

Water found at 5.9 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 (Metres)
Casing				
5.1	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	0.65	0	1.5
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	Slot No.		
6.4		10	1.5	6.0
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)
0	1.5	bentonite chips	

Method of Construction

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

Water Use

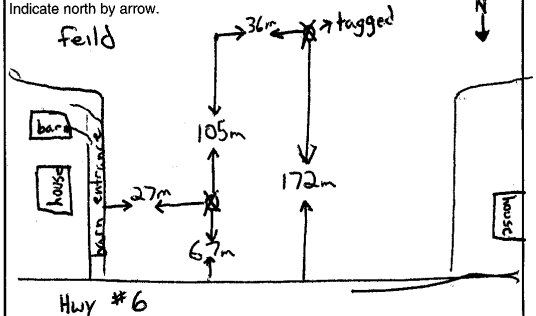
☐ Domestic ☐ Industrial ☐ Public Supply ☐ Other
☐ Stock ☐ Commercial ☑ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

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

Location of Well

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



Audit No. Z 56679

Date Well Completed YYYY 2006 MM 11 DD 16

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

Date Delivered YYYY MM DD

Well Contractor/Technician Information

Name of Well Contractor: Geo Environmental Drilling Inc

Well Contractor's Licence No. 6607

Business Address (street name, number, city etc.): 340 Market Dr. Milton Ont. L9T 5A4

Name of Well Technician (last name, first name): Gordon, Tyler

Well Technician's Licence No. 1545

Signature of Technician/Contractor: X

Date Submitted YYYY 2006 MM 11 DD 16

Ministry Use Only

Data Source

Contractor 6607

Date Received JAN 16 2007 MM DD

Date of Inspection YYYY MM DD

Remarks

Well Record Number

0506E (08/2006)

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Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below) **A 068356**

A068356

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	CAPO INDUSTRIES		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
1200 CORPORATE DRIVE	HALTON	ONTARIO	L7R 5R9	0533266626

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2279 FAIRVIEW STREET			

County/District/Municipality	City/Town/Village	Province	Postal Code
	BURLINGTON	Ontario	L7R 2E3

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	596942	4799617		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
- HOLE WAS RE-DRILLED, NO SOIL DESCRIPTION					

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0.102m	0.432m	BENTONITE, HOLE PLUG	0.0049 m³

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☒ Other, specify S.S.A.

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.1cm	PLASTIC	0.48cm	0	0.432m

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6cm	PLASTIC	10	0.432m	5.9m

Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify
HOLE RE-DRILLED

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify	Hole Diameter Depth (m/ft) From	To	Diameter (cm/in)
		0	5.9m	15.24cm
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify			
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify			

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

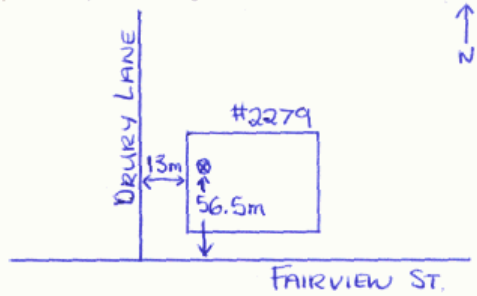
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: TEST HOLE LOCATED INSIDE

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
ODIAK ENVIRONMENTAL LIMITED	6988

Business Address (Street Number/Name)	Municipality
71 EQUESTRIAN COURT, UNIT 1A	HALTON

Province	Postal Code	Business E-mail Address
ONTARIO	L6L 6L7	hfoirest@kodiak.ca

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
0582529 43	FORREST, HOLLY

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3389	Holly Forrest	2008 09 23

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☒ No		2008 09 22

Ministry Use Only

Audit No. Z 82950

Received SEP 26 2008

Ministry's Copy

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Ontario — Ministry of the Environment

Well Tag No. for Master Well (Place Sticker and/or Print Below) **A 097485** A097485

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Master Well Owner's and Land Owner's Information

First Name	Last Name
HOMARTYN HOLDINGS	[redacted]

Mailing Address (Street Number/Name, RR)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
2279 FAIRVIEW DRIVE	BURLINGTON	ONT	L7R 0E3	9055777537

Location and Construction of the Master Well in the Cluster

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
2279 FAIRVIEW DRIVE	-	-	-

County/District/Municipality	City/Town/Village	Province	Postal Code
HALTON	BURLINGTON	Ontario	

UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation
NAD 83	17	591697	4799573	EXPLORIST	500	☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	To
BLACK	TOPSOIL			0	0.3
BROWN	SAND	GRAVEL	FILL	0.3	1.2
BROWN	SILT	CLAY	DENSE (SLIGHT ARTESIAN WET)	1.2	6.1
BROWN	SILT	SAND		6.1	7.2
RED	SHALE			7.2	7.3

Hole Details

Depth (Metres) From	To	Diameter (Centimetres)
0	7.3	15cm

Water Use

☐ Public ☐ Industrial ☐ Not used ☐ Other, specify
☐ Domestic ☐ Commercial ☐ Dewatering
☐ Livestock ☐ Municipal ☐ Monitoring
☐ Irrigation ☑ Test Hole ☐ Cooling & Air Conditioning

Method of Construction

☐ Cable Tool ☐ Air Percussion ☐ Digging
☐ Rotary (Conventional) ☐ Diamond ☑ Boring
☐ Rotary (Reverse) ☐ Jetting ☐ Other, specify
☐ Rotary (Air) ☐ Driving SDA

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, specify
☐ Alteration (Construction) ☐ Abandoned, other, specify

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	To
5.1cm	PLASTIC RISER	1cm	0	5.8
5.1cm	PLASTIC SCREEN	1cm	5.8	7.3

No Casing and Screen Used / Static Water Level Test

Open Hole ☐ Yes ☐ No — Static Water Level Test: ____ Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres)	Slot No.
5.1cm	1010

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	0.15	CONCRETE	
0.15	5.2	3/4 HOLEPLUG	
5.2	7.3	SILICA SAND #2	

Water Details

Water found at Depth		Kind of Water
N/A	Metres ☐ Gas	☑ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
	Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
	Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☐ No If no, provide reason:

Date Master Well Completed (yyyy/mm/dd): 2010/03/29

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster	Please indicate Number of Cluster Well Information Log Sheets Submitted
5	4
Total Wells on this Property: 5	

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.
☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

Signature of Technician/Contractor — Date (yyyy/mm/dd): 2010/03/29

Master Well Owner's/Land Owner's consent to use Cluster Form

Signature: ATTACHED FORM — Date (yyyy/mm/dd):

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
DIRECT ENVIRONMENTAL DRILLING	7320

Business Address (Street No./Name, number, RR)	Municipality
37 SHAW VALLEY DRIVE	ST. THOMAS

Province	Postal Code	Business E-mail Address
ONT	N5R 6J3	ourmail@rogers.com or direct@environmentaldrilling.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5199680175	JOHNSTON, ANDREW

Well Technician's Licence No.	Signature of Technician	Date Submitted (yyyy/mm/dd)
3494		2010/04/05

Ministry Use Only

Audit No.	Well Contractor No.
M 05091	
Date Received (yyyy/mm/dd): APR 29 2010	Date of Inspection (yyyy/mm/dd)
Remarks	

1992 (11/2006)

Ministry's Copy

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Ontario Ministry of the Environment

Well Tag No. for Master Well *(Print Well Tag No.)*
A 097485 A097485

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Property Owner's Information

First Name	Last Name	Mailing Address (Street No./Name, RR)	Municipality
HOMESTEAD HOLDINGS	[redacted]	2279 FAIRVIEW ST	BURLINGTON

Province	Postal Code	E	Telephone No. (inc. area code)
ONT	L7R 2E3	[redacted]	9055777537

Consent

Property Owner's Consent to use cluster form

Signature	Date (yyyy/mm/dd)
ATTACHED FORM	

Consent to release additional information to the Director upon request

Signature of Technician/Contractor	Date (yyyy/mm/dd)
[signature]	2010/03/31

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
2279 FAIRVIEW (DOOR STREET)	-	-	-	HALTON

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
BURLINGTON	Ontario	L7R 2E3	EARTHEST	500	☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify:

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
MW2	17	596954	4799589	6.1	15cm	AUGER SSA	PLASTIC	4.6	4.6	6.1	BENTONITE 3/8" HOLEPLUG	N/A		SLIGHT ARTESIAN	2010/03/31
MW3	17	596947	4799582	7.3 6.7	15cm	AUGER SSA	PLASTIC	5.8 4.6	5.8 4.6	7.3	BENTONITE 3/8" HOLEPLUG	N/A		"	2010/03/31
MW4	17	596932	4799596	6.1	15cm	AUGER SSA	PLASTIC	4.6	4.6	6.1	BENTONITE 3/8" HOLEPLUG	N/A		"	2010/03/31
MW5	17	596917	4799630	5.8	15cm	AUGER SSA	PLASTIC	4.2	4.2	5.8	BENTONITE 3/8" HOLEPLUG	N/A		"	2010/03/31

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
DIRECT ENVIRONMENTAL DRILLING	37 SNAW VALLEY DRIVE	ST. THOMAS	ONT

Postal Code	Business Telephone No. (inc. area code)	Well Contractor's Licence No.	Business E-mail Address
N5R 6S9	5197864175	7320	armstrong@directenvironmentaldrilling.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted (yyyy/mm/dd)	Signature of Technician
ANDREW ARMSTRONG	3446	2010/04/05	[signature]

Date 1st Well in Cluster Constructed (yyyy/mm/dd)	Date Last Well in Cluster Constructed (yyyy/mm/dd)
2010/03/31	2010/03/31

Ministry Use Only

Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)
APR 29 2010	
Audit No. c 05713	**Remarks** m0509

1991 (11/2006)

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MW5
MW2
MW4
TAG
MW3
Image © 2010 DigitalGlobe
© 2010 Tele Atlas
Imagery Date: Aug 31, 2009
43°20'34.78" N 79°48'13.55" W elev 313 ft
Eye alt 657 ft
Google

519 633 0095

LOT 10 485

FAXED 4/11/10 Environmental Drilling

MOE Monitoring Well Record Information

All monitoring wells installed deeper then a depth of 3.0m (<3.0mbgs if in potentially contaminated area) in the Province of Ontario must be documented using an MOE Well Record. There are 2 Well Records used for documenting monitoring wells, a Standard Well Record for individual wells and a Cluster Well Record for properties containing more then one well. A Cluster Well Record can only be used with written consent from the Land Owner. **Direct Environmental Drilling Inc. (Well Contractor #7320)** requires that the Well Owner Consent Form be completed prior to conducting drilling activities or that the Land Owner be present on-site to sign the **Master Well Record for Cluster Well Construction** on the date of drilling activities. If neither of these documents is signed at the end of drilling activities, each individual well will be tagged and individual Well Records will be completed for each well.

Well Owner and/or Property Owner Information:

Name: HOMARTYN HOLDINGS

Street Address: 2279 FAIRVIEW ST. Municipality: BURLTON

Province/State: ONTARIO Postal/Zip Code: L7R 2E3

Telephone: [redacted] E-mail Address: [redacted]

Contact Name: [redacted]

Well(s) Location:

Street Address of Well(s): _____

Township: _____ Lot: _____

Postal Code: _____ Concession: _____

County/District/Municipality: _____ Village/Town/City: _____

Well Cluster Consent Form:

Property Owners Name (Print): [redacted]

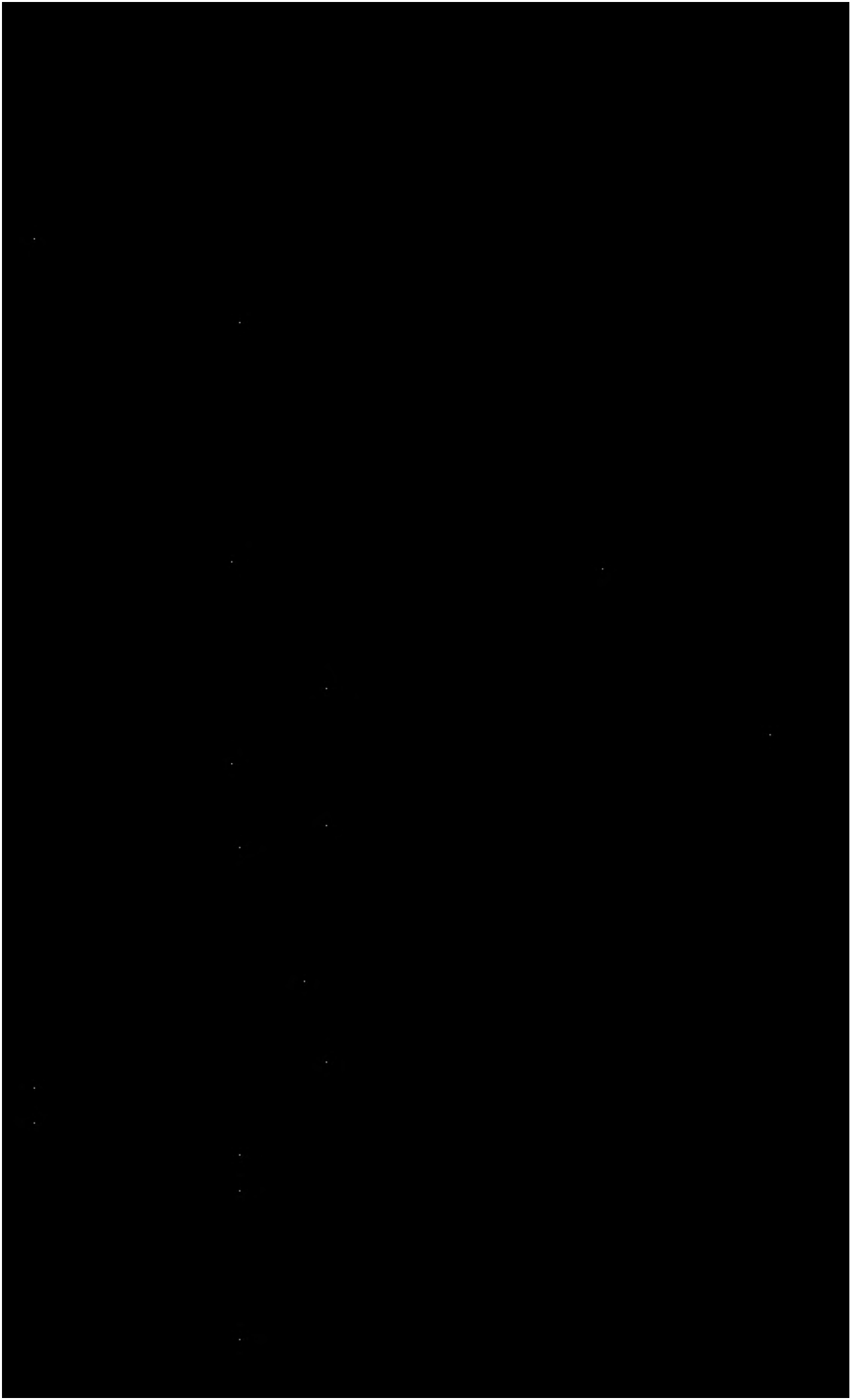
Property Owners Signature: _____

****Site Plan will be needed to attach to Cluster Well Record****

C-7320
M05094
C05713

APR 2 9 2010

APR-01-2010(THU) 09:13 Pioneer Pools (FAX)9058474475 P.001/001



Ontario Ministry of the Environment

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*
Tag#: A129805

Well Record
Regulation 903 Ontario Water Resources Act
Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	1066834 Ontario Limited		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
100 Canadian Road	Scarborough	ON	M1R4Z5	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2366 Queensway Drive			

County/District/Municipality	City/Town/Village	Province	Postal Code
Burlington	Burlington	Ontario	L7R3T3

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	596752	4799940		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Fill			0	5'
Red	Silt	Gravel		5'	10'
Red	Shale			10'	20'

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
8	0	Bentonite	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☑ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify*

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	Plastic	1/4"	0	10'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2½"	Plastic	10	10'	20'

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Water found at Depth (m/ft)	Kind of Water
N/A	☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify* N/A		☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*		☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	20'	6"

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Drilltech Drilling Ltd	7160

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
120 Knapton Dr	Newmarket	ON	L3X3B3	drilltechdrilling@hotmail.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
9057173397	Desbiens, Gilles	3547		2012/05/16

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

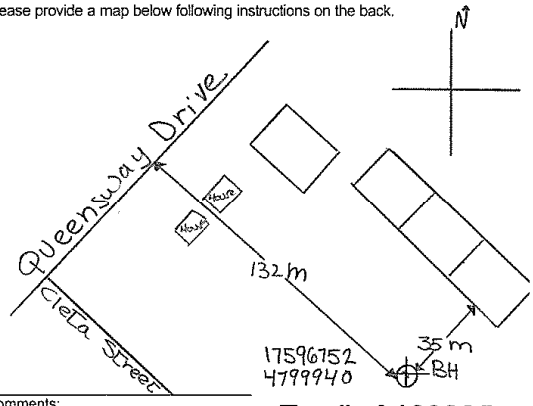
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Tag#: A129805

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
☐ Yes ☐ No	Y Y Y Y M M D D	Audit No. Z149188
	Date Work Completed 2012/05/10	MAY 24 2012 Received

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Ontario Ministry of the Environment

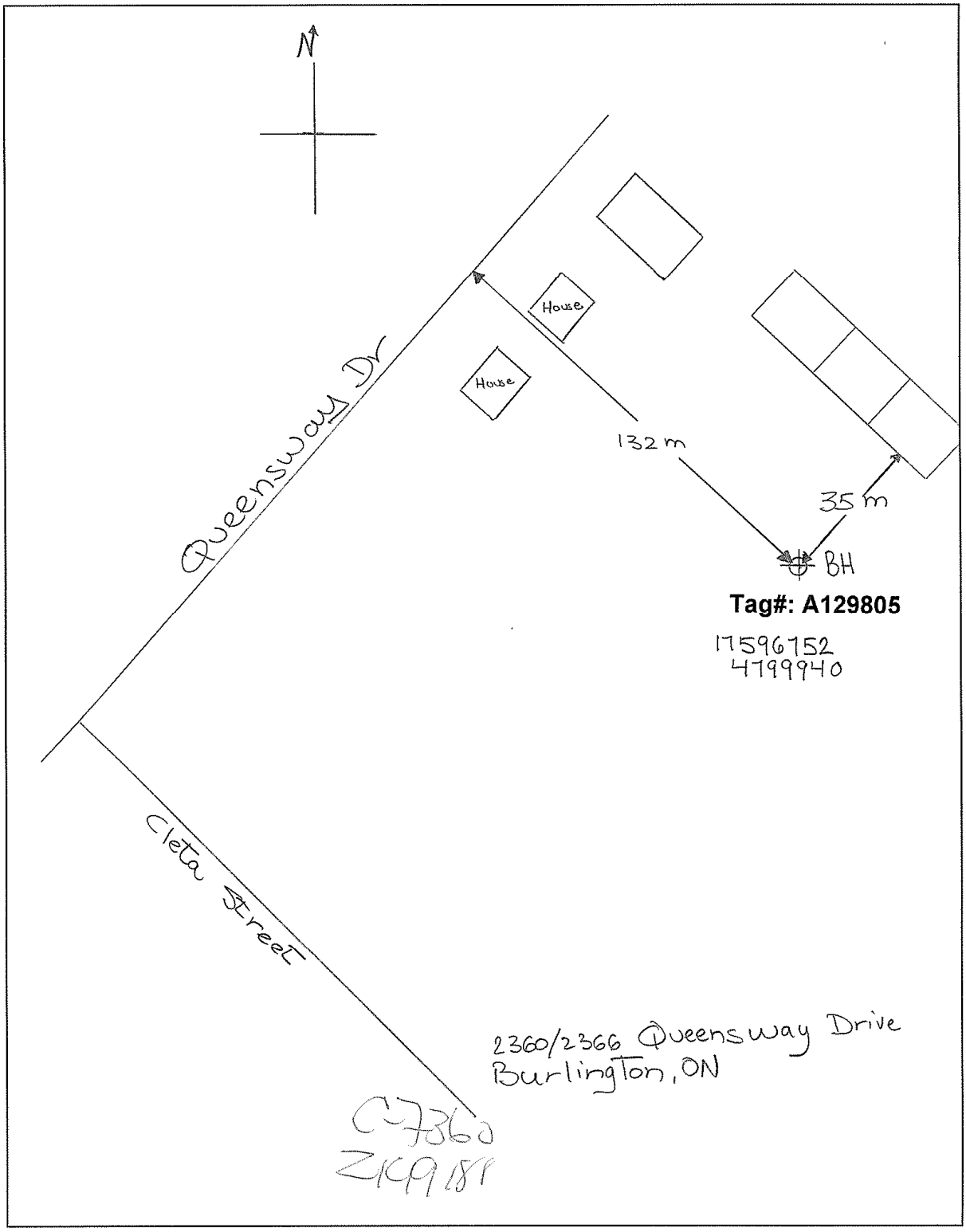
Well Record for Well Cluster - Part 3 of 3
Detailed Drawing of All Well Locations

Note: This **Well Record for Well Cluster Part 3 - Detailed Drawing of all Well Locations,** must be attached to Parts 1 and 2. The drawing must include all property boundaries, an arrow indicating the North direction, all named roads and sufficient measurements to locate all wells in the cluster in relation to fixed points. The drawing must show the location of each well and each well must be numbered on the drawing to match number used for that well on the **Well Record for Well Cluster Parts 1 and 2.** The well with the well tag must be clearly identified on the Drawing.
UTM coordinates should appear beside each well, if space permits. Additional comments on wells can be included on the drawing

Well Tag Number: # A129805

"Well Record for Well Cluster" Form Audit Number: # _____

MAY 24 2012
C 7360 2149188



Ontario is now in Step 2 of the **Roadmap to Reopen (/page/reopening-ontario)**. Follow the **restrictions and public health measures (https://covid-19.ontario.ca/public-health-measures)**.

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7225148
Well Audit Number: *C23339*
Well Tag Number: *A154587*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596935.00 Northing: 4799608.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7464

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at

Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	

40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C23339

Date Well Completed: November 25, 2013

Date Well Record Received by MOE: August 06, 2014

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario is now in Step 2 of the **Roadmap to Reopen (/page/reopening-ontario)**. Follow the **restrictions and public health measures (https://covid-19.ontario.ca/public-health-measures)**.

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7239254
Well Audit Number: *Z204764*
Well Tag Number: *A168590*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597195.00 Northing: 4799767.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY	SAND		0 ft	17 ft
RED	SHLE			17 ft	36 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	29 ft	3/8 BENTONITE CHIPS	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
1.8 inch	PLASTIC	0 ft	31 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2 inch	PLASTIC	31 ft	36 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7295

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason

Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	

30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: Z204764

Date Well Completed: March 11, 2015

Date Well Record Received by MOE: April 02, 2015

Updated: June 04, 2021

Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: Tag#: A 232788

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
METROLINX	–	–	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
97 FRONT ST W	TORONTO	ONT	M5J1E6	4166579900

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
ORPHA ST. (ADJACENT TO 892 ORPHA ST.)	–	–	–

County/District/Municipality	City/Town/Village	Province	Postal Code
–	BURLINGTON	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	596829	4799679	–	–

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	GRAVEL FILL		PACKED	0.1	0.7
GREY	SILT TILL		DENSE	0.7	6.0

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed (m^3/ft^3)
0	0.3	CONCRETE	0.01
0.3	2.7	BENTONITE	0.08

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☑ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	Depth (m/ft) To
5.1	PLASTIC	0.65	0.1	3.0

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.4	PLASTIC	10	3.0	6.0

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify* _____
☐ Other, *specify* _____

Water Details

Water found at Depth	Kind of Water	Hole Diameter Depth (m/ft) From	To	Diameter *(cm/in)*
4.5 (m/ft) ☐ Gas	☐ Fresh ☑ Untested ☐ Other, *specify* _____	0	6.0	21
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify* _____			
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify* _____			

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
GEO - ENVIRONMENTAL DRILLING	6607

Business Address (Street Number/Name)	Municipality
1 MANSEWOOD COURT	Halton Hills

Province	Postal Code	Business E-mail Address
ON	L7J0A1	estimates@geo-environmentaldrilling.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9058763388	BLUHM MATTHEW

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3748		2016/01/06

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping ____ hrs + ____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

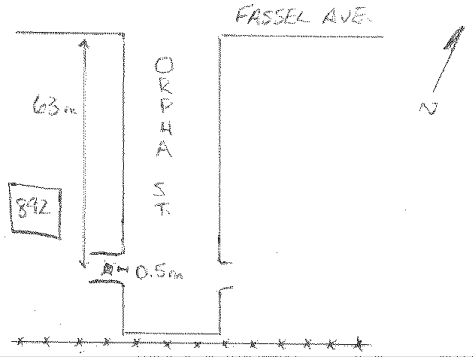
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	Y Y Y Y M M D D	2017/12/31

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Audit No. Z255748

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1710T & RECOM DU SITE ERIC LIEBE DH-2

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: [x] Metric [ ] Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: Tag#: A 232787

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	[ ] Well Constructed by Well Owner
METROLINX	–	–	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
97 FRONT ST. W.	TORONTO	ONT	M5J1E6	4168745900

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
891 ORPHA ST.	–	–	–

County/District/Municipality	City/Town/Village	Province	Postal Code
–	BURLINGTON	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Subiot Number	Other
NAD 83	17	596847	4799687	–	–

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	SAND & GRAVEL	FILL	LOOSE	0.1	0.6
RED	SILT TILL		DENSE	0.6	6.0
RED/GREY	SHALE	LIMESTONE	LAYERED	6.0	10.4

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed (m^3/ft^3)
0	0.3	CONCRETE	0.01
0.3	7.1	BENTONITE	0.22

Method of Construction

[ ] Cable Tool [x] Diamond
[ ] Rotary (Conventional) [ ] Jetting
[ ] Rotary (Reverse) [ ] Driving
[x] Boring [ ] Digging
[ ] Air percussion
[ ] Other, *specify* _____

Well Use

[ ] Public [ ] Commercial [ ] Not used
[ ] Domestic [ ] Municipal [ ] Dewatering
[ ] Livestock [ ] Test Hole [x] Monitoring
[ ] Irrigation [ ] Cooling & Air Conditioning
[ ] Industrial
[ ] Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.2	PLASTIC	0.5	0.1	7.4

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.2	PLASTIC	10	7.4	10.4

Status of Well

[ ] Water Supply
[ ] Replacement Well
[ ] Test Hole
[ ] Recharge Well
[ ] Dewatering Well
[x] Observation and/or Monitoring Hole
[ ] Alteration (Construction)
[ ] Abandoned, Insufficient Supply
[ ] Abandoned, Poor Water Quality
[ ] Abandoned, other, *specify*
[ ] Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
– (m/ft) [ ] Gas	[ ] Fresh [ ] Untested [ ] Other, *specify*	0	6.0	21
(m/ft) [ ] Gas	[ ] Fresh [ ] Untested [ ] Other, *specify*	6.0	10.4	9.6
(m/ft) [ ] Gas	[ ] Fresh [ ] Untested [ ] Other, *specify*			

Results of Well Yield Testing

After test of well yield, water was:
[ ] Clear and sand free
[ ] Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

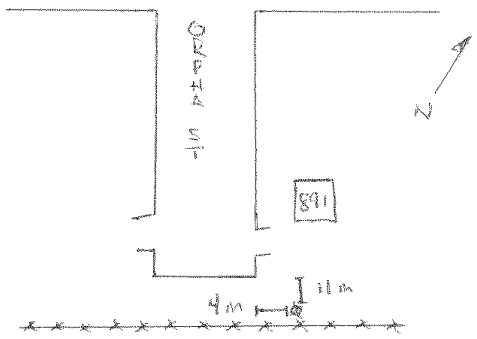
Well production (l/min / GPM)

Disinfected? [ ] Yes [ ] No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
GEO-ENVIRONMENTAL DRILLING	6607

Business Address (Street Number/Name)	Municipality
1 MANSEWOOD CRT	HALTON HILLS

Province	Postal Code	Business E-mail Address
ON	L7J0A1	estimates@geoenvironmental.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9058763388	BELHAM MATTHEW

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3174		2017/11/06

Well owner's information package delivered: [ ] Yes [ ] No

Date Package Delivered: YYYY/MM/DD

Date Work Completed: 2017/11/03

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Audit No. Z266752

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1710 7a #6817 00 2/2017 ERC 11E0(6H 4A

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*

Tag#: A 232803

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
METROLINX	–	–	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
97 FRONT ST. W.	TORONTO	ONT	M5J 1E6	4 1 6 8 7 4 5 9 0 0

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
DRIVEWAY OF 875 BRURY LANE	–	–	–

County/District/Municipality	City/Town/Village	Province	Postal Code
–	BURLINGTON	Ontario	–

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	17	5 9 6 8 8 0	4 8 1 9 9 6 6 0	–	–

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	GRAVEL FILL		PACKED	0.1	0.7
RED	SILT TILL		DENSE	0.7	6.0

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	0.3	CONCRETE	0.01
0.3			

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☑ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.1	PLASTIC	0.65	0.1	3.0

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.4	PLASTIC	10	3.0	6.0

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Other, specify
3.6 (m/ft) ☐ Gas	☐ Fresh ☑ Untested	
(m/ft) ☐ Gas	☐ Fresh ☐ Untested	
(m/ft) ☐ Gas	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	6.0	21

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

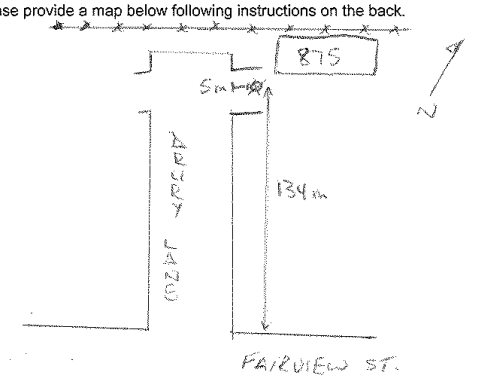
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
GEO - ENVIRONMENTAL DRILLING	6607

Business Address (Street Number/Name)	Municipality
1 MANSEWOOD COURT	Halton Hills

Province	Postal Code	Business E-mail Address
ON	L7J0A1	estimates@geo-environmentaldrilling.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9058763388	BUNUM MATTHEW

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3714		2018/06/06

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	YYYY MM DD	2017/11/01

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7305765
Well Audit Number: *Z280361*
Well Tag Number: *A205897*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597274.00 Northing: 4799744.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY	SILT	TILL	0 ft	

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	4 ft	HOLEPLUG	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z280361

Date Well Completed: November 16, 2017

Date Well Record Received by MOE: February 13, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7305766
Well Audit Number: *Z280360*
Well Tag Number: *A220420*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597212.00 Northing: 4799721.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY	SILT	TILL	0 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	4 ft	HOLEPLUG	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z280360

Date Well Completed: November 16, 2017

Date Well Record Received by MOE: February 13, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7305767
Well Audit Number: *Z280095*
Well Tag Number: *A205891*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597233.00 Northing: 4799696.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY	SILT	TILL	0 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	4 ft	HOLEPLUG	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z280095

Date Well Completed: November 16, 2017

Date Well Record Received by MOE: February 13, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7305768
Well Audit Number: *Z280071*
Well Tag Number: *A205890*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597197.00 Northing: 4799735.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY	SILT	TILL	0 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	4 ft	HOLEPLUG	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z280071

Date Well Completed: November 16, 2017

Date Well Record Received by MOE: February 13, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7305769
Well Audit Number: *Z274022*
Well Tag Number: *A233988*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597233.00 Northing: 4799762.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SILT	CLAY	TILL	0 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	4 ft	HOLEPLUG	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z274022

Date Well Completed: November 16, 2017

Date Well Record Received by MOE: February 13, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7305770
Well Audit Number: *Z241291*
Well Tag Number: *A163121*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597248.00 Northing: 4799753.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY	SILT	TILL	0 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	4 ft	HOLEPLUG	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z241291

Date Well Completed: November 16, 2017

Date Well Record Received by MOE: February 13, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7305771
Well Audit Number: *Z274087*
Well Tag Number: *A233740*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2361 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597188.00 Northing: 4799732.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	CLAY	SILT	TILL	0 ft	15 ft
RED	SILT	SAND		15 ft	17 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	6 ft	HOLEPLUG	

6 ft	17 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	Monitoring
	Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	7 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	7 ft	17 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	17 ft	6 inch

Audit Number: Z274087

Date Well Completed: November 16, 2017

Date Well Record Received by MOE: February 13, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7305772
Well Audit Number: *Z274086*
Well Tag Number: *A199402*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597190.00 Northing: 4799744.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SILT	CLAY	TILL	0 ft	12 ft
RED	SILT	SAND		12 ft	13 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	2 ft	HOLEPLUG	

2 ft	13 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	Monitoring
	Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	3 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	3 ft	13 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	13 ft	6 inch

Audit Number: Z274086

Date Well Completed: November 16, 2017

Date Well Record Received by MOE: February 13, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7306903
Well Audit Number: *Z266790*
Well Tag Number: *A232733*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW STREET

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597213.00 Northing: 4799775.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
	SILT	TILL		0 ft	6.06 ft
RED	SHLE			6.06 ft	22.72 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	.3 ft	COVER CONCRETE	
.3 ft	21.21 ft	BENTONITE GROUT	

21.21 ft	22.72 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
5.1 inch	PLASTIC	0 ft	21.21 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
6.4 inch	PLASTIC	21.21 ft	22.72 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6607

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	7.57 ft	16.82 inch
7.57 ft	19.69 ft	15.55 inch
19.69 ft	22.72 ft	9.84 inch

Audit Number: Z266790

Date Well Completed: November 23, 2017

Date Well Record Received by MOE: March 08, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: Tag#: A 232731

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	LOCKWOOD AUTO GROUP INC	lockwood@lakeshoreleasing.ca	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
2400 SOUTH SERVICE Rd W	OAKVILLE	ON	L6L5M9	9066977127194

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2362 ~~For~~ FAIRVIEW ST			

County/District/Municipality	City/Town/Village	Province	Postal Code
	BURLINGTON	Ontario	L7R 4E7

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	597213	4791775		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	SILT TILL			0	5.15
	shale			5.15	18.18

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.30	cover @ concrete	
0.30	16.66	Bentonite chip	0.335957
16.66	18.18	sand	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☑ Boring ☐ Digging ☐ Air percussion ☐ Other, *specify*

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☑ Test Hole ☐ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.1	PLASTIC	0.65		

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.4	PLASTIC	10		18.18

Status of Well

☐ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, *specify* ☐ Other, *specify*

Water Details

Water found at Depth	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
15.15 (m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*	0	6.06	21
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*	6.06	18.18	15.55
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*			

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

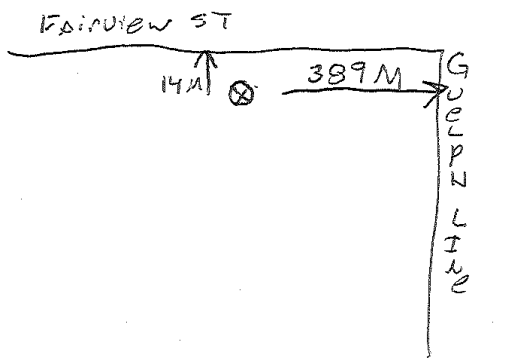
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
GEO - ENVIRONMENTAL DRILLING	6607

Business Address (Street Number/Name)	Municipality
1 MANSEWOOD COURT	Halton Hills

Province	Postal Code	Business E-mail Address
ON	L7J0A1	estimates@geo-environmentaldrilling.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9058763888	GAMMIE Dave

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3109		2017/11/27

Comments:

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: YYYY MM DD

Date Work Completed: 2017/11/22

Ministry Use Only

Audit No. Z266791

Received MAR 08 2018

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Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: Tag#: A 232732

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	Lockwood Auto Group Inc.	lockwood@lockwoodleasing.ca	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
2400 South Service Rd. W.	Oakville	ON	L6L5M9	8666777777

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2362 Fairview ST			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Burlington	Ontario	L7R2E4

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	597209	4797914		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Silt Till			0	5.15
Red	Shale			5.15	9.57

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.30	cover / concrete	
0.30	7.27	Bentonite chip.	6.2424
7.27	9.07	Sand	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☑ Boring ☐ Digging ☐ Air percussion ☐ Other, specify

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☑ Test Hole ☐ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.1	Plastic	0.65	0	7.57

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.4	Plastic	10	7.57	9.09

Status of Well

☐ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	9.09	21

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

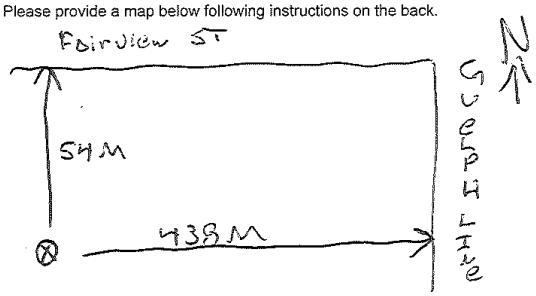
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
GEO - ENVIRONMENTAL DRILLING	6607

Business Address (Street Number/Name)	Municipality
1 MANSEWOOD COURT	Halton Hills

Province	Postal Code	Business E-mail Address
ON	L7J0A1	estimates@geo-environmentaldrilling.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9058763388	Gamm Young

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3109		2018/03/08

Well owner's information package delivered: ☐ Yes ☐ No

Date Package Delivered: YYYY/MM/DD

Date Work Completed: 2018/01/23

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7307838
Well Audit Number: *C38994*
Well Tag Number: *A232304*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596955.00 Northing: 4799559.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7215

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at

Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	

40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C38994

Date Well Completed: September 27, 2017

Date Well Record Received by MOE: March 15, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7311310
Well Audit Number: *Z286596*
Well Tag Number: *A199401*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2243 FARIVIEW ST

Township	BURLINGTON CITY
Lot	018
Concession	DS S 03
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596729.00 Northing: 4799479.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SILT	TILL		0 ft	20 ft
RED	SHLE			20 ft	25 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	14 ft	HOLEPLUG	

14 ft	25 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	15 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	15 ft	25 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	25 ft	6.25 inch

Audit Number: Z286596

Date Well Completed: April 03, 2018

Date Well Record Received by MOE: May 11, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7311311
Well Audit Number: *Z286600*
Well Tag Number: *A220490*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2243 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	018
Concession	DS S 03
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596869.00 Northing: 4799479.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND			0 ft	3 ft
BRWN	TILL	SILT		3 ft	21 ft
RED	SHLE			21 ft	24 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	

1 ft	13 ft	HOLEPLUG
13 ft	24 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	14 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	14 ft	24 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	24 ft	6 inch

Audit Number: Z286600

Date Well Completed: April 04, 2018

Date Well Record Received by MOE: May 11, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7311312
Well Audit Number: *Z286599*
Well Tag Number: *A220491*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2243 FAIRVIEW STREET

Township	BURLINGTON CITY
Lot	018
Concession	DS S 03
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596827.00 Northing: 4799540.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND			0 ft	3 ft
BRWN	SILT	TILL		3 ft	21 ft
RED	SHLE			21 ft	24 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	

1 ft	13 ft	HOLEPLUG
13 ft	24 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Test Hole
	Monitoring

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	14 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	14 ft	24 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	24 ft	6 inch

Audit Number: Z286599

Date Well Completed: April 04, 2018

Date Well Record Received by MOE: May 11, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7317438
Well Audit Number: *Z219427*
Well Tag Number: *A192072*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2367 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597287.00 Northing: 4799741.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	FILL	GRVL	LOOS	0 ft	2 ft
BRWN	SILT	CLAY		2 ft	6 ft
RED	SILT	CLAY		6 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	

1 ft	4 ft	BENTONITE
4 ft	15 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Other Method	Monitoring
	Test Hole

Status of Well

Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	-3 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.1 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	

5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z219427

Date Well Completed: April 20, 2018

Date Well Record Received by MOE: August 20, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

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Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7317439
Well Audit Number: *Z219426*
Well Tag Number: *A192299*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597267.00 Northing: 4799718.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	FILL	GRVL	LOOS	0 ft	2 ft
BRWN	SILT	CLAY		2 ft	6 ft
RED	SILT	CLAY		6 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	

1 ft	4 ft	BENTONITE
4 ft	15 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Auger	Monitoring
	Test Hole

Status of Well

Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	-3 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.1 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	

5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z219426

Date Well Completed: April 20, 2018

Date Well Record Received by MOE: August 20, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7317440
Well Audit Number: *Z219425*
Well Tag Number: *A192080*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2362 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597248.00 Northing: 4799704.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	FILL	GRVL	LOOS	0 ft	2 ft
BRWN	SILT	CLAY	DNSE	2 ft	6 ft
RED	SILT	CLAY		6 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	

1 ft	4 ft	BENTONITE
4 ft	15 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Auger	Monitoring
	Test Hole

Status of Well

Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	-3 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.1 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	

5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 inch

Audit Number: Z219425

Date Well Completed: April 20, 2018

Date Well Record Received by MOE: August 20, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7320914
Well Audit Number: *Z292682*
Well Tag Number: *A252213*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2087 PROSPECT ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596673.00 Northing: 4798937.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND			0 m	10 m
GREY	TILL	SILT		10 m	20 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	9 m	HOLEPLUG	
9 m	20 m	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 cm	PLASTIC	0 m	10 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2 cm	PLASTIC	10 m	20 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7320

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 m	20 m	6 cm

Audit Number: Z292682

Date Well Completed: August 22, 2018

Date Well Record Received by MOE: October 18, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7321770
Well Audit Number: *Z278004*
Well Tag Number: *A245928*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2632 FAIRVIEW ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 597238.00 Northing: 4799746.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
GREY	TILL	SILT	HARD	0 ft	25 ft
GREY	SHLE	ROCK	HARD	25 ft	75 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	69 ft	BENTONITE GROUT	
69 ft	75 ft	#2 SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Boring	
	Monitoring

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
5.1 inch	PLASTIC	0 ft	70 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
6.4 inch	PLASTIC	70 ft	75 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6607

Results of Well Yield Testing

After test of well yield, water was

If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	

25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	75 ft	4 inch

Audit Number: Z278004

Date Well Completed: April 25, 2018

Date Well Record Received by MOE: November 07, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7322518
Well Audit Number: *Z290445*
Well Tag Number: *A246525*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	864 DRURY LANE

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596897.00 Northing: 4799614.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SILT	SAND	TILL	0 ft	15 ft
BRWN	SAND	SILT		15 ft	20 ft
RED	SHLE			20 ft	23 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	

1 ft	12 ft	HOLEPLUG
12 ft	23 ft	SAND#1

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	13 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	13 ft	23 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	23 ft	6 inch

Audit Number: Z290445

Date Well Completed: June 27, 2018

Date Well Record Received by MOE: November 01, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7322519
Well Audit Number: *Z290444*
Well Tag Number: *A246524*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	864 DRURY LANE

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596877.00 Northing: 4799639.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND	SILT	TILL	0 ft	15 ft
BRWN	SAND	SILT		15 ft	20 ft
RED	SHLE			20 ft	25 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	

1 ft	14 ft	HOLEPLUG
14 ft	25 ft	SAND #1

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	15 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	15 ft	25 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	25 ft	6 inch

Audit Number: Z290444

Date Well Completed: June 27, 2018

Date Well Record Received by MOE: November 01, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

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Go Back to Map ()

Well ID

Well ID Number: 7322520
Well Audit Number: *Z290443*
Well Tag Number: *A246523*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	864 DRURY LANE

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596854.00 Northing: 4799659.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND	SILT	TILL	0 ft	15 ft
BRWN	SAND	SILT		15 ft	20 ft
RED	SHLE			20 ft	25 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	

1 ft	14 ft	HOLEPLUG
14 ft	25 ft	SAND #1

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	15 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	15 ft	25 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	25 ft	6.25 inch

Audit Number: Z290443

Date Well Completed: June 27, 2018

Date Well Record Received by MOE: November 01, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7322521
Well Audit Number: *Z290442*
Well Tag Number: *A246522*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	864 DRURY LANE

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	BURLINGTON
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596839.00 Northing: 4799637.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND	SILT	TILL	0 ft	15 ft
BRWN	SAND	SILT		15 ft	20 ft
RED	SHLE			20 ft	25 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	

1 ft	14 ft	HOLEPLUG
14 ft	25 ft	SAND #1

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	15 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	15 ft	25 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	25 ft	6.25 inch

Audit Number: Z290442

Date Well Completed: June 27, 2018

Date Well Record Received by MOE: November 01, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7323581
Well Audit Number: *Z289383*
Well Tag Number: *A238968*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2103 PROSPECT ST

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596643.00 Northing: 4798961.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	FLUSHMOUNT	
1 ft	9 ft	BENTONITE	
9 ft	20 ft	WELLSAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	Monitoring
	Test Hole

Status of Well

Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7644

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	6 inch

Audit Number: Z289383

Date Well Completed: October 05, 2018

Date Well Record Received by MOE: December 06, 2018

Updated: June 04, 2021
Published: April 16, 2021

Related

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7327494
Well Audit Number: *Z304918*
Well Tag Number: *A257580*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2769 Fairview St

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596947.00 Northing: 4799563.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	LOAM			0 ft	2 ft
BRWN	SILT	SAND		2 ft	13 ft
GREY	SILT			13 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	.417 ft	CONCRETE	

.417 ft	9 ft	HOLEPLUG
9 ft	20 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Other Method	
Direct Push	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 Inch	PLASTIC	0 ft	10 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	10 ft	20 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	

5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	20 ft	6 Inch

Audit Number: Z304918

Date Well Completed: December 18, 2018

Date Well Record Received by MOE: January 21, 2019

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7327495
Well Audit Number: *Z302933*
Well Tag Number: *A257601*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	864 Drury Lane

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596856.00 Northing: 4799640.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND	GRVL		0 ft	2 ft
BRWN	CLAY	SILT	TILL	2 ft	17 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	1 ft	CONCRETE	
1 ft	6 ft	HOLEPLUG	

6 ft	17 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	
	Monitoring and Test Hole

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 Inch	PLASTIC	0 ft	7 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	7 ft	17 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	

20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	17 ft	6 Inch

Audit Number: Z302933

Date Well Completed: December 27, 2018

Date Well Record Received by MOE: January 21, 2019

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7327497
Well Audit Number: *Z302942*
Well Tag Number: *A263168*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2264 Fairview St

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596916.00 Northing: 4799597.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BLCK	----			0 ft	.417 ft
BRWN	TILL		FILL	.417 ft	3 ft
BRWN	CLAY			3 ft	11 ft
GREY	CLAY	SAND		11 ft	12 ft
BRWN	CLAY			12 ft	18 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	.417 ft	CONCRETE	
.417 ft	4 ft	HOLEPLUG	
4 ft	15 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 Inch	PLASTIC	0 ft	8 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	8 ft	18 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	

3	3
4	4
5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	18 ft	6 Inch

Audit Number: Z302942

Date Well Completed: December 07, 2018

Date Well Record Received by MOE: January 21, 2019

Updated: June 04, 2021
Published: April 16, 2021

Related

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7327498
Well Audit Number: *Z302943*
Well Tag Number: *A263167*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2264 Fairview St

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596941.00 Northing: 4799578.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	TILL		FILL	0 ft	5 ft
BRWN	CLAY			5 ft	10 ft
BRWN	CLAY	SAND		10 ft	12 ft
BRWN	CLAY			12 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

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Method of Construction & Well Use

Method of Construction	Well Use
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 Inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 Inch

Audit Number: Z302943

Date Well Completed: December 07, 2018

Date Well Record Received by MOE: January 21, 2019

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7327499
Well Audit Number: *Z302939*
Well Tag Number: *A263165*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2243 Fairview St

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Barlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596772.00 Northing: 4799448.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BLCK	----			0 ft	.417 ft
BRWN	CLAY			.417 ft	10 ft
GREY	CLAY	SILT		10 ft	12 ft
BRWN	CLAY			12 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

0 ft	.417 ft	CONCRETE
.417 ft	4 ft	HOLEPLUG
4 ft	15 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 Inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	

4	4
5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 Inch

Audit Number: Z302939

Date Well Completed: December 07, 2018

Date Well Record Received by MOE: January 21, 2019

Updated: June 04, 2021
Published: April 16, 2021

Related

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Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7327500
Well Audit Number: *Z302940*
Well Tag Number: *A263166*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	2243 Fairview St

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Barlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596748.00 Northing: 4799474.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BLCK	----			0 ft	.417 ft
BRWN	CLAY			.417 ft	10 ft
GREY	CLAY	SILT		10 ft	13 ft
BRWN	CLAY			13 ft	15 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

0 ft	.417 ft	CONCRETE
.417 ft	4 ft	HOLEPLUG
4 ft	15 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 Inch	PLASTIC	0 ft	5 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	5 ft	15 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	

4	4
5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	15 ft	6 Inch

Audit Number: Z302940

Date Well Completed: December 07, 2018

Date Well Record Received by MOE: January 21, 2019

Updated: June 04, 2021
Published: April 16, 2021

Related

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Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7327501
Well Audit Number: *Z302938*
Well Tag Number: *A263164*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	864 Drury St

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596883.00 Northing: 4799640.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	TILL			0 ft	6 ft
BRWN	CLAY	SILT		6 ft	12 ft
RED	CLAY	SILT		12 ft	16 ft
BRWN	CLAY	SAND		16 ft	18 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

0 ft	.417 ft	CONCRETE
.417 ft	7 ft	HOLEPLUG
7 ft	18 ft	SAND

Method of Construction & Well Use

Method of Construction	Well Use
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 Inch	PLASTIC	0 ft	8 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	8 ft	18 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	

4	4
5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	18 ft	6 Inch

Audit Number: Z302938

Date Well Completed: December 06, 2018

Date Well Record Received by MOE: January 21, 2019

Updated: June 04, 2021
Published: April 16, 2021

Related

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Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

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Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A232757

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
LOCKWOOD	AUTO GROUP INC. c/o JAY Lockwood	—	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
2400 SOUTH SERVICE RD, W	OAKVILLE	ON	L6L 5M9	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2362 Fairview St	—	—	—

County/District/Municipality	City/Town/Village	Province	Postal Code
—	Burlington	Ontario	L7R 2E4

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	594912	4809712	—	—

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Gravel		Fill	0	3'
Brown	Till	Sand	Sandy till	3'	7.5
Grey	Silt		Silt till	7.5	16'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed *(m³/ft³)*
0	6'	Bentonite chips	2.09
6'	16'	Sand Pack	3.49

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☑ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	Depth (m/ft) To
5.1	PVC	0.65	0	6'

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.4	PVC	#10	6	16'

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter *(cm/in)*
0	16'	8"

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason: _____

Pump intake set at *(m/ft)* _____

Pumping rate *(l/min / GPM)* _____

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)* _____

If flowing give rate *(l/min / GPM)* _____

Recommended pump depth *(m/ft)* _____

Recommended pump rate *(l/min / GPM)* _____

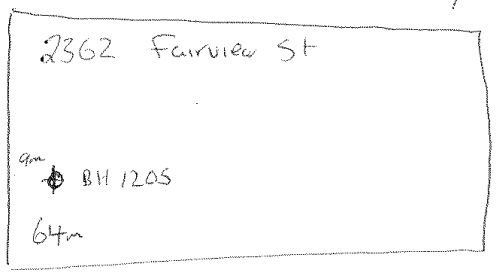
Well production *(l/min / GPM)* _____

Disinfected? ☐ Yes ☐ No

	Draw Down Time *(min)*	Draw Down Water Level *(m/ft)*	Recovery Time *(min)*	Recovery Water Level *(m/ft)*
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
GEO - ENVIRONMENTAL DRILLING	6607

Business Address (Street Number/Name)	Municipality
1 MANSEWOOD COURT	Halton Hills

Province	Postal Code	Business E-mail Address
ON	L7J 0A1	estimates@geo-environmentaldrilling.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9058763388	Dels Dostin

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3510		20 17 11 28

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	—	2017 11 28

Ministry Use Only

Audit No. Z266799

Received AUG 13 2019

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Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A232758

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	LOCKWOOD AUTO GROUP INC C/O JAY LOCKWOOD	—	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
2400 SOUTH SERVICE RD, W	OAKVILLE	ON	L6L 5T9	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2362 Fairview St	—	—	—

County/District/Municipality	City/Town/Village	Province	Postal Code
—	Burlington	Ontario	L7R 2E4

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	584112	4809723	—	—

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Gravel		Fill	0	3'
Brown	Silt	Sand	Sandy Silt fill	3'	7.5'
Grey			Shale	7.5'	15'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed *(m³/ft³)*
0	5'	Bentonite chips	
5'	15'	Sand Pack	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☑ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	Depth (m/ft) To
5.1	PVC	0.65	0	5'

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.4	PVC	#10	5'	15'

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter *(cm/in)*
0	15'	8"

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping ____ hrs + ____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

Well production *(l/min / GPM)*

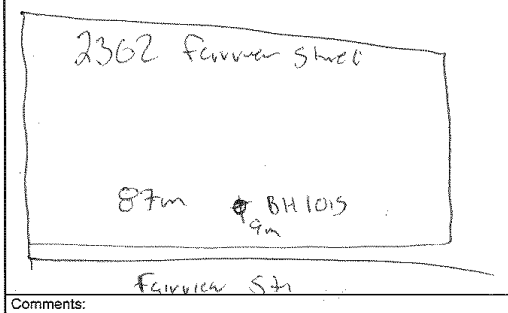
Disinfected? ☐ Yes ☐ No

Draw Down Time *(min)*	Draw Down Water Level *(m/ft)*	Recovery Time *(min)*	Recovery Water Level *(m/ft)*
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.

BH 1015



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
GEO - ENVIRONMENTAL DRILLING	6607

Business Address (Street Number/Name)	Municipality
1 MANSEWOOD COURT	Halton Hills

Province	Postal Code	Business E-mail Address
ON	L7J0A1	estimates@geo-environmentaldrilling.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9058763388	Dels Dostan

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3501		2019/08/13

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
☐ Yes ☐ No		Audit No. Z266800
	Date Work Completed: 2019/07/16	AUG 13 2019 Received

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Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A232737

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
LOCKWOOD	AUTO GROUP INC c/o JAY LOCKWOOD	—	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
2400 SOUTH SERVICE RD, W	OAKVILLE	ON	L6L5M9	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2362 Fairview St	—	—	—

County/District/Municipality	City/Town/Village	Province	Postal Code
—	Burlington	Ontario	L7R2E4

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	594917	4809725	—	—

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
Brown	Gravel		Fill	0	3
Brown	Silt		till Dense	3	15
Red			Shale	15	17.5

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed (m^3/ft^3)
0	7'	Bentonite chips	
7'	17.5'	Sand Pack	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☒ Boring ☐ Digging ☐ Air percussion ☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☐ Test Hole ☒ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	To
5.1	PVC	0.65	0	47.5'

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
6.4	PVC	#10	47.5	17.5

Status of Well

☐ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, *specify* ☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter *(cm/in)*
0	17.5	8"

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping ____ hrs + ____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

Well production *(l/min / GPM)*

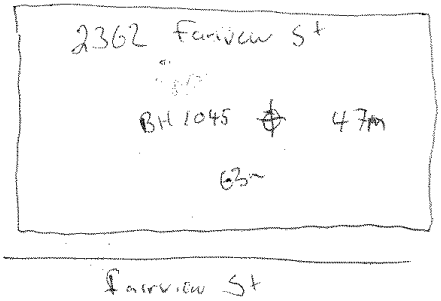
Disinfected? ☐ Yes ☐ No

Draw Down Time *(min)*	Water Level *(m/ft)*	Recovery Time *(min)*	Water Level *(m/ft)*
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.

BH 1045



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
GEO-ENVIRONMENTAL DRILLING	6607

Business Address (Street Number/Name)	Municipality
1 MANSEWOOD COURT	Halton Hills

Province	Postal Code	Business E-mail Address
ON	L7J0A1	estimates@geo-environmentaldrilling.com

Business Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9053876388	Dicks, Dustin

Well Technician's Licence No.	Signature of Well Technician and/or Contractor	Date Submitted
3501		2017/08/28

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2017/08/18

Ministry Use Only

Audit No. Z255601

Received AUG 13 2019

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Ontario is now in Step 2 of the **Roadmap to Reopen (/page/reopening-ontario)**. Follow the **restrictions and public health measures (https://covid-19.ontario.ca/public-health-measures)**.

Ontario

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records).

Go Back to Map ()

Well ID

Well ID Number: 7327503
Well Audit Number: *Z302936*
Well Tag Number: *A263152*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	864 Drury St

Township	BURLINGTON CITY
Lot	
Concession	
County/District/Municipality	HALTON
City/Town/Village	Burlington
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 596875.00 Northing: 4799604.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BLCK	----			0 ft	.417 ft
BRWN	SAND		FILL	.417 ft	3 ft
BRWN	CLAY	SILT		3 ft	10 ft
RED	CLAY	SILT		10 ft	14 ft
BRWN	CLAY	SAND		14 ft	18 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 ft	.417 ft	CONCRETE	
.417 ft	7 ft	HOLEPLUG	
7 ft	18 ft	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Other Method	
Direct Push	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 Inch	PLASTIC	0 ft	8 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
2.25 inch	PLASTIC	8 ft	18 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	

3	3
4	4
5	5
10	10
15	15
20	20
25	25
30	30
40	40
45	45
50	50
60	60

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 ft	18 ft	6 Inch

Audit Number: Z302936

Date Well Completed: December 06, 2018

Date Well Record Received by MOE: January 21, 2019

Updated: June 04, 2021
Published: April 16, 2021

Related

How to use a Ministry of the Environment map (/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

about Ontario (https://www.ontario.ca/page/about-ontario)

accessibility (https://www.ontario.ca/page/accessibility)

news (http://news.ontario.ca/newsroom/en)

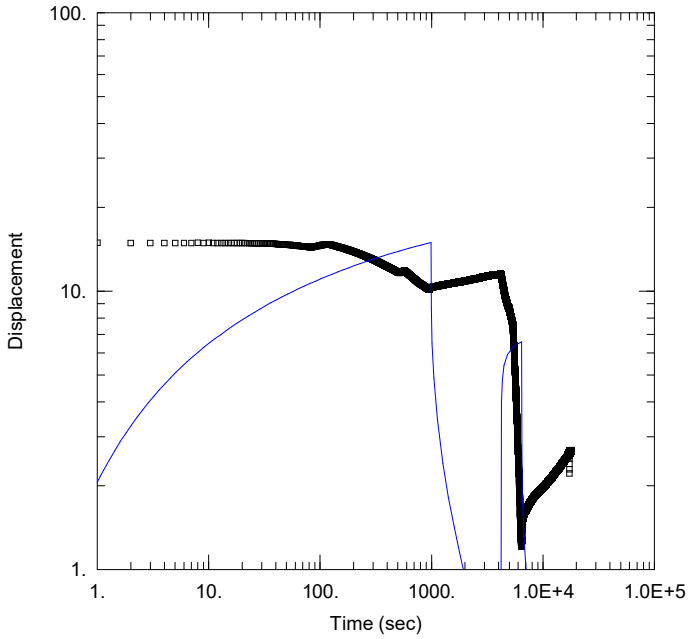
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APPENDIX IV

Pump Test Results



WELL TEST ANALYSIS

Data Set: C:\...\BH-304_05-31-2021.aqt
Date: 07/12/21 Time: 12:46:37

PROJECT INFORMATION

Company: Pinchin
Client: CLV Group
Project: 225780.004
Location: 2243-2269 Fairview St.
Test Well: BH 304
Test Date: 05/31/2021

AQUIFER DATA

Saturated Thickness: 15.3 m

WELL DATA

Pumping Wells

Well Name	X (m)	Y (m)
BH 304	0	0

Observation Wells

Well Name	X (m)	Y (m)
▫ BH 304	0	0

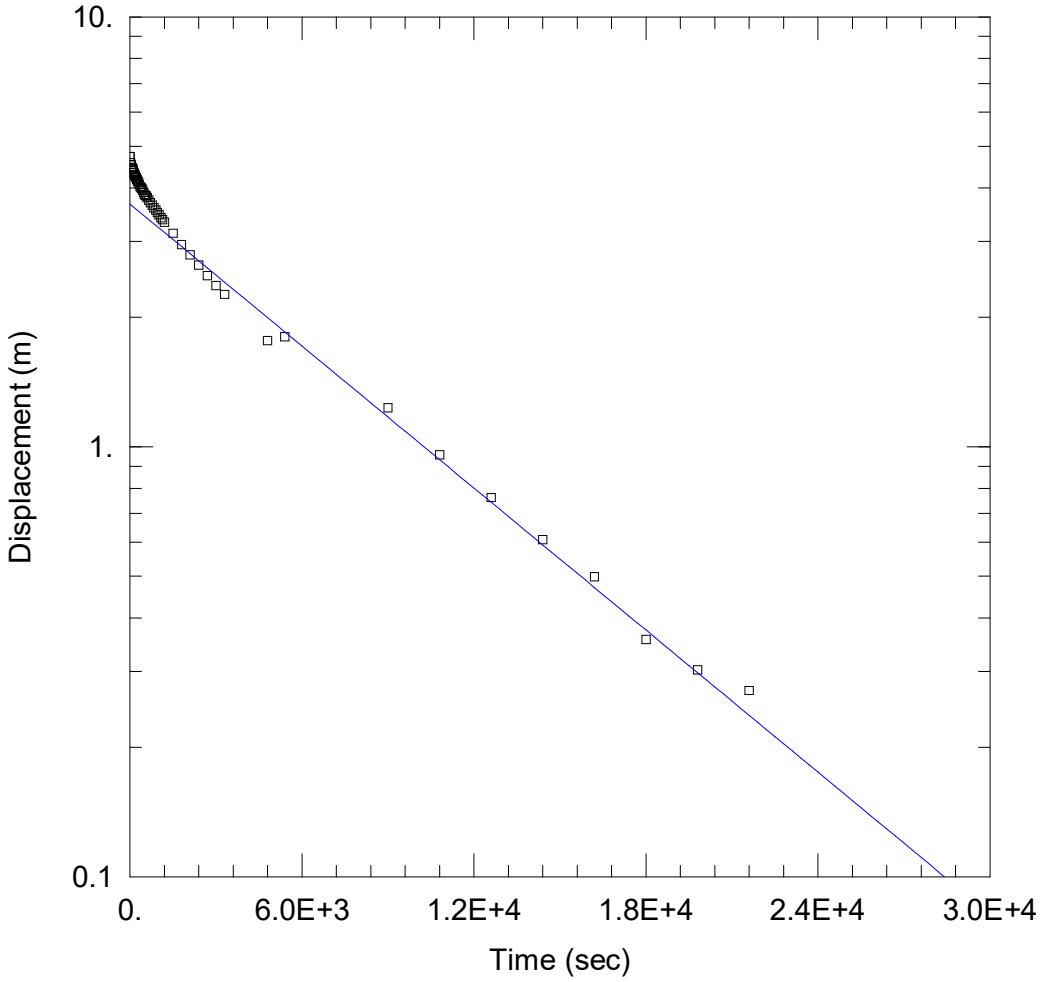
SOLUTION

Aquifer Model: Unconfined
Solution Method: Neuman

T = 9.013 cm^2/sec
S = 0.1
Sy = 0.5417
ß = 1.0E-5

APPENDIX V

Hydraulic Conductivity Test Curves



WELL TEST ANALYSIS

Data Set: C:\...\MW301.aqt
Date: 07/06/21 Time: 16:14:41

PROJECT INFORMATION

Company: Pinchin
Project: 225780.004
Location: 2243-2269 Fairview Ave
Test Well: MW301
Test Date: Junw 30 2021

AQUIFER DATA

Saturated Thickness: 9.035 m Anisotropy Ratio (Kz/Kr): 1.

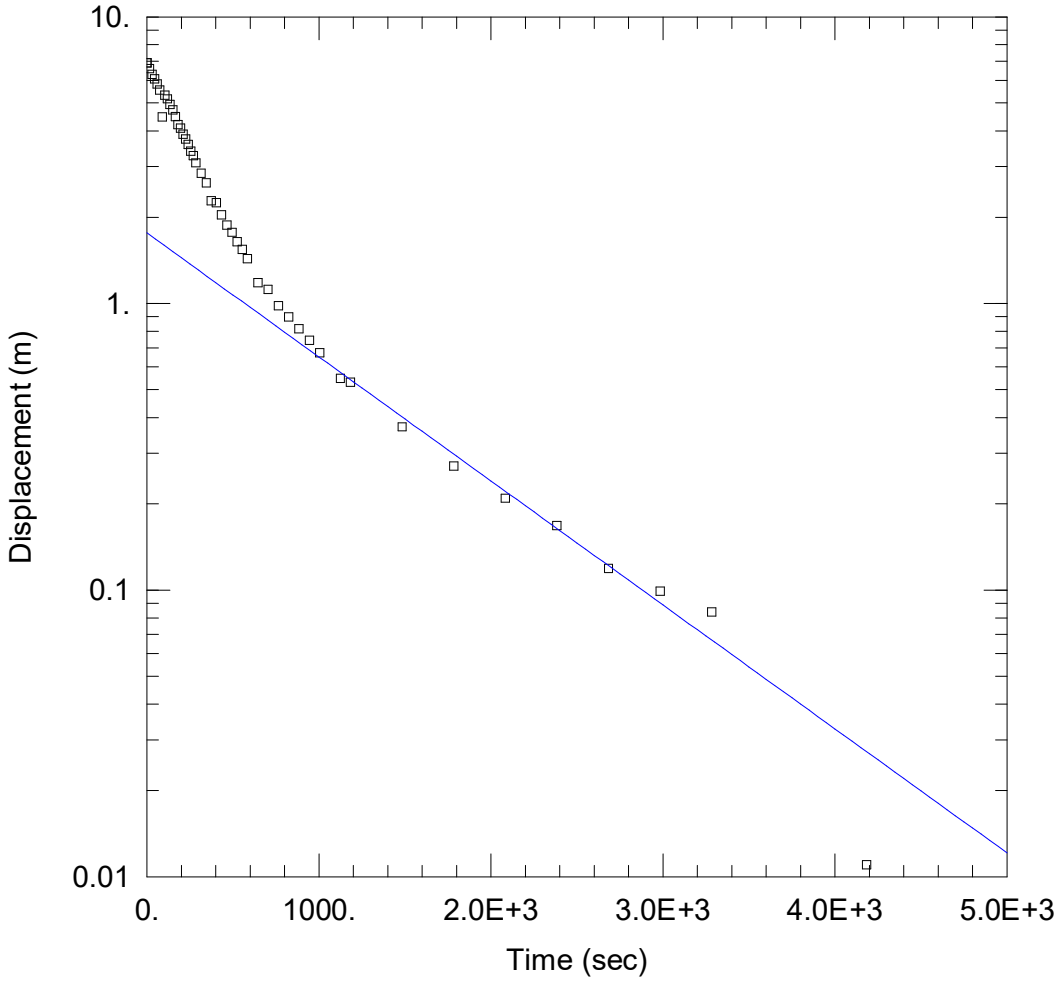
WELL DATA (MW301)

Initial Displacement: 4.735 m
Total Well Penetration Depth: 9.151 m
Casing Radius: 0.0254 m
Static Water Column Height: 9.303 m
Screen Length: 3.05 m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 7.35E-6 cm/sec y0 = 3.669 m



WELL TEST ANALYSIS

Data Set: C:\...\MW302.aqt
Date: 07/07/21 Time: 08:50:06

PROJECT INFORMATION

Company: Pinchin
Project: 225780.004
Location: 2243-2269 Fairview Ave
Test Well: MW302
Test Date: Junw 30 2021

AQUIFER DATA

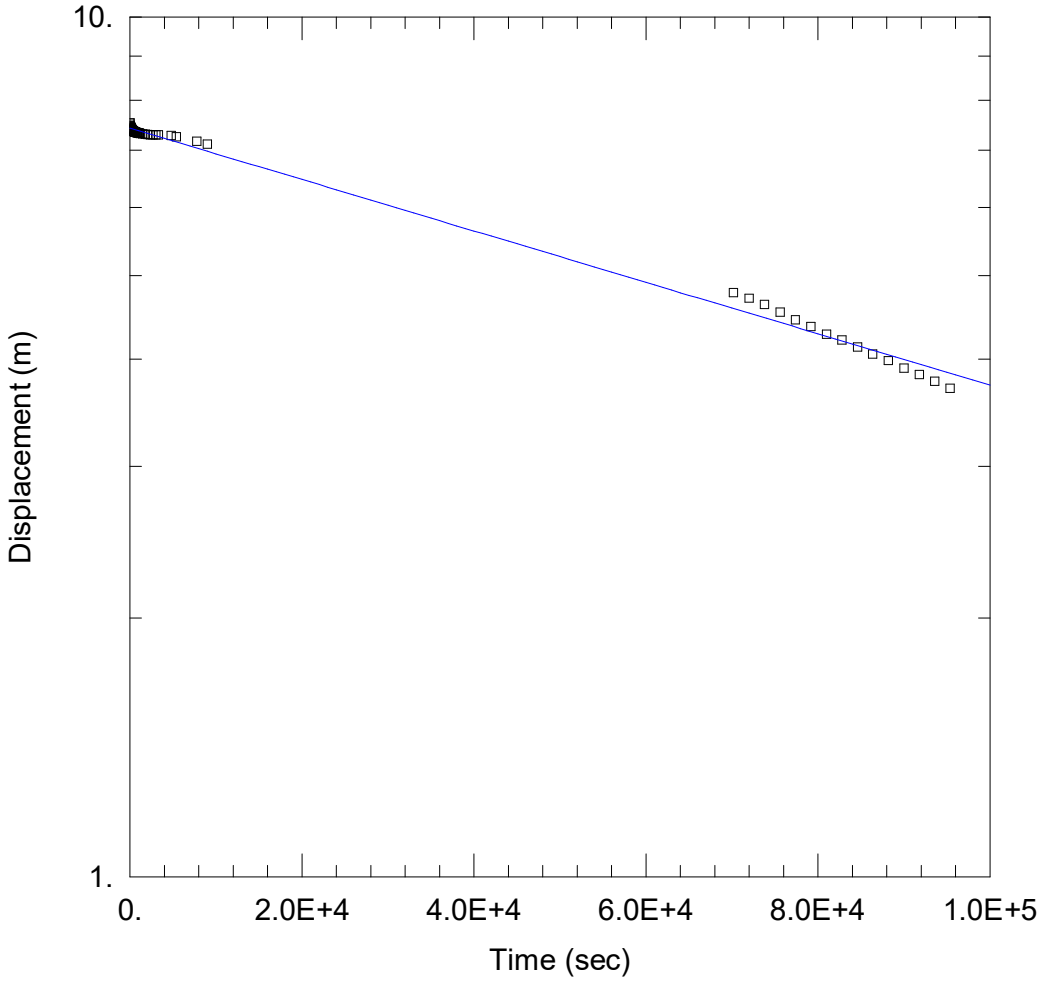
Saturated Thickness: 8.2 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW 302)

Initial Displacement: 6.901 m
Total Well Penetration Depth: 8.057 m
Casing Radius: 0.0254 m
Static Water Column Height: 8.152 m
Screen Length: 3.05 m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.334E-5 cm/sec
y0 = 1.761 m



WELL TEST ANALYSIS

Data Set: C:\...\MW303.aqt
Date: 07/07/21 Time: 09:32:00

PROJECT INFORMATION

Company: Pinchin
Project: 225780.004
Location: 2243-2269 Fairview Ave
Test Well: MW303
Test Date: Junw 30 2021

AQUIFER DATA

Saturated Thickness: 8.3 m Anisotropy Ratio (Kz/Kr): 1.

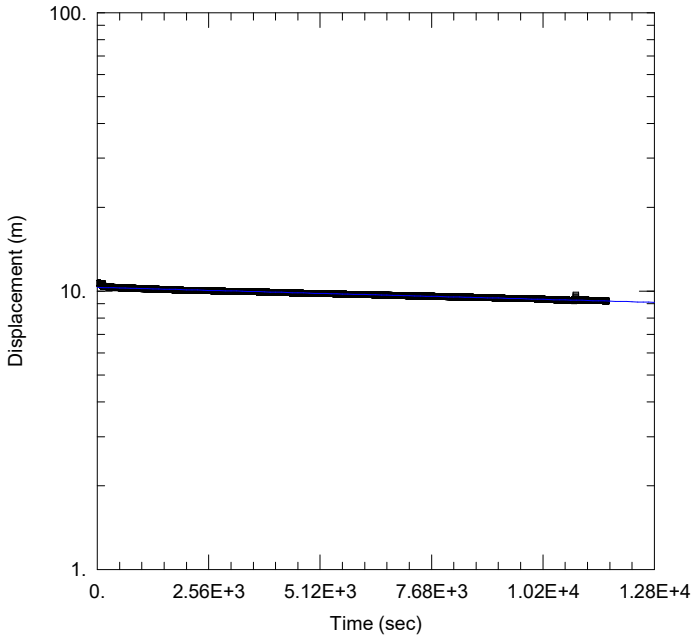
WELL DATA (MW303)

Initial Displacement: 7.524 m
Total Well Penetration Depth: 8.057 m
Casing Radius: 0.0254 m
Static Water Column Height: 8.153 m
Screen Length: 3.05 m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 3.487E-7 cm/sec y0 = 7.424 m



WELL TEST ANALYSIS

Data Set: C:\...\MW304.aqt
Date: 07/12/21 Time: 13:51:24

PROJECT INFORMATION

Company: Pinchin
Project: 225780.004
Location: 2243-2269 Fairview Ave
Test Well: MW304
Test Date: May 31 2021

AQUIFER DATA

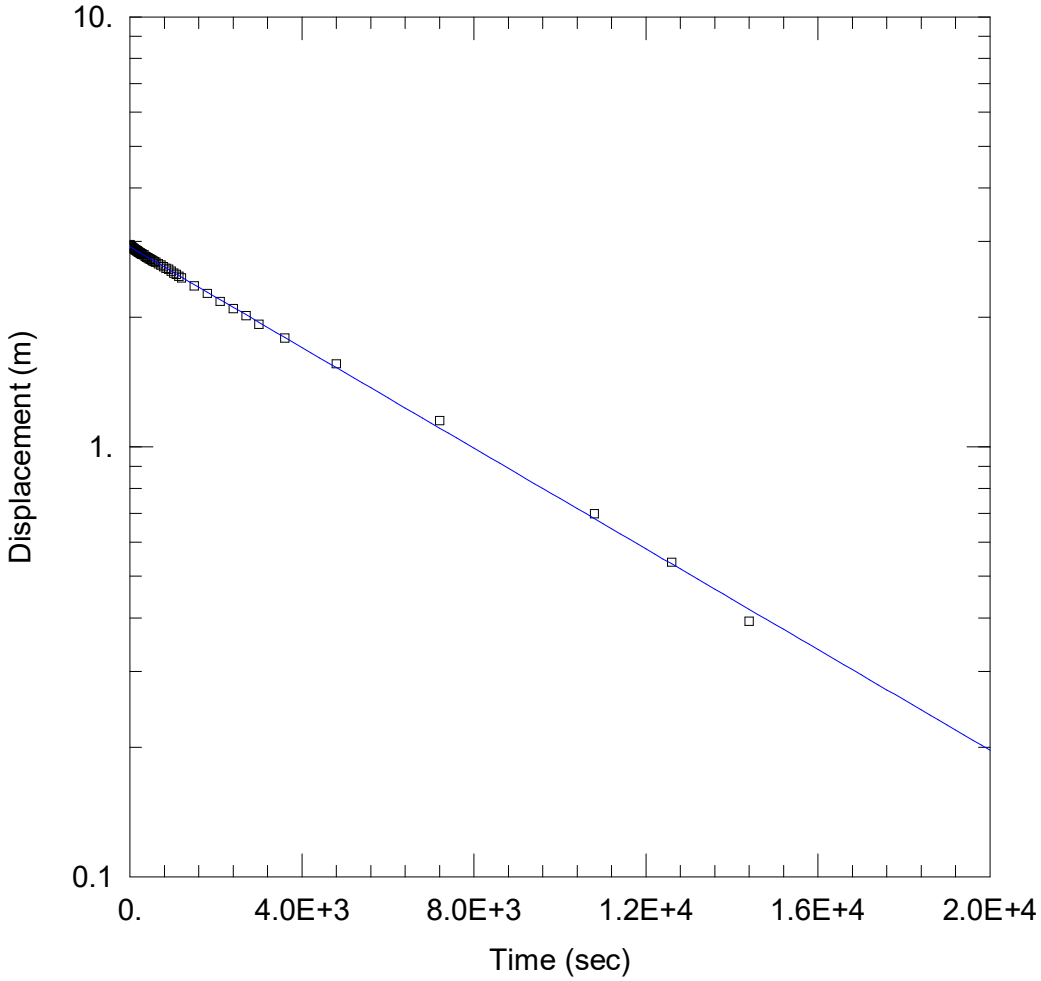
Saturated Thickness: 15.35 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW304)

Initial Displacement: 10.71 m
Total Well Penetration Depth: 15.51 m
Casing Radius: 0.0508 m
Static Water Column Height: 15.35 m
Screen Length: 3.05 m
Well Radius: 0.0508 m

SOLUTION

Aquifer Model: Unconfined
K = 1.955E-6 cm/sec
Solution Method: Hvorslev
y0 = 10.32 m



WELL TEST ANALYSIS

Data Set: C:\...\MW305.aqt
Date: 07/12/21 Time: 12:22:55

PROJECT INFORMATION

Company: Pinchin
Project: 225780.004
Location: 2243-2269 Fairview Ave
Test Well: MW305
Test Date: Junw 30 2021

AQUIFER DATA

Saturated Thickness: 6.8 m Anisotropy Ratio (Kz/Kr): 1.

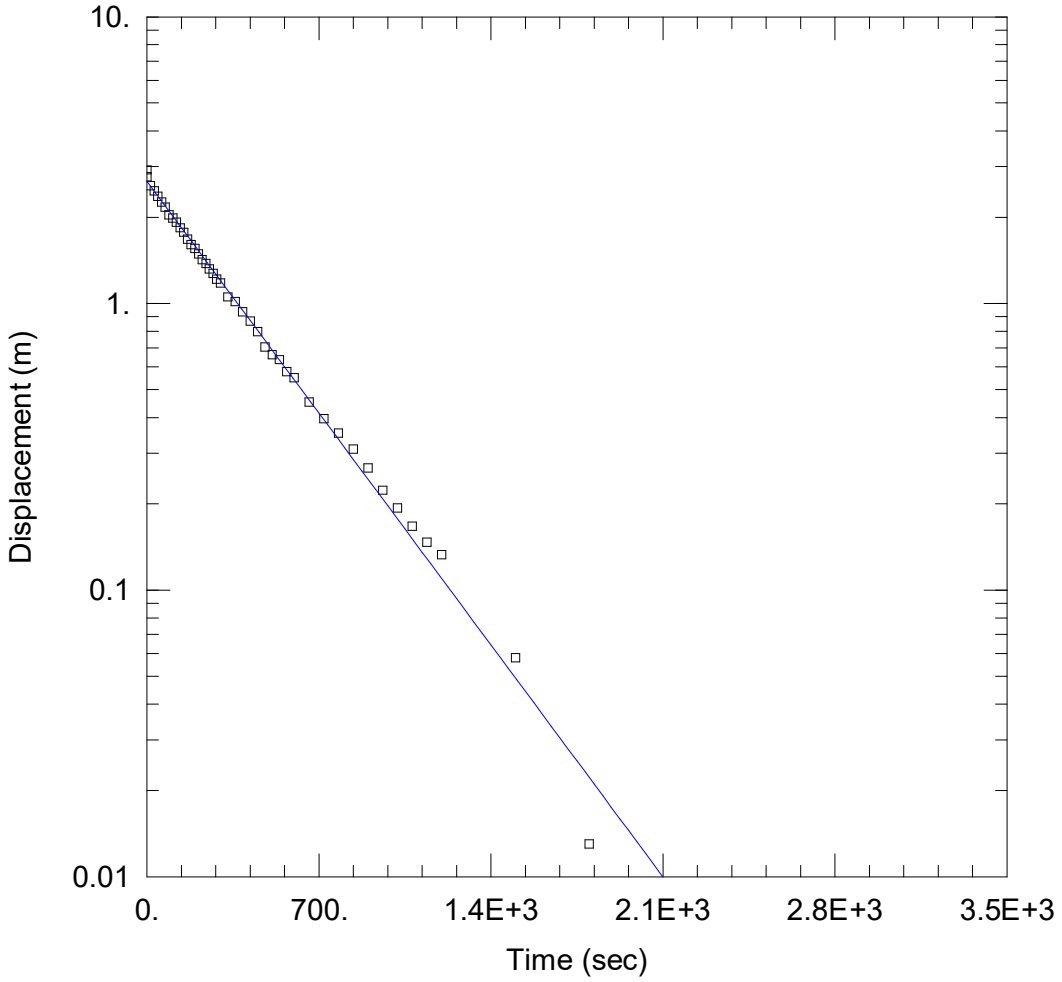
WELL DATA (MW305)

Initial Displacement: 2.953 m
Total Well Penetration Depth: 6.905 m
Casing Radius: 0.0254 m
Static Water Column Height: 6.802 m
Screen Length: 1.525 m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 1.365E-5 cm/sec y0 = 2.917 m



WELL TEST ANALYSIS

Data Set: C:\...\MW306.aqt
Date: 07/07/21 Time: 11:17:58

PROJECT INFORMATION

Company: Pinchin
Project: 225780.004
Location: 2243-2269 Fairview Ave
Test Well: MW306
Test Date: Junw 30 2021

AQUIFER DATA

Saturated Thickness: 8.3 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW306)

Initial Displacement: 2.925 m
Total Well Penetration Depth: 8.08 m
Casing Radius: 0.0245 m
Static Water Column Height: 8.233 m
Screen Length: 3.05 m
Well Radius: 0.0245 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.0001263 cm/sec y0 = 2.666 m

APPENDIX VI

Dewatering Calculations

Project: 2243 - 2269 Fairview Ave
Project Number: 225780

Legend:
- Fill in
- Leave alone
- calculated number

K cm/sec 3.18E-05
m/d calc 0.027518342

Open Cut Calculations (Rectangular Excavation)

ℓ / ω <1.5

$$Q = \frac{\pi K(H^2 - h^2)}{ln(\frac{R_o}{R_s})}$$

Based on Equation 6.03 in systems where l/w> 1.5 (Powers, 1992) Where:

Q is in m^3/Day

K - Hydraulic Conductivity (m/Day)

H – Distance from Static water level to bottom of Aquifer (m)

h – lowest water level needed from static (m)

R_o- Radius of conical depression (m) (Taken from Equation 6.14 (Powers, 1992))

$$Ro = 3(H - h)\sqrt{k}$$

Where

K- Hydraulic Conductivity (m/Sec)

R_s – Equivalent Radius (m)

$$R_s = \frac{l + w}{\pi}$$

l- Length of excavation/trench

w- width of trench

Parameter	Units		Q_R
K	m/d	0.027518342	75.84 m^3/d
H	m	17.28	0.88 L/Sec
h	m	6.413	
R	m	72.3	
	ω	87.2	
	ℓ	104.8	Q_T
Rs	m	53.93	75.84 m^3/d
ln(Ro/Rs)		0.294	
			Q_T
Limit	50 m^3/d		113.75 m^3/d Expected Pumping Rate with contingency

PTTW Required

50.0% Contingency for the variability in hydraulic conductivity that could be experienced and to provide flexibility to address additional drainage needed as a result of precipitation events.

Silt 30.00% Porosity Table from Freeze and Cherry 1979
Shale 10.00%

Storage Volume					
	Thickness (m)	m^3	L	30 day (m^3)	60 Day (m^3)
Silt	6.3	17346	17345901	193	96
Shale	0.8	706	706411	8	4
Total	7.1	18052	18052311	201	100

ω – excavation width
ℓ – excavation length

	W	L	L/W
Development footprint requiring dewatering	87.2	104.8	1.2

Notes:

K Site average used 3.18E-05 cm/Sec
Ground Surface from: Drawing A400 97.327

		mASL	Water Column
High Water Table		96.64	
Bottom of excavation	7.1 mbgs	90.227	
Bottom of lowest screen		79.36	
Dewatering Target (Construction)		90.227	6.413
Dewatering Target (Operations)			
Aquifer depth			17.28

Table 2.4 Range of Values of Porosity

	n(%)
Unconsolidated deposits	
Gravel	25–40
Sand	25–50
Silt	35–50
Clay	40–70
Rocks	
Fractured basalt	5–50
Karst limestone	5–50
Sandstone	5–30
Limestone, dolomite	0–20
Shale	0–10
Fractured crystalline rock	0–10
Dense crystalline rock	0–5

Precipitation Event into excavation					
Storm Event	Depth (mm)	Depth (m)	Area m2	Volume (m^3)	Volume (L)
2-yr 24-hr.	56	0.056	9139	511.8	511759.4
5-yr 24-hr.	73.7	0.0737	9139	673.5	673511.9
25-yr 24-hr.	99.9	0.0999	9139	912.9	912942.1
100-yr 24-hr.	110.9	0.1109	9139	1013.5	1013466.3
Climate Normals (Yr/183)	2.09	0.002090411	9139	19.1	19103.3

Pumping Rates			
Time	m^3/day	m^3/hour	L/Min
Storage (30 day pre excavation)	314.3	13	218
Storage (60 day pre excavation)	214.0	9	149
Construction	113.75	5	79
Operation	112.40	5	78

763	0.763	9139	6972.7	6972721.3
			3486	

APPENDIX VII

Dewatering Plan (WJ Groundwater Canada Limited)

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Dewatering Plan

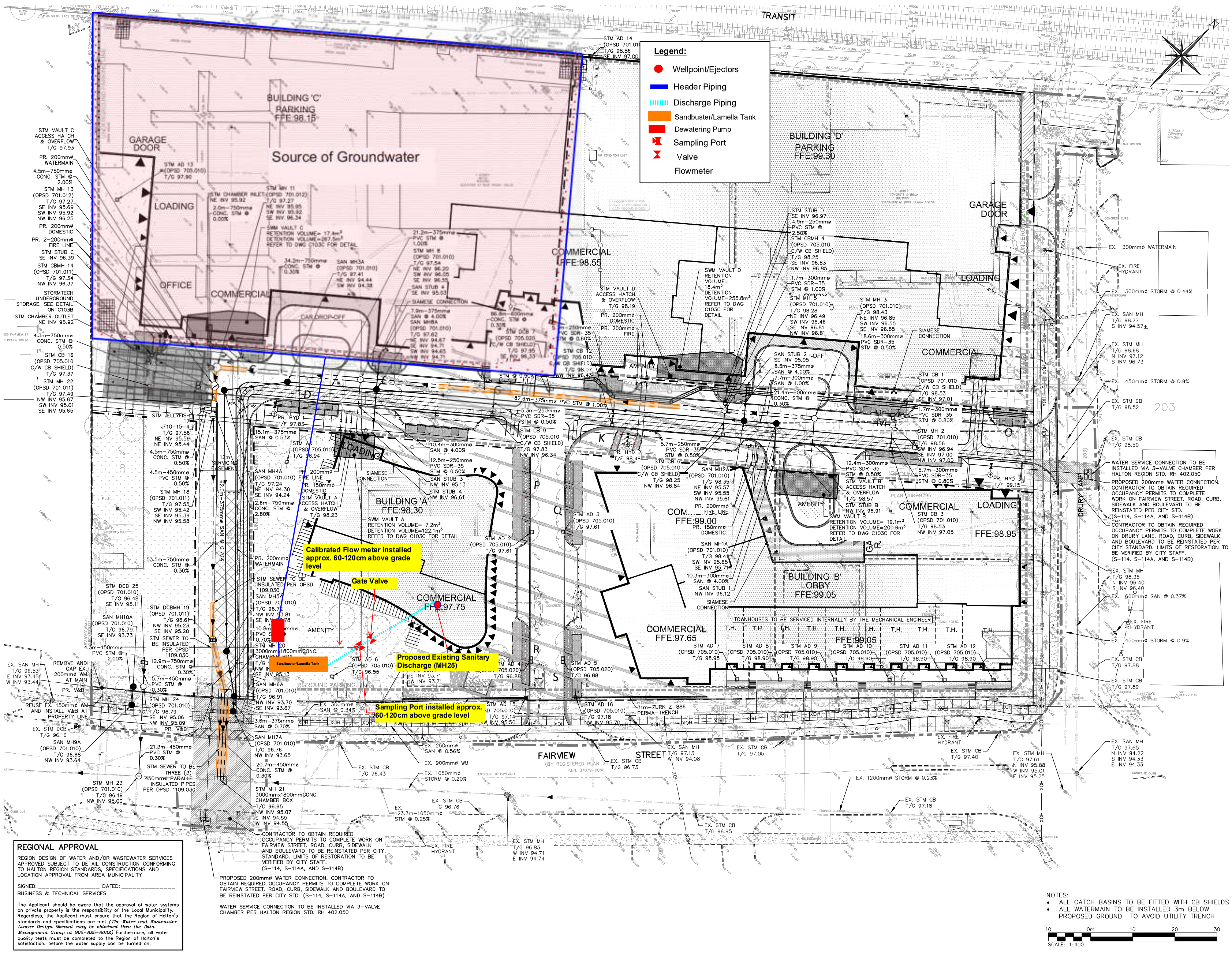
Project Name: Fairview and Drury Lane Phase 1

2243 Fairview Street, Toronto, Ontario

Client: Multiplex

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Registered Office; Unit 253, 250 Eglinton Avenue West, M4R 1A7, Toronto, ON



KEY PLAN
SCALE: N.T.S.

LEGEND

- PROPERTY LINE
- LIMIT OF CONSTRUCTION
- EXISTING WATERMAIN & GATE VALVE
- EXISTING STORM SEWER & MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- EXISTING SANITARY SEWER & MANHOLE
- PROPOSED WATERMAIN & GATE VALVE
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SIAMESE CONNECTION
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED SINGLE / DOUBLE CATCHBASIN
- PROPOSED SANITARY SEWER & MANHOLE
- STM SEWER TO BE INSULATED PER OPSD 1109.030
- LIMIT OF UNDERGROUND PARKING
- ROOF LINE
- PROPOSED ROAD REINSTATING
- PROPOSED STORMWATER VAULT W/IN UNDERGROUND PARKING GARAGE
- PROPOSED STORMWATER VAULT ACCESS HATCH
- PROPOSED BACKFLOW AND WATER METER PER HALTON REGION STANDARD 504.010 & 601.010
- PROPOSED SNOW STORAGE LOCATION

SPA#0000-000

DRAFT
FOR DISCUSSION PURPOSES ONLY

No.	ISSUE / REVISION	YYYY/MMM/DD
2	ISSUED FOR SECOND SPA SUBMISSION	2020/OCT/21
1	ISSUED FOR SPA SUBMISSION	2020/JAN/08

ELEVATION NOTE:
ELEVATIONS SHOWN HEREON ARE REFERRED TO THE CITY OF BURLINGTON BENCHMARK No. 1045
ELEVATION = 93.477m

SURVEY NOTES:
SURVEY COMPLETED BY R. AVIS SURVEYING INC. (2017/OCT/27)
PROJECT No.: 3141-0
BEARINGS ARE UTM GRID, DERIVED FROM RTN OBSERVATIONS UTM ZONE 17, NAD83 (GSRS) (2010.0)
DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996781

SITE PLAN NOTES:
DESIGN ELEMENTS ARE BASED ON SITE PLAN BY CORE ARCHITECTS INC.
DRAWING No.: A001 THROUGH A432. (2020/09/25)
PROJECT No.: 0001

DRAWING NOTES:
THIS DRAWING IS THE EXCLUSIVE PROPERTY OF C.F. CROZIER & ASSOCIATES INC. AND THE REPRODUCTION OF ANY PART OF IT WITHOUT PRIOR WRITTEN CONSENT OF THIS OFFICE IS STRICTLY PROHIBITED.
THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.
THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.
ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

Developer
FAIRVIEW LIMITED PARTNERSHIP
c/o BROOKFIELD PROPERTIES SERVICECO INC.
181 BAY ST.
TORONTO, ON M5J 2T3

c/o CLV GROUP DEVELOPMENTS INC.
485 BANK ST., SUITE 200
OTTAWA, ON K2P 1Z2

Project
2243 FAIRVIEW ST., 2269 FAIRVIEW ST., 84 DRURY LN
CITY OF BURLINGTON

Drawing
GENERAL SERVICING PLAN

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.
M.P./N.C.	M.P./P.F.	1486-4809
Check: J.V.	Check: P.F.	Scale: 1:400 — Dwg. C 102 B

WJ GROUNDWATER
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Dewatering Arrangement

Project Name: Fairview & Drury Lane Phase 1

2243 Fairview Street, Toronto, ON

Client: Multiplex

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Registered Office; Unit 253, 250 Eglinton Avenue West, M4R 1A7, Toronto, ON

1. DESCRIPTION OF THE PROJECT AND THE SITE

According to the documents provided and to the best of our understanding, the first phase of the proposed project includes the development of two residential buildings, C1 and C2, a thirty-eight and a thirty-four storey buildings, respectively. These buildings will include a four-storey podium with one level of underground parking. Based on the drawings provided the P1 finished floor elevation of the new parking building will be at approximately 90.2 masl. Based on the hydrogeological report, a target dewatering drawdown of 90.4 masl has been considered, corresponding to the top of the bedrock elevation.

2. SITE GEOLOGY

The general description of the expected geology is as follows:

Stratum	Top level (masl)
Fill	98.8 (Ground level)
Silt	97.9
Shale Bedrock	90.4

The highest groundwater levels were measured ranging from approximately 95.1 to 96.4 masl. With an average water table calculated to be approx. 95.3 masl near the phase 1 building footprint.

3. DEWATERING ARRANGEMENT

To lower the water table across the excavation the proposed dewatering system will consist of an inclined wellpoints system, with wells distributed around the shoring perimeter. Due to the low hydraulic conductivity of the silt layer, the wells will be drilled with a 1.5m spacing, with a total of 250 wells for the phase one buildings excavation. The inclined wellpoints will be drilled at an elevation of approx. 95.5 masl, in an angle through the shoring walls, assuming it will be shored with Soldier Pile and Lagging. In locations where the site will be shored with caisson walls, the same wellpoints will have to be vertically installed inside the shoring walls. In both cases, the wells will be toed into the shale bedrock.

The specification of the components of the proposed dewatering system are outlined as follows:

Details	Wellpoint System Phase 1 Building Excavation
Install location	Externally/Internally around the shoring perimeter
Quantity	250 Wellpoints
Installation level	95.5 masl
Toe level	90.4 masl (top of bedrock)
Total Well Length	~ 6 m
Borehole size	90 mm
Screen/Casing Size	38 mm
Degree of installation	30 degrees from vertical
Screen Interval	5 m
Spacing between wells	1.5 m
Pump type & No.	Five Vacuum pumps

Below is a cross section and a plain view illustration of the proposed wellpoint system:

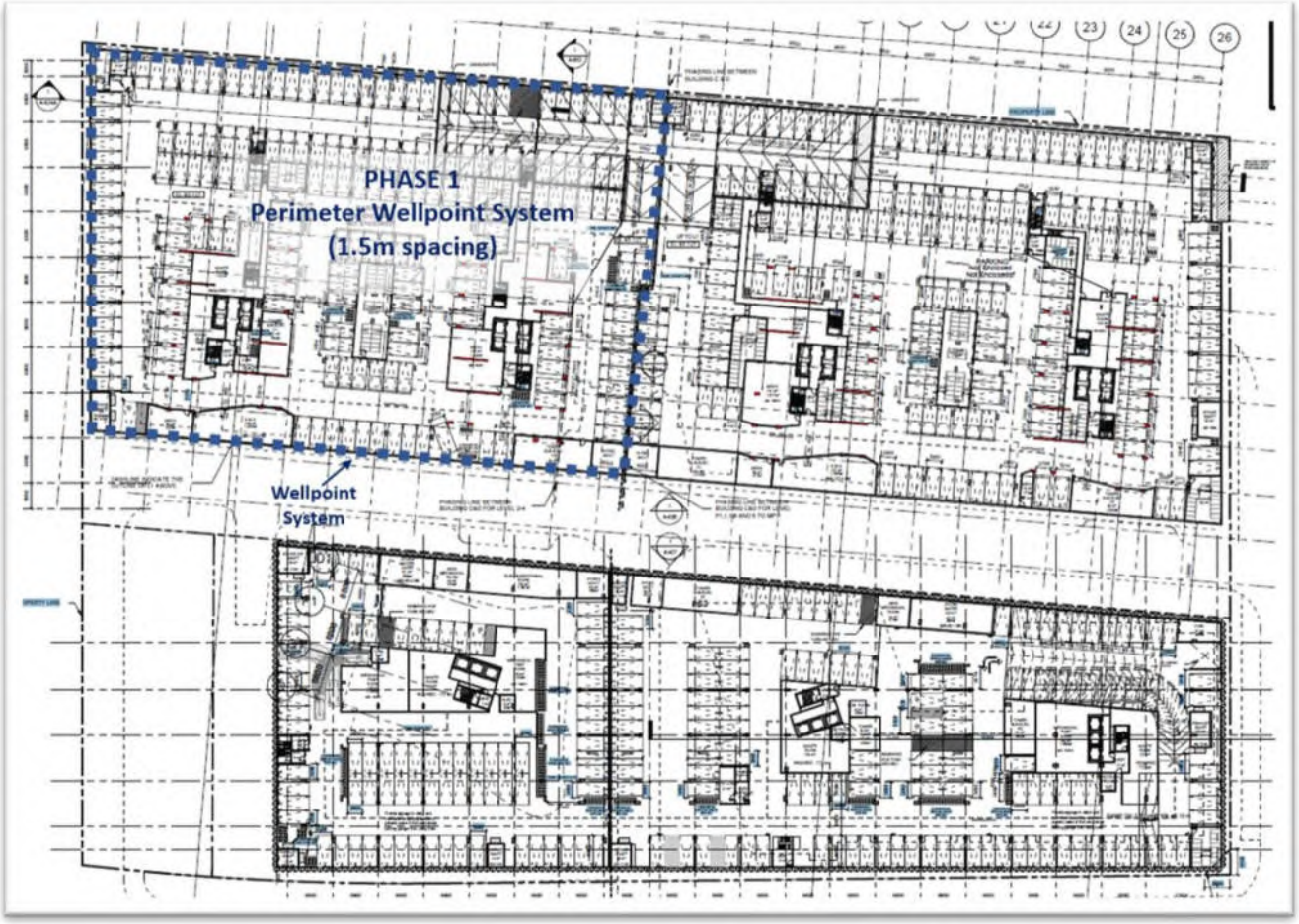


Figure 1: Plan view of the proposed wellpoint system for Phase 1

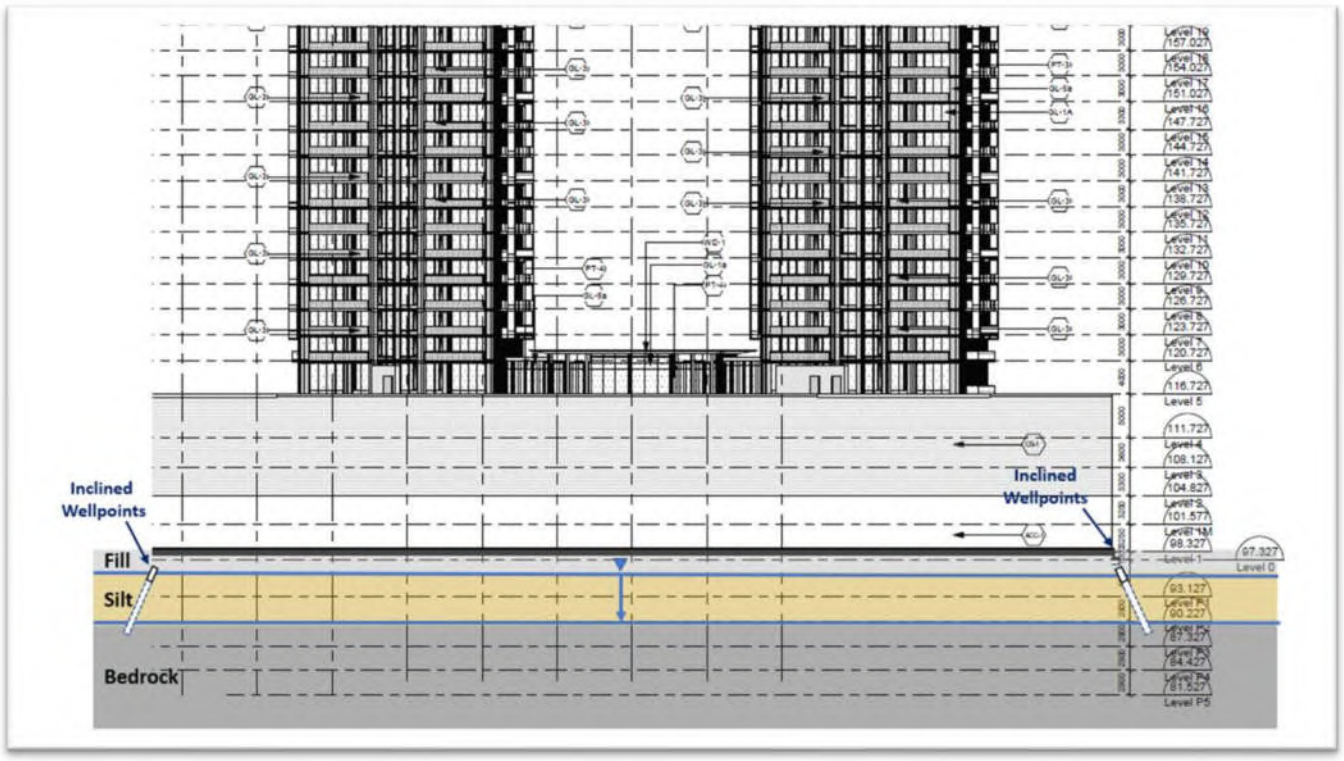


Figure 2: Cross section of the proposed wellpoints for Phase 1

Monitoring data from the well arrays will be used to manage the groundwater control system as the system is installed and commissioned. Subsequently, elements may be reduced, eliminated, or enhanced as needed to ensure the required drawdown is achieved. Ongoing monitoring of discharge flows and groundwater levels will be essential to confirm that satisfactory drawdown has been achieved prior to excavation and that suitable, back-up and contingency measures are in place.

The proposed dewatering scheme incorporates redundancy, contingency and back-up measures as follows:

- If required, client will need to provide a standby generator and power in the event of a main electrical supply outage **(3 phase, 575 v, 3P+N+E)**
- The dewatering well array will have sufficient redundancy such that the short-term stoppage or damaging of a single well will not compromise the ability to achieve and maintain the required drawdown. This will be verified during the commissioning test pumping. During system operation, monitoring will demonstrate that the required drawdown is being sustained.

The dewatering system will be regularly inspected by the WJ site supervisor who will identify any areas of weakness or concern in the support arrangements, other identifiable risks, and/or maintenance needs. The WJ

site supervisor will also regularly switch-over to the standby plant to test it under full load. In practice, the principal risk to the dewatering scheme is local accidental damage during other construction activities on site. Therefore, it is important that the general contractor staff, and all other site staff, be fully briefed and aware of the importance of the dewatering system and the essential need to immediately report any damage or potential damage, in the course of the works.

Critical metrics and performance measures of the dewatering system will be monitored during routine maintenance visits to verify the working condition of the dewatering system. In the event of a pump outage or system damage, WJ will fix the system as soon as practically feasible upon discovery of the fault. As an additional contingency measure, we recommend that specified client staff be trained on the system operation and appropriate response.

WJ will install a set of sensors to monitor the system. The sensor will detect a fault, trigger, and send an alarm to an android tablet that will then send the alarm, an SMS notification, and an e-mail warning of the system fault to key site staff. WJ can always have on-call staff available to respond to the situation. WJ personnel will visit the site, inspect the system, and initiate the appropriate remedial action.

4. PUMPING AND DISCHARGE ARRANGEMENTS

The wellpoints will be connected to a single header piping and ultimately to one of the wellpoint pumping stations which then leads to the desired discharge location instructed by the general contractor. The dewatering system will be decommissioned when it is no longer required, this will involve filling the wells/boreholes with bentonite or pressure grout. The wells will be constructed and abandoned under the supervision of a water well technician licensed in Ontario, in accordance with O. Reg. 903 under the Ontario Water Resources Act.

According to the numerical analysis of the hydrogeological report, the construction dewatering flow rate has been calculated to be approximately 1 L/s/m^2. Based on the same report, the groundwater onsite meets all the sanitary sewer by-law criteria, with exception of Total Suspended Solids (TSS). Nevertheless, based on WJ's drilling and well installation methodology, it is anticipated that no water treatment will be required prior to discharge the groundwater to the sanitary sewer.

A flowmeter will be installed to record instantaneous and total flow and have an accuracy of +/- 2 percent. A sampling port for water quality testing will be installed at the flowmeter location.

Where the pipework crosses vehicular access lines, it is contractor's responsibility to properly bury or pass the pipework through road ducts. A trench will be excavated and installed with a duct pipe of suitable size to accommodate the discharge header-main, electrical conduits or cables and/or vacuum line if required. It is also responsibility of the general contractor to provide clear access to our header pipe and wellpoint pump for us to lower them to the second drawdown installation stage.

WJ's commitments

WJ Groundwater is fully committed to safeguarding the Health, Safety & Wellbeing of our employees, other site staff and the public. We have an experienced workforce who are committed to hazard/risk minimisation and safe working practices. We will undertake briefings for our staff on safe systems of work along with toolbox talks during the works and will also engage with the main contractor's induction and ongoing safety initiatives.

Our proposal is inclusive of all appropriate method statements, design calculations, works procedures, layout drawings and risk assessments. We would commence preparation of these on receipt of your order for the works.

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Pump Specifications

Project Name: Fairview and Drury Lane, Phase 1

Client: Multiplex

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BBA Pumps
Pumps for results

PT130 Electric Drive
High Efficiency Wellpoint Dewatering Pump
Max. 35 m^3/hour, Max. 20 mwc



Pump specifications:

Type	PT130E
Design	Double acting, duplex piston pump
Max. flow	35 m^3/hour (154 US GPM)
Max. pressure	20 mwc (66 ft.)
Max. suction lift	9.6 mwc (32 ft.)
Connections	4”
Electric motor	3 kW (4 Hp)
Voltage	230/400V IE2
Base frame	Hot dip galvanised
Weight (net)	575 kg (1265 lb.)

FEATURES

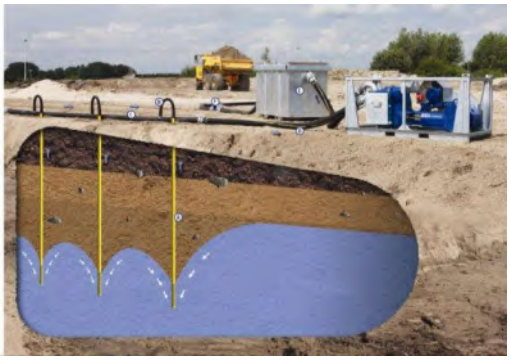
PT Wellpoint pump
The PT wellpoint pump has been designed for vertical- and horizontal dewatering applications. These positive displacement pumps are fully self-priming and are capable of handling air, water or any mixture of both without requiring a separate priming system. Furthermore, these pumps are capable of running dry indefinitely without causing damage or excessive wear to any part of the unit.

World-class performance
The PT pump package offers lowest cost of ownership and provides a reliable and durable solution to the challenges facing dewatering companies around the world. The technology has been tried and tested in the field and has revolutionised the vertical- and horizontal dewatering market on a global scale, by offering unmatched performance at minimal costs thereby improving the return on investment (ROI).

Key features PT Pumps
- Self-priming, no additional priming system required
- Excellent suction capabilities on all flows
- High pump efficiency
- Minimal power consumption reducing running costs
- Can run dry indefinitely
- Cheap and easy-to-replace wear parts
- 100% mechanical technology
- Extended unit life time

Complete package designed & built by BBA Pumps
- Complete in-house design & production
- Over 60 years of experience in the market
- Extensive testing facility in-house
- Contemporary & functional design
- Durable & eco-friendly materials

After sales service & product support
- Single supplier for parts, spares & accessories
- Dedicated customer help-desk (24h service)
- Dedicated service department in-house
- Global parts distribution network
- Optional global on-site servicing
- Extensive training options available (technical & commercial), on-site or in-house



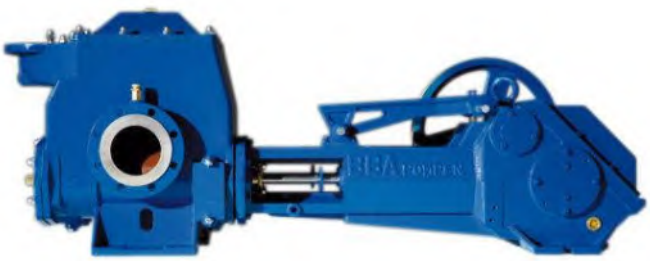
PUMPS FROM HOLLAND

PT130 Electric Drive
High Efficiency Wellpoint Dewatering Pump
Max. 35 m^3/hour, Max. 20 mwc

STANDARD TECHNICAL SPECIFICATIONS

BBA double action piston pump

Pump type	PT130
Max. flow	35 m^3/hour (154 US GPM)
Max. head	20 mwc (66 feet)
Max. suction lift	9.6 mwc (32 ft.)
Speed	62 strokes/min
Pump casing	Cast iron GG20
Pump cover	Cast iron GG20
Cylinder liners	Stainless steel 1.4301
Piston cups	Leather
Piston rods	Stainless steel 304
Shaft seal	Gland packing
Valve rubbers	NBR
Stone catcher	Steel hot dip galvanised
Measure equipment	Vacuum gauge
Connections	Steel hot dip galvanised



Electric motor

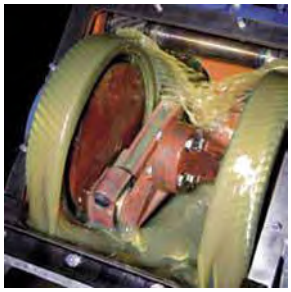
Motor type	HMA2
Power	3 kW (4 Hp)
Speed	1480 RPM
Voltage	230/400 V
Frequency	50 Hz
Poles	4
Mounting	B3
Protection	IP55
Efficiency	IE2
PKZ	Thermal overload protection



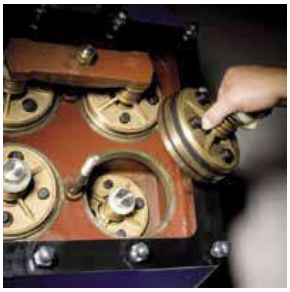
BBA base frame

Frame	Steel hot dip galvanised
Dimensions L x B x H	1500 x 700 x 1015 mm
Dimensions L x B x H	59 x 27.5 x 40 inch
Lifting point	Fitted with single lifting point
Forklift pockets	N/A
Motor rain cover	Steel hot dip galvanised
Belt guard	Steel hot dip galvanised

PT130 Electric Drive
High Efficiency Wellpoint Dewatering Pump
Max. 35 m^3/hour, Max. 20 mwc



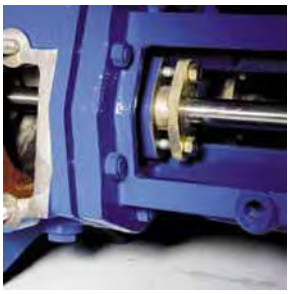
Lubrication and drive
Precisely machined drive gears and an automatic lubrication system provide excellent performance and minimal sound emissions.



Practical valve system
The valve system is fitted with an o-ring seal and a solid bridge section for securing purposes.
This allows for quick and easy disassembly, even after prolonged use.



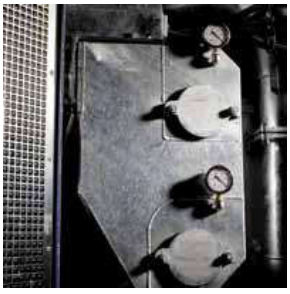
Easy access points
Allowing access to the cylinders, stuffing boxes and other critical areas for easy cleaning and maintenance.



Hard-wearing piston rods
The stainless steel piston rods have been carefully machined to provide an increased service life and minimal maintenance.



Exchangeable liners
The stainless steel cylinder liners can be rotated for extended service life. Fitted with a quick release system, rotating and exchanging the cylinders is simple even when servicing the pump in the field.



Standard stone catcher
All PT pumps feature a stone catcher protecting the pump internals from any suspended solids. The stone catcher has easy-access cleaning covers and comes with dual vacuum gauges to monitor pump performance.

Pictures used are for illustration purposes only.

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Tank Specifications

Project Name: Fairview and Drury Lane Phase 1

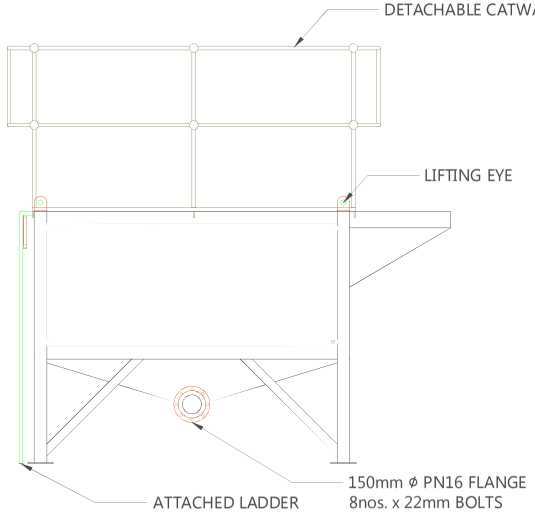
Client: Multiplex

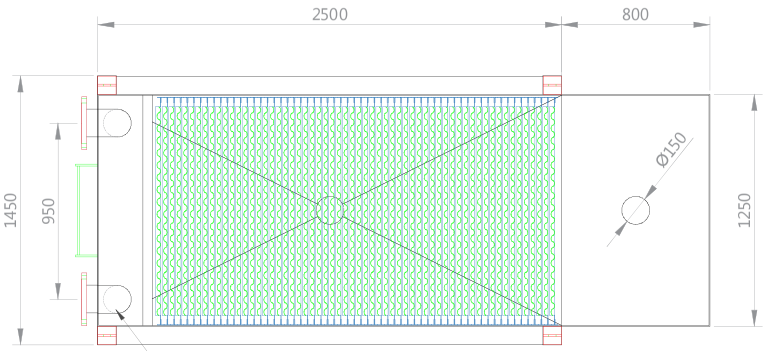
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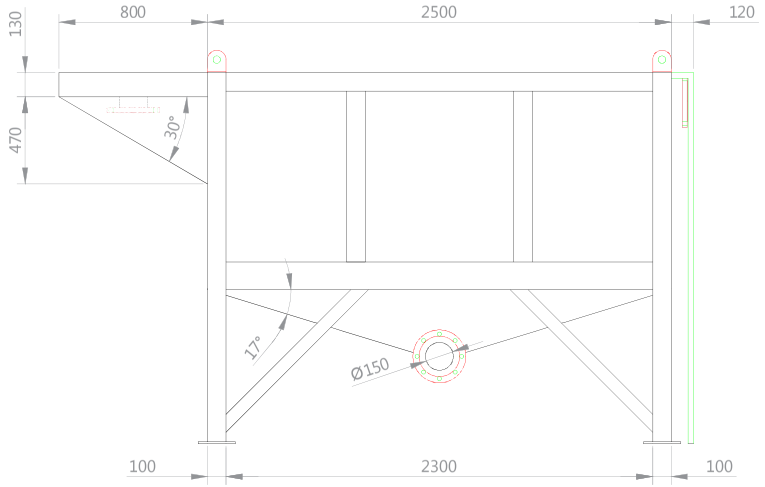




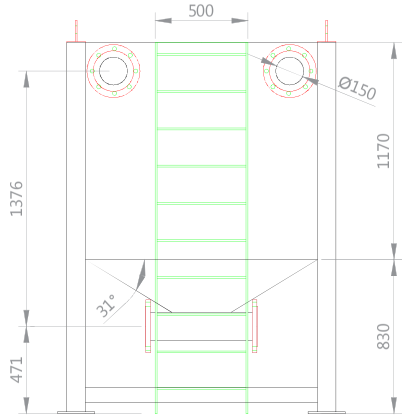


TOP

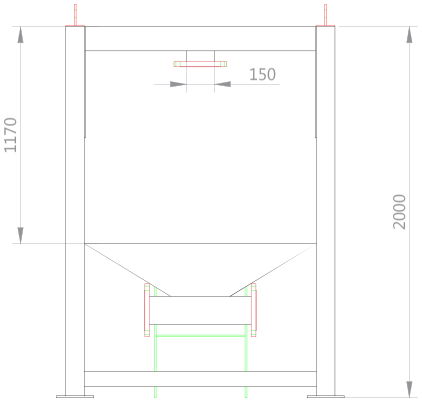
LAMELLA PLATES (INDICATIVE ONLY)
APPROX. 60nos. x 30mm CENTRES w/ 2nos. HAND HOLES ON TOP EDGE
FOR EASE OF FITTING AND REMOVING FOR CELANING.



SIDE



REAR



FRONT

WJ GROUNDWATER
Expert in Groundwater

250 Eglinton Avenue West
Toronto, ON, CA
t: +1 416 792 3999
e: info@wjgl.com
w: www.wjgl.ca

Notes:

1) Do not scale from drawing. Refer to indicated dimensions only.

REV. NO.	DRAWN BY:	CHECKED BY:	DATE:	REASON FOR REVISION:
00	GA	TT	15/08/2019	Issue for Review

PROJECT NAME:

DRAWING TITLE:
Siltbuster Tank Details

DWG NO:

SCALE: AS INDICATED

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Flowmeter Specification

Project Name: Fairview and Drury Lane, Phase 1

Client: Multiplex

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Registered Office; Unit 253, 250 Eglinton Avenue West, M4R 1A7, Toronto, ON

iMAG 4700 Series
FLANGED MAGMETER

Seametrics
Precision Flow Measurement
An ONICON Brand



RIGHT METER FOR

- Water & Wastewater Treatment
- Municipal
- Pump skids
- Pump stations
- Packaged plants
- Filtration systems
- Reclaimed water
- Hydraulic fracturing

Features

- Easy setup
- Minimal straight pipe
- Mounted or remote rate & total
- Tamper-evident seal
- Certified to NSF/ANSI standard 61
- IP68 rated
- No moving parts

The **iMAG-Series** is the most economical flanged electromagnetic flowmeter on the market. With electrodes designed to discourage fouling, it is available in 3" to 12" pipe in municipal or industrial water, waste and reclaimed water, pump stations, and packaged plant applications. Minimal straight pipe requirements allow iMAG-Series meters to be used in piping configurations where there is little space between the meter and an elbow.

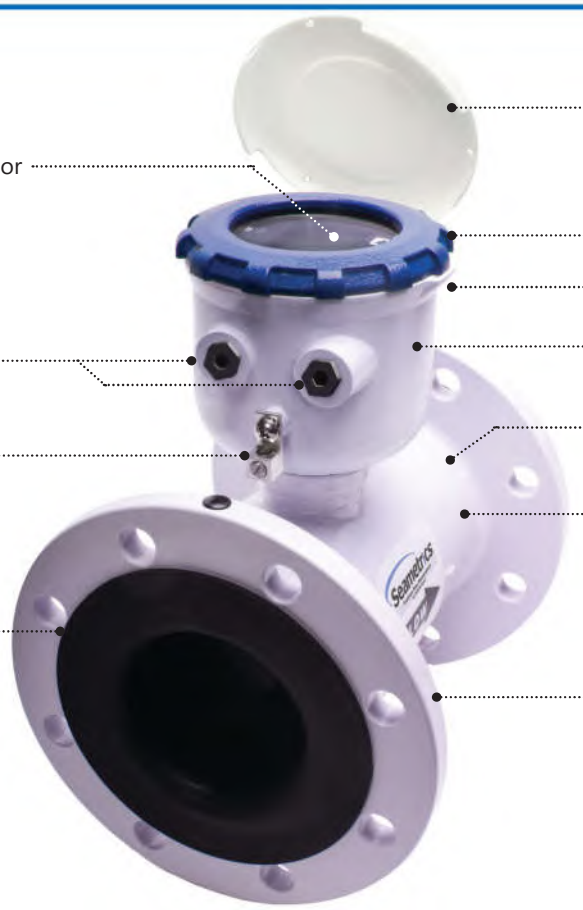
iMAG-Series meters are CE certified, certified to NSF/ANSI standard 61 and are rated IP68 for applications where the meter may be operated under water to a depth of at least 10 feet (3 meters) continuously.

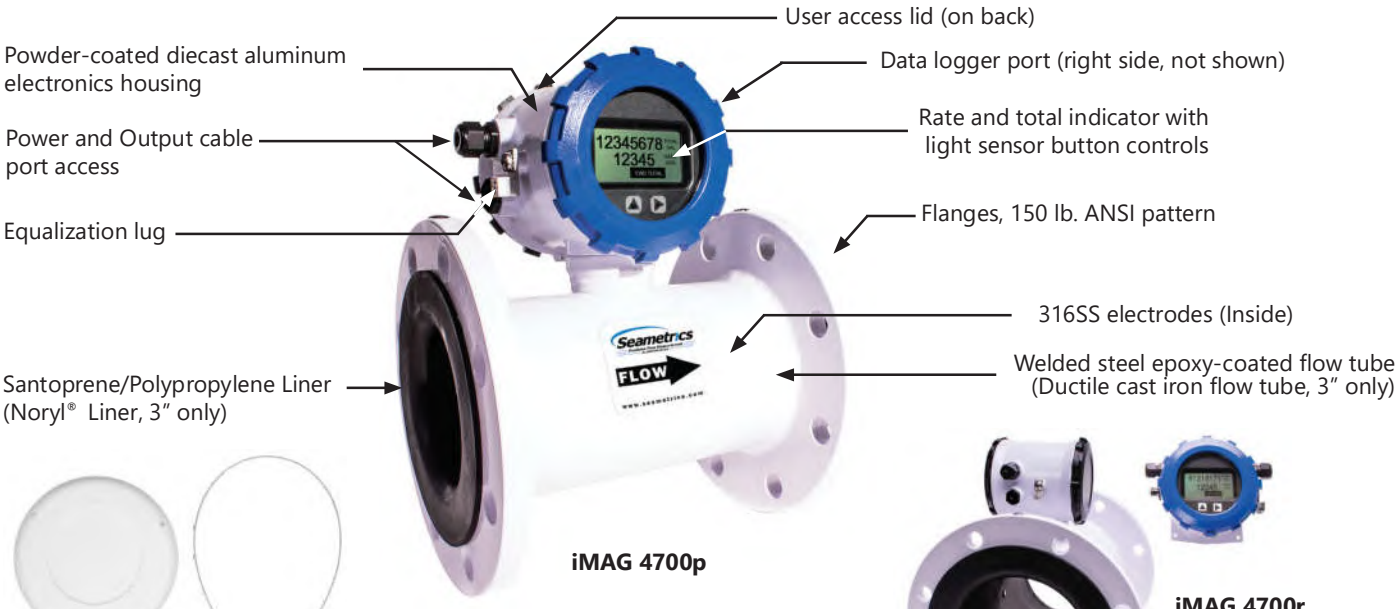
The display can be meter mounted or remote, and both rate and total indication are standard. Rate and total units and pulse scaling can be set via the front panel touch key pad by the user. Bidirectional flow reading is standard with totals available in forward, reverse, net flow, batch forward flow, and batch reverse flow. Batch totals can be reset.

A power/output cable allows outputs for use with a variety of Seametrics and other displays and controls for remote reading and telemetry applications. Pulse output is standard on all models and 4-20mA passive current loop is standard on the iMAG 4700p. In addition, 4-20mA loop, HART protocol, high speed digital, and Modbus® protocol outputs are optional on the externally powered units, depending on model.

Contact Your Supplier

Features





iMAG 4700p

Snap on faceplate cover and lanyard for imag4700p and iMAG4700r

iMAG 4700r
(Remote indicator)

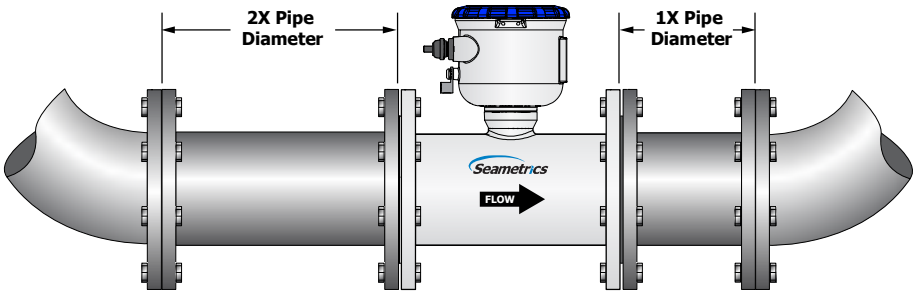
Features



- Built-in Data Logger *(Optional)*
- Bidirectional Flow Reading *(Standard)*
- Pulse Scaled Output *(Standard)*
- 4-20mA Output *(Optional*)*
- HART Protocol Output *(Optional*)*
- Modbus® Protocol Output *(Optional*)*
- High Speed Digital Output *(Optional*)*
- Battery Power *(iMAG 4700 battery model only)*
- External DC Power *(Optional*)*
- Integrated AC Power Supply *(Optional*)*
- Remote Display *(iMAG 4700r)*

Quickly and easily change Total Volume Units, Flow Rate Units, Pulse Output Scaling, and many other settings using the two light sensor button controls on the display panel.

* *Some optional items only available on some configurations. See last page for further details.*



Minimal straight pipe requirements to ease installation in tight quarters.



No moving parts to break or foul!

Specifications

Pipe Sizes		3", 4", 6", 8", 10", 12"				
Flanges		150 lb. ANSI Pattern				
Pressure		150 psi (10.3 bar) line pressure				
Temperature	**Operating**	10˚ to 140˚ F (-12˚ to 60˚ C)				
	Storage	-40˚ to 158˚ F (-40˚ to 70˚ C)				
Accuracy		±0.75% of reading on iMAG 4700p and 4700r (±1.0% iMAG 4700), ±0.025% of full-scale flow from low flow cutoff to maxi. flow rate of 10 m/sec				
Low Flow Cutoff		0.5% of maximum flow rate				
Material	**Body** *(3" only)*	Ductile cast iron, powder coated				
	Body *(4"-12")*	Welded steel, epoxy-coated				
	Liner *(3" only)*	Noryl®				
	Liner *(4"-12")*	Santoprene flange/Polypropylene liner body				
	Electronics Housing	Powder-coated diecast aluminum				
	Electrodes	316 stainless steel				
	O-ring (3" only)	EPDM				
Display	**Type**	128x64 dot-matrix LCD				
	Digits	5 Digit Rate			8 Digit Total	
	Units *Please Note: All iMAG meters are factory set for gallons per minute (GPM) rate and gallons total. If other units are required, they can be set in the field.*	Rate Volume Units		Rate Time Units	Total Volume Units	
		Gallons Liters Barrels(42 gal) Cubic Feet Cubic Meters	Million Gallons[2] Mega Liters[2] Imperial Gallons Million Imperial Gallons[2]	Second Minute Hour Day	Gallons Gallons x 10 Gallons x 100 Gallons x 1000 Million Gallons Liters Kilo Liters Mega Liters	Barrels (42 gal) Cubic Meters Cubic Meters x 1000 Cubic Feet Cubic Feet x 1000 Second Foot Day Million Cubic Feet	Acre Feet Acre Inches Imperial Gallons Imperial Gallons x 1000 Million Imperial Gallons Fluid Ounces
	Bidirectional[1]	Forward Total, Reverse Total, Net Total, Batch Forward Total, Batch Reverse Total (Batch totals can be reset)				
Power	**DC Power**	9-36 Vdc @ 250 mA max, 30 mA average				
	Battery Backup **(Not for use as primary power)**	DC powered units: Two lithium 3.6V 'D' batteries, replaceable. AC powered units: One 9V alkaline battery, replaceable.				
	AC Power *(iMAG 4700r and 4700p only)*	85-264Vac, 50/60Hz, 0.12A				
	Battery *(iMAG 4700 only)*	One lithium 7.2V 'D' size battery pack, replaceable.				
Scaled Pulse Output	**Signal**	Current sinking pulse, isolated, 36 Vdc at 10 mA max				
	Pulse Rates	User-scalable from 0.1 to 99,999.9 volume units/pulse. Pulse width is one-half of pulse period with minimum pulse width of 2.5 ms, 200 pulses/sec max. For battery option meters, pulse width varies with frequency, 150 pulses/sec max.				
Options	**4-20mA Current Loop**	Isolated, passive, 24Vdc, 650 Ω maximum current loop				
	HART/4-20mA	HART protocol over 4-20mA line				
	High Speed Digital Output *(iMAG 4700 & 4700p only)*	Isolated, open collector, 24 Vdc				
	Serial Communications	Isolated, asynchronous serial RS485 (Reconfigurable for RS232 or 3.3V CMOS), Modbus® RTU protocol (factory selectable)				
Cable	**Power/Output Cable**	20ft (6m) standard length polyurethane jacketed cable—for power and outputs (lengths up to 200' available).				
	Remote Display Cable *(iMAG 4700r)*	20ft (6m) standard length polyurethane jacketed cable—for connection between meter and remote display (lengths up to 200' available).				
Conductivity		>20 microSiemens/cm				
Empty Pipe Detection		Hardware/software, conductivity-based				
Regulatory		CE (EN 61326), 4"-12" certified to NSF/ANSI standard 61 60°C (140°F); 3" certified to NSF/ANSI standard 61 Cold Water 23°C (73.4°F)				
Environmental		NEMA 6P, IP68 (10ft (3m) depth, continuously)				

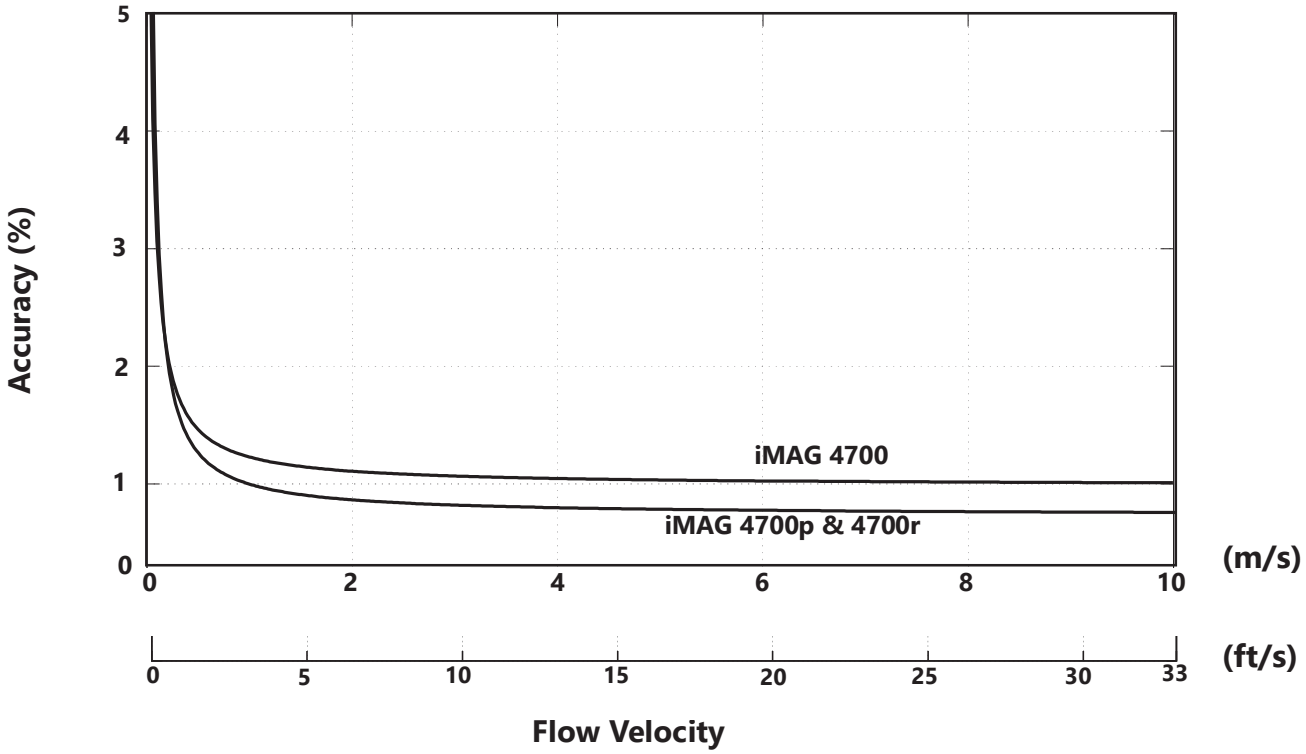
Modbus is a registered trademark of Schneider Electric.

* *Specifications subject to change. Please consult our website for the most current data (www.seametrics.com).*

[1] *If forward and reverse flow data needs to be sent to another device, either the Digital or Modbus output is required.*

[2] *Rate Time Unit is available in Day only.*

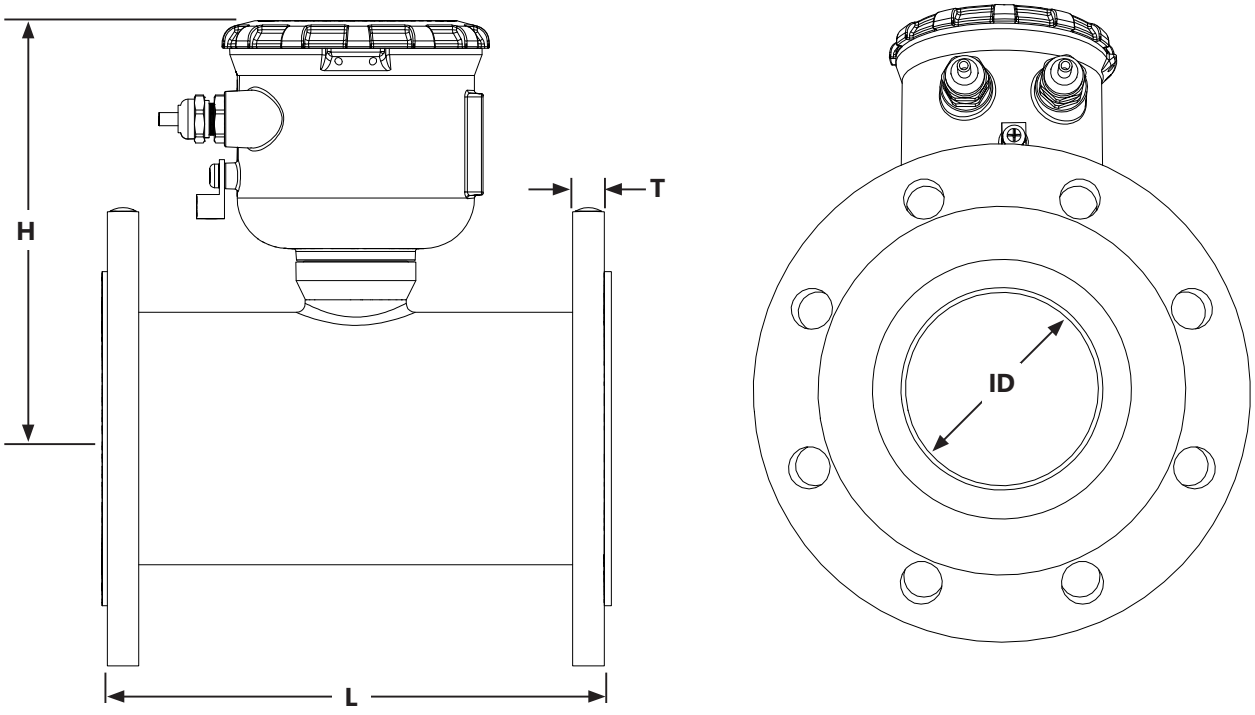
iMAG Accuracy



Flow Rate (3" - 12")

Pipe Size *(Inches in diameter)*	3"	4"	6"	8"	10"	12"
Max Flow Rate *(Gallons/Minute)*	723	1285	2891	5140	8031	11565
Cut-off (min) Flow Rate *(Gallons/Minute)*	3.62	6.43	14.46	25.70	40.15	57.82
Max Flow Rate *(Liters/Second)*	46	81	182	324	507	730
Cut-off (min) Flow Rate *(Liters/Second)*	0.23	0.41	0.91	1.62	2.54	3.65
Max Flow Velocity *(Meters/Second)*	10	10	10	10	10	10

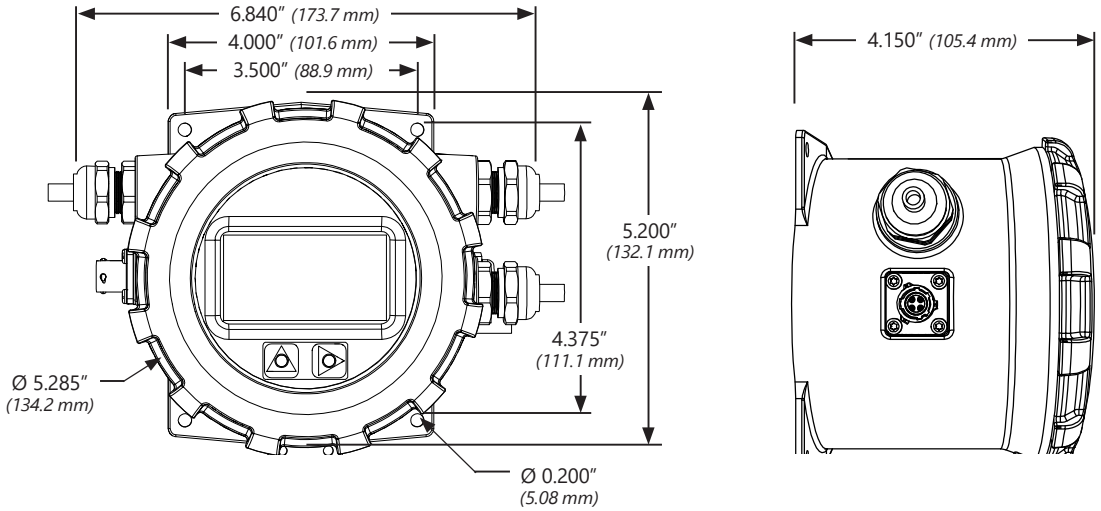
Dimensions - iMAG 4700



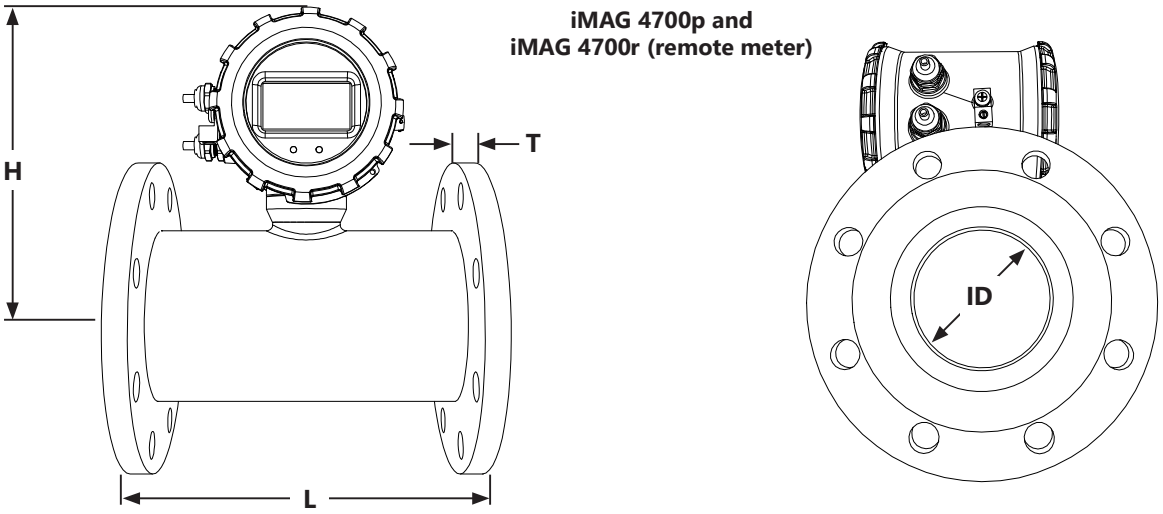
iMAG 4700 Meter Size	L		H		T		ID		Shipping Weight	
	inch	mm	inch	mm	inch	mm	inch	mm	lbs	Kg
3"	12.25	311.15	7.08	179.8	.68	17.25	2.6	66.04	38	17
4"	10.24	260	8.3	211	.62	15.7	3.12	79	33	15
6"	12.27	312	9.1	231	.69	17.5	5.05	128	49	22
8"	14.24	362	10.1	257	.69	17.5	6.44	164	70	32
10"	18.18	462	11.2	284	.69	17.5	8.61	219	130	59
12"	19.68	500	12.2	310	.81	20.6	10.55	268	170	77
Flanges	Standard ANSI 150 lb. drilling								Cable 1 lb.	

Dimensions - iMAG 4700r and iMAG 4700p

iMAG 4700r (remote display)



iMAG 4700p and iMAG 4700r (remote meter)



iMAG Meter Size	L		H		T		ID		Shipping Weight			
									AG3000p		AG3000r	
	inch	mm	inch	mm	inch	mm	inch	mm	lbs	Kg	lbs	Kg
3″ *	12.25	311.15	7.95	201.9	.68	17.25	2.6	66.04	39	17.5	40	18
4″	10.24	260	8.6	218	.62	15.7	3.12	79	34	15.5	43	19.5
6″	12.27	312	9.4	239	.69	17.5	5.05	128	50	22.5	59	27
8″	14.24	362	10.4	264	.69	17.5	6.44	164	71	32	78	35
10″	18.18	462	11.5	292	.69	17.5	8.61	219	130	59	135	61
12″	19.68	500	12.5	317	.81	20.6	10.55	268	170	77	175	79
Flanges	Standard ANSI 150 lb. drilling								Cable 1 lb.			

**Add 8lbs (3.5kg) for remote display. 3″ Only.*

iMAG 4700 Series
FLANGED MAGMETER

Seametrics

How to Order Worksheet

iMAG 4700
iMAG 4700p
iMAG 4700r

1	2	3	4	5	6	7	8

2 Style: F1 = 150 lb ANSI Pattern

4 Power: D1 = DC 60Hz, D2 = DC 50Hz
A1 = AC 60Hz, A2 = AC 50Hz
BX = Battery

5 Outputs: X = No optional output
L = 4-20mA S = Modbus®
H = HART/4-20mA G = Digital

iMAG 4700 (Integrated Display)

1 Size	2 Style	3 Gaskets[3]	4 Power	5 Optional Output[2] (The 4700 comes standard with one pulse output)	6 Options	7 DC Power/Output Cable - 6 conductor (Must select one)
-0300 3″	-F1	-X None	-D1	-X *(requires single cable for DC power & output)*	-XX None	-0000 No Cable *(customer will supply)*
-0400 4″		-R Non NSF	-D2	-L *(requires single cable for DC power & output)*	-01 Data Logger	Single Dual
-0600 6″		-P NSF		-H *(requires single cable for DC power & output)*		-006S -006D 6 meter (20 ft)
-0800 8″				-S *(requires dual cable for DC power & output)*		-015S -015D 15 meter (50 ft)
-1000 10″				-G *(requires dual cable for DC power & output)*		-030S -030D 30 meter (100 ft)
-1200 12″			-BX	-X *(requires single cable for pulse output)*		-045S -045D 45 meter (150 ft)
						-060S -060D 60 meter (200 ft)

iMAG 4700p (Integrated Display)

1 Size	2 Style	3 Gaskets	4 Power[1]	5 Optional Output[2] (The 4700p comes standard with 4-20mA and one pulse output)	6 Options	7 DC Power/Output Cable - 8 conductor (Must select one)
-0300 3″	-F1	-X None	-D1	-X *(requires single cable for DC power & output)*	-XX None	-0000 No Cable *(customer will supply)*
-0400 4″		-R Non NSF	-D2	-H *(requires single cable for DC power & output)*	-01 Data Logger	Single Dual
-0600 6″		-P NSF		-S *(requires dual cable for DC power & output)*		-006S -006D 6 meter (20 ft)
-0800 8″				-G *(requires dual cable for DC power & output)*		-015S -015D 15 meter (50 ft)
-1000 10″			-A1	-X *(requires single cable for output)*		-030S -030D 30 meter (100 ft)
-1200 12″			-A2	-H *(requires single cable for output)*		-045S -045D 45 meter (150 ft)
				-S *(requires single cable for output)*		-060S -060D 60 meter (200 ft)
				-G *(requires single cable for output)*		

iMAG 4700r (Remote Display)

1 Size	2 Style	3 Gaskets	4 Power[1]	5 Optional Output[2] (The 4700r comes standard with one pulse output)	6 Options	7 DC Power/Output Cable - 6 conductor (Must select one)	8 Remote Display Cable - 6 conductor (Must select one)
-0300 3″	-F1	-X None	-D1	-X *(requires single cable for DC power and output)*	-XX None	-0000 No Cable *(customer will supply)*	-006 6 meter (20 ft)
-0400 4″		-R Non NSF	-D2	-L *(requires single cable for DC power and output)*	-01 Data Logger	Single Dual	-015 15 meter (50 ft)
-0600 6″		-P NSF		-H *(requires single cable for DC power and output)*		-006S -006D 6 meter (20 ft)	-030 30 meter (100 ft)
-0800 8″				-S *(requires dual cable for DC power and output)*		-015S -015D 15 meter (50 ft)	-045 45 meter (150 ft)
-1000 10″			-A1	-X *(requires single cable for output)*		-030S -030D 30 meter (100 ft)	-060 60 meter (200 ft)
-1200 12″			-A2	-L *(requires single cable for output)*		-045S -045D 45 meter (150 ft)	
				-H *(requires single cable for output)*		-060S -060D 60 meter (200 ft)	
				-S *(requires single cable for output)*			

Modbus is a registered trademark of Schneider Electric. Viton is a registered trademark of DuPont Corporation.

Note: All iMAG meters are factory set for gallons per minute (GPM) rate and gallons total. If other units are required, they can be programmed in the field.

[1] *AC meters come with a 1.8 meter (6 ft) AC power cable.*
[2] *You can choose up to one additional output on powered meters only.*
[3] ***If -X is selected, cutomer must provide full faced gaskets. Failure to install gaskets will void warranty. No charge for non NSF (-R) gaskets.***

Seametrics • 19026 72nd Avenue South • Kent, Washington 98032 • USA
(P) 253.872.0284 • (F) 253.872.0285 • 1.800.975.8153 • seametrics.com

LT-14249r4.2-20180531
5/31/2018

WJ GROUNDWATER
Expert in Groundwater

Flowmeter Calibration Certificate

Project Name: Fairview and Drury Lane, Phase 1

Client: Multiplex

© WJ Groundwater Canada Limited
t +1 (416) 792–3999 | info@wjgl.com | wjgl.com
Registered Office; Unit 253, 250 Eglinton Avenue West, M4R 1A7, Toronto, ON

Calibration Certificate

TRILLIUM MEASUREMENT AND CONTROL

2800 John Street, Unit 12
Markham Ontario L3R 0E2
trillium@calflow.com

Tel: 905-305-7790
Fax: 905-305-7791
www.calflow.com

CLAS 2018-04

SCC Accredited LAB No. 878

Calibration Conducted For:
WJ Groundwater Ltd.
1611 Eglinton Avenue West
Toronto, On

Certificate No:	2101-020-1
Purchase Order No:	CPO14611
Certificate Issue Date:	12/Jan/2021
Calibration Date:	11/Jan/2021
Due Date:	11/Jan/2022
Procedure:	SWI-005

Device Identification

Sensor/Meter:	
Model:	IMAG4700-0400-F1-BX-X-XX-006S
Manufacturer:	Seametrics
Serial No.:	092017001575
Output Type:	

Transmitter/Display			
Model:	N/A		
Manufacturer:	N/A		
Serial No.:	N/A		
K-Factor:	N/A	P /litre	Meter Factor: N/A

Statement of Compliance and Traceability

Our reference standards are traceable to the National Institute of Standards and Technology (NIST) and/or the national measurement standards of Canada.

The Calibration Laboratory Assessment Service (CLAS) of the National Research Council of Canada (NRC) has assessed and certified the specific calibration capabilities of this laboratory to conform with the requirements of ISO/IEC 17025:2005 and traceability to the International System of Units (SI) or to standards acceptable to the CLAS program. This certificate of calibration is issued in accordance with the conditions of certification granted by CLAS and the conditions of accreditation granted by the Standards Council of Canada (SCC). Neither CLAS nor SCC guarantee the accuracy of individual calibrations by accredited laboratories.

Measurement Uncertainty

The flow calibrations were performed using reference standards with a calibration and measurement capability of 0.052%. This is an expanded uncertainty with a coverage factor of k = 2, yielding a confidence level of approximately 95%, assuming a normal distribution. The resulting Test Uncertainty Ratio (TUR) is greater than 10:1.

Initial Condition of Device

The meter, and if applicable, any additional components were received in good condition. The meter was clean of all contaminants and the calibration was conducted as agreed upon with the customer. See "Summary of Calibration" for additional information.

Summary of Calibration

The results of this calibration certificate pertain only to the item identified under the "Device Identification" section of page 1 of this calibration certificate. The determination of whether the item is in tolerance or not is based on the original manufacturer's specifications or the customer's request and it takes into account the measurement uncertainty of Trillium's Laboratory. When a meter's error is within manufacturer's specification but can be adjusted to as close to "0" as possible, with customer permission an "As Left" certificate will be provided with details indicating what adjustment was made.

Calibration conducted by:

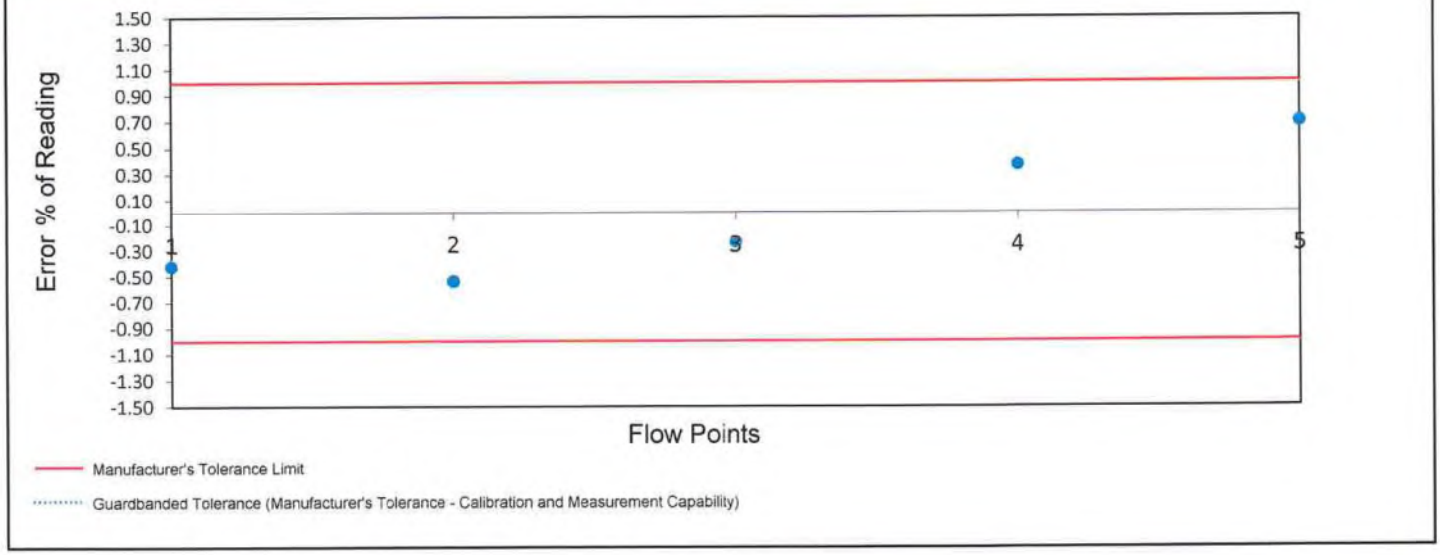
Paul Pearson - Technician

Reviewed and approved by:

Emmanuel Ankrah - Lab Manager

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As Found Results



WJ GROUNDWATER
Expert in Groundwater



Gate Valve Specifications

Project Name: Fairview and Drury Lane, Phase 1

Client: Multiplex

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Registered Office; Unit 253, 250 Eglinton Avenue West, M4R 1A7, Toronto, ON

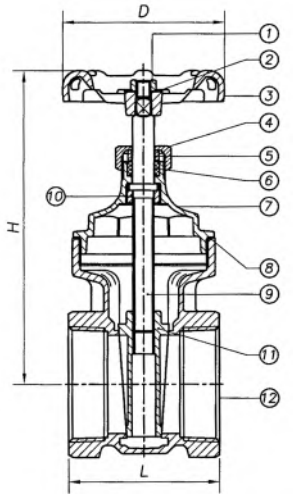
0818NL SERIES
NO LEAD BRASS FULL PORT GATE VALVE (THREADED)

Specification:

- Threads conform to ANSI / ASME B1.20.1
- Max Pressure Rating 200 PSI
- 200 PSI WOG Non-Shock - WOG pressure rating based on ambient temperature
- Max temp rating: 150°F (66°C)
- Cast no lead brass body
- Non-rising stem
- Packing material: PTFE
- Black cast hand wheel

Certification:

- NSF/ANSI Standard 61 & 372 Certified

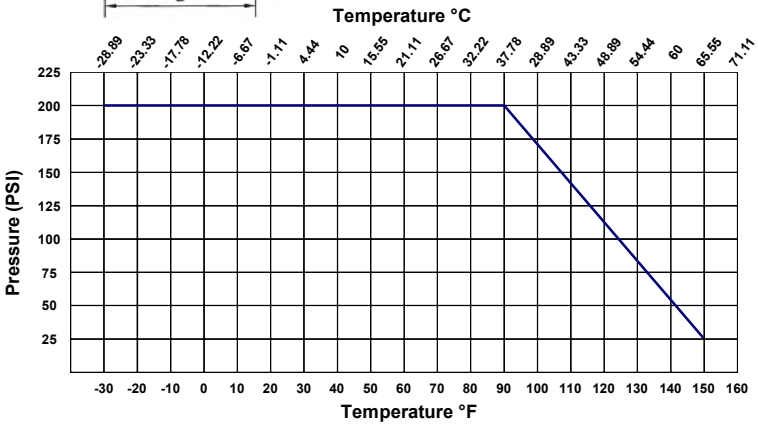


NO LEAD <0.25% Pb by weighted avg. | Third Party Certified to NSF / ANSI 372



PART LIST

ITEM NO.	DESCRIPTION	MATERIAL
1	Wheel Nut	Steel SAE 1010R
2	Name Plate	Aluminum A1100
3	Hand Wheel	Cast Iron
4	Packing Nut	Brass C89550
5	Gland Ring	Brass C89550
6	Gland Packing	PTFE M-392
7	Bonnet	Brass C89550
8	Stem Packing	Fibre "H"
9	Stem	Brass C89550
10	Lock Nut	Brass C89550
11	Disc	Brass C89550
12	Body	Brass C89550



PART NO.	DESCRIPTION	Port Size	D Diameter		L Length		H Height		Weight
		inches	inches	mm	inches	mm	inches	mm	grams
0818-02NL	1/4" FxF	0.433	2.087	53	1.713	43.5	2.913	74	275
0818-03NL	3/8" FxF	0.472	2.087	53	1.713	43.5	2.913	74	258
0818-05NL	1/2" FxF	0.531	2.087	53	1.713	43.5	2.913	74	280
0818-07NL	3/4" FxF	0.748	2.126	54	1.811	46	3.307	84	377
0818-10NL	1" FxF	0.984	2.480	63	2.126	54	3.898	99	553
0818-12NL	1-1/4" FxF	1.259	2.717	69	2.244	57	4.606	117	768
0818-15NL	1-1/2" FxF	1.496	3.150	80	2.441	62	5.079	129	1019
0818-20NL	2" FxF	1.929	3.524	89.5	2.697	68.5	5.984	152	1762
0818-25NL	2-1/2" FxF	2.441	3.976	101	3.701	94	7.874	200	2257
0818-30NL	3" FxF	2.952	4.370	111	4.016	102	8.819	224	3938
0818-40NL	4" FxF	3.622	5.000	127	4.528	115	9.882	251	5908

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Fax: (519)-595-4380 Web: www.boshart.com

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APPENDIX VIII

Laboratory Certificate of Analysis

Your Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Your C.O.C. #: 834164-01-02, 834164-01-01

Attention: Brendan MacNaughton

Pinchin Ltd
Unit 6
875 Main St W
Hamilton, ON
CANADA L8S 4R9

Report Date: 2021/07/12
Report #: R6715526
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1H9702
Received: 2021/06/29, 15:09

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Sewer Use By-Law Semivolatile Organics	1	2021/07/04	2021/07/05	CAM SOP 00301	EPA 8270 m
Biochemical Oxygen Demand (BOD)	1	2021/06/30	2021/07/05	CAM SOP-00427	SM 23 5210B m
Chromium (VI) in Water	1	N/A	2021/07/02	CAM SOP-00436	EPA 7199 m
Total Cyanide	1	2021/07/02	2021/07/02	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2021/07/03	2021/07/06	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2021/07/05	2021/07/05	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	1	N/A	2021/07/06	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2021/06/29	CAM SOP-00552	MOE LSB E3371
Total Nonylphenol in Liquids by HPLC	1	2021/07/03	2021/07/06	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2021/07/03	2021/07/06	CAM SOP-00313	In-house Method
Animal and Vegetable Oil and Grease	1	N/A	2021/07/06	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2021/07/05	2021/07/06	CAM SOP-00326	EPA1664B m,SM5520B m
Polychlorinated Biphenyl (PCB)	1	2021/06/30	2021/07/01	CAM SOP-00309	EPA 8082A m
pH	1	2021/07/03	2021/07/06	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2021/07/02	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Colourimetry	1	N/A	2021/07/05	CAM SOP-00464	EPA 375.4 m
Total Kjeldahl Nitrogen in Water	1	2021/07/02	2021/07/05	CAM SOP-00938	OMOE E3516 m
Total PAHs (1)	1	N/A	2021/07/06	CAM SOP - 00301	
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2021/07/05	2021/07/06	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2021/07/02	2021/07/02	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2021/07/05	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Your Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Your C.O.C. #: 834164-01-02, 834164-01-01

Attention: Brendan MacNaughton

Pinchin Ltd
Unit 6
875 Main St W
Hamilton, ON
CANADA L8S 4R9

Report Date: 2021/07/12
Report #: R6715526
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1H9702
Received: 2021/06/29, 15:09

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Total PAHs include only those PAHs specified in the sewer use by-by-law.
(2) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817
==========
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H9702
Report Date: 2021/07/12

Pinchin Ltd
Client Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Sampler Initials: JL

RESULTS OF ANALYSES OF WATER

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	-	0.80	0.50	7435043
Inorganics					
Total BOD	mg/L	**15**	<2	2	7437851
Fluoride (F-)	mg/L	**-**	0.39	0.10	7442815
Total Kjeldahl Nitrogen (TKN)	mg/L	**-**	2.1	0.10	7441303
pH	pH	**6.5:8.5**	7.91		7442820
Phenols-4AAP	mg/L	**0.008**	<0.0010	0.0010	7440798
Total Suspended Solids	mg/L	**15**	**11000**	50	7441171
Dissolved Sulphate (SO4)	mg/L	**-**	590	5.0	7442701
Total Cyanide (CN)	mg/L	**0.02**	<0.0050	0.0050	7440907
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	**-**	0.80	0.50	7445004
Total Oil & Grease Mineral/Synthetic	mg/L	**-**	<0.50	0.50	7445011

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

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BV Labs Job #: C1H9702
Report Date: 2021/07/12

Pinchin Ltd
Client Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Sampler Initials: JL

NONYL PHENOL AND NONYL PHENOL ETHOXYLATE (WATER)

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Miscellaneous Parameters					
Nonylphenol Ethoxylate (Total)	mg/L	**0.01**	<0.005	0.005	7442824
Nonylphenol (Total)	mg/L	**0.001**	<0.001	0.001	7442813

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

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Pinchin Ltd
Client Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Sampler Initials: JL

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Metals					
Chromium (VI)	ug/L	**40**	<0.50	0.50	7441506
Mercury (Hg)	mg/L	**0.0004**	<0.00010	0.00010	7443598
Total Aluminum (Al)	ug/L	-	53000	49	7444286
Total Antimony (Sb)	ug/L	-	<2.5	2.5	7444286
Total Arsenic (As)	ug/L	**20**	**23**	5.0	7444286
Total Barium (Ba)	ug/L	-	240	10	7444286
Total Beryllium (Be)	ug/L	-	2.3	2.0	7444286
Total Bismuth (Bi)	ug/L	-	<5.0	5.0	7444286
Total Boron (B)	ug/L	-	3700	50	7444286
Total Cadmium (Cd)	ug/L	**8**	0.62	0.45	7444286
Total Calcium (Ca)	ug/L	-	670000	1000	7444286
Total Chromium (Cr)	ug/L	**80**	73	25	7444286
Total Cobalt (Co)	ug/L	-	54	2.5	7444286
Total Copper (Cu)	ug/L	**40**	**110**	4.5	7444286
Total Iron (Fe)	ug/L	-	98000	500	7444286
Total Lead (Pb)	ug/L	**120**	35	2.5	7444286
Total Magnesium (Mg)	ug/L	-	130000	250	7444286
Total Manganese (Mn)	ug/L	**50**	**5700**	10	7444286
Total Molybdenum (Mo)	ug/L	-	8.5	2.5	7444286
Total Nickel (Ni)	ug/L	**80**	**120**	5.0	7444286
Total Phosphorus (P)	ug/L	**400**	**4700**	500	7444286
Total Potassium (K)	ug/L	-	31000	1000	7444286
Total Selenium (Se)	ug/L	**20**	<10	10	7444286
Total Silicon (Si)	ug/L	-	66000	250	7444286
Total Silver (Ag)	ug/L	**120**	1.0	0.45	7444286
Total Sodium (Na)	ug/L	-	410000	500	7444286
Total Strontium (Sr)	ug/L	-	13000	5.0	7444286
Total Thallium (Tl)	ug/L	-	0.50	0.25	7444286
Total Tin (Sn)	ug/L	-	<5.0	5.0	7444286
Total Titanium (Ti)	ug/L	-	550	25	7444286
Total Tungsten (W)	ug/L	-	<5.0	5.0	7444286

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H9702
Report Date: 2021/07/12

Pinchin Ltd
Client Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Sampler Initials: JL

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Total Uranium (U)	ug/L	-	4.2	0.50	7444286
Total Vanadium (V)	ug/L	-	93	2.5	7444286
Total Zinc (Zn)	ug/L	**40**	**280**	25	7444286
Total Zirconium (Zr)	ug/L	-	11	5.0	7444286

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Semivolatile Organics					
Acenaphthene	ug/L	-	<0.3	0.3	7443256
Acenaphthylene	ug/L	-	<0.3	0.3	7443256
Naphthalene	ug/L	-	<0.3	0.3	7443256
Di-N-butyl phthalate	ug/L	**15**	<2	2	7443256
Bis(2-ethylhexyl)phthalate	ug/L	**8.8**	<2	2	7443256
3,3'-Dichlorobenzidine	ug/L	**0.8**	<0.8	0.8	7443256
Pentachlorophenol	ug/L	**2**	<1	1	7443256
Phenanthrene	ug/L	-	<0.2	0.2	7443256
Anthracene	ug/L	-	<0.2	0.2	7443256
Fluoranthene	ug/L	-	<0.2	0.2	7443256
Pyrene	ug/L	-	<0.2	0.2	7443256
Benzo(a)anthracene	ug/L	-	<0.2	0.2	7443256
Chrysene	ug/L	-	<0.2	0.2	7443256
Benzo(b/j)fluoranthene	ug/L	-	<0.2	0.2	7443256
Benzo(k)fluoranthene	ug/L	-	<0.2	0.2	7443256
Benzo(a)pyrene	ug/L	-	<0.2	0.2	7443256
Indeno(1,2,3-cd)pyrene	ug/L	-	<0.2	0.2	7443256
Dibenzo(a,h)anthracene	ug/L	-	<0.2	0.2	7443256
Benzo(g,h,i)perylene	ug/L	-	<0.2	0.2	7443256
Dibenzo(a,i)pyrene	ug/L	-	<0.2	0.2	7443256
Benzo(e)pyrene	ug/L	-	<0.2	0.2	7443256
Perylene	ug/L	-	<0.2	0.2	7443256
Dibenzo(a,j) acridine	ug/L	-	<0.4	0.4	7443256
7H-Dibenzo(c,g) Carbazole	ug/L	-	<0.4	0.4	7443256
1,6-Dinitropyrene	ug/L	-	<0.4	0.4	7443256
1,3-Dinitropyrene	ug/L	-	<0.4	0.4	7443256
1,8-Dinitropyrene	ug/L	-	<0.4	0.4	7443256
Calculated Parameters					
Total PAHs (18 PAHs)	ug/L	-	<1	1	7435937
Surrogate Recovery (%)					
2,4,6-Tribromophenol	%	-	64		7443256

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

Pinchin Ltd
Client Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Sampler Initials: JL

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
2-Fluorobiphenyl	%	-	66		7443256
D14-Terphenyl (FS)	%	-	86		7443256
D5-Nitrobenzene	%	-	67		7443256
D8-Acenaphthylene	%	-	76		7443256

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VOLATILE ORGANICS BY GC/MS (WATER)

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Volatile Organics					
Acetone (2-Propanone)	ug/L	-	<10	10	7441544
Benzene	ug/L	**2**	0.33	0.20	7441544
Bromodichloromethane	ug/L	-	<0.50	0.50	7441544
Bromoform	ug/L	-	<1.0	1.0	7441544
Bromomethane	ug/L	-	<0.50	0.50	7441544
Carbon Tetrachloride	ug/L	-	<0.19	0.19	7441544
Chlorobenzene	ug/L	-	<0.20	0.20	7441544
Chloroform	ug/L	**2**	<0.20	0.20	7441544
Dibromochloromethane	ug/L	-	<0.50	0.50	7441544
1,2-Dichlorobenzene	ug/L	**5.6**	<0.40	0.40	7441544
1,3-Dichlorobenzene	ug/L	-	<0.40	0.40	7441544
1,4-Dichlorobenzene	ug/L	**6.8**	<0.40	0.40	7441544
Dichlorodifluoromethane (FREON 12)	ug/L	-	<1.0	1.0	7441544
1,1-Dichloroethane	ug/L	-	<0.20	0.20	7441544
1,2-Dichloroethane	ug/L	-	<0.49	0.49	7441544
1,1-Dichloroethylene	ug/L	-	<0.20	0.20	7441544
cis-1,2-Dichloroethylene	ug/L	**5.6**	<0.50	0.50	7441544
trans-1,2-Dichloroethylene	ug/L	-	<0.50	0.50	7441544
1,2-Dichloropropane	ug/L	-	<0.20	0.20	7441544
cis-1,3-Dichloropropene	ug/L	-	<0.30	0.30	7441544
trans-1,3-Dichloropropene	ug/L	**5.6**	<0.40	0.40	7441544
Ethylbenzene	ug/L	**2**	<0.20	0.20	7441544
Ethylene Dibromide	ug/L	-	<0.19	0.19	7441544
Hexane	ug/L	-	<1.0	1.0	7441544
Methylene Chloride(Dichloromethane)	ug/L	**5.2**	<2.0	2.0	7441544
Methyl Ethyl Ketone (2-Butanone)	ug/L	-	<10	10	7441544
Methyl Isobutyl Ketone	ug/L	-	<5.0	5.0	7441544
Methyl t-butyl ether (MTBE)	ug/L	-	<0.50	0.50	7441544
Styrene	ug/L	-	<0.40	0.40	7441544
1,1,1,2-Tetrachloroethane	ug/L	-	<0.50	0.50	7441544
1,1,2,2-Tetrachloroethane	ug/L	**17**	<0.40	0.40	7441544
Tetrachloroethylene	ug/L	**4.4**	<0.20	0.20	7441544

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

VOLATILE ORGANICS BY GC/MS (WATER)

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Toluene	ug/L	**2**	0.32	0.20	7441544
1,1,1-Trichloroethane	ug/L	-	<0.20	0.20	7441544
1,1,2-Trichloroethane	ug/L	-	<0.40	0.40	7441544
Trichloroethylene	ug/L	**7.6**	<0.20	0.20	7441544
Trichlorofluoromethane (FREON 11)	ug/L	-	<0.50	0.50	7441544
Vinyl Chloride	ug/L	-	<0.20	0.20	7441544
p+m-Xylene	ug/L	-	0.23	0.20	7441544
o-Xylene	ug/L	-	<0.20	0.20	7441544
Total Xylenes	ug/L	**4.4**	0.23	0.20	7441544
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	102		7441544
D4-1,2-Dichloroethane	%	-	107		7441544
D8-Toluene	%	-	97		7441544

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

Pinchin Ltd
Client Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Sampler Initials: JL

POLYCHLORINATED BIPHENYLS BY GC-ECD (WATER)

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
PCBs					
Aroclor 1016	ug/L	-	<0.01	0.01	7437571
Aroclor 1221	ug/L	-	<0.01	0.01	7437571
Aroclor 1232	ug/L	-	<0.01	0.01	7437571
Aroclor 1262	ug/L	-	<0.01	0.01	7437571
Aroclor 1268	ug/L	-	<0.01	0.01	7437571
Aroclor 1242	ug/L	-	<0.01	0.01	7437571
Aroclor 1248	ug/L	-	<0.01	0.01	7437571
Aroclor 1254	ug/L	-	<0.01	0.01	7437571
Aroclor 1260	ug/L	-	<0.01	0.01	7437571
Total PCB	ug/L	**0.4**	<0.01	0.01	7437571
Surrogate Recovery (%)					
Decachlorobiphenyl	%	**-**	78		7437571

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

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BV Labs Job #: C1H9702
Report Date: 2021/07/12

Pinchin Ltd
Client Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Sampler Initials: JL

MICROBIOLOGY (WATER)

BV Labs ID			PYU702		
Sampling Date			2021/06/29 14:10		
COC Number			834164-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Microbiological					
Escherichia coli	CFU/100mL	**200**	<10	10	7437373

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

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Pinchin Ltd
Client Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Sampler Initials: JL

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.7°C

Revised Report (2021/07/12): Burlington Storm Sewer Use Criteria included as per client request.

Sample PYU702 [MW302] : Metals Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7437571	DH	Matrix Spike	Decachlorobiphenyl	2021/06/30		82	%	60 - 130
			Aroclor 1260	2021/06/30		87	%	60 - 130
			Total PCB	2021/06/30		87	%	60 - 130
7437571	DH	Spiked Blank	Decachlorobiphenyl	2021/06/30		80	%	60 - 130
			Aroclor 1260	2021/06/30		93	%	60 - 130
			Total PCB	2021/06/30		93	%	60 - 130
7437571	DH	Method Blank	Aroclor 1016	2021/06/30	<0.01		ug/L	
			Aroclor 1221	2021/06/30	<0.01		ug/L	
			Aroclor 1232	2021/06/30	<0.01		ug/L	
			Aroclor 1262	2021/06/30	<0.01		ug/L	
			Aroclor 1268	2021/06/30	<0.01		ug/L	
			Decachlorobiphenyl	2021/06/30		72	%	60 - 130
			Aroclor 1242	2021/06/30	<0.01		ug/L	
			Aroclor 1248	2021/06/30	<0.01		ug/L	
			Aroclor 1254	2021/06/30	<0.01		ug/L	
			Aroclor 1260	2021/06/30	<0.01		ug/L	
			Total PCB	2021/06/30	<0.01		ug/L	
7437571	DH	RPD	Aroclor 1016	2021/06/30	NC		%	40
			Aroclor 1221	2021/06/30	NC		%	40
			Aroclor 1232	2021/06/30	NC		%	40
			Aroclor 1262	2021/06/30	NC		%	40
			Aroclor 1268	2021/06/30	NC		%	40
			Aroclor 1242	2021/06/30	NC		%	40
			Aroclor 1248	2021/06/30	NC		%	40
			Aroclor 1254	2021/06/30	NC		%	40
			Aroclor 1260	2021/06/30	NC		%	40
			Total PCB	2021/06/30	NC		%	40
7437851	SUR	QC Standard	Total BOD	2021/07/05		92	%	80 - 120
7437851	SUR	Method Blank	Total BOD	2021/07/05	<2		mg/L	
7437851	SUR	RPD	Total BOD	2021/07/05	NC		%	30
7440798	DRM	Matrix Spike	Phenols-4AAP	2021/07/02		102	%	80 - 120
7440798	DRM	Spiked Blank	Phenols-4AAP	2021/07/02		101	%	80 - 120
7440798	DRM	Method Blank	Phenols-4AAP	2021/07/02	<0.0010		mg/L	
7440798	DRM	RPD	Phenols-4AAP	2021/07/02	4.4		%	20
7440907	LHA	Matrix Spike	Total Cyanide (CN)	2021/07/05		98	%	80 - 120
7440907	LHA	Spiked Blank	Total Cyanide (CN)	2021/07/02		101	%	80 - 120
7440907	LHA	Method Blank	Total Cyanide (CN)	2021/07/02	<0.0050		mg/L	
7440907	LHA	RPD	Total Cyanide (CN)	2021/07/05	NC		%	20
7441171	SEK	QC Standard	Total Suspended Solids	2021/07/02		95	%	85 - 115
7441171	SEK	Method Blank	Total Suspended Solids	2021/07/02	<10		mg/L	
7441171	SEK	RPD	Total Suspended Solids	2021/07/02	NC		%	25
7441303	RTY	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2021/07/05		109	%	80 - 120
7441303	RTY	QC Standard	Total Kjeldahl Nitrogen (TKN)	2021/07/05		97	%	80 - 120
7441303	RTY	Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2021/07/05		106	%	80 - 120
7441303	RTY	Method Blank	Total Kjeldahl Nitrogen (TKN)	2021/07/05	<0.10		mg/L	
7441303	RTY	RPD	Total Kjeldahl Nitrogen (TKN)	2021/07/05	11		%	20
7441506	LLE	Matrix Spike	Chromium (VI)	2021/07/02		105	%	80 - 120
7441506	LLE	Spiked Blank	Chromium (VI)	2021/07/02		108	%	80 - 120
7441506	LLE	Method Blank	Chromium (VI)	2021/07/02	<0.50		ug/L	
7441506	LLE	RPD	Chromium (VI)	2021/07/02	0.90		%	20

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7441544	JPN	Matrix Spike	4-Bromofluorobenzene	2021/07/05		101	%	70 - 130
			D4-1,2-Dichloroethane	2021/07/05		105	%	70 - 130
			D8-Toluene	2021/07/05		99	%	70 - 130
			Acetone (2-Propanone)	2021/07/05		116	%	60 - 140
			Benzene	2021/07/05		96	%	70 - 130
			Bromodichloromethane	2021/07/05		104	%	70 - 130
			Bromoform	2021/07/05		107	%	70 - 130
			Bromomethane	2021/07/05		103	%	60 - 140
			Carbon Tetrachloride	2021/07/05		98	%	70 - 130
			Chlorobenzene	2021/07/05		101	%	70 - 130
			Chloroform	2021/07/05		99	%	70 - 130
			Dibromochloromethane	2021/07/05		101	%	70 - 130
			1,2-Dichlorobenzene	2021/07/05		97	%	70 - 130
			1,3-Dichlorobenzene	2021/07/05		96	%	70 - 130
			1,4-Dichlorobenzene	2021/07/05		111	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2021/07/05		99	%	60 - 140
			1,1-Dichloroethane	2021/07/05		98	%	70 - 130
			1,2-Dichloroethane	2021/07/05		104	%	70 - 130
			1,1-Dichloroethylene	2021/07/05		102	%	70 - 130
			cis-1,2-Dichloroethylene	2021/07/05		106	%	70 - 130
			trans-1,2-Dichloroethylene	2021/07/05		103	%	70 - 130
			1,2-Dichloropropane	2021/07/05		104	%	70 - 130
			cis-1,3-Dichloropropene	2021/07/05		117	%	70 - 130
			trans-1,3-Dichloropropene	2021/07/05		130	%	70 - 130
			Ethylbenzene	2021/07/05		95	%	70 - 130
			Ethylene Dibromide	2021/07/05		103	%	70 - 130
			Hexane	2021/07/05		105	%	70 - 130
			Methylene Chloride(Dichloromethane)	2021/07/05		116	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2021/07/05		123	%	60 - 140
			Methyl Isobutyl Ketone	2021/07/05		121	%	70 - 130
			Methyl t-butyl ether (MTBE)	2021/07/05		99	%	70 - 130
			Styrene	2021/07/05		107	%	70 - 130
			1,1,1,2-Tetrachloroethane	2021/07/05		100	%	70 - 130
			1,1,2,2-Tetrachloroethane	2021/07/05		101	%	70 - 130
			Tetrachloroethylene	2021/07/05		90	%	70 - 130
			Toluene	2021/07/05		92	%	70 - 130
			1,1,1-Trichloroethane	2021/07/05		102	%	70 - 130
			1,1,2-Trichloroethane	2021/07/05		106	%	70 - 130
			Trichloroethylene	2021/07/05		103	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2021/07/05		96	%	70 - 130
			Vinyl Chloride	2021/07/05		100	%	70 - 130
			p+m-Xylene	2021/07/05		102	%	70 - 130
			o-Xylene	2021/07/05		95	%	70 - 130
7441544	JPN	Spiked Blank	4-Bromofluorobenzene	2021/07/05		102	%	70 - 130
			D4-1,2-Dichloroethane	2021/07/05		101	%	70 - 130
			D8-Toluene	2021/07/05		100	%	70 - 130
			Acetone (2-Propanone)	2021/07/05		125	%	60 - 140
			Benzene	2021/07/05		94	%	70 - 130
			Bromodichloromethane	2021/07/05		103	%	70 - 130
			Bromoform	2021/07/05		104	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Bromomethane	2021/07/05		98	%	60 - 140
			Carbon Tetrachloride	2021/07/05		98	%	70 - 130
			Chlorobenzene	2021/07/05		100	%	70 - 130
			Chloroform	2021/07/05		98	%	70 - 130
			Dibromochloromethane	2021/07/05		99	%	70 - 130
			1,2-Dichlorobenzene	2021/07/05		95	%	70 - 130
			1,3-Dichlorobenzene	2021/07/05		95	%	70 - 130
			1,4-Dichlorobenzene	2021/07/05		109	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2021/07/05		100	%	60 - 140
			1,1-Dichloroethane	2021/07/05		97	%	70 - 130
			1,2-Dichloroethane	2021/07/05		100	%	70 - 130
			1,1-Dichloroethylene	2021/07/05		101	%	70 - 130
			cis-1,2-Dichloroethylene	2021/07/05		102	%	70 - 130
			trans-1,2-Dichloroethylene	2021/07/05		103	%	70 - 130
			1,2-Dichloropropane	2021/07/05		102	%	70 - 130
			cis-1,3-Dichloropropene	2021/07/05		107	%	70 - 130
			trans-1,3-Dichloropropene	2021/07/05		113	%	70 - 130
			Ethylbenzene	2021/07/05		96	%	70 - 130
			Ethylene Dibromide	2021/07/05		99	%	70 - 130
			Hexane	2021/07/05		103	%	70 - 130
			Methylene Chloride(Dichloromethane)	2021/07/05		113	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2021/07/05		128	%	60 - 140
			Methyl Isobutyl Ketone	2021/07/05		121	%	70 - 130
			Methyl t-butyl ether (MTBE)	2021/07/05		99	%	70 - 130
			Styrene	2021/07/05		107	%	70 - 130
			1,1,1,2-Tetrachloroethane	2021/07/05		100	%	70 - 130
			1,1,2,2-Tetrachloroethane	2021/07/05		98	%	70 - 130
			Tetrachloroethylene	2021/07/05		91	%	70 - 130
			Toluene	2021/07/05		92	%	70 - 130
			1,1,1-Trichloroethane	2021/07/05		102	%	70 - 130
			1,1,2-Trichloroethane	2021/07/05		104	%	70 - 130
			Trichloroethylene	2021/07/05		103	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2021/07/05		97	%	70 - 130
			Vinyl Chloride	2021/07/05		100	%	70 - 130
			p+m-Xylene	2021/07/05		103	%	70 - 130
			o-Xylene	2021/07/05		96	%	70 - 130
7441544	JPN	Method Blank	4-Bromofluorobenzene	2021/07/05		100	%	70 - 130
			D4-1,2-Dichloroethane	2021/07/05		102	%	70 - 130
			D8-Toluene	2021/07/05		98	%	70 - 130
			Acetone (2-Propanone)	2021/07/05	<10		ug/L	
			Benzene	2021/07/05	<0.20		ug/L	
			Bromodichloromethane	2021/07/05	<0.50		ug/L	
			Bromoform	2021/07/05	<1.0		ug/L	
			Bromomethane	2021/07/05	<0.50		ug/L	
			Carbon Tetrachloride	2021/07/05	<0.19		ug/L	
			Chlorobenzene	2021/07/05	<0.20		ug/L	
			Chloroform	2021/07/05	<0.20		ug/L	
			Dibromochloromethane	2021/07/05	<0.50		ug/L	
			1,2-Dichlorobenzene	2021/07/05	<0.40		ug/L	
			1,3-Dichlorobenzene	2021/07/05	<0.40		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,4-Dichlorobenzene	2021/07/05	<0.40		ug/L	
			Dichlorodifluoromethane (FREON 12)	2021/07/05	<1.0		ug/L	
			1,1-Dichloroethane	2021/07/05	<0.20		ug/L	
			1,2-Dichloroethane	2021/07/05	<0.49		ug/L	
			1,1-Dichloroethylene	2021/07/05	<0.20		ug/L	
			cis-1,2-Dichloroethylene	2021/07/05	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2021/07/05	<0.50		ug/L	
			1,2-Dichloropropane	2021/07/05	<0.20		ug/L	
			cis-1,3-Dichloropropene	2021/07/05	<0.30		ug/L	
			trans-1,3-Dichloropropene	2021/07/05	<0.40		ug/L	
			Ethylbenzene	2021/07/05	<0.20		ug/L	
			Ethylene Dibromide	2021/07/05	<0.19		ug/L	
			Hexane	2021/07/05	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2021/07/05	<2.0		ug/L	
			Methyl Ethyl Ketone (2-Butanone)	2021/07/05	<10		ug/L	
			Methyl Isobutyl Ketone	2021/07/05	<5.0		ug/L	
			Methyl t-butyl ether (MTBE)	2021/07/05	<0.50		ug/L	
			Styrene	2021/07/05	<0.40		ug/L	
			1,1,1,2-Tetrachloroethane	2021/07/05	<0.50		ug/L	
			1,1,2,2-Tetrachloroethane	2021/07/05	<0.40		ug/L	
			Tetrachloroethylene	2021/07/05	<0.20		ug/L	
			Toluene	2021/07/05	<0.20		ug/L	
			1,1,1-Trichloroethane	2021/07/05	<0.20		ug/L	
			1,1,2-Trichloroethane	2021/07/05	<0.40		ug/L	
			Trichloroethylene	2021/07/05	<0.20		ug/L	
			Trichlorofluoromethane (FREON 11)	2021/07/05	<0.50		ug/L	
			Vinyl Chloride	2021/07/05	<0.20		ug/L	
			p+m-Xylene	2021/07/05	<0.20		ug/L	
			o-Xylene	2021/07/05	<0.20		ug/L	
			Total Xylenes	2021/07/05	<0.20		ug/L	
7441544	JPN	RPD	Acetone (2-Propanone)	2021/07/05	NC		%	30
			Benzene	2021/07/05	NC		%	30
			Bromodichloromethane	2021/07/05	NC		%	30
			Bromoform	2021/07/05	NC		%	30
			Bromomethane	2021/07/05	NC		%	30
			Carbon Tetrachloride	2021/07/05	NC		%	30
			Chlorobenzene	2021/07/05	NC		%	30
			Chloroform	2021/07/05	1.1		%	30
			Dibromochloromethane	2021/07/05	NC		%	30
			1,2-Dichlorobenzene	2021/07/05	NC		%	30
			1,3-Dichlorobenzene	2021/07/05	NC		%	30
			1,4-Dichlorobenzene	2021/07/05	NC		%	30
			Dichlorodifluoromethane (FREON 12)	2021/07/05	NC		%	30
			1,1-Dichloroethane	2021/07/05	2.3		%	30
			1,2-Dichloroethane	2021/07/05	NC		%	30
			1,1-Dichloroethylene	2021/07/05	0.52		%	30
			cis-1,2-Dichloroethylene	2021/07/05	NC		%	30
			trans-1,2-Dichloroethylene	2021/07/05	NC		%	30
			1,2-Dichloropropane	2021/07/05	NC		%	30
			cis-1,3-Dichloropropene	2021/07/05	NC		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			trans-1,3-Dichloropropene	2021/07/05	NC		%	30
			Ethylbenzene	2021/07/05	NC		%	30
			Ethylene Dibromide	2021/07/05	NC		%	30
			Hexane	2021/07/05	NC		%	30
			Methylene Chloride(Dichloromethane)	2021/07/05	NC		%	30
			Methyl Ethyl Ketone (2-Butanone)	2021/07/05	NC		%	30
			Methyl Isobutyl Ketone	2021/07/05	NC		%	30
			Methyl t-butyl ether (MTBE)	2021/07/05	NC		%	30
			Styrene	2021/07/05	NC		%	30
			1,1,1,2-Tetrachloroethane	2021/07/05	NC		%	30
			1,1,2,2-Tetrachloroethane	2021/07/05	NC		%	30
			Tetrachloroethylene	2021/07/05	NC		%	30
			Toluene	2021/07/05	6.6		%	30
			1,1,1-Trichloroethane	2021/07/05	NC		%	30
			1,1,2-Trichloroethane	2021/07/05	NC		%	30
			Trichloroethylene	2021/07/05	3.4		%	30
			Trichlorofluoromethane (FREON 11)	2021/07/05	NC		%	30
			Vinyl Chloride	2021/07/05	NC		%	30
			p+m-Xylene	2021/07/05	NC		%	30
			o-Xylene	2021/07/05	NC		%	30
			Total Xylenes	2021/07/05	NC		%	30
7442701	ADB	Matrix Spike	Dissolved Sulphate (SO4)	2021/07/05		NC	%	75 - 125
7442701	ADB	Spiked Blank	Dissolved Sulphate (SO4)	2021/07/05		105	%	80 - 120
7442701	ADB	Method Blank	Dissolved Sulphate (SO4)	2021/07/05	<1.0		mg/L	
7442701	ADB	RPD	Dissolved Sulphate (SO4)	2021/07/05	0.77		%	20
7442813	DEO	Matrix Spike	Nonylphenol (Total)	2021/07/06		101	%	50 - 130
7442813	DEO	Spiked Blank	Nonylphenol (Total)	2021/07/06		99	%	50 - 130
7442813	DEO	Method Blank	Nonylphenol (Total)	2021/07/06	<0.001		mg/L	
7442813	DEO	RPD	Nonylphenol (Total)	2021/07/06	9.9		%	40
7442815	SAU	Matrix Spike	Fluoride (F-)	2021/07/06		102	%	80 - 120
7442815	SAU	Spiked Blank	Fluoride (F-)	2021/07/06		96	%	80 - 120
7442815	SAU	Method Blank	Fluoride (F-)	2021/07/06	<0.10		mg/L	
7442815	SAU	RPD	Fluoride (F-)	2021/07/06	14		%	20
7442820	SAU	Spiked Blank	pH	2021/07/06		102	%	98 - 103
7442820	SAU	RPD	pH	2021/07/06	0.33		%	N/A
7442824	DEO	Matrix Spike	Nonylphenol Ethoxylate (Total)	2021/07/06		67	%	50 - 130
7442824	DEO	Spiked Blank	Nonylphenol Ethoxylate (Total)	2021/07/06		94	%	50 - 130
7442824	DEO	Method Blank	Nonylphenol Ethoxylate (Total)	2021/07/06	<0.005		mg/L	
7442824	DEO	RPD	Nonylphenol Ethoxylate (Total)	2021/07/07	NC		%	40
7443256	MA	Matrix Spike	2,4,6-Tribromophenol	2021/07/05		102	%	10 - 130
			2-Fluorobiphenyl	2021/07/05		84	%	30 - 130
			Acenaphthene	2021/07/05		92	%	30 - 130
			Acenaphthylene	2021/07/05		118	%	30 - 130
			D14-Terphenyl (FS)	2021/07/05		88	%	30 - 130
			D5-Nitrobenzene	2021/07/05		85	%	30 - 130
			D8-Acenaphthylene	2021/07/05		88	%	30 - 130
			Naphthalene	2021/07/05		98	%	30 - 130
			Di-N-butyl phthalate	2021/07/05		105	%	30 - 130
			Bis(2-ethylhexyl)phthalate	2021/07/05		94	%	30 - 130
			3,3'-Dichlorobenzidine	2021/07/05		91	%	30 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Pentachlorophenol	2021/07/05		71	%	30 - 130
			Phenanthrene	2021/07/05		120	%	30 - 130
			Anthracene	2021/07/05		112	%	30 - 130
			Fluoranthene	2021/07/05		125	%	30 - 130
			Pyrene	2021/07/05		125	%	30 - 130
			Benzo(a)anthracene	2021/07/05		113	%	30 - 130
			Chrysene	2021/07/05		123	%	30 - 130
			Benzo(b/j)fluoranthene	2021/07/05		121	%	30 - 130
			Benzo(k)fluoranthene	2021/07/05		113	%	30 - 130
			Benzo(a)pyrene	2021/07/05		117	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2021/07/05		124	%	30 - 130
			Dibenzo(a,h)anthracene	2021/07/05		130	%	30 - 130
			Benzo(g,h,i)perylene	2021/07/05		125	%	30 - 130
			Dibenzo(a,i)pyrene	2021/07/05		117	%	30 - 130
			Benzo(e)pyrene	2021/07/05		112	%	30 - 130
			Perylene	2021/07/05		108	%	30 - 130
			Dibenzo(a,j) acridine	2021/07/05		122	%	30 - 130
			7H-Dibenzo(c,g) Carbazole	2021/07/05		125	%	30 - 130
			1,6-Dinitropyrene	2021/07/05		40	%	30 - 130
			1,3-Dinitropyrene	2021/07/05		78	%	30 - 130
			1,8-Dinitropyrene	2021/07/05		53	%	30 - 130
7443256	MA	Spiked Blank	2,4,6-Tribromophenol	2021/07/05		91	%	10 - 130
			2-Fluorobiphenyl	2021/07/05		81	%	30 - 130
			Acenaphthene	2021/07/05		91	%	30 - 130
			Acenaphthylene	2021/07/05		105	%	30 - 130
			D14-Terphenyl (FS)	2021/07/05		89	%	30 - 130
			D5-Nitrobenzene	2021/07/05		78	%	30 - 130
			D8-Acenaphthylene	2021/07/05		79	%	30 - 130
			Naphthalene	2021/07/05		98	%	30 - 130
			Di-N-butyl phthalate	2021/07/05		101	%	30 - 130
			Bis(2-ethylhexyl)phthalate	2021/07/05		95	%	30 - 130
			3,3'-Dichlorobenzidine	2021/07/05		98	%	30 - 130
			Pentachlorophenol	2021/07/05		43	%	30 - 130
			Phenanthrene	2021/07/05		118	%	30 - 130
			Anthracene	2021/07/05		110	%	30 - 130
			Fluoranthene	2021/07/05		125	%	30 - 130
			Pyrene	2021/07/05		125	%	30 - 130
			Benzo(a)anthracene	2021/07/05		111	%	30 - 130
			Chrysene	2021/07/05		127	%	30 - 130
			Benzo(b/j)fluoranthene	2021/07/05		121	%	30 - 130
			Benzo(k)fluoranthene	2021/07/05		112	%	30 - 130
			Benzo(a)pyrene	2021/07/05		120	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2021/07/05		118	%	30 - 130
			Dibenzo(a,h)anthracene	2021/07/05		117	%	30 - 130
			Benzo(g,h,i)perylene	2021/07/05		126	%	30 - 130
			Dibenzo(a,i)pyrene	2021/07/05		114	%	30 - 130
			Benzo(e)pyrene	2021/07/05		112	%	30 - 130
			Perylene	2021/07/05		90	%	30 - 130
			Dibenzo(a,j) acridine	2021/07/05		101	%	30 - 130
			7H-Dibenzo(c,g) Carbazole	2021/07/05		104	%	30 - 130

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,6-Dinitropyrene	2021/07/05		50	%	30 - 130
			1,3-Dinitropyrene	2021/07/05		112	%	30 - 130
			1,8-Dinitropyrene	2021/07/05		50	%	30 - 130
7443256	MA	Method Blank	2,4,6-Tribromophenol	2021/07/05		89	%	10 - 130
			2-Fluorobiphenyl	2021/07/05		72	%	30 - 130
			Acenaphthene	2021/07/05	<0.3		ug/L	
			Acenaphthylene	2021/07/05	<0.3		ug/L	
			D14-Terphenyl (FS)	2021/07/05		86	%	30 - 130
			D5-Nitrobenzene	2021/07/05		74	%	30 - 130
			D8-Acenaphthylene	2021/07/05		78	%	30 - 130
			Naphthalene	2021/07/05	<0.3		ug/L	
			Di-N-butyl phthalate	2021/07/05	<2		ug/L	
			Bis(2-ethylhexyl)phthalate	2021/07/05	<2		ug/L	
			3,3'-Dichlorobenzidine	2021/07/05	<0.8		ug/L	
			Pentachlorophenol	2021/07/05	<1		ug/L	
			Phenanthrene	2021/07/05	<0.2		ug/L	
			Anthracene	2021/07/05	<0.2		ug/L	
			Fluoranthene	2021/07/05	<0.2		ug/L	
			Pyrene	2021/07/05	<0.2		ug/L	
			Benzo(a)anthracene	2021/07/05	<0.2		ug/L	
			Chrysene	2021/07/05	<0.2		ug/L	
			Benzo(b/j)fluoranthene	2021/07/05	<0.2		ug/L	
			Benzo(k)fluoranthene	2021/07/05	<0.2		ug/L	
			Benzo(a)pyrene	2021/07/05	<0.2		ug/L	
			Indeno(1,2,3-cd)pyrene	2021/07/05	<0.2		ug/L	
			Dibenzo(a,h)anthracene	2021/07/05	<0.2		ug/L	
			Benzo(g,h,i)perylene	2021/07/05	<0.2		ug/L	
			Dibenzo(a,i)pyrene	2021/07/05	<0.2		ug/L	
			Benzo(e)pyrene	2021/07/05	<0.2		ug/L	
			Perylene	2021/07/05	<0.2		ug/L	
			Dibenzo(a,j) acridine	2021/07/05	<0.4		ug/L	
			7H-Dibenzo(c,g) Carbazole	2021/07/05	<0.4		ug/L	
			1,6-Dinitropyrene	2021/07/05	<0.4		ug/L	
			1,3-Dinitropyrene	2021/07/05	<0.4		ug/L	
			1,8-Dinitropyrene	2021/07/05	<0.4		ug/L	
7443256	MA	RPD	Phenanthrene	2021/07/05	NC		%	40
			Anthracene	2021/07/05	NC		%	40
			Fluoranthene	2021/07/05	NC		%	40
			Pyrene	2021/07/05	NC		%	40
			Benzo(a)anthracene	2021/07/05	NC		%	40
			Chrysene	2021/07/05	NC		%	40
			Benzo(b/j)fluoranthene	2021/07/05	NC		%	40
			Benzo(k)fluoranthene	2021/07/05	NC		%	40
			Benzo(a)pyrene	2021/07/05	NC		%	40
			Indeno(1,2,3-cd)pyrene	2021/07/05	NC		%	40
			Dibenzo(a,h)anthracene	2021/07/05	NC		%	40
			Benzo(g,h,i)perylene	2021/07/05	NC		%	40
			Dibenzo(a,i)pyrene	2021/07/05	NC		%	40
			Benzo(e)pyrene	2021/07/05	NC		%	40
			Perylene	2021/07/05	NC		%	40

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dibenzo(a,j) acridine	2021/07/05	NC		%	40
			7H-Dibenzo(c,g) Carbazole	2021/07/05	NC		%	40
			1,6-Dinitropyrene	2021/07/05	NC		%	40
			1,3-Dinitropyrene	2021/07/05	NC		%	40
			1,8-Dinitropyrene	2021/07/05	NC		%	40
7443598	GR1	Matrix Spike	Mercury (Hg)	2021/07/05		89	%	75 - 125
7443598	GR1	Spiked Blank	Mercury (Hg)	2021/07/05		95	%	80 - 120
7443598	GR1	Method Blank	Mercury (Hg)	2021/07/05	<0.00010		mg/L	
7443598	GR1	RPD	Mercury (Hg)	2021/07/05	NC		%	20
7444286	ADA	Matrix Spike	Total Aluminum (Al)	2021/07/06		NC	%	80 - 120
			Total Antimony (Sb)	2021/07/06		91	%	80 - 120
			Total Arsenic (As)	2021/07/06		94	%	80 - 120
			Total Barium (Ba)	2021/07/06		93	%	80 - 120
			Total Beryllium (Be)	2021/07/06		96	%	80 - 120
			Total Bismuth (Bi)	2021/07/06		89	%	80 - 120
			Total Boron (B)	2021/07/06		91	%	80 - 120
			Total Cadmium (Cd)	2021/07/06		91	%	80 - 120
			Total Calcium (Ca)	2021/07/06		NC	%	80 - 120
			Total Chromium (Cr)	2021/07/06		89	%	80 - 120
			Total Cobalt (Co)	2021/07/06		92	%	80 - 120
			Total Copper (Cu)	2021/07/06		90	%	80 - 120
			Total Iron (Fe)	2021/07/06		92	%	80 - 120
			Total Lead (Pb)	2021/07/06		94	%	80 - 120
			Total Magnesium (Mg)	2021/07/06		98	%	80 - 120
			Total Manganese (Mn)	2021/07/06		91	%	80 - 120
			Total Molybdenum (Mo)	2021/07/06		90	%	80 - 120
			Total Nickel (Ni)	2021/07/06		92	%	80 - 120
			Total Phosphorus (P)	2021/07/06		86	%	80 - 120
			Total Potassium (K)	2021/07/06		91	%	80 - 120
			Total Selenium (Se)	2021/07/06		97	%	80 - 120
			Total Silicon (Si)	2021/07/06		95	%	80 - 120
			Total Silver (Ag)	2021/07/06		90	%	80 - 120
			Total Sodium (Na)	2021/07/06		NC	%	80 - 120
			Total Strontium (Sr)	2021/07/06		87	%	80 - 120
			Total Thallium (Tl)	2021/07/06		94	%	80 - 120
			Total Tin (Sn)	2021/07/06		91	%	80 - 120
			Total Titanium (Ti)	2021/07/06		92	%	80 - 120
			Total Tungsten (W)	2021/07/06		91	%	80 - 120
			Total Uranium (U)	2021/07/06		98	%	80 - 120
			Total Vanadium (V)	2021/07/06		92	%	80 - 120
			Total Zinc (Zn)	2021/07/06		93	%	80 - 120
			Total Zirconium (Zr)	2021/07/06		92	%	80 - 120
7444286	ADA	Spiked Blank	Total Aluminum (Al)	2021/07/06		97	%	80 - 120
			Total Antimony (Sb)	2021/07/06		94	%	80 - 120
			Total Arsenic (As)	2021/07/06		95	%	80 - 120
			Total Barium (Ba)	2021/07/06		95	%	80 - 120
			Total Beryllium (Be)	2021/07/06		92	%	80 - 120
			Total Bismuth (Bi)	2021/07/06		92	%	80 - 120
			Total Boron (B)	2021/07/06		89	%	80 - 120
			Total Cadmium (Cd)	2021/07/06		93	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Calcium (Ca)	2021/07/06		96	%	80 - 120
			Total Chromium (Cr)	2021/07/06		91	%	80 - 120
			Total Cobalt (Co)	2021/07/06		93	%	80 - 120
			Total Copper (Cu)	2021/07/06		91	%	80 - 120
			Total Iron (Fe)	2021/07/06		95	%	80 - 120
			Total Lead (Pb)	2021/07/06		95	%	80 - 120
			Total Magnesium (Mg)	2021/07/06		95	%	80 - 120
			Total Manganese (Mn)	2021/07/06		93	%	80 - 120
			Total Molybdenum (Mo)	2021/07/06		91	%	80 - 120
			Total Nickel (Ni)	2021/07/06		93	%	80 - 120
			Total Phosphorus (P)	2021/07/06		95	%	80 - 120
			Total Potassium (K)	2021/07/06		94	%	80 - 120
			Total Selenium (Se)	2021/07/06		100	%	80 - 120
			Total Silicon (Si)	2021/07/06		95	%	80 - 120
			Total Silver (Ag)	2021/07/06		92	%	80 - 120
			Total Sodium (Na)	2021/07/06		92	%	80 - 120
			Total Strontium (Sr)	2021/07/06		90	%	80 - 120
			Total Thallium (Tl)	2021/07/06		93	%	80 - 120
			Total Tin (Sn)	2021/07/06		92	%	80 - 120
			Total Titanium (Ti)	2021/07/06		93	%	80 - 120
			Total Tungsten (W)	2021/07/06		91	%	80 - 120
			Total Uranium (U)	2021/07/06		96	%	80 - 120
			Total Vanadium (V)	2021/07/06		94	%	80 - 120
			Total Zinc (Zn)	2021/07/06		95	%	80 - 120
			Total Zirconium (Zr)	2021/07/06		94	%	80 - 120
7444286	ADA	Method Blank	Total Aluminum (Al)	2021/07/06	<4.9		ug/L	
			Total Antimony (Sb)	2021/07/06	<0.50		ug/L	
			Total Arsenic (As)	2021/07/06	<1.0		ug/L	
			Total Barium (Ba)	2021/07/06	<2.0		ug/L	
			Total Beryllium (Be)	2021/07/06	<0.40		ug/L	
			Total Bismuth (Bi)	2021/07/06	<1.0		ug/L	
			Total Boron (B)	2021/07/06	<10		ug/L	
			Total Cadmium (Cd)	2021/07/06	<0.090		ug/L	
			Total Calcium (Ca)	2021/07/06	<200		ug/L	
			Total Chromium (Cr)	2021/07/06	<5.0		ug/L	
			Total Cobalt (Co)	2021/07/06	<0.50		ug/L	
			Total Copper (Cu)	2021/07/06	<0.90		ug/L	
			Total Iron (Fe)	2021/07/06	<100		ug/L	
			Total Lead (Pb)	2021/07/06	<0.50		ug/L	
			Total Magnesium (Mg)	2021/07/06	<50		ug/L	
			Total Manganese (Mn)	2021/07/06	<2.0		ug/L	
			Total Molybdenum (Mo)	2021/07/06	<0.50		ug/L	
			Total Nickel (Ni)	2021/07/06	<1.0		ug/L	
			Total Phosphorus (P)	2021/07/06	<100		ug/L	
			Total Potassium (K)	2021/07/06	<200		ug/L	
			Total Selenium (Se)	2021/07/06	<2.0		ug/L	
			Total Silicon (Si)	2021/07/06	<50		ug/L	
			Total Silver (Ag)	2021/07/06	<0.090		ug/L	
			Total Sodium (Na)	2021/07/06	<100		ug/L	
			Total Strontium (Sr)	2021/07/06	<1.0		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Thallium (Tl)	2021/07/06	<0.050		ug/L	
			Total Tin (Sn)	2021/07/06	<1.0		ug/L	
			Total Titanium (Ti)	2021/07/06	<5.0		ug/L	
			Total Tungsten (W)	2021/07/06	<1.0		ug/L	
			Total Uranium (U)	2021/07/06	<0.10		ug/L	
			Total Vanadium (V)	2021/07/06	<0.50		ug/L	
			Total Zinc (Zn)	2021/07/06	<5.0		ug/L	
			Total Zirconium (Zr)	2021/07/06	<1.0		ug/L	
7444286	ADA	RPD	Total Phosphorus (P)	2021/07/06	NC		%	20
7445004	KRW	Spiked Blank	Total Oil & Grease	2021/07/06		97	%	85 - 115
7445004	KRW	RPD	Total Oil & Grease	2021/07/06	0.77		%	25
7445004	KRW	Method Blank	Total Oil & Grease	2021/07/06	<0.50		mg/L	
7445011	KRW	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2021/07/06		96	%	85 - 115
7445011	KRW	RPD	Total Oil & Grease Mineral/Synthetic	2021/07/06	3.2		%	25
7445011	KRW	Method Blank	Total Oil & Grease Mineral/Synthetic	2021/07/06	<0.50		mg/L	

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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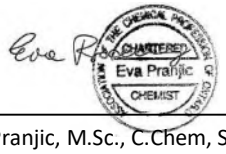
Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H9702
Report Date: 2021/07/12

Pinchin Ltd
Client Project #: 225780.004
Site Location: HALTON SEWER USE TESTING / FAIRVIEW, BURLINGTON
Sampler Initials: JL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Soham N Patel

Soham Patel, Analyst 2

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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MICRO IMMEDIATE

Bureau Veritas Laboratories
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Page 1 of 1

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#47523 Pinchin Ltd	Company Name:		Quotation #:	A70927	BV Labs Job #:	Bottle Order #: 834164
Attention:	Accounts Payable	Attention:	Brendan MacNaughton	P.O. #:			
Address:	Unit 6 875 Main St W Hamilton ON L8S 4R9	Address:		Project:	Halton Sewer Use Testing		
				Project Name:	225780.004	COC #: C#834164-01-02	Project Manager: Antonella Brasil
Tel:	(905) 577-6206 Fax: (905) 577-6207	Tel:	(705) 791-4693 Fax:	Site #:	Fairview, Burlington		
Email:	ap@pinchin.com	Email:	bmacnaughton@pinchin.com	Sampled By:	Jason Laplante		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558 ☐ Storm Sewer Bylaw
- ☐ MISA Municipality Burlington
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions
City of Burlington "Draft" Sewer Use By-Law

Include Criteria on Certificate of Analysis (Y/N)? ___

Field Filtered (please circle): Metals / Hg / Cr VI

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	pH	Total Suspended Solids	Fluoride	Total Kjeldahl Nitrogen in Water	Sulphate by Automated Colourimetry	Total Cyanide	Oil & Grease - AVI/M/T	Phenols (4AAP)	Mercury in Water by CVAA	# of Bottles	Comments
1		MW302	2021/06/29	2:10	GW	X	X	X	X	X	X	X	X	X	19	
2																
3																
4																
5																
6																
7																
8																
9																
10																

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

29-Jun-21 15:09
Antonella Brasil
C1H9702

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Jason Laplante	2021/06/29	2:10		21/06/29	1509	

Laboratory Use Only
Time Sensitive | Temperature (°C) on Recei: 10/13/13 | Custody Seal Present: Yes ✓ / No | Intact

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

ONTC

Bureau Veritas Canada (2019) Inc.

Your Project #: 225780.004
Site Location: BURLINGTON SEWER USE
Your C.O.C. #: 839272-01-01

Attention: Brendan MacNaughton

Pinchin Ltd
Unit 6
875 Main St W
Hamilton, ON
CANADA L8S 4R9

Report Date: 2021/08/09
Report #: R6756637
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1L7262
Received: 2021/08/03, 16:15

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total Metals Analysis by ICPMS	1	N/A	2021/08/03	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	1	N/A	2021/08/04	CAM SOP-00441	USGS I-2522-90 m
Field Measured pH (1)	1	N/A	2021/08/03		Field pH Meter
Field Temperature (1)	1	N/A	2021/08/03		Field Thermometer
Total Suspended Solids	1	2021/08/03	2021/08/04	CAM SOP-00428	SM 23 2540D m
Un-ionized Ammonia	1	2021/08/04	2021/08/04	Auto Calc.	PWQO

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This is a field test, therefore, the results relate to items that were not analysed at Bureau Veritas Laboratories.

Your Project #: 225780.004
Site Location: BURLINGTON SEWER USE
Your C.O.C. #: 839272-01-01

Attention: Brendan MacNaughton

Pinchin Ltd
Unit 6
875 Main St W
Hamilton, ON
CANADA L8S 4R9

Report Date: 2021/08/09
Report #: R6756637
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1L7262
Received: 2021/08/03, 16:15

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817
==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1L7262
Report Date: 2021/08/09

Pinchin Ltd
Client Project #: 225780.004
Site Location: BURLINGTON SEWER USE
Sampler Initials: JL

RESULTS OF ANALYSES OF WATER

BV Labs ID			QGS661		
Sampling Date			2021/08/03 13:00		
COC Number			839272-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Calculated Parameters					
Total Un-ionized Ammonia	mg/L	-	0.016	0.00061	7499418
Field Measurements					
Field Temperature	Celsius	-	19.9	N/A	ONSITE
Field Measured pH	pH	**6.5:8.5**	7.26		ONSITE
Inorganics					
Total Ammonia-N	mg/L	**-**	1.9	0.050	7499286
Total Suspended Solids	mg/L	**15**	**790**	10	7498472

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002
N/A = Not Applicable

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BV Labs Job #: C1L7262
Report Date: 2021/08/09

Pinchin Ltd
Client Project #: 225780.004
Site Location: BURLINGTON SEWER USE
Sampler Initials: JL

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID			QGS661		
Sampling Date			2021/08/03 13:00		
COC Number			839272-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Metals					
Total Aluminum (Al)	ug/L	-	6200	4.9	7498302
Total Antimony (Sb)	ug/L	-	<0.50	0.50	7498302
Total Arsenic (As)	ug/L	**20**	5.3	1.0	7498302
Total Barium (Ba)	ug/L	-	32	2.0	7498302
Total Beryllium (Be)	ug/L	-	<0.40	0.40	7498302
Total Bismuth (Bi)	ug/L	-	<1.0	1.0	7498302
Total Boron (B)	ug/L	-	3400	10	7498302
Total Cadmium (Cd)	ug/L	**8**	<0.090	0.090	7498302
Total Calcium (Ca)	ug/L	-	200000	1000	7498302
Total Chromium (Cr)	ug/L	**80**	9.3	5.0	7498302
Total Cobalt (Co)	ug/L	-	6.8	0.50	7498302
Total Copper (Cu)	ug/L	**40**	15	0.90	7498302
Total Iron (Fe)	ug/L	-	12000	100	7498302
Total Lead (Pb)	ug/L	**120**	4.3	0.50	7498302
Total Lithium (Li)	ug/L	-	420	5.0	7498302
Total Magnesium (Mg)	ug/L	-	69000	50	7498302
Total Manganese (Mn)	ug/L	**50**	**610**	2.0	7498302
Total Molybdenum (Mo)	ug/L	-	9.6	0.50	7498302
Total Nickel (Ni)	ug/L	**80**	15	1.0	7498302
Total Phosphorus (P)	ug/L	**400**	**460**	100	7498302
Total Potassium (K)	ug/L	-	24000	200	7498302
Total Selenium (Se)	ug/L	**20**	<2.0	2.0	7498302
Total Silicon (Si)	ug/L	-	11000	50	7498302
Total Silver (Ag)	ug/L	**120**	<0.090	0.090	7498302
Total Sodium (Na)	ug/L	-	400000	100	7498302
Total Strontium (Sr)	ug/L	-	11000	1.0	7498302
Total Tellurium (Te)	ug/L	-	<1.0	1.0	7498302
Total Thallium (Tl)	ug/L	-	0.082	0.050	7498302
Total Tin (Sn)	ug/L	-	<1.0	1.0	7498302
Total Titanium (Ti)	ug/L	-	100	5.0	7498302
Total Tungsten (W)	ug/L	-	<1.0	1.0	7498302
Total Uranium (U)	ug/L	-	0.79	0.10	7498302

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

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BV Labs Job #: C1L7262
Report Date: 2021/08/09

Pinchin Ltd
Client Project #: 225780.004
Site Location: BURLINGTON SEWER USE
Sampler Initials: JL

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID			QGS661		
Sampling Date			2021/08/03 13:00		
COC Number			839272-01-01		
	UNITS	Criteria	MW302	RDL	QC Batch
Total Vanadium (V)	ug/L	-	12	0.50	7498302
Total Zinc (Zn)	ug/L	**40**	36	5.0	7498302
Total Zirconium (Zr)	ug/L	-	2.6	1.0	7498302

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The City of Burlington Storm Sewer Discharge By-Law 86-2002

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BV Labs Job #: C1L7262
Report Date: 2021/08/09

Pinchin Ltd
Client Project #: 225780.004
Site Location: BURLINGTON SEWER USE
Sampler Initials: JL

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.7°C

Revised Report (2021/08/06): Burlington Storm Sewer Use Criteria included as per client request.

Revised Report (2021/08/09): P included in the metals scan .

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7498302	AFZ	Matrix Spike	Total Aluminum (Al)	2021/08/03		92	%	80 - 120
			Total Antimony (Sb)	2021/08/03		102	%	80 - 120
			Total Arsenic (As)	2021/08/03		96	%	80 - 120
			Total Barium (Ba)	2021/08/03		92	%	80 - 120
			Total Beryllium (Be)	2021/08/03		94	%	80 - 120
			Total Bismuth (Bi)	2021/08/03		94	%	80 - 120
			Total Boron (B)	2021/08/03		86	%	80 - 120
			Total Cadmium (Cd)	2021/08/03		96	%	80 - 120
			Total Calcium (Ca)	2021/08/03		NC	%	80 - 120
			Total Chromium (Cr)	2021/08/03		91	%	80 - 120
			Total Cobalt (Co)	2021/08/03		90	%	80 - 120
			Total Copper (Cu)	2021/08/03		94	%	80 - 120
			Total Iron (Fe)	2021/08/03		89	%	80 - 120
			Total Lead (Pb)	2021/08/03		92	%	80 - 120
			Total Lithium (Li)	2021/08/03		94	%	80 - 120
			Total Magnesium (Mg)	2021/08/03		88	%	80 - 120
			Total Manganese (Mn)	2021/08/03		NC	%	80 - 120
			Total Molybdenum (Mo)	2021/08/03		98	%	80 - 120
			Total Nickel (Ni)	2021/08/03		90	%	80 - 120
			Total Phosphorus (P)	2021/08/03		96	%	80 - 120
			Total Potassium (K)	2021/08/03		88	%	80 - 120
			Total Selenium (Se)	2021/08/03		96	%	80 - 120
			Total Silicon (Si)	2021/08/03		89	%	80 - 120
			Total Silver (Ag)	2021/08/03		95	%	80 - 120
			Total Sodium (Na)	2021/08/03		NC	%	80 - 120
			Total Strontium (Sr)	2021/08/03		88	%	80 - 120
			Total Tellurium (Te)	2021/08/03		97	%	80 - 120
			Total Thallium (Tl)	2021/08/03		90	%	80 - 120
			Total Tin (Sn)	2021/08/03		98	%	80 - 120
			Total Titanium (Ti)	2021/08/03		90	%	80 - 120
			Total Tungsten (W)	2021/08/03		93	%	80 - 120
			Total Uranium (U)	2021/08/03		88	%	80 - 120
			Total Vanadium (V)	2021/08/03		90	%	80 - 120
			Total Zinc (Zn)	2021/08/03		93	%	80 - 120
			Total Zirconium (Zr)	2021/08/03		98	%	80 - 120
7498302	AFZ	Spiked Blank	Total Aluminum (Al)	2021/08/03		95	%	80 - 120
			Total Antimony (Sb)	2021/08/03		101	%	80 - 120
			Total Arsenic (As)	2021/08/03		97	%	80 - 120
			Total Barium (Ba)	2021/08/03		94	%	80 - 120
			Total Beryllium (Be)	2021/08/03		95	%	80 - 120
			Total Bismuth (Bi)	2021/08/03		97	%	80 - 120
			Total Boron (B)	2021/08/03		89	%	80 - 120
			Total Cadmium (Cd)	2021/08/03		96	%	80 - 120
			Total Calcium (Ca)	2021/08/03		96	%	80 - 120
			Total Chromium (Cr)	2021/08/03		92	%	80 - 120
			Total Cobalt (Co)	2021/08/03		93	%	80 - 120
			Total Copper (Cu)	2021/08/03		94	%	80 - 120
			Total Iron (Fe)	2021/08/03		92	%	80 - 120
			Total Lead (Pb)	2021/08/03		94	%	80 - 120
			Total Lithium (Li)	2021/08/03		95	%	80 - 120
			Total Magnesium (Mg)	2021/08/03		92	%	80 - 120

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Manganese (Mn)	2021/08/03		93	%	80 - 120
			Total Molybdenum (Mo)	2021/08/03		96	%	80 - 120
			Total Nickel (Ni)	2021/08/03		93	%	80 - 120
			Total Phosphorus (P)	2021/08/03		93	%	80 - 120
			Total Potassium (K)	2021/08/03		92	%	80 - 120
			Total Selenium (Se)	2021/08/03		101	%	80 - 120
			Total Silicon (Si)	2021/08/03		92	%	80 - 120
			Total Silver (Ag)	2021/08/03		95	%	80 - 120
			Total Sodium (Na)	2021/08/03		93	%	80 - 120
			Total Strontium (Sr)	2021/08/03		94	%	80 - 120
			Total Tellurium (Te)	2021/08/03		98	%	80 - 120
			Total Thallium (Tl)	2021/08/03		92	%	80 - 120
			Total Tin (Sn)	2021/08/03		96	%	80 - 120
			Total Titanium (Ti)	2021/08/03		93	%	80 - 120
			Total Tungsten (W)	2021/08/03		93	%	80 - 120
			Total Uranium (U)	2021/08/03		89	%	80 - 120
			Total Vanadium (V)	2021/08/03		92	%	80 - 120
			Total Zinc (Zn)	2021/08/03		99	%	80 - 120
			Total Zirconium (Zr)	2021/08/03		96	%	80 - 120
7498302	AFZ	Method Blank	Total Aluminum (Al)	2021/08/03	<4.9		ug/L	
			Total Antimony (Sb)	2021/08/03	<0.50		ug/L	
			Total Arsenic (As)	2021/08/03	<1.0		ug/L	
			Total Barium (Ba)	2021/08/03	<2.0		ug/L	
			Total Beryllium (Be)	2021/08/03	<0.40		ug/L	
			Total Bismuth (Bi)	2021/08/03	<1.0		ug/L	
			Total Boron (B)	2021/08/03	<10		ug/L	
			Total Cadmium (Cd)	2021/08/03	<0.090		ug/L	
			Total Calcium (Ca)	2021/08/03	<200		ug/L	
			Total Chromium (Cr)	2021/08/03	<5.0		ug/L	
			Total Cobalt (Co)	2021/08/03	<0.50		ug/L	
			Total Copper (Cu)	2021/08/03	<0.90		ug/L	
			Total Iron (Fe)	2021/08/03	<100		ug/L	
			Total Lead (Pb)	2021/08/03	<0.50		ug/L	
			Total Lithium (Li)	2021/08/03	<5.0		ug/L	
			Total Magnesium (Mg)	2021/08/03	<50		ug/L	
			Total Manganese (Mn)	2021/08/03	<2.0		ug/L	
			Total Molybdenum (Mo)	2021/08/03	<0.50		ug/L	
			Total Nickel (Ni)	2021/08/03	<1.0		ug/L	
			Total Phosphorus (P)	2021/08/03	<100		ug/L	
			Total Potassium (K)	2021/08/03	<200		ug/L	
			Total Selenium (Se)	2021/08/03	<2.0		ug/L	
			Total Silicon (Si)	2021/08/03	<50		ug/L	
			Total Silver (Ag)	2021/08/03	<0.090		ug/L	
			Total Sodium (Na)	2021/08/03	<100		ug/L	
			Total Strontium (Sr)	2021/08/03	<1.0		ug/L	
			Total Tellurium (Te)	2021/08/03	<1.0		ug/L	
			Total Thallium (Tl)	2021/08/03	<0.050		ug/L	
			Total Tin (Sn)	2021/08/03	<1.0		ug/L	
			Total Titanium (Ti)	2021/08/03	<5.0		ug/L	
			Total Tungsten (W)	2021/08/03	<1.0		ug/L	
			Total Uranium (U)	2021/08/03	<0.10		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Vanadium (V)	2021/08/03	<0.50		ug/L	
			Total Zinc (Zn)	2021/08/03	<5.0		ug/L	
			Total Zirconium (Zr)	2021/08/03	<1.0		ug/L	
7498302	AFZ	RPD	Total Aluminum (Al)	2021/08/03	2.0		%	20
			Total Antimony (Sb)	2021/08/03	0.80		%	20
			Total Arsenic (As)	2021/08/03	7.0		%	20
			Total Barium (Ba)	2021/08/03	1.6		%	20
			Total Beryllium (Be)	2021/08/03	NC		%	20
			Total Bismuth (Bi)	2021/08/03	NC		%	20
			Total Boron (B)	2021/08/03	5.7		%	20
			Total Cadmium (Cd)	2021/08/03	19		%	20
			Total Calcium (Ca)	2021/08/03	0.29		%	20
			Total Chromium (Cr)	2021/08/03	NC		%	20
			Total Cobalt (Co)	2021/08/03	14		%	20
			Total Copper (Cu)	2021/08/03	8.5		%	20
			Total Iron (Fe)	2021/08/03	2.1		%	20
			Total Lead (Pb)	2021/08/03	0.97		%	20
			Total Lithium (Li)	2021/08/03	11		%	20
			Total Magnesium (Mg)	2021/08/03	2.8		%	20
			Total Manganese (Mn)	2021/08/03	0.13		%	20
			Total Molybdenum (Mo)	2021/08/03	8.7		%	20
			Total Nickel (Ni)	2021/08/03	7.1		%	20
			Total Phosphorus (P)	2021/08/03	NC		%	20
			Total Potassium (K)	2021/08/03	0.17		%	20
			Total Selenium (Se)	2021/08/03	3.2		%	20
			Total Silicon (Si)	2021/08/03	0.0030		%	20
			Total Silver (Ag)	2021/08/03	9.5		%	20
			Total Sodium (Na)	2021/08/03	1.2		%	20
			Total Strontium (Sr)	2021/08/03	1.2		%	20
			Total Tellurium (Te)	2021/08/03	NC		%	20
			Total Thallium (Tl)	2021/08/03	12		%	20
			Total Tin (Sn)	2021/08/03	NC		%	20
			Total Titanium (Ti)	2021/08/03	NC		%	20
			Total Tungsten (W)	2021/08/03	NC		%	20
			Total Uranium (U)	2021/08/03	5.5		%	20
			Total Vanadium (V)	2021/08/03	NC		%	20
			Total Zinc (Zn)	2021/08/03	1.1		%	20
			Total Zirconium (Zr)	2021/08/03	NC		%	20
7498472	SEK	QC Standard	Total Suspended Solids	2021/08/04		99	%	85 - 115
7498472	SEK	Method Blank	Total Suspended Solids	2021/08/04	<10		mg/L	
7498472	SEK	RPD	Total Suspended Solids	2021/08/04	NC		%	25
7499286	ASP	Matrix Spike	Total Ammonia-N	2021/08/04		100	%	75 - 125
7499286	ASP	Spiked Blank	Total Ammonia-N	2021/08/04		97	%	80 - 120
7499286	ASP	Method Blank	Total Ammonia-N	2021/08/04	<0.050		mg/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7499286	ASP	RPD	Total Ammonia-N	2021/08/04	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Antonella Brasil, Senior Project Manager

Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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CHAIN

Page | of

03-Aug-21 16:15

Antonella Brasil

C1L7262

ASR ENV-589

C#839272-01-01

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#47523 Pinchin Ltd	Company Name:		Quotation #:	C13183
Attention:	Accounts Payable	Attention:	Brendan MacNaughton	P.O. #:	
Address:	Unit 6 875 Main St W Hamilton ON L8S 4R9	Address:		Project:	225780.004
Tel:	(905) 577-6206 Fax: (905) 577-6207	Tel:	(705) 791-4693 Fax:	Project Name:	
Email:	ap@pinchin.com	Email:	bmacnaughton@pinchin.com	Site #:	Burlington Sewer Use Testing
				Sampled By:	Jason Laplante

Order #: 2

Project Manager: Antonella Brasil

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA ☐ Municipality Burlington ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions:

Include Criteria on Certificate of Analysis (Y/N)? ____

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Total Suspended Solids	Total Metals Analysis - including Fe by ICPMS	Total Ammonia-N							# of Bottles	Comments
1		MW302	2021/08/03		GW	not	X	X	X							3	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: ☐

(will be applied if Rush TAT is not specified)

Standard TAT = 5-7 Working days for most tests.

Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)

Date Required: 1 day Time Required: ☒

Rush Confirmation Number: ABR072915 *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time
Jason Laplante	2021/08/03	2:25		2021/08/04	16:15

jars used and not submitted

Laboratory Use Only

Time Sensitive

Temperature (°C) on Recei: 7.0/6

Custody Seal Present: Yes ☑ No ☐

Intact: Yes ☐ No ☐

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: 225780.004
Your C.O.C. #: 849002-01-01

Attention: Craig Kelly

Pinchin Ltd
Unit 6
875 Main St W
Hamilton, ON
CANADA L8S 4R9

Report Date: 2021/10/15
Report #: R6854899
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1T2507
Received: 2021/10/07, 17:05

Sample Matrix: Ground Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Metals by ICPMS	1	N/A	2021/10/14	CAM SOP-00447	EPA 6020B m
Total Metals Analysis by ICPMS	1	N/A	2021/10/14	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	1	N/A	2021/10/14	CAM SOP-00441	USGS I-2522-90 m
Total Suspended Solids	1	2021/10/12	2021/10/13	CAM SOP-00428	SM 23 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: 225780.004
Your C.O.C. #: 849002-01-01

Attention: Craig Kelly

Pinchin Ltd
Unit 6
875 Main St W
Hamilton, ON
CANADA L8S 4R9

Report Date: 2021/10/15
Report #: R6854899
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1T2507
Received: 2021/10/07, 17:05

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1T2507
Report Date: 2021/10/15

Pinchin Ltd
Client Project #: 225780.004
Sampler Initials: JL

RESULTS OF ANALYSES OF GROUND WATER

BV Labs ID		QWO292		
Sampling Date		2021/10/06 13:05		
COC Number		849002-01-01		
	UNITS	MW302	RDL	QC Batch
Inorganics				
Total Ammonia-N	mg/L	1.9	0.050	7633520
Total Suspended Solids	mg/L	1400	20	7629029

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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ELEMENTS BY ATOMIC SPECTROSCOPY (GROUND WATER)

BV Labs ID		QWO292		
Sampling Date		2021/10/06 13:05		
COC Number		849002-01-01		
	UNITS	MW302	RDL	QC Batch
Metals				
Dissolved Aluminum (Al)	ug/L	400	4.9	7630627
Total Aluminum (Al)	ug/L	13000	4.9	7633286
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7630627
Total Antimony (Sb)	ug/L	<0.50	0.50	7633286
Dissolved Arsenic (As)	ug/L	3.0	1.0	7630627
Total Arsenic (As)	ug/L	7.5	1.0	7633286
Dissolved Barium (Ba)	ug/L	19	2.0	7630627
Total Barium (Ba)	ug/L	58	2.0	7633286
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7630627
Total Beryllium (Be)	ug/L	0.68	0.40	7633286
Dissolved Bismuth (Bi)	ug/L	<1.0	1.0	7630627
Total Bismuth (Bi)	ug/L	<1.0	1.0	7633286
Dissolved Boron (B)	ug/L	3800	10	7630627
Total Boron (B)	ug/L	3800	10	7633286
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7630627
Total Cadmium (Cd)	ug/L	0.16	0.090	7633286
Dissolved Calcium (Ca)	ug/L	180000	1000	7630627
Total Calcium (Ca)	ug/L	270000	1000	7633286
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7630627
Total Chromium (Cr)	ug/L	19	5.0	7633286
Dissolved Cobalt (Co)	ug/L	0.59	0.50	7630627
Total Cobalt (Co)	ug/L	14	0.50	7633286
Dissolved Copper (Cu)	ug/L	2.2	0.90	7630627
Total Copper (Cu)	ug/L	26	0.90	7633286
Dissolved Iron (Fe)	ug/L	1200	100	7630627
Total Iron (Fe)	ug/L	23000	100	7633286
Dissolved Lead (Pb)	ug/L	0.56	0.50	7630627
Total Lead (Pb)	ug/L	7.9	0.50	7633286
Dissolved Lithium (Li)	ug/L	400	5.0	7630627
Total Lithium (Li)	ug/L	450	5.0	7633286
Dissolved Magnesium (Mg)	ug/L	67000	50	7630627
Total Magnesium (Mg)	ug/L	80000	50	7633286
Dissolved Manganese (Mn)	ug/L	210	2.0	7630627
Total Manganese (Mn)	ug/L	1200	2.0	7633286
Dissolved Molybdenum (Mo)	ug/L	9.8	0.50	7630627

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

ELEMENTS BY ATOMIC SPECTROSCOPY (GROUND WATER)

BV Labs ID		QWO292		
Sampling Date		2021/10/06 13:05		
COC Number		849002-01-01		
	UNITS	MW302	RDL	QC Batch
Total Molybdenum (Mo)	ug/L	10	0.50	7633286
Dissolved Nickel (Ni)	ug/L	1.3	1.0	7630627
Total Nickel (Ni)	ug/L	29	1.0	7633286
Dissolved Phosphorus (P)	ug/L	160	100	7630627
Dissolved Potassium (K)	ug/L	27000	200	7630627
Total Potassium (K)	ug/L	28000	200	7633286
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7630627
Total Selenium (Se)	ug/L	<2.0	2.0	7633286
Dissolved Silicon (Si)	ug/L	5000	50	7630627
Total Silicon (Si)	ug/L	22000	50	7633286
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7630627
Total Silver (Ag)	ug/L	0.21	0.090	7633286
Dissolved Sodium (Na)	ug/L	420000	100	7630627
Total Sodium (Na)	ug/L	420000	100	7633286
Dissolved Strontium (Sr)	ug/L	11000	1.0	7630627
Total Strontium (Sr)	ug/L	12000	1.0	7633286
Dissolved Tellurium (Te)	ug/L	<1.0	1.0	7630627
Total Tellurium (Te)	ug/L	<1.0	1.0	7633286
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7630627
Total Thallium (Tl)	ug/L	0.14	0.050	7633286
Dissolved Tin (Sn)	ug/L	<1.0	1.0	7630627
Total Tin (Sn)	ug/L	<1.0	1.0	7633286
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7630627
Total Titanium (Ti)	ug/L	180	5.0	7633286
Dissolved Tungsten (W)	ug/L	<1.0	1.0	7630627
Total Tungsten (W)	ug/L	1.5	1.0	7633286
Dissolved Uranium (U)	ug/L	1.3	0.10	7630627
Total Uranium (U)	ug/L	1.3	0.10	7633286
Dissolved Vanadium (V)	ug/L	0.83	0.50	7630627
Total Vanadium (V)	ug/L	24	0.50	7633286
Dissolved Zinc (Zn)	ug/L	5.1	5.0	7630627
Total Zinc (Zn)	ug/L	86	5.0	7633286
Dissolved Zirconium (Zr)	ug/L	<1.0	1.0	7630627
Total Zirconium (Zr)	ug/L	6.7	1.0	7633286

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7629029	SEK	QC Standard	Total Suspended Solids	2021/10/13		99	%	85 - 115
7629029	SEK	Method Blank	Total Suspended Solids	2021/10/13	<10		mg/L	
7629029	SEK	RPD	Total Suspended Solids	2021/10/13	0		%	25
7630627	N_R	Matrix Spike	Dissolved Aluminum (Al)	2021/10/14		110	%	80 - 120
			Dissolved Antimony (Sb)	2021/10/14		108	%	80 - 120
			Dissolved Arsenic (As)	2021/10/14		100	%	80 - 120
			Dissolved Barium (Ba)	2021/10/14		103	%	80 - 120
			Dissolved Beryllium (Be)	2021/10/14		104	%	80 - 120
			Dissolved Bismuth (Bi)	2021/10/14		88	%	80 - 120
			Dissolved Boron (B)	2021/10/14		103	%	80 - 120
			Dissolved Cadmium (Cd)	2021/10/14		101	%	80 - 120
			Dissolved Calcium (Ca)	2021/10/14		NC	%	80 - 120
			Dissolved Chromium (Cr)	2021/10/14		100	%	80 - 120
			Dissolved Cobalt (Co)	2021/10/14		98	%	80 - 120
			Dissolved Copper (Cu)	2021/10/14		102	%	80 - 120
			Dissolved Iron (Fe)	2021/10/14		98	%	80 - 120
			Dissolved Lead (Pb)	2021/10/14		89	%	80 - 120
			Dissolved Lithium (Li)	2021/10/14		100	%	80 - 120
			Dissolved Magnesium (Mg)	2021/10/14		NC	%	80 - 120
			Dissolved Manganese (Mn)	2021/10/14		102	%	80 - 120
			Dissolved Molybdenum (Mo)	2021/10/14		118	%	80 - 120
			Dissolved Nickel (Ni)	2021/10/14		90	%	80 - 120
			Dissolved Phosphorus (P)	2021/10/14		127 (1)	%	80 - 120
			Dissolved Potassium (K)	2021/10/14		107	%	80 - 120
			Dissolved Selenium (Se)	2021/10/14		100	%	80 - 120
			Dissolved Silicon (Si)	2021/10/14		110	%	80 - 120
			Dissolved Silver (Ag)	2021/10/14		97	%	80 - 120
			Dissolved Sodium (Na)	2021/10/14		NC	%	80 - 120
			Dissolved Strontium (Sr)	2021/10/14		NC	%	80 - 120
			Dissolved Tellurium (Te)	2021/10/14		98	%	80 - 120
			Dissolved Thallium (Tl)	2021/10/14		90	%	80 - 120
			Dissolved Tin (Sn)	2021/10/14		109	%	80 - 120
			Dissolved Titanium (Ti)	2021/10/14		106	%	80 - 120
			Dissolved Tungsten (W)	2021/10/14		99	%	80 - 120
			Dissolved Uranium (U)	2021/10/14		91	%	80 - 120
			Dissolved Vanadium (V)	2021/10/14		103	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/14		93	%	80 - 120
			Dissolved Zirconium (Zr)	2021/10/14		117	%	80 - 120
7630627	N_R	Spiked Blank	Dissolved Aluminum (Al)	2021/10/14		103	%	80 - 120
			Dissolved Antimony (Sb)	2021/10/14		104	%	80 - 120
			Dissolved Arsenic (As)	2021/10/14		100	%	80 - 120
			Dissolved Barium (Ba)	2021/10/14		103	%	80 - 120
			Dissolved Beryllium (Be)	2021/10/14		104	%	80 - 120
			Dissolved Bismuth (Bi)	2021/10/14		97	%	80 - 120
			Dissolved Boron (B)	2021/10/14		102	%	80 - 120
			Dissolved Cadmium (Cd)	2021/10/14		101	%	80 - 120
			Dissolved Calcium (Ca)	2021/10/14		103	%	80 - 120
			Dissolved Chromium (Cr)	2021/10/14		100	%	80 - 120
			Dissolved Cobalt (Co)	2021/10/14		99	%	80 - 120
			Dissolved Copper (Cu)	2021/10/14		102	%	80 - 120
			Dissolved Iron (Fe)	2021/10/14		98	%	80 - 120
			Dissolved Lead (Pb)	2021/10/14		95	%	80 - 120

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Lithium (Li)	2021/10/14		100	%	80 - 120
			Dissolved Magnesium (Mg)	2021/10/14		102	%	80 - 120
			Dissolved Manganese (Mn)	2021/10/14		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2021/10/14		107	%	80 - 120
			Dissolved Nickel (Ni)	2021/10/14		95	%	80 - 120
			Dissolved Phosphorus (P)	2021/10/14		123 (1)	%	80 - 120
			Dissolved Potassium (K)	2021/10/14		105	%	80 - 120
			Dissolved Selenium (Se)	2021/10/14		99	%	80 - 120
			Dissolved Silicon (Si)	2021/10/14		103	%	80 - 120
			Dissolved Silver (Ag)	2021/10/14		102	%	80 - 120
			Dissolved Sodium (Na)	2021/10/14		100	%	80 - 120
			Dissolved Strontium (Sr)	2021/10/14		100	%	80 - 120
			Dissolved Tellurium (Te)	2021/10/14		104	%	80 - 120
			Dissolved Thallium (Tl)	2021/10/14		98	%	80 - 120
			Dissolved Tin (Sn)	2021/10/14		102	%	80 - 120
			Dissolved Titanium (Ti)	2021/10/14		99	%	80 - 120
			Dissolved Tungsten (W)	2021/10/14		99	%	80 - 120
			Dissolved Uranium (U)	2021/10/14		93	%	80 - 120
			Dissolved Vanadium (V)	2021/10/14		99	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/14		99	%	80 - 120
			Dissolved Zirconium (Zr)	2021/10/14		105	%	80 - 120
7630627	N_R	Method Blank	Dissolved Aluminum (Al)	2021/10/14	<4.9		ug/L	
			Dissolved Antimony (Sb)	2021/10/14	<0.50		ug/L	
			Dissolved Arsenic (As)	2021/10/14	<1.0		ug/L	
			Dissolved Barium (Ba)	2021/10/14	<2.0		ug/L	
			Dissolved Beryllium (Be)	2021/10/14	<0.40		ug/L	
			Dissolved Bismuth (Bi)	2021/10/14	<1.0		ug/L	
			Dissolved Boron (B)	2021/10/14	<10		ug/L	
			Dissolved Cadmium (Cd)	2021/10/14	<0.090		ug/L	
			Dissolved Calcium (Ca)	2021/10/14	<200		ug/L	
			Dissolved Chromium (Cr)	2021/10/14	<5.0		ug/L	
			Dissolved Cobalt (Co)	2021/10/14	<0.50		ug/L	
			Dissolved Copper (Cu)	2021/10/14	<0.90		ug/L	
			Dissolved Iron (Fe)	2021/10/14	<100		ug/L	
			Dissolved Lead (Pb)	2021/10/14	<0.50		ug/L	
			Dissolved Lithium (Li)	2021/10/14	<5.0		ug/L	
			Dissolved Magnesium (Mg)	2021/10/14	<50		ug/L	
			Dissolved Manganese (Mn)	2021/10/14	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2021/10/14	<0.50		ug/L	
			Dissolved Nickel (Ni)	2021/10/14	<1.0		ug/L	
			Dissolved Phosphorus (P)	2021/10/14	<100		ug/L	
			Dissolved Potassium (K)	2021/10/14	<200		ug/L	
			Dissolved Selenium (Se)	2021/10/14	<2.0		ug/L	
			Dissolved Silicon (Si)	2021/10/14	<50		ug/L	
			Dissolved Silver (Ag)	2021/10/14	<0.090		ug/L	
			Dissolved Sodium (Na)	2021/10/14	<100		ug/L	
			Dissolved Strontium (Sr)	2021/10/14	<1.0		ug/L	
			Dissolved Tellurium (Te)	2021/10/14	<1.0		ug/L	
			Dissolved Thallium (Tl)	2021/10/14	<0.050		ug/L	
			Dissolved Tin (Sn)	2021/10/14	<1.0		ug/L	
			Dissolved Titanium (Ti)	2021/10/14	<5.0		ug/L	
			Dissolved Tungsten (W)	2021/10/14	<1.0		ug/L	

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Uranium (U)	2021/10/14	<0.10		ug/L	
			Dissolved Vanadium (V)	2021/10/14	<0.50		ug/L	
			Dissolved Zinc (Zn)	2021/10/14	<5.0		ug/L	
			Dissolved Zirconium (Zr)	2021/10/14	<1.0		ug/L	
7630627	N_R	RPD	Dissolved Antimony (Sb)	2021/10/15	4.4		%	20
			Dissolved Arsenic (As)	2021/10/15	0.67		%	20
			Dissolved Barium (Ba)	2021/10/15	0.56		%	20
			Dissolved Beryllium (Be)	2021/10/15	NC		%	20
			Dissolved Boron (B)	2021/10/15	1.9		%	20
			Dissolved Cadmium (Cd)	2021/10/15	NC		%	20
			Dissolved Chromium (Cr)	2021/10/15	NC		%	20
			Dissolved Cobalt (Co)	2021/10/15	2.0		%	20
			Dissolved Copper (Cu)	2021/10/15	2.5		%	20
			Dissolved Lead (Pb)	2021/10/15	NC		%	20
			Dissolved Molybdenum (Mo)	2021/10/15	1.1		%	20
			Dissolved Nickel (Ni)	2021/10/15	0.59		%	20
			Dissolved Selenium (Se)	2021/10/15	NC		%	20
			Dissolved Silver (Ag)	2021/10/15	NC		%	20
			Dissolved Sodium (Na)	2021/10/15	1.6		%	20
			Dissolved Thallium (Tl)	2021/10/15	NC		%	20
			Dissolved Uranium (U)	2021/10/15	1.6		%	20
			Dissolved Vanadium (V)	2021/10/15	0.92		%	20
			Dissolved Zinc (Zn)	2021/10/15	NC		%	20
7633286	N_R	Matrix Spike	Total Aluminum (Al)	2021/10/14		NC	%	80 - 120
			Total Antimony (Sb)	2021/10/14		108	%	80 - 120
			Total Arsenic (As)	2021/10/14		106	%	80 - 120
			Total Barium (Ba)	2021/10/14		102	%	80 - 120
			Total Beryllium (Be)	2021/10/14		108	%	80 - 120
			Total Bismuth (Bi)	2021/10/14		100	%	80 - 120
			Total Boron (B)	2021/10/14		NC	%	80 - 120
			Total Cadmium (Cd)	2021/10/14		105	%	80 - 120
			Total Calcium (Ca)	2021/10/14		NC	%	80 - 120
			Total Chromium (Cr)	2021/10/14		105	%	80 - 120
			Total Cobalt (Co)	2021/10/14		105	%	80 - 120
			Total Copper (Cu)	2021/10/14		108	%	80 - 120
			Total Iron (Fe)	2021/10/14		101	%	80 - 120
			Total Lead (Pb)	2021/10/14		102	%	80 - 120
			Total Lithium (Li)	2021/10/14		104	%	80 - 120
			Total Magnesium (Mg)	2021/10/14		107	%	80 - 120
			Total Manganese (Mn)	2021/10/14		103	%	80 - 120
			Total Molybdenum (Mo)	2021/10/14		109	%	80 - 120
			Total Nickel (Ni)	2021/10/14		103	%	80 - 120
			Total Potassium (K)	2021/10/14		105	%	80 - 120
			Total Selenium (Se)	2021/10/14		109	%	80 - 120
			Total Silicon (Si)	2021/10/14		105	%	80 - 120
			Total Silver (Ag)	2021/10/14		106	%	80 - 120
			Total Sodium (Na)	2021/10/14		NC	%	80 - 120
			Total Strontium (Sr)	2021/10/14		102	%	80 - 120
			Total Tellurium (Te)	2021/10/14		107	%	80 - 120
			Total Thallium (Tl)	2021/10/14		101	%	80 - 120
			Total Tin (Sn)	2021/10/14		103	%	80 - 120
			Total Titanium (Ti)	2021/10/14		99	%	80 - 120

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Tungsten (W)	2021/10/14		108	%	80 - 120
			Total Uranium (U)	2021/10/14		104	%	80 - 120
			Total Vanadium (V)	2021/10/14		104	%	80 - 120
			Total Zinc (Zn)	2021/10/14		109	%	80 - 120
			Total Zirconium (Zr)	2021/10/14		94	%	80 - 120
7633286	N_R	Spiked Blank	Total Aluminum (Al)	2021/10/14		101	%	80 - 120
			Total Antimony (Sb)	2021/10/14		106	%	80 - 120
			Total Arsenic (As)	2021/10/14		102	%	80 - 120
			Total Barium (Ba)	2021/10/14		100	%	80 - 120
			Total Beryllium (Be)	2021/10/14		102	%	80 - 120
			Total Bismuth (Bi)	2021/10/14		99	%	80 - 120
			Total Boron (B)	2021/10/14		99	%	80 - 120
			Total Cadmium (Cd)	2021/10/14		104	%	80 - 120
			Total Calcium (Ca)	2021/10/14		100	%	80 - 120
			Total Chromium (Cr)	2021/10/14		100	%	80 - 120
			Total Cobalt (Co)	2021/10/14		102	%	80 - 120
			Total Copper (Cu)	2021/10/14		105	%	80 - 120
			Total Iron (Fe)	2021/10/14		98	%	80 - 120
			Total Lead (Pb)	2021/10/14		101	%	80 - 120
			Total Lithium (Li)	2021/10/14		98	%	80 - 120
			Total Magnesium (Mg)	2021/10/14		99	%	80 - 120
			Total Manganese (Mn)	2021/10/14		98	%	80 - 120
			Total Molybdenum (Mo)	2021/10/14		106	%	80 - 120
			Total Nickel (Ni)	2021/10/14		97	%	80 - 120
			Total Potassium (K)	2021/10/14		101	%	80 - 120
			Total Selenium (Se)	2021/10/14		107	%	80 - 120
			Total Silicon (Si)	2021/10/14		102	%	80 - 120
			Total Silver (Ag)	2021/10/14		104	%	80 - 120
			Total Sodium (Na)	2021/10/14		101	%	80 - 120
			Total Strontium (Sr)	2021/10/14		96	%	80 - 120
			Total Tellurium (Te)	2021/10/14		105	%	80 - 120
			Total Thallium (Tl)	2021/10/14		103	%	80 - 120
			Total Tin (Sn)	2021/10/14		102	%	80 - 120
			Total Titanium (Ti)	2021/10/14		97	%	80 - 120
			Total Tungsten (W)	2021/10/14		105	%	80 - 120
			Total Uranium (U)	2021/10/14		103	%	80 - 120
			Total Vanadium (V)	2021/10/14		99	%	80 - 120
			Total Zinc (Zn)	2021/10/14		104	%	80 - 120
			Total Zirconium (Zr)	2021/10/14		104	%	80 - 120
7633286	N_R	Method Blank	Total Aluminum (Al)	2021/10/14	<4.9		ug/L	
			Total Antimony (Sb)	2021/10/14	<0.50		ug/L	
			Total Arsenic (As)	2021/10/14	<1.0		ug/L	
			Total Barium (Ba)	2021/10/14	<2.0		ug/L	
			Total Beryllium (Be)	2021/10/14	<0.40		ug/L	
			Total Bismuth (Bi)	2021/10/14	<1.0		ug/L	
			Total Boron (B)	2021/10/14	<10		ug/L	
			Total Cadmium (Cd)	2021/10/14	<0.090		ug/L	
			Total Calcium (Ca)	2021/10/14	<200		ug/L	
			Total Chromium (Cr)	2021/10/14	<5.0		ug/L	
			Total Cobalt (Co)	2021/10/14	<0.50		ug/L	
			Total Copper (Cu)	2021/10/14	<0.90		ug/L	
			Total Iron (Fe)	2021/10/14	<100		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Lead (Pb)	2021/10/14	<0.50		ug/L	
			Total Lithium (Li)	2021/10/14	<5.0		ug/L	
			Total Magnesium (Mg)	2021/10/14	<50		ug/L	
			Total Manganese (Mn)	2021/10/14	<2.0		ug/L	
			Total Molybdenum (Mo)	2021/10/14	<0.50		ug/L	
			Total Nickel (Ni)	2021/10/14	<1.0		ug/L	
			Total Potassium (K)	2021/10/14	<200		ug/L	
			Total Selenium (Se)	2021/10/14	<2.0		ug/L	
			Total Silicon (Si)	2021/10/14	<50		ug/L	
			Total Silver (Ag)	2021/10/14	<0.090		ug/L	
			Total Sodium (Na)	2021/10/14	<100		ug/L	
			Total Strontium (Sr)	2021/10/14	<1.0		ug/L	
			Total Tellurium (Te)	2021/10/14	<1.0		ug/L	
			Total Thallium (Tl)	2021/10/14	<0.050		ug/L	
			Total Tin (Sn)	2021/10/14	<1.0		ug/L	
			Total Titanium (Ti)	2021/10/14	<5.0		ug/L	
			Total Tungsten (W)	2021/10/14	<1.0		ug/L	
			Total Uranium (U)	2021/10/14	<0.10		ug/L	
			Total Vanadium (V)	2021/10/14	<0.50		ug/L	
			Total Zinc (Zn)	2021/10/14	<5.0		ug/L	
			Total Zirconium (Zr)	2021/10/14	<1.0		ug/L	
7633286	N_R	RPD	Total Aluminum (Al)	2021/10/14	0.35		%	20
			Total Cadmium (Cd)	2021/10/14	NC		%	20
			Total Chromium (Cr)	2021/10/14	7.3		%	20
			Total Copper (Cu)	2021/10/14	0.30		%	20
			Total Iron (Fe)	2021/10/14	13		%	20
			Total Lead (Pb)	2021/10/14	0.20		%	20
			Total Nickel (Ni)	2021/10/14	3.0		%	20
			Total Zinc (Zn)	2021/10/14	0.78		%	20
7633520	ASP	Matrix Spike	Total Ammonia-N	2021/10/14		94	%	75 - 125
7633520	ASP	Spiked Blank	Total Ammonia-N	2021/10/14		100	%	80 - 120
7633520	ASP	Method Blank	Total Ammonia-N	2021/10/14	<0.050		mg/L	
7633520	ASP	RPD	Total Ammonia-N	2021/10/14	0.75		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

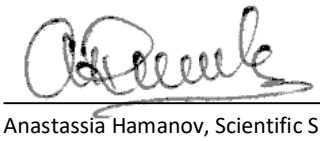
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
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CHAIN OF CUSTODY RECORD

Page 1 of 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#47523 Pinchin Ltd	Company Name:		Quotation #:	C13183	BV Labs Job #:	Bottle Order #: 849002
Attention:	Accounts Payable	Attention:	Brendan MacNaughton ~~Craig Kelly~~	P.O. #:			
Address:	Unit 6 875 Main St W Hamilton ON L8S 4R9	Address:		Project:	225780.004	COC #: C#849002-01-01	Project Manager: Antonella Brasil
Tel:	(905) 577-6206 Fax: (905) 577-6207	Tel:	(705) 791-4693 Fax:	Project Name:			
Email:	ap@pinchin.com	Email:	bmacnaughton@pinchin.com	Site #:	Burlington Sewer Use Testing		
				Sampled By:			

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality Burlington ☐ PWQO ☐ Reg 406 Table ___ ☐ Other ___	

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Total Suspended Solids	Total Metals Analysis, including Fe by ICPMS	Total Ammonia-N	Dissolved Metals by ICPMS	# of Bottles	Comments
1		MW302	2021/10/06	1:05	GW	Filtered / Not	X	X	X	X	4	
2												
3												
4												
5												
6												
7												
8												
9												
10												

07-Oct-21 17:05
Antonella Brasil
C1T2507
ATM ENV-1220

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Jason Laplante	2021/10/07	12pm	Group Pinchin Brent	2021/10/07	17:05	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	4/5/8	Present	✓	
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV H 455443

Your Project #: 225780.004
Your C.O.C. #: 849002-01-01

Attention: Craig Kelly

Pinchin Ltd
Unit 6
875 Main St W
Hamilton, ON
CANADA L8S 4R9

Report Date: 2021/10/15
Report #: R6854899
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1T2507
Received: 2021/10/07, 17:05

Sample Matrix: Ground Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Metals by ICPMS	1	N/A	2021/10/14	CAM SOP-00447	EPA 6020B m
Total Metals Analysis by ICPMS	1	N/A	2021/10/14	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	1	N/A	2021/10/14	CAM SOP-00441	USGS I-2522-90 m
Total Suspended Solids	1	2021/10/12	2021/10/13	CAM SOP-00428	SM 23 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: 225780.004
Your C.O.C. #: 849002-01-01

Attention: Craig Kelly

Pinchin Ltd
Unit 6
875 Main St W
Hamilton, ON
CANADA L8S 4R9

Report Date: 2021/10/15
Report #: R6854899
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1T2507
Received: 2021/10/07, 17:05

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
15 Oct 2021 17:40:45

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C1T2507
Report Date: 2021/10/15

Pinchin Ltd
Client Project #: 225780.004
Sampler Initials: JL

RESULTS OF ANALYSES OF GROUND WATER

BV Labs ID		QWO292		
Sampling Date		2021/10/06 13:05		
COC Number		849002-01-01		
	UNITS	MW302	RDL	QC Batch
Inorganics				
Total Ammonia-N	mg/L	1.9	0.050	7633520
Total Suspended Solids	mg/L	1400	20	7629029

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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ELEMENTS BY ATOMIC SPECTROSCOPY (GROUND WATER)

BV Labs ID		QWO292		
Sampling Date		2021/10/06 13:05		
COC Number		849002-01-01		
	UNITS	MW302	RDL	QC Batch
Metals				
Dissolved Aluminum (Al)	ug/L	400	4.9	7630627
Total Aluminum (Al)	ug/L	13000	4.9	7633286
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7630627
Total Antimony (Sb)	ug/L	<0.50	0.50	7633286
Dissolved Arsenic (As)	ug/L	3.0	1.0	7630627
Total Arsenic (As)	ug/L	7.5	1.0	7633286
Dissolved Barium (Ba)	ug/L	19	2.0	7630627
Total Barium (Ba)	ug/L	58	2.0	7633286
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7630627
Total Beryllium (Be)	ug/L	0.68	0.40	7633286
Dissolved Bismuth (Bi)	ug/L	<1.0	1.0	7630627
Total Bismuth (Bi)	ug/L	<1.0	1.0	7633286
Dissolved Boron (B)	ug/L	3800	10	7630627
Total Boron (B)	ug/L	3800	10	7633286
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7630627
Total Cadmium (Cd)	ug/L	0.16	0.090	7633286
Dissolved Calcium (Ca)	ug/L	180000	1000	7630627
Total Calcium (Ca)	ug/L	270000	1000	7633286
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7630627
Total Chromium (Cr)	ug/L	19	5.0	7633286
Dissolved Cobalt (Co)	ug/L	0.59	0.50	7630627
Total Cobalt (Co)	ug/L	14	0.50	7633286
Dissolved Copper (Cu)	ug/L	2.2	0.90	7630627
Total Copper (Cu)	ug/L	26	0.90	7633286
Dissolved Iron (Fe)	ug/L	1200	100	7630627
Total Iron (Fe)	ug/L	23000	100	7633286
Dissolved Lead (Pb)	ug/L	0.56	0.50	7630627
Total Lead (Pb)	ug/L	7.9	0.50	7633286
Dissolved Lithium (Li)	ug/L	400	5.0	7630627
Total Lithium (Li)	ug/L	450	5.0	7633286
Dissolved Magnesium (Mg)	ug/L	67000	50	7630627
Total Magnesium (Mg)	ug/L	80000	50	7633286
Dissolved Manganese (Mn)	ug/L	210	2.0	7630627
Total Manganese (Mn)	ug/L	1200	2.0	7633286
Dissolved Molybdenum (Mo)	ug/L	9.8	0.50	7630627

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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ELEMENTS BY ATOMIC SPECTROSCOPY (GROUND WATER)

BV Labs ID		QWO292		
Sampling Date		2021/10/06 13:05		
COC Number		849002-01-01		
	UNITS	MW302	RDL	QC Batch
Total Molybdenum (Mo)	ug/L	10	0.50	7633286
Dissolved Nickel (Ni)	ug/L	1.3	1.0	7630627
Total Nickel (Ni)	ug/L	29	1.0	7633286
Dissolved Phosphorus (P)	ug/L	160	100	7630627
Dissolved Potassium (K)	ug/L	27000	200	7630627
Total Potassium (K)	ug/L	28000	200	7633286
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7630627
Total Selenium (Se)	ug/L	<2.0	2.0	7633286
Dissolved Silicon (Si)	ug/L	5000	50	7630627
Total Silicon (Si)	ug/L	22000	50	7633286
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7630627
Total Silver (Ag)	ug/L	0.21	0.090	7633286
Dissolved Sodium (Na)	ug/L	420000	100	7630627
Total Sodium (Na)	ug/L	420000	100	7633286
Dissolved Strontium (Sr)	ug/L	11000	1.0	7630627
Total Strontium (Sr)	ug/L	12000	1.0	7633286
Dissolved Tellurium (Te)	ug/L	<1.0	1.0	7630627
Total Tellurium (Te)	ug/L	<1.0	1.0	7633286
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7630627
Total Thallium (Tl)	ug/L	0.14	0.050	7633286
Dissolved Tin (Sn)	ug/L	<1.0	1.0	7630627
Total Tin (Sn)	ug/L	<1.0	1.0	7633286
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7630627
Total Titanium (Ti)	ug/L	180	5.0	7633286
Dissolved Tungsten (W)	ug/L	<1.0	1.0	7630627
Total Tungsten (W)	ug/L	1.5	1.0	7633286
Dissolved Uranium (U)	ug/L	1.3	0.10	7630627
Total Uranium (U)	ug/L	1.3	0.10	7633286
Dissolved Vanadium (V)	ug/L	0.83	0.50	7630627
Total Vanadium (V)	ug/L	24	0.50	7633286
Dissolved Zinc (Zn)	ug/L	5.1	5.0	7630627
Total Zinc (Zn)	ug/L	86	5.0	7633286
Dissolved Zirconium (Zr)	ug/L	<1.0	1.0	7630627
Total Zirconium (Zr)	ug/L	6.7	1.0	7633286

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7629029	SEK	QC Standard	Total Suspended Solids	2021/10/13		99	%	85 - 115
7629029	SEK	Method Blank	Total Suspended Solids	2021/10/13	<10		mg/L	
7629029	SEK	RPD	Total Suspended Solids	2021/10/13	0		%	25
7630627	N_R	Matrix Spike	Dissolved Aluminum (Al)	2021/10/14		110	%	80 - 120
			Dissolved Antimony (Sb)	2021/10/14		108	%	80 - 120
			Dissolved Arsenic (As)	2021/10/14		100	%	80 - 120
			Dissolved Barium (Ba)	2021/10/14		103	%	80 - 120
			Dissolved Beryllium (Be)	2021/10/14		104	%	80 - 120
			Dissolved Bismuth (Bi)	2021/10/14		88	%	80 - 120
			Dissolved Boron (B)	2021/10/14		103	%	80 - 120
			Dissolved Cadmium (Cd)	2021/10/14		101	%	80 - 120
			Dissolved Calcium (Ca)	2021/10/14		NC	%	80 - 120
			Dissolved Chromium (Cr)	2021/10/14		100	%	80 - 120
			Dissolved Cobalt (Co)	2021/10/14		98	%	80 - 120
			Dissolved Copper (Cu)	2021/10/14		102	%	80 - 120
			Dissolved Iron (Fe)	2021/10/14		98	%	80 - 120
			Dissolved Lead (Pb)	2021/10/14		89	%	80 - 120
			Dissolved Lithium (Li)	2021/10/14		100	%	80 - 120
			Dissolved Magnesium (Mg)	2021/10/14		NC	%	80 - 120
			Dissolved Manganese (Mn)	2021/10/14		102	%	80 - 120
			Dissolved Molybdenum (Mo)	2021/10/14		118	%	80 - 120
			Dissolved Nickel (Ni)	2021/10/14		90	%	80 - 120
			Dissolved Phosphorus (P)	2021/10/14		127 (1)	%	80 - 120
			Dissolved Potassium (K)	2021/10/14		107	%	80 - 120
			Dissolved Selenium (Se)	2021/10/14		100	%	80 - 120
			Dissolved Silicon (Si)	2021/10/14		110	%	80 - 120
			Dissolved Silver (Ag)	2021/10/14		97	%	80 - 120
			Dissolved Sodium (Na)	2021/10/14		NC	%	80 - 120
			Dissolved Strontium (Sr)	2021/10/14		NC	%	80 - 120
			Dissolved Tellurium (Te)	2021/10/14		98	%	80 - 120
			Dissolved Thallium (Tl)	2021/10/14		90	%	80 - 120
			Dissolved Tin (Sn)	2021/10/14		109	%	80 - 120
			Dissolved Titanium (Ti)	2021/10/14		106	%	80 - 120
			Dissolved Tungsten (W)	2021/10/14		99	%	80 - 120
			Dissolved Uranium (U)	2021/10/14		91	%	80 - 120
			Dissolved Vanadium (V)	2021/10/14		103	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/14		93	%	80 - 120
			Dissolved Zirconium (Zr)	2021/10/14		117	%	80 - 120
7630627	N_R	Spiked Blank	Dissolved Aluminum (Al)	2021/10/14		103	%	80 - 120
			Dissolved Antimony (Sb)	2021/10/14		104	%	80 - 120
			Dissolved Arsenic (As)	2021/10/14		100	%	80 - 120
			Dissolved Barium (Ba)	2021/10/14		103	%	80 - 120
			Dissolved Beryllium (Be)	2021/10/14		104	%	80 - 120
			Dissolved Bismuth (Bi)	2021/10/14		97	%	80 - 120
			Dissolved Boron (B)	2021/10/14		102	%	80 - 120
			Dissolved Cadmium (Cd)	2021/10/14		101	%	80 - 120
			Dissolved Calcium (Ca)	2021/10/14		103	%	80 - 120
			Dissolved Chromium (Cr)	2021/10/14		100	%	80 - 120
			Dissolved Cobalt (Co)	2021/10/14		99	%	80 - 120
			Dissolved Copper (Cu)	2021/10/14		102	%	80 - 120
			Dissolved Iron (Fe)	2021/10/14		98	%	80 - 120
			Dissolved Lead (Pb)	2021/10/14		95	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Lithium (Li)	2021/10/14		100	%	80 - 120
			Dissolved Magnesium (Mg)	2021/10/14		102	%	80 - 120
			Dissolved Manganese (Mn)	2021/10/14		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2021/10/14		107	%	80 - 120
			Dissolved Nickel (Ni)	2021/10/14		95	%	80 - 120
			Dissolved Phosphorus (P)	2021/10/14		123 (1)	%	80 - 120
			Dissolved Potassium (K)	2021/10/14		105	%	80 - 120
			Dissolved Selenium (Se)	2021/10/14		99	%	80 - 120
			Dissolved Silicon (Si)	2021/10/14		103	%	80 - 120
			Dissolved Silver (Ag)	2021/10/14		102	%	80 - 120
			Dissolved Sodium (Na)	2021/10/14		100	%	80 - 120
			Dissolved Strontium (Sr)	2021/10/14		100	%	80 - 120
			Dissolved Tellurium (Te)	2021/10/14		104	%	80 - 120
			Dissolved Thallium (Tl)	2021/10/14		98	%	80 - 120
			Dissolved Tin (Sn)	2021/10/14		102	%	80 - 120
			Dissolved Titanium (Ti)	2021/10/14		99	%	80 - 120
			Dissolved Tungsten (W)	2021/10/14		99	%	80 - 120
			Dissolved Uranium (U)	2021/10/14		93	%	80 - 120
			Dissolved Vanadium (V)	2021/10/14		99	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/14		99	%	80 - 120
			Dissolved Zirconium (Zr)	2021/10/14		105	%	80 - 120
7630627	N_R	Method Blank	Dissolved Aluminum (Al)	2021/10/14	<4.9		ug/L	
			Dissolved Antimony (Sb)	2021/10/14	<0.50		ug/L	
			Dissolved Arsenic (As)	2021/10/14	<1.0		ug/L	
			Dissolved Barium (Ba)	2021/10/14	<2.0		ug/L	
			Dissolved Beryllium (Be)	2021/10/14	<0.40		ug/L	
			Dissolved Bismuth (Bi)	2021/10/14	<1.0		ug/L	
			Dissolved Boron (B)	2021/10/14	<10		ug/L	
			Dissolved Cadmium (Cd)	2021/10/14	<0.090		ug/L	
			Dissolved Calcium (Ca)	2021/10/14	<200		ug/L	
			Dissolved Chromium (Cr)	2021/10/14	<5.0		ug/L	
			Dissolved Cobalt (Co)	2021/10/14	<0.50		ug/L	
			Dissolved Copper (Cu)	2021/10/14	<0.90		ug/L	
			Dissolved Iron (Fe)	2021/10/14	<100		ug/L	
			Dissolved Lead (Pb)	2021/10/14	<0.50		ug/L	
			Dissolved Lithium (Li)	2021/10/14	<5.0		ug/L	
			Dissolved Magnesium (Mg)	2021/10/14	<50		ug/L	
			Dissolved Manganese (Mn)	2021/10/14	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2021/10/14	<0.50		ug/L	
			Dissolved Nickel (Ni)	2021/10/14	<1.0		ug/L	
			Dissolved Phosphorus (P)	2021/10/14	<100		ug/L	
			Dissolved Potassium (K)	2021/10/14	<200		ug/L	
			Dissolved Selenium (Se)	2021/10/14	<2.0		ug/L	
			Dissolved Silicon (Si)	2021/10/14	<50		ug/L	
			Dissolved Silver (Ag)	2021/10/14	<0.090		ug/L	
			Dissolved Sodium (Na)	2021/10/14	<100		ug/L	
			Dissolved Strontium (Sr)	2021/10/14	<1.0		ug/L	
			Dissolved Tellurium (Te)	2021/10/14	<1.0		ug/L	
			Dissolved Thallium (Tl)	2021/10/14	<0.050		ug/L	
			Dissolved Tin (Sn)	2021/10/14	<1.0		ug/L	
			Dissolved Titanium (Ti)	2021/10/14	<5.0		ug/L	
			Dissolved Tungsten (W)	2021/10/14	<1.0		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Uranium (U)	2021/10/14	<0.10		ug/L	
			Dissolved Vanadium (V)	2021/10/14	<0.50		ug/L	
			Dissolved Zinc (Zn)	2021/10/14	<5.0		ug/L	
			Dissolved Zirconium (Zr)	2021/10/14	<1.0		ug/L	
7630627	N_R	RPD	Dissolved Antimony (Sb)	2021/10/15	4.4		%	20
			Dissolved Arsenic (As)	2021/10/15	0.67		%	20
			Dissolved Barium (Ba)	2021/10/15	0.56		%	20
			Dissolved Beryllium (Be)	2021/10/15	NC		%	20
			Dissolved Boron (B)	2021/10/15	1.9		%	20
			Dissolved Cadmium (Cd)	2021/10/15	NC		%	20
			Dissolved Chromium (Cr)	2021/10/15	NC		%	20
			Dissolved Cobalt (Co)	2021/10/15	2.0		%	20
			Dissolved Copper (Cu)	2021/10/15	2.5		%	20
			Dissolved Lead (Pb)	2021/10/15	NC		%	20
			Dissolved Molybdenum (Mo)	2021/10/15	1.1		%	20
			Dissolved Nickel (Ni)	2021/10/15	0.59		%	20
			Dissolved Selenium (Se)	2021/10/15	NC		%	20
			Dissolved Silver (Ag)	2021/10/15	NC		%	20
			Dissolved Sodium (Na)	2021/10/15	1.6		%	20
			Dissolved Thallium (Tl)	2021/10/15	NC		%	20
			Dissolved Uranium (U)	2021/10/15	1.6		%	20
			Dissolved Vanadium (V)	2021/10/15	0.92		%	20
			Dissolved Zinc (Zn)	2021/10/15	NC		%	20
7633286	N_R	Matrix Spike	Total Aluminum (Al)	2021/10/14		NC	%	80 - 120
			Total Antimony (Sb)	2021/10/14		108	%	80 - 120
			Total Arsenic (As)	2021/10/14		106	%	80 - 120
			Total Barium (Ba)	2021/10/14		102	%	80 - 120
			Total Beryllium (Be)	2021/10/14		108	%	80 - 120
			Total Bismuth (Bi)	2021/10/14		100	%	80 - 120
			Total Boron (B)	2021/10/14		NC	%	80 - 120
			Total Cadmium (Cd)	2021/10/14		105	%	80 - 120
			Total Calcium (Ca)	2021/10/14		NC	%	80 - 120
			Total Chromium (Cr)	2021/10/14		105	%	80 - 120
			Total Cobalt (Co)	2021/10/14		105	%	80 - 120
			Total Copper (Cu)	2021/10/14		108	%	80 - 120
			Total Iron (Fe)	2021/10/14		101	%	80 - 120
			Total Lead (Pb)	2021/10/14		102	%	80 - 120
			Total Lithium (Li)	2021/10/14		104	%	80 - 120
			Total Magnesium (Mg)	2021/10/14		107	%	80 - 120
			Total Manganese (Mn)	2021/10/14		103	%	80 - 120
			Total Molybdenum (Mo)	2021/10/14		109	%	80 - 120
			Total Nickel (Ni)	2021/10/14		103	%	80 - 120
			Total Potassium (K)	2021/10/14		105	%	80 - 120
			Total Selenium (Se)	2021/10/14		109	%	80 - 120
			Total Silicon (Si)	2021/10/14		105	%	80 - 120
			Total Silver (Ag)	2021/10/14		106	%	80 - 120
			Total Sodium (Na)	2021/10/14		NC	%	80 - 120
			Total Strontium (Sr)	2021/10/14		102	%	80 - 120
			Total Tellurium (Te)	2021/10/14		107	%	80 - 120
			Total Thallium (Tl)	2021/10/14		101	%	80 - 120
			Total Tin (Sn)	2021/10/14		103	%	80 - 120
			Total Titanium (Ti)	2021/10/14		99	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Tungsten (W)	2021/10/14		108	%	80 - 120
			Total Uranium (U)	2021/10/14		104	%	80 - 120
			Total Vanadium (V)	2021/10/14		104	%	80 - 120
			Total Zinc (Zn)	2021/10/14		109	%	80 - 120
			Total Zirconium (Zr)	2021/10/14		94	%	80 - 120
7633286	N_R	Spiked Blank	Total Aluminum (Al)	2021/10/14		101	%	80 - 120
			Total Antimony (Sb)	2021/10/14		106	%	80 - 120
			Total Arsenic (As)	2021/10/14		102	%	80 - 120
			Total Barium (Ba)	2021/10/14		100	%	80 - 120
			Total Beryllium (Be)	2021/10/14		102	%	80 - 120
			Total Bismuth (Bi)	2021/10/14		99	%	80 - 120
			Total Boron (B)	2021/10/14		99	%	80 - 120
			Total Cadmium (Cd)	2021/10/14		104	%	80 - 120
			Total Calcium (Ca)	2021/10/14		100	%	80 - 120
			Total Chromium (Cr)	2021/10/14		100	%	80 - 120
			Total Cobalt (Co)	2021/10/14		102	%	80 - 120
			Total Copper (Cu)	2021/10/14		105	%	80 - 120
			Total Iron (Fe)	2021/10/14		98	%	80 - 120
			Total Lead (Pb)	2021/10/14		101	%	80 - 120
			Total Lithium (Li)	2021/10/14		98	%	80 - 120
			Total Magnesium (Mg)	2021/10/14		99	%	80 - 120
			Total Manganese (Mn)	2021/10/14		98	%	80 - 120
			Total Molybdenum (Mo)	2021/10/14		106	%	80 - 120
			Total Nickel (Ni)	2021/10/14		97	%	80 - 120
			Total Potassium (K)	2021/10/14		101	%	80 - 120
			Total Selenium (Se)	2021/10/14		107	%	80 - 120
			Total Silicon (Si)	2021/10/14		102	%	80 - 120
			Total Silver (Ag)	2021/10/14		104	%	80 - 120
			Total Sodium (Na)	2021/10/14		101	%	80 - 120
			Total Strontium (Sr)	2021/10/14		96	%	80 - 120
			Total Tellurium (Te)	2021/10/14		105	%	80 - 120
			Total Thallium (Tl)	2021/10/14		103	%	80 - 120
			Total Tin (Sn)	2021/10/14		102	%	80 - 120
			Total Titanium (Ti)	2021/10/14		97	%	80 - 120
			Total Tungsten (W)	2021/10/14		105	%	80 - 120
			Total Uranium (U)	2021/10/14		103	%	80 - 120
			Total Vanadium (V)	2021/10/14		99	%	80 - 120
			Total Zinc (Zn)	2021/10/14		104	%	80 - 120
			Total Zirconium (Zr)	2021/10/14		104	%	80 - 120
7633286	N_R	Method Blank	Total Aluminum (Al)	2021/10/14	<4.9		ug/L	
			Total Antimony (Sb)	2021/10/14	<0.50		ug/L	
			Total Arsenic (As)	2021/10/14	<1.0		ug/L	
			Total Barium (Ba)	2021/10/14	<2.0		ug/L	
			Total Beryllium (Be)	2021/10/14	<0.40		ug/L	
			Total Bismuth (Bi)	2021/10/14	<1.0		ug/L	
			Total Boron (B)	2021/10/14	<10		ug/L	
			Total Cadmium (Cd)	2021/10/14	<0.090		ug/L	
			Total Calcium (Ca)	2021/10/14	<200		ug/L	
			Total Chromium (Cr)	2021/10/14	<5.0		ug/L	
			Total Cobalt (Co)	2021/10/14	<0.50		ug/L	
			Total Copper (Cu)	2021/10/14	<0.90		ug/L	
			Total Iron (Fe)	2021/10/14	<100		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Lead (Pb)	2021/10/14	<0.50		ug/L	
			Total Lithium (Li)	2021/10/14	<5.0		ug/L	
			Total Magnesium (Mg)	2021/10/14	<50		ug/L	
			Total Manganese (Mn)	2021/10/14	<2.0		ug/L	
			Total Molybdenum (Mo)	2021/10/14	<0.50		ug/L	
			Total Nickel (Ni)	2021/10/14	<1.0		ug/L	
			Total Potassium (K)	2021/10/14	<200		ug/L	
			Total Selenium (Se)	2021/10/14	<2.0		ug/L	
			Total Silicon (Si)	2021/10/14	<50		ug/L	
			Total Silver (Ag)	2021/10/14	<0.090		ug/L	
			Total Sodium (Na)	2021/10/14	<100		ug/L	
			Total Strontium (Sr)	2021/10/14	<1.0		ug/L	
			Total Tellurium (Te)	2021/10/14	<1.0		ug/L	
			Total Thallium (Tl)	2021/10/14	<0.050		ug/L	
			Total Tin (Sn)	2021/10/14	<1.0		ug/L	
			Total Titanium (Ti)	2021/10/14	<5.0		ug/L	
			Total Tungsten (W)	2021/10/14	<1.0		ug/L	
			Total Uranium (U)	2021/10/14	<0.10		ug/L	
			Total Vanadium (V)	2021/10/14	<0.50		ug/L	
			Total Zinc (Zn)	2021/10/14	<5.0		ug/L	
			Total Zirconium (Zr)	2021/10/14	<1.0		ug/L	
7633286	N_R	RPD	Total Aluminum (Al)	2021/10/14	0.35		%	20
			Total Cadmium (Cd)	2021/10/14	NC		%	20
			Total Chromium (Cr)	2021/10/14	7.3		%	20
			Total Copper (Cu)	2021/10/14	0.30		%	20
			Total Iron (Fe)	2021/10/14	13		%	20
			Total Lead (Pb)	2021/10/14	0.20		%	20
			Total Nickel (Ni)	2021/10/14	3.0		%	20
			Total Zinc (Zn)	2021/10/14	0.78		%	20
7633520	ASP	Matrix Spike	Total Ammonia-N	2021/10/14		94	%	75 - 125
7633520	ASP	Spiked Blank	Total Ammonia-N	2021/10/14		100	%	80 - 120
7633520	ASP	Method Blank	Total Ammonia-N	2021/10/14	<0.050		mg/L	
7633520	ASP	RPD	Total Ammonia-N	2021/10/14	0.75		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

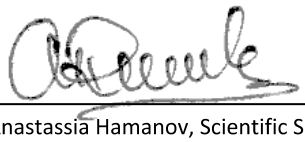
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Page 1 of 1

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#47523 Pinchin Ltd	Company Name:		Quotation #:	C13183	BV Labs Job #:	Bottle Order #: 849002
Attention:	Accounts Payable	Attention:	Brendan MacNaughton Craig Kelly	P.O. #:			
Address:	Unit 6 875 Main St W Hamilton ON L8S 4R9	Address:		Project:	225780.004	COC #: C#849002-01-01	Project Manager: Antonella Brasil
Tel:	(905) 577-6206 Fax: (905) 577-6207	Tel:	(705) 791-4693 Fax:	Project Name:			
Email:	ap@pinchin.com	Email:	bmacnaughton@pinchin.com	Site #:	Burlington Sewer Use Testing		
				Sampled By:			

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality Burlington ☐ PWQO ☐ Reg 406 Table ___ ☐ Other ___	

Include Criteria on Certificate of Analysis (Y/N)? ___

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Total Suspended Solids	Total Metals Analysis , including Fe by ICPMS	Total Ammonia-N	Dissolved Metals by ICPMS	# of Bottles	Comments
1		MW302	2021/10/06	1:05	GW	Filtered / not	X	X	X	X	4	
2												
3												
4												
5												
6												
7												
8												
9												
10												

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

07-Oct-21 17:05
Antonella Brasil
C1T2507
ATM ENV-1220

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Jason Laplante	2021/10/07	12pm	Gurpreet Kheer	2021/10/07	17:05	

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Recei 4 | 5 | 8	Custody Seal Present	Yes ✓	No
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV H 455443

APPENDIX B

Long-Term Dewatering Filtration Plan

AQUATECH | READY TO GO

June 3rd, 2022

To: Brookfield Properties Development

Attn: Goran Rakocevic

Re: Filtration Proposal for 2243 and 2269 Fairview Street, and 864 Drury Lane, Burlington, Ontario (E22-0409)

Aquatech Dewatering is pleased to provide the following proposal for services for the above-referenced project. This proposal has been prepared in accordance with the following information and documents:

- Documents:
  - Technical Addendum – Hydrogeological and Global Stability Characterization 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario Pinchin File: 225780.004 (Revised), May 20, 2022.
- The maximum long term dewatering flow rate is **17 US GPM (94 m^3/day)**.
- Discharge into the **Storm Sewer**.
- Assume the discharge distance is 100 meters.

Aquatech is providing a treatment system to remove below contaminants according to the following table:

Parameter	Storm Sewer Compliance Limits *	Results
Total Suspended Solids (TSS), (mg/L)	15	84
Total Manganese (ug/L)	50	120
Dissolved Manganese (ug/L)	50	85

**City of Burlington Storm Sewer Discharge By-Law (No 86-2002)*

Please note that:

- *In the event that new contaminants get introduced into the filtration system during the pumping and dewatering processes due to turbulence of flow etc., or any exceedance in the concentration of current contaminants, additional charges will be applicable to implement the necessary treatment units, and the contingency is built on the requirements.*

System Purchase Price

The total purchase price for the permanent filtration system shall be **$235,247 lump sum**, which includes all pipes and fittings, pumps, tanks, filtration vessels, remote monitoring system, and

filtration media (for the first time only). It should be noted that 50 percent of the total consumable sale price will be due payable before work begins on the project, and the remaining 50 percent will be payable net 30 days.
Please note that the lead time for the consumables and media is 8 to 12 weeks.

The monthly subscription fee for the remote monitoring system will be **$700 per month (28-day monthly billing cycle)**.

System Installation

The required labour and equipment to deliver, install and commission the system will be on a time and material basis and as per our rates attached.

Maintenance of the System

1. Water Quality Sample

During system operation, water samples are required before and after each operating unit, and as necessary, to monitor the performance of the filtration unit and for troubleshooting purposes. Sampling and analysis should be conducted as per the environmental consultants' recommendations and could be performed by Aquatech upon request.

2. System Backwash

System backwash water will be collected in the 1,550-gallon backwash tank, and the backwash tank should be emptied by general contractors when the tank is full. It should be noted that for heavily plugged filters, backwash shall continue past the recommended time until the effluent water is clear and free of any suspended solids.

3. Media Replacement

The filter media inside the vessels might require replacement, and the vessels must be cleaned throughout system operation. The frequency is unknown at this point (could vary between once every month to once every 24 months depending on the actual water quality and other contaminants in water). The vessels should be cleaned and prepared (disposal of spent media in each vessel and vessel cleaning) by general contractors before media replacement. The total estimated service charge for media replacement is based on time and material as per our rates attached. Media replacement cost per unit per event is shown in Table 1.

4. System Monitoring/Maintenance

Initial site inspections and water quality tests are required prior to installing any filtration equipment/testing onsite. Regular site visits are also required throughout the operation of treatment systems to monitor and maintain the system. This includes a dispatch of technicians to collect water samples, backwash as required, and check pressure differential across the system. Water quality samplings prior to and following each treatment vessel are recommended to be completed on a fixed schedule in accordance with corresponding regulatory agencies. Three days per week system monitoring is also recommended to ensure the effective operation of the

system, as shown in Table 1. Any troubleshooting that might be needed outside the window of the weekly maintenance and system check (any item that cannot be fixed by monitoring technician and requires professional service to be fixed) is based on T&M.

5. Automation

The pump will be operated by float switches. A high-water level in the weir tank will trigger the pump to turn on and start pumping until the water level reaches a set low level.

6. Cleaning of the Tank/Vessels

Cleaning of the tanks and vessels will be required throughout the lifetime of the system and upon project completion. The generated sludge requires to be disposed off properly according to the Ministry of Environment, Conservation and Parks (MOECC), Canada requirements and guidelines. Please note that tank cleaning is the responsibility of the client and to be completed by general contractors.

Responsibility of the General Contractor:

The scope of work and pricing provided herein is subject to our terms and conditions as follows:

- The required power to match the voltage of the pump (230 V, 3 PH) will be provided by the general contractor.
- Full access to the filtration room/area for Aquatech equipment will be provided by the general contractor.
- Any electrical connections must be completed by the general contractor.
- We are also assuming that the site will have reasonable access for equipment delivery and removal.
- Water source, vents, and floor drain are required in the filtration room to be provided by others.
- Initial backwash during any vessel commissioning should be conducted using city/hydrant water; in case clean water is not available on site, clean water truck for backwash purposes should be provided by general contractor. *The general contractor should also provide vacuum truck to collect backwash water when system backwash is required.*
- Flow rate shall at no point in time exceed the maximum design flow rate. Exceeding the maximum flow may cause permanent damage to the system and will affect the reliability of the system design.
- Please note that the rates provided for the cleaning of the tank and vessels are by assuming that the work will be completed during the regular hours in a weekday.
- The cleaning of the vessels and tanks will be carried out by vacuum truck which requires access from the surface ground to the filtration room. The access from the surface to the location where the vessels are to be placed is assumed to be provided by others. The hoses and labour work required to make connection from high head pump placed inside

backwash tank to the location where vacuum truck can be parked at ground level is the responsibility of others.

- In an event that we are unable to deliver the vessel to the designated location due to accessibility issues, additional equipment required to complete the tasks must be provided by the contractor.
- Any pumping equipment required pre and post filtration must be provided by others. Aquatech will only convey water to the discharge connection point at filtration room. Pumping equipment to convey water from in ground tanks to our filtration must be provided by others.
- Customer to provide access for a flatbed truck to allow for installation of the system in the final location.

The following items shall be considered.

- The proposal presented herein is subject to change upon our site visit.
- Aquatech labour and equipment rates will be updated on April 31st of every year. All the time and material work will be completed as per the most updated rates.
- The hourly rate for a vacuum truck and the per liter rates is subject to change as per the third-party price increase rate.
- The prices for the media are subject to change based on the updated prices from the vendor.

Contingency Systems:

Phosphorus Removal System

Based on the hydrogeological assessment report and water quality analyses done in June and August 2021, phosphorus was shown as an exceedance in unfiltered samples with concentration in the range of 0.46 to 4.7 mg/L as compared to the discharge limit of 0.4 mg/L. However, in the most recent water quality report (November 2021), dissolved phosphorus concentration was at <100 ug/L, which was below the compliance limit. This exceedance is likely related to the elevated TSS value noted in the sample. Therefore, the implementation of TSS removal process may effectively reduce phosphorus concentration below the guidelines. In the event that its dissolved concentration starts increasing above the discharge limits or an exceedance is noted during the operation, the additional cost to include a phosphorus removal system would be **$63,709** for the system purchase price, which includes additional vessels with specialty media to remove the contaminant. The required labour and equipment to deliver and install the contingency system will be on a time and material basis and as per our rates attached.

Zinc Removal System

Based on the water quality analyses done in June 2021, zinc was shown as an exceedance in unfiltered samples with concentration of 0.28 mg/L as compared to the discharge limit of 0.04

mg/L. In the most recent water quality report (November 2021), dissolved zinc (<5 ug/L) and total zinc (5.7 ug/L) were below the compliance limit. This exceedance is likely related to the elevated TSS value noted in the sample. Therefore, the implementation of TSS removal process may effectively reduce its concentration below the guidelines. In the event that its dissolved concentration starts increasing above the discharge limits or an exceedance is noted during the operation, the additional cost to include a zinc removal system would be **$31,855** for the system purchase price, which includes additional vessels with specialty media to remove the contaminant. The required labour and equipment to deliver andinstall the contingency system will be on a time and material basis and as per our rates attached.

Summary of Filtration System Costs – TABLE 1

Rental and Consumable Costs	Cost	Annual Cost
Total Purchase Price (lump sum)	$235,247	-
Subscription Fee (monthly)	$700	$9,100

Chemical (monthly)[1]	$1,960	$25,480
System Check/Maintenance Cost		
System Check (3 days per week)	$7,440	$96,718
Water Quality Sample (regular time)[2]	$2,500	$32,500
Labor/Equipment Cost for Media Backwash (per event)[3]	$2,600	TBD
Chemical/Media Replacement Cost		
TSS Removal Media (lump sum per unit)[4]	$2,503	-
Manganese Removal Media (lump sum per unit)[4]	$3,851	-
Organic Removal Media (lump sum per vessel)[5]	$3,852	$11,556 to $23,112
Labor/Equipment Cost for Media Replacement (per vessel per event) – Optional	$5,580	$17,400 to $34,800
Contingency Phosphorus Removal System		
Total Purchase Price (lump sum)	$63,709	-
Phosphorus Removal Media (lump sum per vessel)[6]	13.969	TBD
Contingency Zinc Removal		
Total Purchase Price (lump sum)	$31,855	-
Zinc Removal Media (lump sum per vessel)[6]	$13,969	TBD

[1] Chemical consumption rate may change depending on the variation in the water quality..

[2] Frequent sampling is recommended for the first week of operation and a minimum of once a week or month for the remainder of the project depending on the ministry of environment requirements. One water quality sample might be needed prior to the installation of the system. Seven working days turn around. If rush analysis is required or more frequent sampling is requested by the ministry of environment, this price would change.

[3] The frequency of backwash events greatly depends on water quality variation; more accurate estimate for annual cost can be determined after system operation.

[4] The frequency of media replacement greatly depends on water quality variation, and it may be required every 3 to 5 years. The cost is shown for budgetary purposes in case of any failure..

[5] The frequency of organic removal media replacement greatly depends on water quality variation, and it may require replacement once to twice per ye

[6] The frequency of media replacement greatly depends on water quality variation and it may require replacement every 3 to 12 months.

We trust that the above is self-explanatory, but should you require any additional information please do not hesitate to contact the writer for same. Prices are valid for 90 days from the date of the proposal. Invoices will be due payable net 30 days from date of invoice and HST is additional to all monies due. Late payments will be subject to 2% interest per month. The above pricing is subject to our terms and conditions attached as “SCHEDULE A”.

Prepared By:

Aqua-Tech Dewatering Co., Inc.

Accepted By:

Pavel Lemeshko. Filtration Project Manager

Print and Sign

Russell Thomas, V.P. Sales and Engineering

Schedule A – Water Treatment

Contractor Responsibilities

- All costs incurred by AQUATECH associated with site specific training classes or special PPE gear
- All fuel and fueling operations required for the pumping/treatment systems
- Access and preparation of the site, including but not limited to an adequate leveling and clearing the required laydown area for the equipment provided
- Regular daily maintenance as required
- Any and all permits required
- Unless included in proposal, contractor is responsible for providing Aquatech with sample analysis completed by an Aquatech approved environmental company and testing laboratory. The frequency of the samples can range from once a day to once a month depending on the type of job and the associated environmental impacts. Aquatech reserve the right to reject sample analysis results completed by the sampling company and/or laboratory if Aquatech sees any inconsistency in the results or sampling technics
- Aquatech recommends the inclusion of contingency/backup treatment units to deal with unexpected events or contaminant exceedance beyond design limits. All the costs incurred to Aquatech during system performance adjustments must be borne by the contractor
- Traffic control and related safety requirements including the supply, placement & removal of signage, delineators, flashers, barricades, flagmen, lane closures, etc.
- Loader and operator to assist in loading and unloading as well as installation of the system (including forks for loading the fusion machine when required)
- A sufficient water supply for flushing, testing, and backwashing as required
- Assistance in loading of equipment on AQUATECH trucks upon project completion
- All site restoration as required
- The Contractor shall also have the entire risk of loss of, damage to, or destruction of the equipment from all causes whatsoever during the term of this lease and thereafter until the equipment has been received in AQUATECH's yard
- Contractor most carry a minimum of two (2) Million-dollar rental equipment insurance to cover Aquatech's equipment during the rental period
- It is the responsibility of the contractor to secure the jobsite and the equipment supplied by AQUATECH from risk of floods, fire or any damages
- System failures as a result of a lack of proper fuel supply or poor-quality fuel are the responsibility of the contractor.
- Electric power, ESA permits, cables, hook-up, grounding and/or diesel fuel, lubricants and 250-hour service for the pump(s) and/or generator(s) unless otherwise included in proposal
- Winterization of any pumping equipment, treatment equipment or discharge piping unless otherwise included in proposal
- Site security must be provided by the contractor 24/7. Any damages or lost/stolen items on site will be billed to the contractor at the equipment replacement cost (sale price). Aquatech's equipment are kept in a "like new" conditions and must be replaced with same
- Contractor is responsible for disposal of all waste created by the process and any fees associated with disposal of contaminated products
- Any responsibility not expressly assumed by AQUATECH in this quotation should be considered the responsibility of the contractor/owner
- Payment within 30 days of invoice date – retainage is not accepted

General Conditions

- AQUATECH makes no guarantees as to the estimated amount of flow rates and the level of treatment. The treatment system quoted is based upon the estimated flows as stated within this quotation. Those flow rates are based upon the information available to our firm at the time this quotation was written. Any changes in flow rate must be communicated and approved by Aquatech's team prior to implementation
- Because the equipment is mechanical, operational failure of the equipment is a potential hazard. No guarantee is implied or expressly made in this quotation as to the continual operation of any pumping/treatment system provided by AQUATECH. Appropriate pumping redundancy in the form of back-up pumps installed and ready for immediate use are always recommended by AQUATECH
- Twenty-four (24) hour pump watch to guard against mechanical and operational failures of the pumping system, performed by personnel capable of pump operation and timely repairs to the system, are always recommended
- Prices are based upon unrestricted operations. AQUATECH shall not be held liable for any costs due to strikes, delays, changed project conditions and/or any other unforeseen conditions. If conditions arise to install more equipment, a mutually agreed upon price schedule shall be negotiated before such additional work commences. If AQUATECH is delayed in the process of installing or removing the leased equipment, the additional labor costs incurred will be billed at our labor rates provided
- Applicable taxes and tariffs are extra to the quoted price
- Operating the pumps and treatment system outside the designed operating parameters could result in damage to the unit and injury to person In cases where changes are required to quantities, materials, or configurations of the equipment offered; additional charges may be applied accordingly
- Equipment delivery is subject to availability, and we reserve the right to substitute equipment as required
- The Rental period begins the day the equipment leaves AQUATECH's facility and continues until the equipment is returned to AQUATECH'S facility unless previous written notice has been confirmed in writing and accepted prior to the equipment being delivered
- Delivery, Return, Installation and Removal costs are estimated. Customer will be invoiced for actual time. Transportation will be invoiced on a Portal-to-Portal basis
- Overtime rates apply to labour before 7:00 am and after 5:30 pm Monday to Friday and all-day Saturday to 12:00am. Double time rates apply to labour all day Sunday and statutory holidays to 7:00am next business day
- Emergency callouts are billed based on time and material basis as per provided Aquatech's hourly rate sheet

AQUATECH | READY TO GO

AQUATECH 2020 RATE SCHEDULE – EFFECTIVE FROM APRIL 1, 2020 to MARCH 31, 2021
5% annual increase to rates applies (April 1st each year)

Description	Regular Time Rate*	Time and a Half Rate**	Double Time Rate***
Superintendent c/w with Truck & Tools	$145.00	$197.00	$249.00
Foreman c/w with Truck & Tools	$155.00	$209.00	$264.00
Boom Truck with Operator	$315.00	$347.00	$401.00
Operator (Heavy Equipment)	$105.00	$154.00	$204.00
Delivery (1.5 Ton)	$138.00	$184.00	$230.00
Delivery (5 Ton)	$162.00	$208.00	$254.00
Delivery (50' Flatbed)	$221.00	$264.00	$307.00
Site Labourer (NO Truck and Tools)	$99.00	$145.00	$191.00
Shop Supervisor	$101.00	$138.00	$175.00
Shop Mechanic	$127.00	$179.00	$230.00
Shop Electrician	$127.00	$179.00	$230.00
Shop Welder	$127.00	$179.00	$230.00
Shop Technician	$78.00	$105.00	$131.00
Rubber Tire Loader/Backhoe 45KW (excludes operator)	$51.00	$51.00	$51.00
CFA Track Mounted Drill Rig 130KW (excludes operator)	$330.00	$330.00	$330.00
DR24 Dual Rotary Drill Rig (excludes operator)	$455.00	$455.00	$455.00
DR24 Support Truck	$152.00	$152.00	$152.00
Field Mechanic c/w with Truck & Tools	$156.00	$208.00	$259.00
Field Electrician c/w with Truck & Tools	$156.00	$208.00	$259.00
Field Welder c/w with Truck & Tools	$156.00	$208.00	$259.00
Project Manager / Engineer	$161.00	$190.00	$250.00
Water Truck (min. 4hrs)	$175.00	$205.00	$253.00
Water Load (cold)	$105.00 per load		
Meals & Accommodation (only)	$252.00 per Day; per Aquatech Employee		

*Regular Time Rate: Based on labour/services performed Monday – Friday 7:00am–5:30pm
**Time and a Half Rate: Based on labour/services performed Monday – Friday 5:30pm–7:00am and Saturdays
***Double Time Rate: Based on labour/services performed Sundays and Statutory Holidays and any labour on Saturdays by operators

331 RODINEA ROAD, MAPLE, ON, L6A 4P5 • T: 905.907.1700 • F: 905.907.1701 • AQUA-TECH DEWATERING.COM

A customer focused, quality driven, environmentally responsible company, who provides reliable equipment, experienced staff and customized solutions to get the job done right.

AQUATECH | READY TO GO

AQUATECH 2020 RATE SCHEDULE – EFFECTIVE FROM APRIL 1, 2020 to MARCH 31, 2021
5% annual increase to rates applies (April 1st each year)

Description	Regular Time Rate*	Time and a Half Rate**	Double Time Rate***
Instrumentation Specialist (NO Truck and Tools)	$126.00	$189.00	$252.00
Instrumentation Specialist c/w with Truck & Tools	$168.00	$231.00	$294.00
Instrumentation Specialist c/w Cube Van & Tools	$189.00	$252.00	$315.00
Water Treatment Specialist c/w Vehicle and Tools	$112.00	$132.00	$152.00
Inspection Drone c/w Operator, Cube Van & Tools (min. 4hrs)	$417.00	$593.00	$770.00
Inspection Weatherproof Drone c/w Operator, Cube Van & Tools (min. 4hrs)	$464.00	$665.00	$865.00
Drone Survey c/w with Operator, Cube Van & Tools (min. 4hrs)	$631.00	$915.00	$1,198.00
LiDAR Survey c/w with Operator, Cube Van & Tools (min. 4hrs)	$2,975.00	$4,431.00	$5,887.00
Bathymetric Survey c/w with Operator, Cube Van & Tools (min. 4hrs)	$655.00	$950.00	$1,246.00
Pumping System Monitoring Technician c/w Truck and Tools	$155.00	$209.00	$264.00
Sr. Environmental Inspector c/w Truck and Tools	$182.00	$266.00	$364.00
Jr. Environmental Inspector c/w Vehicle and Tools	$126.00	$189.00	$224.00
Sr Environmental Professional c/w Truck and Tools	$252.00	$378.00	$504.00
Sr Environmental Scientist c/w Truck and Tools	$155.00	$209.00	$264.00

Long-Term Dewatering Filtration Plan
2243 and 2269 Fairview Street
and 864 Drury Lane
Burlington, Ontario

June 3, 2022

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1. Introduction

1.1. Background

Aquatech dewatering was requested by Brookfield Properties to design a long-term dewatering filtration system for the construction dewatering at 2243 and 2269 Fairview Street, and 864 Drury Lane, Burlington, Ontario. The hydrogeological investigation report prepared by Pinchin (Technical Addendum – Hydrogeological and Global Stability Characterization 2243 and 2269 Fairview Street and 864 Drury Lane, Burlington, Ontario Pinchin File: 225780.004 (Revised), May 20,2022) were used to identify the required design flow rate and groundwater contaminants exceeding the discharge limits for the conceptual design.

1.2. Description of The Proposed Treatment System

Aquatech has proposed a long-term dewatering filtration system to treat for exceedances found in borehole MW305 tested as mentioned in Table 1 below to meet the City of Burlington Storm Sewer Discharge By-Law 86-2002. Table 1 summarizes the various parameters that exceeded the discharge criteria as per the hydrogeological site assessment report and the recent water quality reports.

Table 1. Exceedance Summary Table as per the Hydrogeological Investigation and Technical Memo

Parameter	City of Burlington Storm Sewer Discharge Limits	Concentration for MW305
Total Suspended Solids (TSS), (mg/L)	15	84
Total Manganese (Mn), (µg/L)	50	120
Dissolved Manganese (Mn),(µg/L)	50	85

The proposed water treatment system consists of various components to treat for these exceedances identified above and the following are components of the system:

1. One (1) 1,550-Gallon Settling Tank
2. Two (2) 2” Submersible Pumps (Primary and Backup)
3. One (1) 2-POD Sand Filtration Unit
4. One (1) Chlorine Dosing Unit
5. One (1) 2-POD Greensand Filtration Unit
6. Three (3) 1000-Pounds Granular Activated Carbon Vessels
7. One (1) Remote Monitoring System
8. One (1) 1,550-Gallon Backwash Water Collection Tank

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9. One (1) 1,550-Gallon Clean Water Tank
10. One (1) 3" Submersible Pump in the Backwash Water Collection Tank
11. One (1) 2" Submersible Pump in the Clean Water Collection Tank
12. Two (2) 1000-Pounds Phosphorous Removal Vessels (Contingency)
13. One (1) 1000-Pounds Zinc Removal Vessel (Contingency)

The system is designed to treat long term discharge flow rate of **17 US GPM (94 m^3/day)** provided in the hydrogeological assessment report. Exceeding this capacity may cause permanent damage to the system and affect the reliability of the treatment. The process flow diagram of the proposed system is provided in Appendix A and a detailed description of the system components, and their performance objectives is provided in the following sections.

2. System Components

2.1. Primary Settling Tank

The water from the dewatering sump pump is first collected in a 1,550-gallon tank, which also serves as a primary settling tank and removes coarser/denser TSS particles. There are two submersible pumps in this tank (one primary and one backup), which pumps the water to the subsequent filtration systems. Considering the maximum flow rate of 21 US GPM, the calculated residence time of the incoming water is approximately 1 hr in the tank (considering a 30% of available free headspace).

2.2. Submersible Pumps

There are two submersible pumps (one primary and one backup) in the 1,550-gallon primary settling tank to transfer the water collected from the sump pit into the filtration systems and discharge pipes. Two 230V, 3 Phase, 5 HP electric submersible pumps with 2-inch discharge bore will be utilized for this purpose. The primary and backup submersible pumps in the primary holding tank are set to 'Automatic' mode in the control panel. This ensures that these pumps are operated on floats and are triggered depending on the water level in the primary holding tank. A high-water level in the primary settling tank will trigger the pump to turn on and start pumping until the water level reaches a set low level. The level sensor in the primary tank is connected to the remote monitoring system which can be accessed 24/7.

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A 3-inch-high head electric submersible pump (230 V, 2.5 HP) in the backwash collection tank can pump the backwash water/sludge to the ground level for subsequent disposal via vacuum trucks. Also, one 2-inch electric submersible pump in the clean water collection tank can transfer the clean water to any filtration vessel for backwash events or for media soaking.

2.3. Sand Media Filtration Unit

Following the settling tank is a 2-pod sand filter unit that can remove particles larger than 20 micron-size. The sand filtration unit consists of a 2-POD vessel system with backwash capability and connections for influent, effluent, and backwash. The filtration vessels are filled with silica sand media and gravel media as support. The sand media is a naturally occurring, graded and washed sand that is high in silica and low in calcium. The gravel media is highly spherical-shaped media that promotes even distribution of water in support beds. As the water passes through the filtration media, the particulates are trapped and retained within the media bed resulting in clean process water flowing out through the outlet.

The filtration mode will continue until a sufficient amount of solids have been collected to create a 10 psi pressure drop across the filter bed. At this time, the filters will be automatically shifted to backwash mode, and during the backwash cycle, clean filtered water from the other pod is then processed in the opposite flow direction creating the backwash condition. Routine backwashing is automatically performed to clean the sand media to avoid any particulate build-up. The frequency of backwashing is determined by regularly monitoring the system for pressure differential. The backwash water from the 2-pod sand filter is pumped into the 1,550-gallon backwash tank.

2.4. Chlorine Dosing Unit

Greensand media filtration is used to remove the manganese content present in the groundwater and chlorination is required to oxidize the manganese and to regenerate this greensand media continuously. Chlorine dose depends on the concentration variation of manganese and other contaminants consuming the chlorine such as iron, hydrogen sulfide and ammonia. Chlorination aids in oxidizing these contaminants and some other organics in addition to manganese in the water that can be subsequently filtered out. For this purpose, 12% sodium hypochlorite solution is used, and the proper dose depends on the concentration of all the contaminants exerting chlorine demand.

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The system incorporates a high-quality chemical metering pump to provide accurate and consistent metering. The chlorination system includes a chlorine holding tank, a flow meter, an injection pump, a tubing, and an injection port. Sodium hypochlorite is injected inline and the piping length and convolutions between the chlorine dosing unit and Greensand filtration unit are designed in such a way to provide a contact time of a minimum of 10 seconds after chlorine injection prior to manganese filtration by Greensand. Chemically treated groundwater will flow through the 2-POD GreenSand filtration unit. Also, the chlorine dosing should be maintained at a rate so that chlorine residual after the Greensand filtration unit is in the range of 0.5 to 1.5 ppm.

2.5. Greensand Filtration Unit

The greensand filtration unit consists of a 2-POD vessel system with backwash capability and total of three connections for influent, effluent, and backwash. The vessels are filled with microporous silica sand-based oxidation catalyst media designed for the removal of exceeding manganese. The maximum working pressure of the system is 100 psi. Filtration media operates with continuous injection of sodium hypochlorite to continuously regenerate the media. The media is stable at a pH range of 5.8-8.6 and is not consumed in the treatment process. This filter removes contaminants by providing contact time between water and the high-affinity media. Routine backwashing is automatically performed to clean the media to avoid particulate build-up. The frequency of backwashing is determined by regularly monitoring the system for pressure differential. Backwash mode will be automatically triggered once the pressure differential reaches 10 psi. During the backwash mode of operation, clean filtered water from the other pod is then processed in the opposite flow direction creating the backwash condition.

2.6. Granular Activated Carbon Filtration Unit

Downstream of the greensand filtration unit are three 1000 lbs granular activated carbon (GAC) vessel with a total of two connections for influent and effluent, which will be installed in series configuration. GAC vessels are used to remove any generated organic by-products formed during chlorination (such as chloroform) through the process of adsorption, whereby pollutant particles are trapped in the pores of the carbon granules. The maximum working pressure of the system is 75 psig and the calculated contact time of the vessel is 10 min. GAC vessels do not generally require backwash, however the pressure differential across the vessels should be monitored closely to ensure the system is performing well. The filter requires replacement when

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there is contaminant exceedance or when the pressure differential of 10 psi is observed before and after each vessel. If there is no exceedance is observed for the chlorinated organic by-products from the effluent of GAC vessels, while there is a pressure differential across the vessels, backwash may help to bring the pressure differential back to its operational values for continuous performance.

2.7. Phosphorus Removal Filtration Unit (Contingency)

The most recent water quality report (November 2021) indicated dissolved phosphorus concentration was below the City of Burlington Storm Sewer discharge limits. However, phosphorus was shown as an exceedance in the previous water quality samples collected form the same monitoring well (June and August 2021). Phosphorus removal system is considered as contingency in case there is any exceedances observed in the concentration of phosphorus in the influent water. This system, if required, should be installed downstream of the GAC filtration units consisting of two 1000 lbs vessels installed in series (lead and lag configuration) with a total of two connections for influent and effluent that are used to decrease the concentration of phosphorous through the process of adsorption. The maximum working pressure of the system is 75 psig and the calculated contact time between the groundwater and the media is 5 min. The vessels are filled with a specialty iron oxide-based media that removes the contaminants through adsorption. Routine backwashing is required to clean the media to avoid particulate build-up. The frequency of backwashing is determined by regularly monitoring the system for pressure differential and when the pressure differential reaches 10 psi across the vessels, the media requires backwash. Clean treated water collected in the clean water tank should be used for this purpose to avoid consuming the adsorption capacity of the media during the backwash event. The filter requires replacement when there is contaminant exceedance in the effluent treated water.

2.8. Zinc Removal Filtration Unit (Contingency)

The most recent water quality report (November 2021) indicated dissolved zinc concentration was below the City of Burlington Storm Sewer discharge limits. However, zinc was shown as an exceedance in the previous water quality samples collected form the same monitoring well (June 2021). Zinc removal system is considered as contingency in case there is any exceedance observed in the concentration of zinc in the influent water. This system, if required, should be installed downstream of the GAC filtration units (or downstream of phosphorus removal

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system if implemented) consisting of one 1000 lbs vessel with a total of two connections for influent and effluent that are used to decrease the concentration of zinc through the process of adsorption. The maximum working pressure of the system is 75 psig and the calculated contact time between the groundwater and the media is 3.5 min. The vessels are filled with a specialty iron oxide-based media that removes the contaminants through adsorption. Routine backwashing is required to clean the media to avoid particulate build-up. The frequency of backwashing is determined by regularly monitoring the system for pressure differential and when the pressure differential reaches 10 psi across the vessels, the media requires backwash. Clean treated water collected in the clean water tank should be used for this purpose to avoid consuming the adsorption capacity of the media during the backwash event. The filter requires replacement when there is contaminant exceedance in the effluent treated water.

2.9. Remote Monitoring System

A remote monitoring system that can provide information on the critical parameters essential to understand the effective operations of the system has to be installed. The remote monitoring system installed by Aquatech consists of sensors that can measure parameters such as flow rate, total flow, water level in the primary tank, velocity, pressure, pH, temperature, and turbidity on a real-time basis. This data can also be accessed 24/7, and the event notifications can be received when the data loggers are connected to a data collection software platform such as DataLinks.

2.10. Backwash Water Collection Tank

The backwash water collection tank would be a 1,550-gallon tank, and all the backwash water generated from the sand media, greensand filtration units, phosphorous and zinc removal media (if installed), and GAC filtration units (if backwash required) are collected in this tank. The backwash water tank requires regular cleaning. The backwash water collection tank is equipped with a level sensor connected to a remote monitoring system that can provide notifications when the tank is full and needs to be vacuumed and cleaned.

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2.11. Clean Water Tank

A 1,550-gallon clean water tank is also included in the filtration system train. The primary purpose of this tank is to serve as a holding tank for clean treated water/city water that is required during the backwash of GAC vessels (if required), and phosphorous and zinc removal vessels. The treated water from the effluent or city water will be collected in this tank whenever backwash is needed. The treated water/clean water will be pumped through the vessels to perform the backwash. This tank will be also used during the commissioning phase when clean water is required to be collected for media soaking and initial backwash.

3. Appendix

Following section provides document pertaining to process flow diagram of all the system components of the proposed water treatment system for the long-term filtration system (including main and continency phosphorus and zinc removal systems).

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This filtration plan provides a preliminary design of the proposed water treatment based on the water quality result and pertaining information provided in the hydrogeological investigation report. Additional samples might be needed on the project site prior to the detailed design and mobilization of the treatment system. The equipment specifications may change at the time of procurement and installation.

We trust that the above is self-explanatory, but should you require any additional information please do not hesitate to contact the writer for same.

Prepared By:

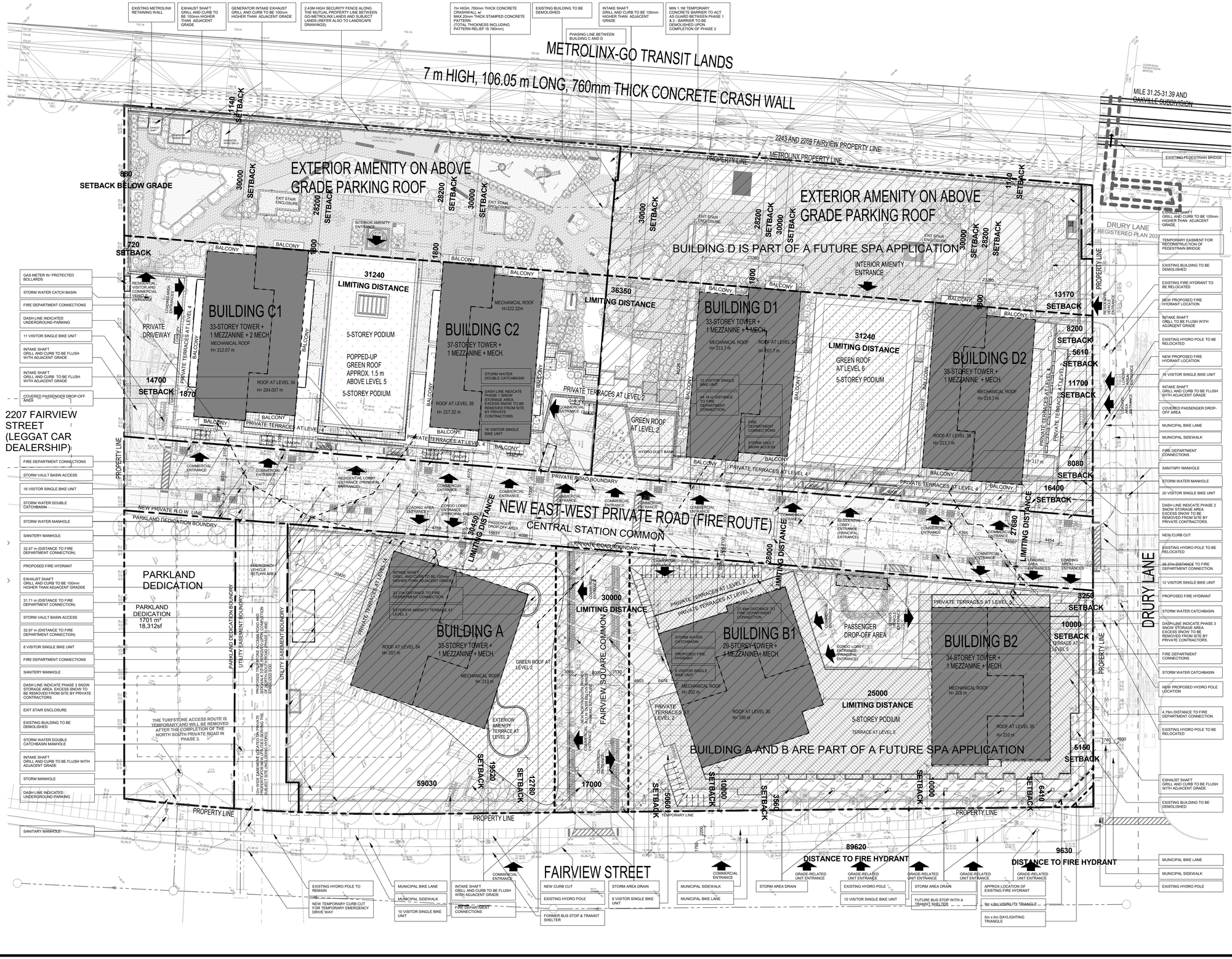
Pavel Lemeshko

Project Manager (Filtration)

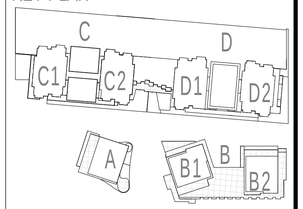
Aqua-Tech Dewatering Company

DRAWINGS

Drawing A0006:	Master Site Plan (CORE Architects)
Drawing A0007b:	Phasing Plan (CORE Architects)
Drawing A0007c:	Phase 1 (Building C) Site Plan (CORE Architects)
Drawing M300:	Foundation – Overall Floor Plan – Mechanical (Smith + Andersen)
Drawing M300A:	Foundation – Part 1 of 4 – Mechanical (Smith + Andersen)
Drawing M300B:	Foundation – Part 2 of 4 – Mechanical (Smith + Andersen)
Drawing M300C:	Foundation – Part 3 of 4 – Mechanical (Smith + Andersen)
Drawing M300D:	Foundation – Part 4 of 4 – Mechanical (Smith + Andersen)
Drawing M301:	Parking Level 2 – Overall Floor Plan – Mechanical (Smith + Andersen)
Drawing M301A:	Parking Level 2 – Part 1 of 4 – Mechanical (Smith + Andersen)
Drawing M301B:	Parking Level 2 – Part 2 of 4 – Mechanical (Smith + Andersen)
Drawing M301C:	Parking Level 2 – Part 3 of 4 – Mechanical (Smith + Andersen)
Drawing M301D:	Parking Level 2 – Part 4 of 4 – Mechanical (Smith + Andersen)



KEY PLAN



UNDERGROUND PARKING
EXISTING PROPERTY LINES
NEW PROPERTY LINES
EASEMENT LINES
30 METER RAILWAY SETBACK

LSA - EXTERIOR SURFACE-MOUNTED DOWN-LIGHT ON WALL (REFER ALSO TO ELECTRICAL DRAWINGS.)

LSC-EXTERIOR SURFACE MOUNTED DOWN-LIGHT ON WALL (REFER ALSO TO ELECTRICAL DRAWINGS.)

L6-EXTERIOR RECESSED DOWN-LIGHT ON SOFFIT (REFER ALSO TO ELECTRICAL DRAWINGS.)

L9-EXTERIOR SURFACE-MOUNTED DOWN LIGHT ON WALL (REFER ALSO TO ELECTRICAL DRAWINGS.)

NO.	REVISIONS	DATE
8	Reissued for Site Plan Approval	July 20, 2022
7	Reissued for Site Plan Approval	April 6, 2022
6	Reissued for Site Plan Approval	December 01, 2021
5	Issued for SPA Consultant Coordination	October 01, 2021
4	Reissued for Site Plan Approval	September 25, 2020
3	Issued for Site Plan Approval	January 02, 2020
2	Issued for pre-con	December 05, 2019
1	Issued for pre-consultation	November 22, 2019

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cc CLV Group Developments Inc.
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Ottawa, ON K2P 1Z2

ONTARIO ASSOCIATION OF ARCHITECTS
BABAK ESLAHJOU
LICENCE
4706

DRAWN: Author	SCALE: 1:400
CHECKED: Checker	DATE: Nov. 2021

TITLE: SITE PLAN

PROJECT NO.: 18-223	DRAWING NO.: **A0006**

DATE/TIME PRODUCED:2022-07-29 12:30:34 PM

PHASE 1:
- NUMBER OF RESIDENTIAL UNITS: 775 (STUDIO=0 1B/1B+DEN=501 2B/2B+DEN=236 3B=38)
- COMMERCIAL: 9,304 SF 864 SM
- PARKING: 900 (RESIDENTIAL= 775 VISITOR= 78 COMMERCIAL= 37 MAINTENANCE=10)
- ESTIMATED OCCUPANCY DATE: FEBRUARY 2025

PHASE 2:
- NUMBER OF RESIDENTIAL UNITS: 751 (STUDIO=0 1B/1B+DEN=479 2B/2B+DEN=229 3B=43)
- COMMERCIAL: 10,777 SF 1,001 SM
- PARKING: 894 (RESIDENTIAL= 774 VISITOR= 75 COMMERCIAL= 35 MAINTENANCE=10)
- ESTIMATED OCCUPANCY DATE: JANUARY 2028

EXISTING METROLINX RETAINING WALL
EXHAUST SHAFT GRILL AND CURB TO BE 100mm HIGHER THAN ADJACENT GRADE
DASHED LINE INDICATES EXTENT OF CRASH WALL
7m HIGH, 760mm THICK CONCRETE CRASHWALL w/ MAX 20mm THICK STAMPED CONCRETE PATTERN (TOTAL THICKNESS INCLUDING PATTERN RELIEF IS 780mm)
EXISTING BUILDING TO BE DEMOLISHED
INTAKE SHAFT GRILL AND CURB TO BE 100mm HIGHER THAN ADJACENT GRADE
PHASING LINE BETWEEN BUILDING C AND D

METROLINX-GO TRANSIT LANDS

7 m HIGH, 760mm THICK CONCRETE CRASH WALL

EXISTING PEDESTRIAN BRIDGE
TEMPORARY EASMENT FOR RECONSTRUCTION OF PEDESTRAIN BRIDGE
EXISTING BUILDING TO BE DEMOLISHED

EXTERIOR AMENITY ON ABOVE-GRADE PARKING ROOF
PHASE 1
EXTERIOR AMENITY ON ABOVE-GRADE PARKING ROOF
PHASE 2
PHASE 3

EXIT STAIR ENCLOSURE
INTERIOR AMENITY ENTRANCE
PROPERTY LINE
BALCONY
PRIVATE TERRACES AT LEVEL 4
PRIVATE TERRACES AT LEVEL 3
PRIVATE TERRACES AT LEVEL 2
PRIVATE TERRACES AT LEVEL 5
PRIVATE TERRACES AT LEVEL 14

BUILDING C1
33-STOREY TOWER + 1 MEZZANINE + 2 MECH.
MECHANICAL ROOF
H= 211.7 m
ROOF AT LEVEL 34
H= 207.7 m

POPPED-UP GREEN ROOF APPROX. 1.5 m ABOVE LEVEL 5
GRAVEL BALAST ROOF AT LEVEL 5
POPPED-UP GREEN ROOF APPROX. 1.5 m ABOVE LEVEL 5

BUILDING C2
37-STOREY TOWER + 1 MEZZANINE + MECH.
MECHANICAL ROOF
H= 219.7 m
ROOF AT LEVEL 38
H= 225.7 m

GREEN ROOF AT LEVEL 2

BUILDING D1
33-STOREY TOWER + 1 MEZZANINE + MECH.
MECHANICAL ROOF
H= 213.7 m
ROOF AT LEVEL 34
H= 207.7 m

31240
LIMITING DISTANCE

GREEN ROOF AT LEVEL 6
5-STOREY PODIUM

BUILDING D2
35-STOREY TOWER + 1 MEZZANINE + MECH.
MECHANICAL ROOF
H= 219.7 m
ROOF AT LEVEL 36
H= 213.7 m

8210
H= 117 m

GAS METER
RESIDENTIAL, VISITOR AND COMMERCIAL VEHICLE ENTRANCE
LOADING AREA ENTRANCES
DASH LINE INDICATED UNDERGROUND PARKING
PRIVATE DRIVEWAY

2207 FAIRVIEW STREET (LEGGAT CAR DEALERSHIP)

BROCK STREET
NEW PRIVATE R.O.W. LINE
PROPERTY LINE

COMMERCIAL ENTRANCE
RESIDENTIAL LOBBY ENTRANCE (PRINCIPAL ENTRANCE)
CONDO LOBBY ENTRANCE (PRINCIPAL ENTRANCE)
LOADING AREA ENTRANCES
PASSENGER DROP-OFF AREA
PRIVATE ROAD BOUNDARY
NEW EAST-WEST PRIVATE ROAD (FIRE ROUTE)
CENTRAL STATION COMMON
4358
15594
4688
15492
3426
4878

PARKLAND DEDICATION
EMERGENCY VEHICLE RETURN AREA
BROCK STREET PROPERTY BOUNDARY
UTILITY EASEMENT BOUNDARY
PROPOSED TRUFSTONE ACCESS ROAD AND POWER LINE EASEMENT (LOCATION OF NORTH-SOUTH ROAD (PHASE 3) AND HYDRO DUCT)
UTILITY EASEMENT BOUNDARY
12m WIDE EASEMENT (LOCATED ON PRIVATE ROAD) IN FAVOUR OF ALL LANDS WITHIN THE SUBJECT SITE (INCLUDING HYDRO)

EXIT STAIR ENCLOSURE
EXISTING BUILDING TO BE DEMOLISHED
THE TURFSTONE ACCESS ROUTE IS TEMPORARY AND WILL BE REMOVED AFTER THE COMPLETION OF THE NORTH SOUTH PRIVATE ROAD IN PHASE 3.
DASH LINE INDICATED UNDERGROUND PARKING

BUILDING A
33-STOREY TOWER + 1 MEZZANINE + MECH.
ROOF AT LEVEL 34
H= 207 m
MECHANICAL ROOF
H= 213 m
GREEN ROOF AT LEVEL 2
EXTERIOR AMENITY TERRACE AT LEVEL 2

FAIRVIEW SQUARE COMMON
15162
2008
4446
2438

BUILDING B1
29-STOREY TOWER + 1 MEZZANINE + MECH.
MECHANICAL ROOF
H= 202 m
ROOF AT LEVEL 30
H= 195 m

PASSENGER DROP-OFF AREA
25000
COMMERCIAL ENTRANCE
CONDO VEHICLE ENTRANCE
CONDO LOBBY ENTRANCE (PRINCIPAL ENTRANCE)

BUILDING B2
34-STOREY TOWER + 1 MEZZANINE + MECH.
MECHANICAL ROOF
H= 216 m
ROOF AT LEVEL 35
H= 210 m
5-STOREY PODIUM
TERRACE AT LEVEL 5

DRURY LANE
PROPERTY LINE
EXISTING BUILDING TO BE DEMOLISHED
5m x 5m DAYLIGHTING TRIANGLE

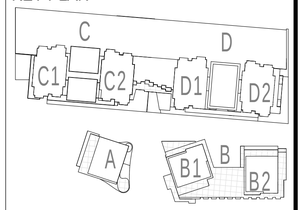
89530
DISTANCE TO FIRE HYDRANT
9720
DISTANCE TO FIRE HYDRANT

COMMERCIAL ENTRANCE
GRADE-RELATED UNIT ENTRANCE
FUTURE BUS STOP WITH A TRANSIT SHELTER
FORMER BUS STOP & TRANSIT SHELTER

FAIRVIEW STREET

PHASE 3 (A & B):
- NUMBER OF RESIDENTIAL UNITS: 989 (STUDIO=20 1B/1B+DEN=555 2B/2B+DEN=330 3B=84)
- COMMERCIAL: 10,645 SF 989 SM
- PARKING: 1,161 (RESIDENTIAL= 990 VISITOR= 78 COMMERCIAL= 80 MAINTENANCE=13)
- ESTIMATED OCCUPANCY DATE: JANUARY 2029

KEY PLAN



UNDERGROUND PARKING
EXISTING PROPERTY LINES
NEW PROPERTY LINES
EASEMENT LINES
30 METER RAILWAY SETBACK

NO.	REVISIONS	DATE
3	Reissued for Site Plan Approval	July 20, 2022
2	Reissued for Site Plan Approval	December 01, 2021
1	Issued for Consultant Coordination 04	September 25, 2019

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Toronto, ON M5J 2T3

cc CLV Group Developments Inc.
485 Bank Street, Suite 200
Ottawa, ON K2P 1Z2

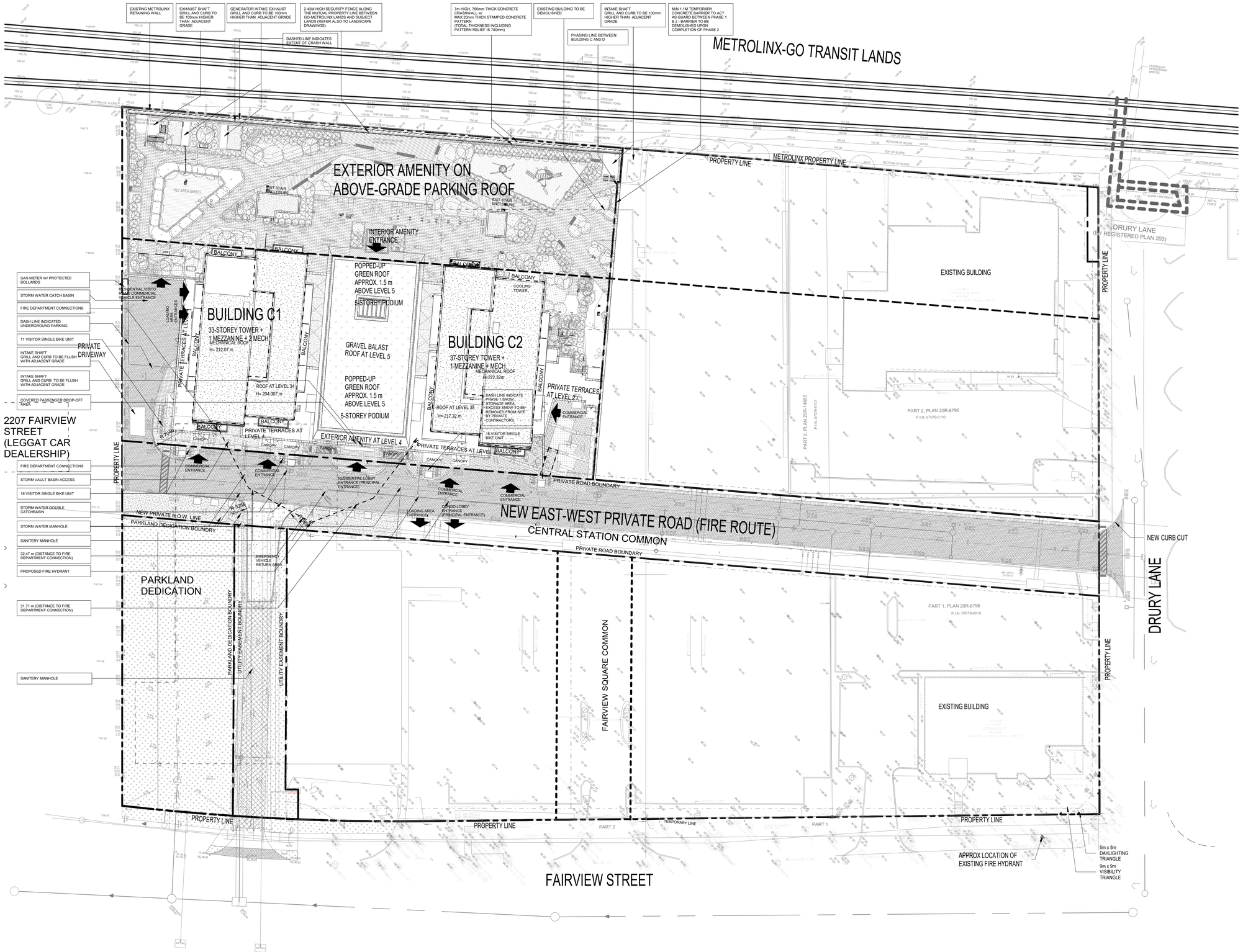
ONTARIO ASSOCIATION OF ARCHITECTS
BABAK ESLAHJOU
LICENCE
4706

DRAWN	SCALE
Author	1 : 400
CHECKED	DATE
Checker	Nov. 2021

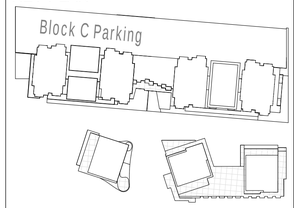
TITLE
PHASING PLAN

PROJECT NO.	DRAWING NO.
18-223	A0007b

DATE/TIME PRODUCED:2022-07-29 11:28:40 AM



KEY PLAN



- UNDERGROUND PARKING
- EXISTING PROPERTY LINES
- NEW PROPERTY LINES
- EASEMENT LINES
- 30 METER RAILWAY SETBACK

NO.	REVISIONS	DATE
1	Reissued for Site Plan Approval	July 20, 2022

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cc CLV Group Developments Inc.
485 Bank Street, Suite 200
Ottawa, ON K2P 1Z2

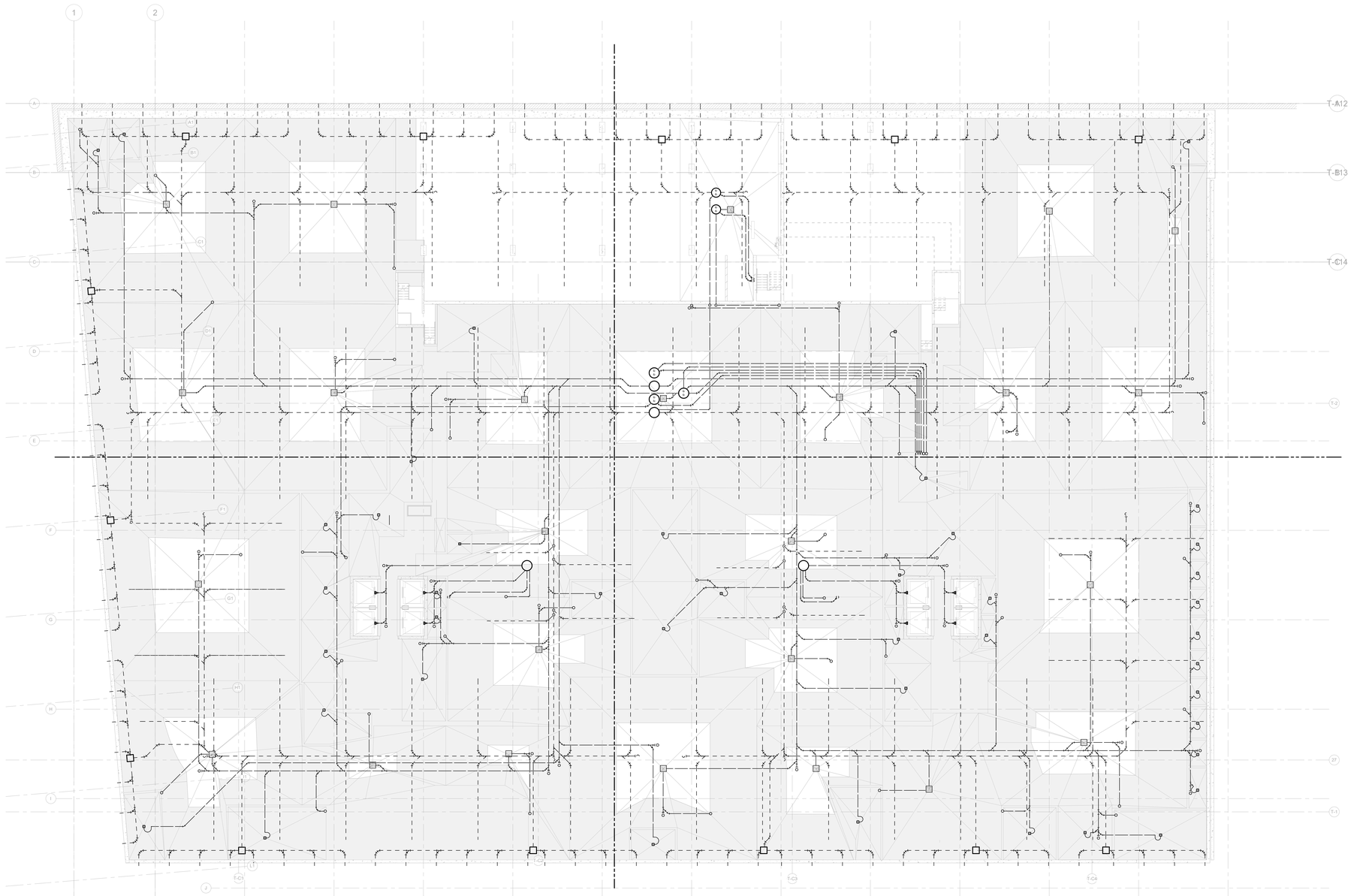
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BABAK ESLAHJOU
LICENCE
4706

DRAWN: Author	SCALE: 1 : 400
CHECKED: Checker	DATE: Nov. 2021

TITLE
PHASE 1 (BUILDING C)
SITE PLAN

PROJECT NO. 18-223	DRAWING NO. A0007c

DATE/TIME PRODUCED 2022-07-29 12:33:53 PM



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NO.	REVISIONS	DATE
9	REISSUED FOR TENDER	2023/07/06
8	ISSUED FOR TENDER	2023/05/05
7	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2023/05/04
6	ISSUED FOR TENDER	2023/04/19
5	ISSUED FOR TENDER REVIEW	2023/04/01
4	ISSUED FOR CONSULTANT COORDINATION SET 07	2022/03/22
3	ISSUED FOR BELOW SLAB DRAINAGE REVIEW	2022/03/08
2	ISSUED FOR COORDINATION	2022/02/17
1	ISSUED FOR PERMIT	2021/11/01

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENTIONS

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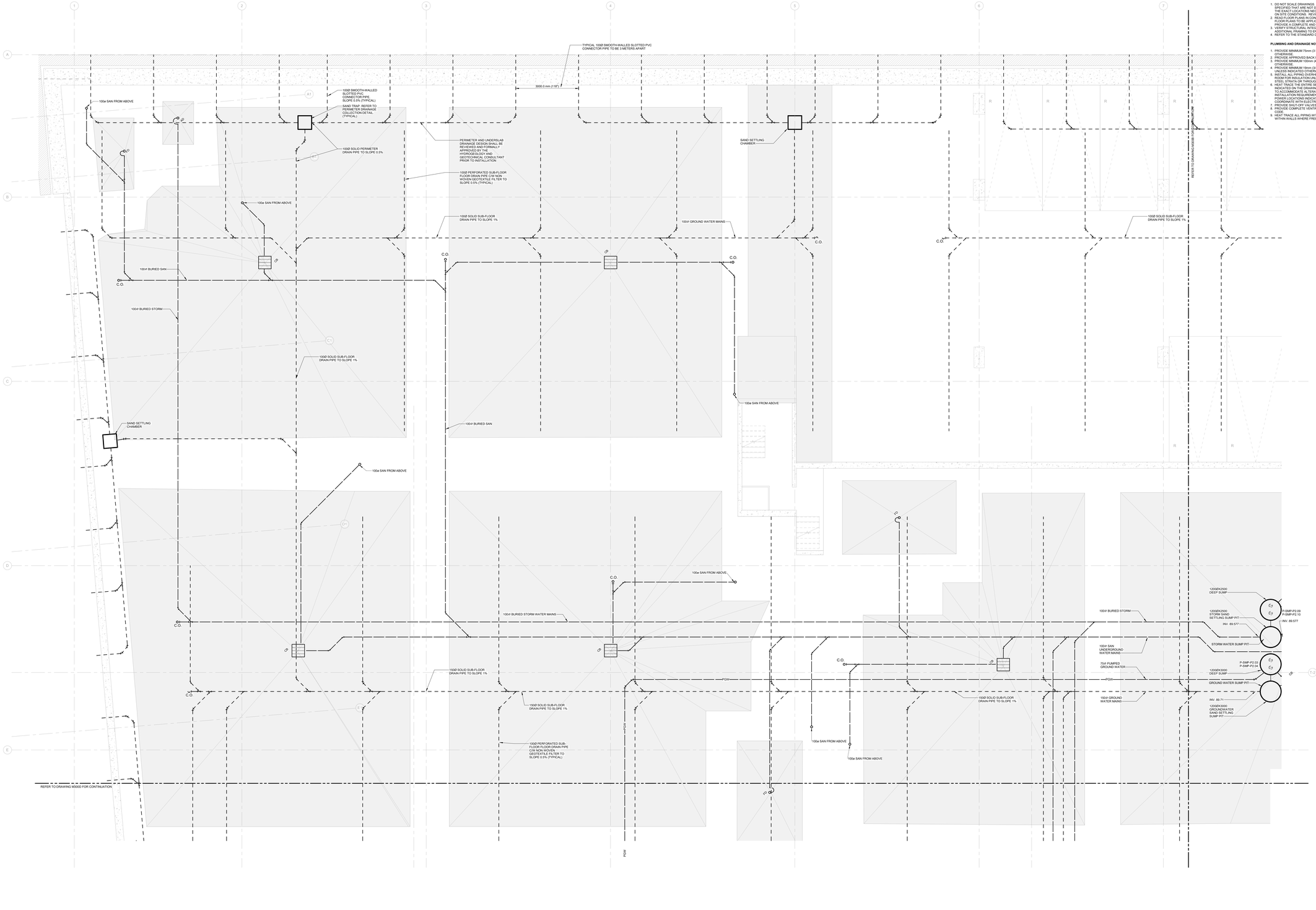
DRAWN J.F.	**SCALE** 1 : 125
CHECKED F.A.	**DATE**

TITLE

FOUNDATION - OVERALL FLOOR PLAN - MECHANICAL

PROJECT NO.	**DRAWING NO.**
20371.000	**M300**

DATE/TIME PRODUCED:7/13/2023 3:55:28 PM



GENERAL NOTES

1. DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS BASED ON SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT
2. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS. ASSUME INFORMATION SHOWN ON ONE DRAWING IS SHOWN ON ALL DRAWINGS. REVIEW SYSTEM SCHEMATIC AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM
3. VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED.
4. REFER TO THE STANDARD DETAILS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION.

PLUMBING AND DRAINAGE NOTES

1. PROVIDE MINIMUM 75mm (3 IN.) FOR UNDERGROUND SANITARY DRAINAGE UNLESS INDICATED OTHERWISE.
2. PROVIDE APPROVED BACK FLOW PREVENTION FOR ALL TRAP PRIMER SYSTEMS.
3. PROVIDE MINIMUM 100mm (4 IN.) FOR UNDERGROUND STORM DRAINAGE UNLESS INDICATED OTHERWISE.
4. PROVIDE MINIMUM 19mm (3/4 IN.) DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES UNLESS INDICATED OTHERWISE.
5. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL SLAB ONLY WHERE NO OTHER OPTION IS AVAILABLE AND APPROVED.
6. HEAT TRACE THE ENTIRE SERVICE TO BE PROTECTED FROM FREEZING IN ALL AREAS INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS. PROVIDE HEAT TRACING TO ACCOMMODATE ALTERATIONS IN THE PIPE LAYOUT DUE TO INTERFERENCES OR OTHER INSTALLATION REQUIREMENTS. CONNECT HEAT TRACING CIRCUIT TO THE ELECTRICAL SERVICE AS INDICATED ON THE ELECTRICAL DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE. COORDINATE WITH ELECTRICAL DIVISION.
7. PROVIDE SHUT-OFF VALVES ON ALL MAIN RISERS AND AT EACH CONNECTION TO EQUIPMENT.
8. PROVIDE COMPLETE VENTING SYSTEMS IN ACCORDANCE WITH THE PLUMBING OR BUILDING CODE
9. HEAT TRACE ALL PIPING WITHIN UNHEATED SPACES SUCH AS PARKING LEVELS, SOFFITS AND WITHIN WALLS WHERE FREEZING MAY OCCUR.

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NO.	REVISIONS	DATE
14	REISSUED FOR TENDER	2022/07/08
13	ISSUED FOR TENDER	2022/06/09
12	ISSUED FOR BELOW SLAB DRAINAGE (TENDER	2022/05/04
11	ISSUED FOR TENDER	2022/04/19
10	ISSUED FOR TENDER REVIEW	2022/04/01
9	ISSUED FOR CONSULTANT COORDINATION SET 07	2022/03/22
8	ISSUED FOR BELOW SLAB DRAINAGE (TENDER	2022/03/08
7	ISSUED FOR COORDINATION	2022/02/17
6	ISSUED FOR PERMIT	2021/11/01
5	ISSUED FOR CONSULTANT COORDINATION SET 03	2021/10/15
4	ISSUED FOR SITE PLAN CONTROL	2021/09/20
3	ISSUED FOR CONSULTANT COORDINATION SET 02	2021/08/13
2	ISSUED FOR CONSULTANT COORDINATION SET 01	2021/07/16
1	ISSUED FOR 100% DD	2021/06/08

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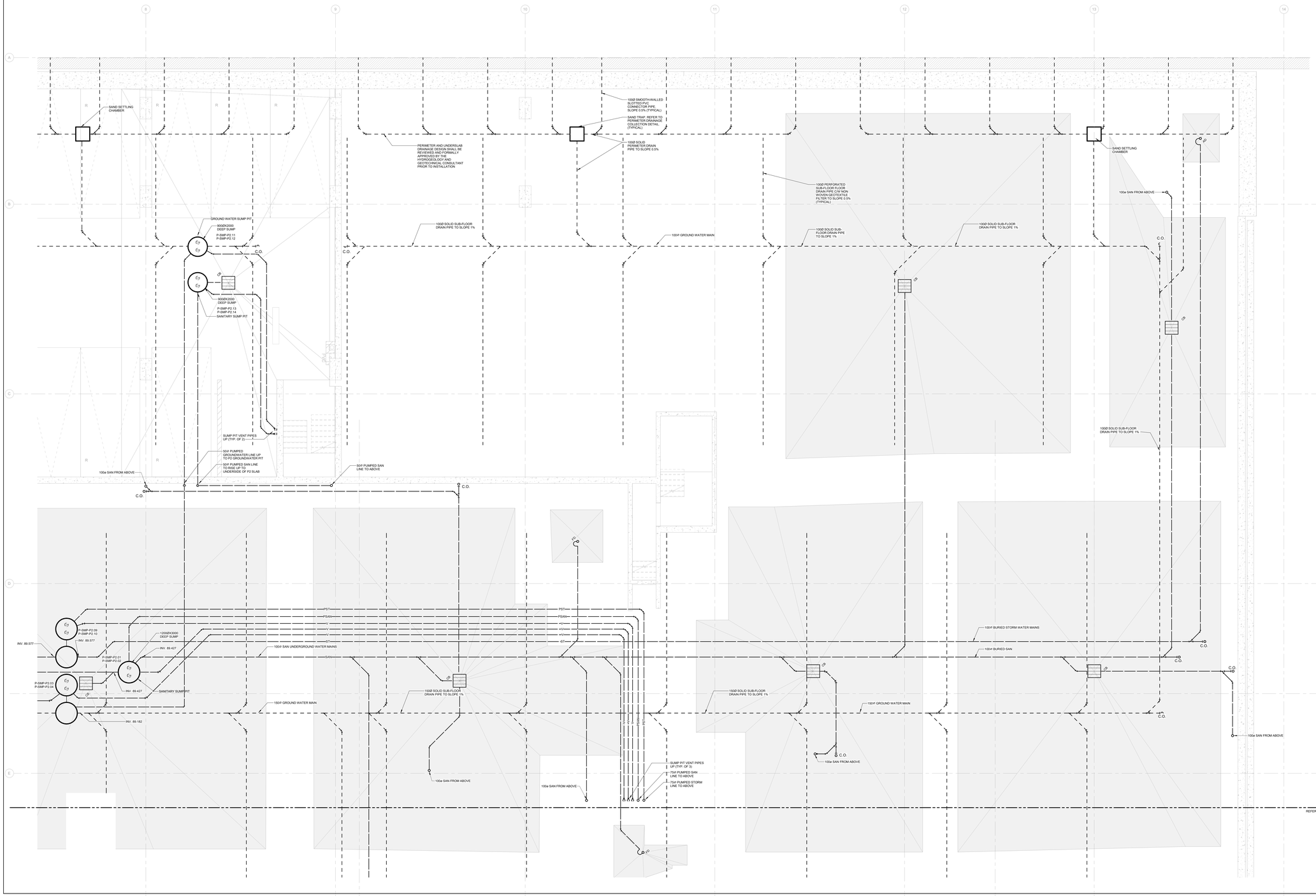
DRAWN J.F.	**SCALE** 1 : 50
CHECKED F.A.	**DATE**

TITLE

FOUNDATION - PART 1 OF 4 - MECHANICAL

PROJECT NO.	**DRAWING NO.**
20371.000	**M300A**

DATE/TIME PRODUCED:7/13/2023 4:42:19 PM



GENERAL NOTES

1. DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS BASED ON SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT
2. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS. ASSUME INFORMATION SHOWN ON ONE DRAWING IS SHOWN ON ALL. REVIEW MECHANICAL SYSTEM SCHEMATIC AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM
3. VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED
4. REFER TO THE STANDARD DETAILS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION.

PLUMBING AND DRAINAGE NOTES

1. PROVIDE MINIMUM 75mm (3 IN.) FOR UNDERGROUND SANITARY DRAINAGE UNLESS INDICATED OTHERWISE.
2. PROVIDE APPROVED BACK FLOW PREVENTION FOR ALL TRAP PRIMER SYSTEMS.
3. PROVIDE MINIMUM 100mm (4 IN.) FOR UNDERGROUND STORM DRAINAGE UNLESS INDICATED OTHERWISE.
4. PROVIDE MINIMUM 19mm (3/4 IN.) DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES UNLESS INDICATED OTHERWISE.
5. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL SLAB ONLY WHERE NO OTHER OPTION IS AVAILABLE AND APPROVED.
6. HEAT TRACE THE ENTIRE SERVICE TO BE PROTECTED FROM FREEZING IN ALL AREAS INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS. PROVIDE HEAT TRACING TO ACCOMMODATE ALTERATIONS IN THE PIPE LAYOUT DUE TO INTERFERENCES OR OTHER INSTALLATION REQUIREMENTS. CONNECT HEAT TRACING CIRCUIT TO THE ELECTRICAL PANELBOARD AS INDICATED ON THE DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE. COORDINATE WITH ELECTRICAL DIVISION.
7. PROVIDE SHUT-OFF VALVES ON ALL MAIN RISERS AND AT EACH CONNECTION TO EQUIPMENT.
8. PROVIDE COMPLETE VENTING SYSTEMS IN ACCORDANCE WITH THE PLUMBING OR BUILDING CODE.
9. HEAT TRACE ALL PIPING WITHIN UNHEATED SPACES SUCH AS PARKING LEVELS, SOFFITS AND WITHIN WALLS WHERE FREEZING MAY OCCUR.

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NO.	REVISIONS	DATE
14	REISSUED FOR TENDER	2022/07/08
13	ISSUED FOR TENDER	2022/06/09
12	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/05/04
11	ISSUED FOR TENDER	2022/04/19
10	ISSUED FOR TENDER REVIEW	2022/04/01
9	ISSUED FOR CONSULTANT COORDINATION SET 03	2022/03/22
8	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/03/08
7	ISSUED FOR COORDINATION	2022/02/17
6	ISSUED FOR PERMIT	2021/11/01
5	ISSUED FOR CONSULTANT COORDINATION SET 03	2021/10/15
4	ISSUED FOR TENDER	2021/09/20
3	ISSUED FOR CONSULTANT COORDINATION SET 02	2021/08/13
2	ISSUED FOR CONSULTANT COORDINATION SET 01	2021/07/16
1	ISSUED FOR 100% DD	2021/06/08

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cc CLV Group Developments Inc.
485 Bank Street, Suite 200
Ottawa, ON K2P 1Z2

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BURLINGTON, ONTARIO

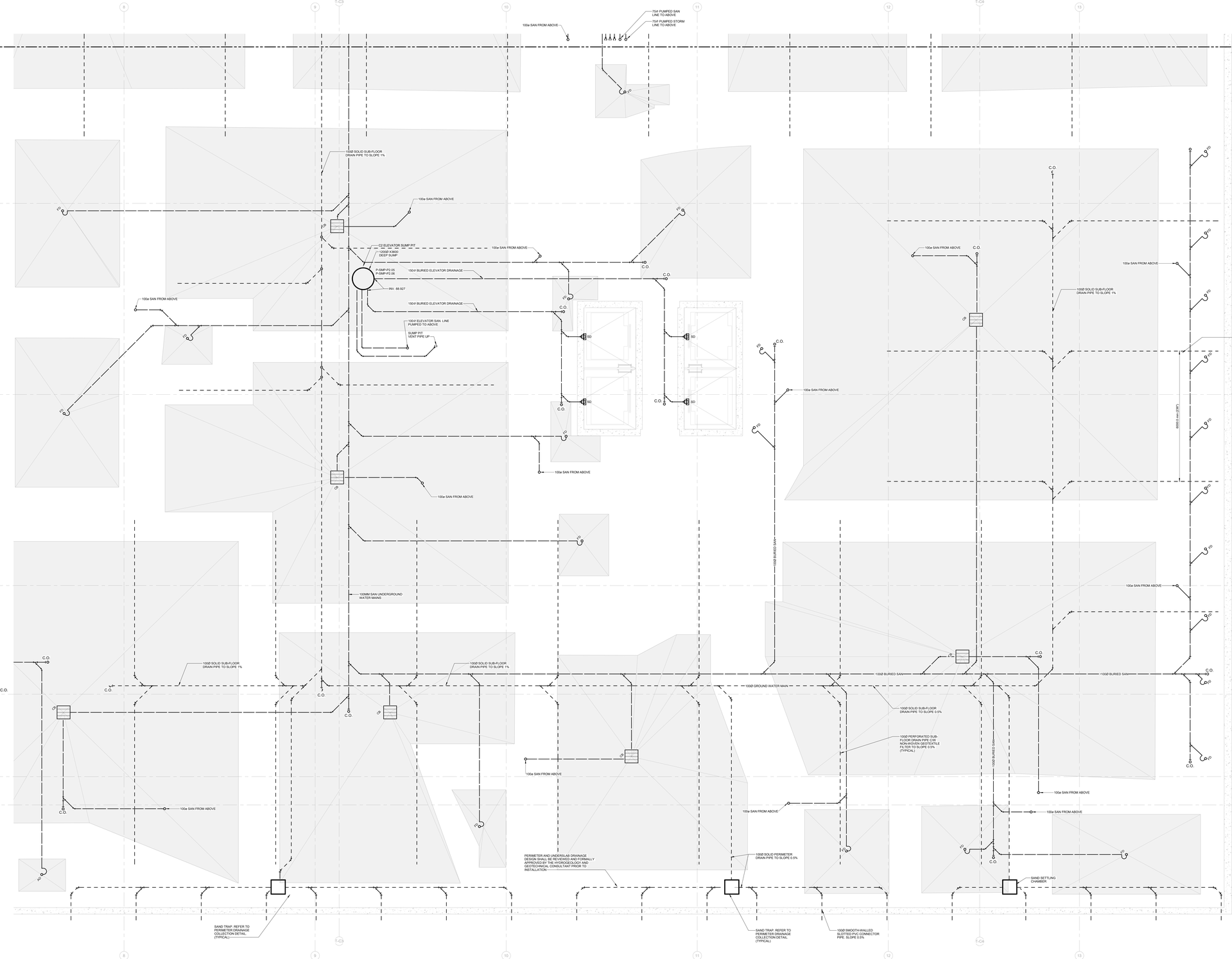
DRAWN J.F.	SCALE 1 : 50
CHECKED F.A.	DATE

TITLE

FOUNDATION - PART 2 OF 4 - MECHANICAL

PROJECT NO.	DRAWING NO.
20371.000	**M300B**

DATE/TIME PRODUCED:7/1/2022 2:43:31 PM



GENERAL NOTES

1. DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS BASED ON SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT.
2. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS. ASSUME INFORMATION SHOWN ON ONE DRAWING IS SHOWN ON ALL DRAWINGS. REVIEW SYSTEM SCHEMATIC AND VICE-VERSA TO PROPERLY ASSEMBLE OPERATIONAL SYSTEM.
3. VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE SLAB EDGES, SHORING, ENSURE STRUCTURAL INTEGRITY AS REQUIRED.
4. REFER TO THE STANDARD DETAILS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION.

PLUMBING AND DRAINAGE NOTES

1. PROVIDE MINIMUM 75mm (3 IN.) FOR UNDERGROUND SANITARY DRAINAGE UNLESS INDICATED OTHERWISE.
2. PROVIDE APPROVED BACK FLOW PREVENTION FOR ALL TRAP PRIMER SYSTEMS.
3. PROVIDE MINIMUM 100mm (4 IN.) FOR UNDERGROUND STORM DRAINAGE UNLESS INDICATED OTHERWISE.
4. PROVIDE MINIMUM 19mm (3/4 IN.) DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES UNLESS INDICATED OTHERWISE.
5. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL SLAB ONLY WHERE NO OTHER OPTION EXISTS AND APPROVED BY ARCH.
6. HEAT TRACE THE ENTIRE SERVICE TO BE PROTECTED FROM FREEZING IN ALL AREAS INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS. PROVIDE HEAT TRACING TO ACCOMMODATE ALTERATIONS IN THE PIPE LAYOUT DUE TO INTERFERENCES OR OTHER INSTALLATION REQUIREMENTS. CONNECT HEAT TRACING CIRCUIT TO THE ELECTRICAL PANELBOARD INDICATED ON THE DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE. COORDINATE WITH ELECTRICAL DIVISION.
7. PROVIDE SHUT-OFF VALVES ON ALL MAIN RISERS AND AT EACH CONNECTION TO EQUIPMENT.
8. PROVIDE COMPLETE VENTING SYSTEMS IN ACCORDANCE WITH THE PLUMBING OR BUILDING CODE.
9. HEAT TRACE ALL PIPING WITHIN UNHEATED SPACES SUCH AS PARKING LEVELS, SOFFITS AND WITHIN WALLS WHERE FREEZING MAY OCCUR.

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NO.	REVISIONS	DATE
14	REISSUED FOR TENDER	2022/07/08
13	ISSUED FOR TENDER	2022/06/09
12	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/05/04
11	ISSUED FOR TENDER	2022/04/19
10	ISSUED FOR TENDER REVIEW	2022/04/01
9	ISSUED FOR CONSULTANT COORDINATION SET 07	2022/03/22
8	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/03/08
7	ISSUED FOR COORDINATION	2022/02/17
6	ISSUED FOR PERMIT	2021/11/01
5	ISSUED FOR CONSULTANT COORDINATION SET 06	2021/10/15
4	ISSUED FOR 50% CD	2021/09/20
3	ISSUED FOR CONSULTANT COORDINATION SET 02	2021/08/13
2	ISSUED FOR CONSULTANT COORDINATION SET 01	2021/07/16
1	ISSUED FOR 100% DD	2021/06/08

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cc CLV Group Developments Inc.
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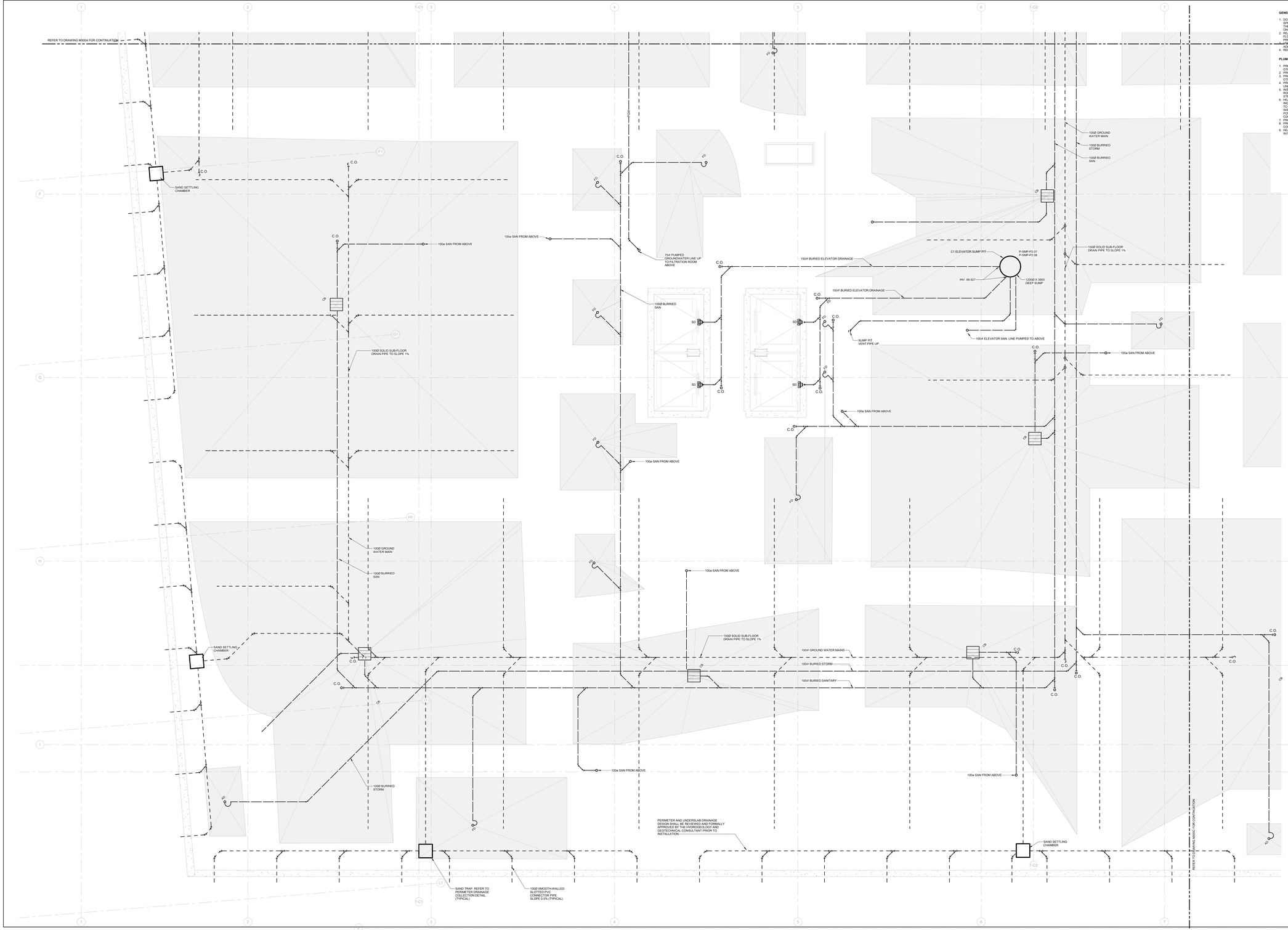
DRAWN J.F.	SCALE 1 : 50
CHECKED F.A.	DATE

TITLE

FOUNDATION - PART 3 OF 4 - MECHANICAL

PROJECT NO.	DRAWING NO.
20371.000	**M300C**

DATE/TIME PRODUCED:7/13/2022 3:45:56 PM



GENERAL NOTES

1. DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS BASED ON SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT.
2. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS. ASSUME INFORMATION SHOWN ON ONE DRAWING IS SHOWN ON ALL DRAWINGS. COORDINATE SYSTEM SCHEMATIC AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
3. MAINTAIN STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED.
4. REFER TO THE STANDARD DETAILS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION.

PLUMBING AND DRAINAGE NOTES

1. PROVIDE MINIMUM 75mm (3 IN.) FOR UNDERGROUND SANITARY DRAINAGE UNLESS INDICATED OTHERWISE.
2. PROVIDE APPROVED BACK FLOW PREVENTION FOR ALL TRAP PRIMER SYSTEMS.
3. PROVIDE MINIMUM 100mm (4 IN.) FOR UNDERGROUND STORM DRAINAGE UNLESS INDICATED OTHERWISE.
4. PROVIDE MINIMUM 19mm (3/4 IN.) DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES UNLESS INDICATED OTHERWISE.
5. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL SLAB DEPTH WHERE POSSIBLE. COORDINATE WITH STRUCTURAL DRAWINGS.
6. HEAT TRACE THE ENTIRE SERVICE TO BE PROTECTED FROM FREEZING IN ALL AREAS INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS. PROVIDE HEAT TRACING TO ACCOMMODATE ALTERATIONS IN THE PIPE LAYOUT DUE TO INTERFERENCES OR OTHER INSTALLATION REQUIREMENTS. CONNECT HEAT TRACING CIRCUIT TO THE ELECTRICAL SERVICE AS INDICATED ON THE ELECTRICAL DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE. COORDINATE WITH ELECTRICAL DIVISION.
7. PROVIDE SHUT-OFF VALVES ON ALL MAIN RISERS AND AT EACH CONNECTION TO EQUIPMENT.
8. PROVIDE COMPLETE VENTING SYSTEMS IN ACCORDANCE WITH THE PLUMBING OR BUILDING CODE.
9. HEAT TRACE ALL PIPING WITHIN UNHEATED SPACES SUCH AS PARKING LEVELS, SOFFITS AND WITHIN WALLS WHERE FREEZING MAY OCCUR.

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CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS ON THE JOB.

NO.	REVISIONS	DATE
14	REISSUED FOR TENDER	2022/07/08
13	ISSUED FOR TENDER	2022/05/06
12	ISSUED FOR BELOW SLAB DRAINAGE (TENDER	2022/05/04
11	ISSUED FOR TENDER	2022/04/19
10	ISSUED FOR TENDER REVIEW	2022/04/01
9	ISSUED FOR CONSULTANT COORDINATION SET 07	2022/03/22
8	ISSUED FOR BELOW SLAB DRAINAGE (TENDER	2022/03/08
7	ISSUED FOR COORDINATION	2022/02/17
6	ISSUED FOR PERMIT	2021/11/01
5	ISSUED FOR CONSULTANT COORDINATION SET 03	2021/10/15
4	ISSUED FOR SPA CO	2021/09/20
3	ISSUED FOR CONSULTANT COORDINATION SET 02	2021/08/13
2	ISSUED FOR CONSULTANT COORDINATION	2021/07/16
1	ISSUED FOR TENTS DD	2021/06/28

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENTIONS

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cc CLV Group Developments Inc.
400 Bank Street, Suite 200
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2243 FAIRVIEW St.

BURLINGTON, ONTARIO

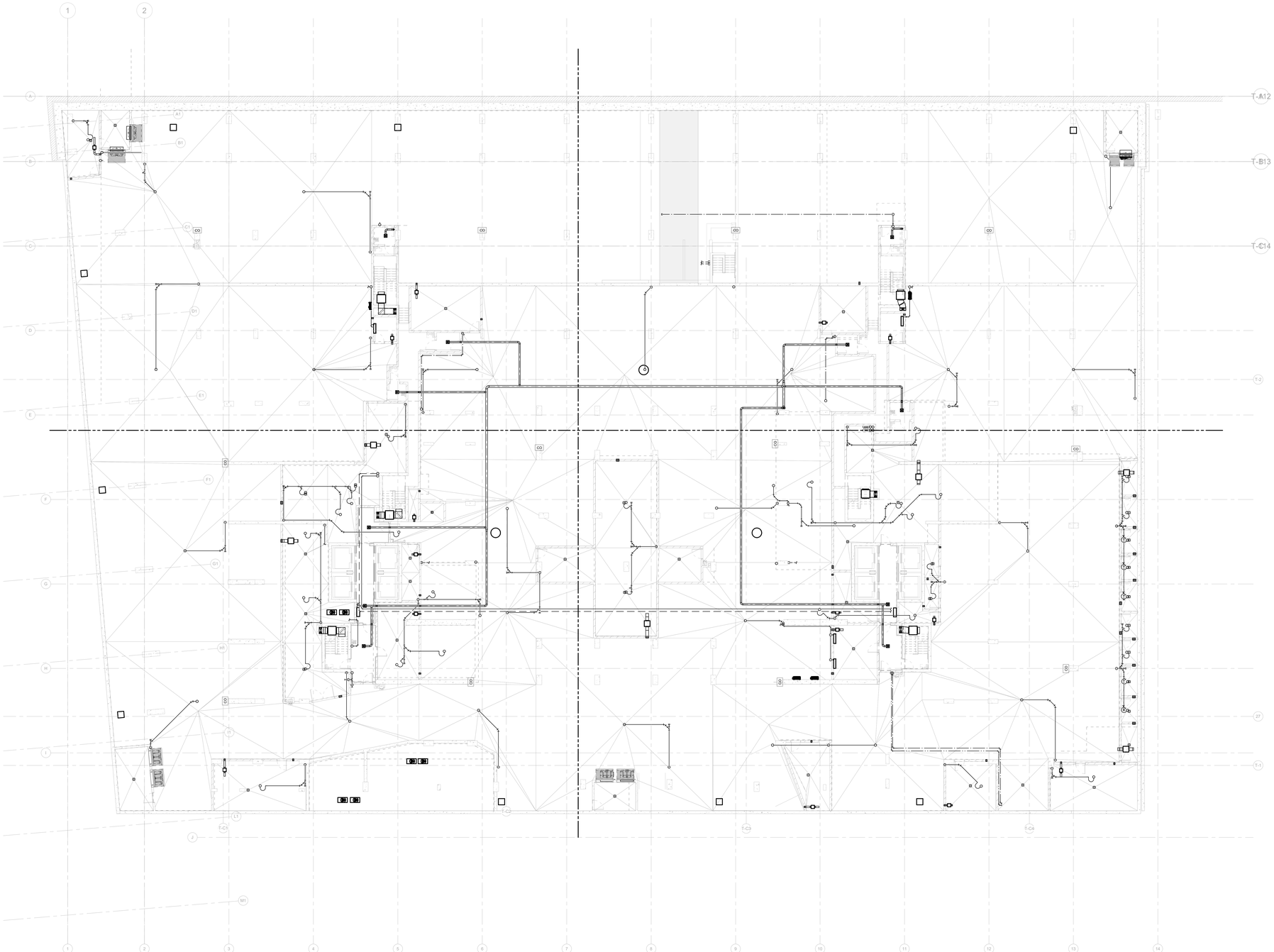
DRAWN: J.F.	SCALE: 1 : 50
CHECKED: F.A.	DATE:

TITLE

FOUNDATION - PART 4 OF 4 - MECHANICAL

PROJECT NO.	DRAWING NO.
20371.000	**M300D**

DATE/TIME PRODUCED:7/13/2022 3:50:09 PM



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NO.	REVISIONS	DATE
8	REISSUED FOR TENDER	2022/07/08
8	ISSUED FOR TENDER	2022/06/09
7	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/05/04
6	ISSUED FOR TENDER	2022/04/19
5	ISSUED FOR TENDER REVIEW	2022/04/01
4	ISSUED FOR CONSULTANT COORDINATION	2022/03/22
3	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/03/09
2	ISSUED FOR COORDINATION	2022/02/17
1	ISSUED FOR PERMIT	2021/11/01

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENTIONS

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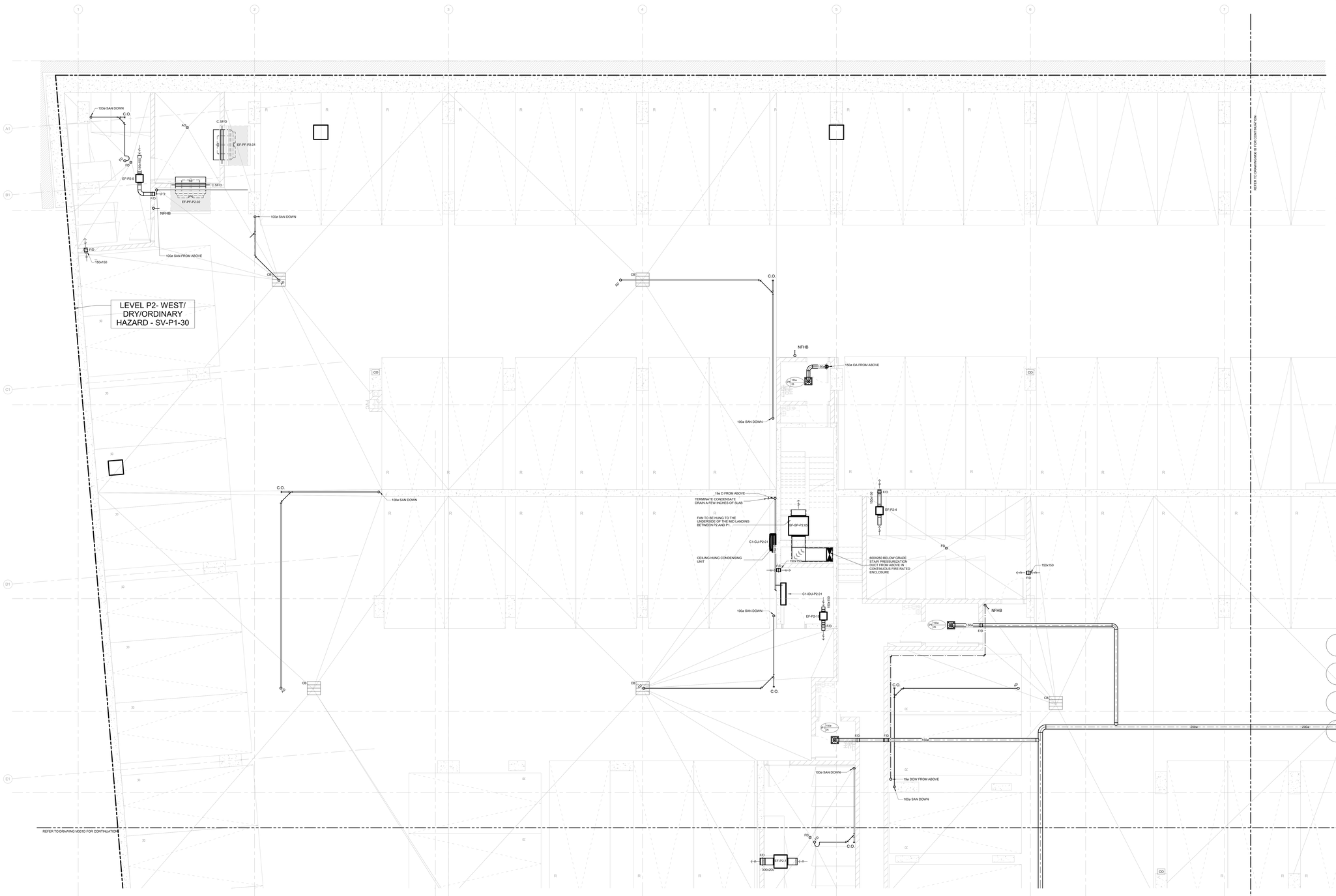
DRAWN J.F	SCALE 1 : 125
CHECKED F.A.	DATE

TITLE

PARKING LEVEL 2 - OVERALL
FLOOR PLAN - MECHANICAL

PROJECT NO.	DRAWING NO.
20371.000	M301

DATE/TIME PRODUCED:7/1/2022 5:05:53 PM



GENERAL NOTES

1. DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS BASED ON SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT
2. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS. ASSUME INFORMATION SHOWN ON ONE DRAWING IS SHOWN ON ALL DRAWINGS. REVIEW SYSTEM SCHEMATIC AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM
3. VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED
4. REFER TO THE STANDARD DETAILS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION.

PLUMBING AND DRAINAGE NOTES

1. PROVIDE MINIMUM 75mm (3 IN.) FOR UNDERGROUND SANITARY DRAINAGE UNLESS INDICATED OTHERWISE
2. PROVIDE APPROVED BACK FLOW PREVENTION FOR ALL TRAP PRIMER SYSTEMS.
3. PROVIDE MINIMUM 100mm (4 IN.) FOR UNDERGROUND STORM DRAINAGE UNLESS INDICATED OTHERWISE
4. PROVIDE MINIMUM 19mm (3/4 IN.) DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES UNLESS INDICATED OTHERWISE.
5. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL STEEL STRATA OR THROUGH CONCRETE BEAMS WHERE PRACTICAL.
6. HEAT TRACE THE ENTIRE SERVICE TO BE PROTECTED FROM FREEZING IN ALL AREAS INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS. PROVIDE HEAT TRACING TO ACCOMMODATE ALTERATIONS IN THE PIPE LAYOUT DUE TO INTERFERENCES OR OTHER INSTALLATION REQUIREMENTS. CONNECT HEAT TRACING CIRCUIT TO THE ELECTRICAL PANELBOARD INDICATED ON THE DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE. COORDINATE WITH ELECTRICAL DIVISION.
7. PROVIDE SHUT-OFF VALVES ON ALL MAIN RISERS AND AT EACH CONNECTION TO EQUIPMENT.
8. PROVIDE COMPLETE VENTING SYSTEMS IN ACCORDANCE WITH THE PLUMBING OR BUILDING CODE
9. HEAT TRACE ALL PIPING WITHIN UNHEATED SPACES SUCH AS PARKING LEVELS, SOFFITS AND WITHIN WALLS WHERE FREEZING MAY OCCUR.

HVAC NOTES

1. PROVIDE MINIMUM 19mm (3/4 IN.) HWS/HWR AND CHS/CHR BRANCH PIPES UNLESS INDICATED OTHERWISE
2. PROVIDE TYPE CV-1 CONTROL VALVES UNLESS INDICATED OTHERWISE.
3. PROVIDE ALL DUCTWORK DOWNSTREAM OF TERMINAL EQUIPMENT (E.E. FAN COILS, HEAT PUMPS, VAV BOXES AND FAN POWERED BOXES) EQUAL TO THE EQUIPMENT OUTLET SIZE UNLESS INDICATED OTHERWISE. WHERE THE DUCT SIZE IS LESS THAN 100% INCREASE THE DUCT SIZE UP TO THE NEAREST EVEN SIZE (E.E. PROVIDE 350mm (14 IN.) FOR 319mm (12.5 IN.) OR 330mm (13 IN.) OUTLET). PROVIDE TRANSITION DUCTS AS REQUIRED.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF GRILLES AND DIFFUSERS. REQUEST CLARIFICATION FOR ANY DIFFUSER OR GRILLE WITH MORE THAN A 300mm (12 IN.) DIFFERENCE IN SIZE.
5. TEMPERATURE SENSORS ARE LOCATED TO AID IN PRICING ONLY AND ALL REQUIRED SENSORS MAY NOT BE SHOWN (REFER TO SPECIFICATIONS). COORDINATE FINAL LOCATION WITH THE ARCHITECT WITHIN 1000mm (40 IN.) OF LOCATION SHOWN. REVIEW ALL RELOCATIONS OUTSIDE OF THIS RANGE WITH THE CONSULTANT
6. INSTALL ALL THERMOSTATS AND SENSORS AT NOMINALLY 1000mm (40 IN.) ABOVE THE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
7. PROVIDE DIFFUSER DUCT RUN-OUTS THE SAME SIZE AS THE DIFFUSER INLETS UNLESS INDICATED OTHERWISE.
8. MAINTAIN A MINIMUM OF 2400mm (96 IN.) CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUIT, SUSPENDED EQUIPMENT, ETC. THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
9. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL STEEL STRATA OR THROUGH CONCRETE BEAMS WHERE PRACTICAL.
10. VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED.
11. PROVIDE ALL OPEN ENDED DUCTWORK COMPLETE WITH WIRE MESH.
12. PROVIDE DISCHARGE DUCTWORK FOR EXHAUST FANS EQUAL TO THE DISCHARGE OF THE FAN AS A MINIMUM OR LARGER AS INDICATED. TRANSITION AS REQUIRED FOR LARGER DUCTS.
13. PROVIDE 600x400x1200 (WxHxL) INTERNAL ACOUSTIC INSULATED ELBOW OR STRAIGHT TRANSFER DUCTS UNLESS INDICATED OTHERWISE. TRANSFER AIR DUCTS IN LIEU OF TRANSFER GRILLES ARE NOT ACCEPTABLE
14. BALANCE AIR FLOW RATES EQUALLY BETWEEN ALL INTERIOR DIFFUSERS BASED ON THE MAXIMUM AIR FLOW RATE SHOWN FOR THE ASSOCIATED TERMINAL DEVICE (VAV, FAN COIL, ETC.).

PARKING NOTES

1. PROVIDE HEAT TRACING ON THE FOLLOWING SERVICES:
   - FIRE SPRINKLER SYSTEM
   - FIRE STANDPIPE SYSTEM
   - DOMESTIC WATER INCLUDING EXPOSED TRAP SEAL PRIMER LINE
   - SANITARY DRAIN TRAPS
   - ALL WET PIPING WITHIN 8000mm (8M) OF INTAKE SHAFTS AND PARKING ENTRANCE
2. DRUM DRIPS ARE SHOWN ON THE DRAWINGS FOR COORDINATION AND CONSTRUCTION PURPOSES ONLY AND ARE CONSIDERED TENTATIVE. SUBMIT SPRINKLER SHOP DRAWINGS IDENTIFYING ALL REQUIRED DRUM DRIPS. PROVIDE HEAT TRACING AND INSULATION FOR ALL DRUM DRIPS.

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14	REISSUED FOR TENDER	2022/07/08
13	ISSUED FOR TENDER	2022/06/09
12	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/05/04
11	ISSUED FOR TENDER	2022/04/19
10	ISSUED FOR TENDER REVIEW	2022/04/01
9	ISSUED FOR CONSULTANT COORDINATION SET 07	2022/03/22
8	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/03/08
7	ISSUED FOR COORDINATION	2022/02/17
6	ISSUED FOR PERMIT	2021/11/03
5	ISSUED FOR CONSULTANT COORDINATION	2021/10/15
4	ISSUED FOR 50% CD	2021/09/20
3	ISSUED FOR CONSULTANT COORDINATION SET 02	2021/08/13
2	ISSUED FOR CONSULTANT COORDINATION SET 01	2021/07/16
1	ISSUED FOR 100% DD	2021/06/08

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENTIONS

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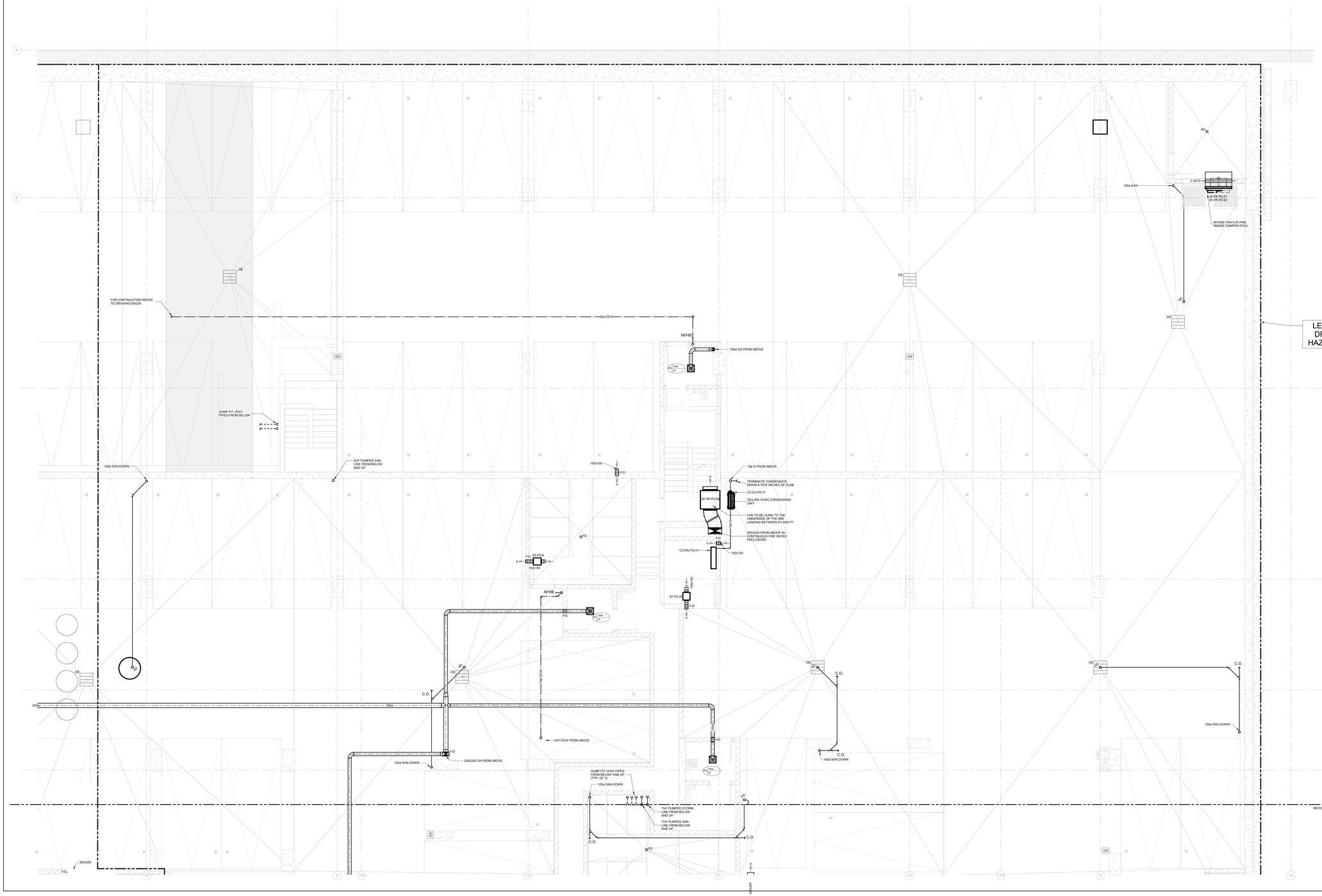
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CHECKED F.A.	**DATE**

TITLE

PARKING LEVEL 2 - PART 1 OF 4 - MECHANICAL

PROJECT NO.	**DRAWING NO.**
20371.000	**M301A**

DATE/TIME PRODUCED:7/13/2022 3:54:46 PM



GENERAL NOTES

1. DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS BASED ON SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT
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6. HEAT TRACE THE ENTIRE SERVICE TO BE PROTECTED FROM FREEZING IN ALL AREAS INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS. PROVIDE HEAT TRACING TO ACCOMMODATE ALTERATIONS IN THE PIPE LAYOUT DUE TO INTERFERENCES OR OTHER INSTALLATION REQUIREMENTS. CONNECT HEAT TRACING CIRCUIT TO THE ELECTRICAL PANELBOARD INDICATED ON THE DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE. COORDINATE WITH ELECTRICAL DIVISION.
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4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF GRILLES AND DIFFUSERS. REQUEST CLARIFICATION FOR ANY DIFFUSER OR GRILLE WITH MORE THAN A 600mm (24 IN.) DISCREPANCY IN LOCATION.
5. TEMPERATURE SENSORS ARE LOCATED TO AID IN PRICING ONLY AND ALL REQUIRED SENSORS MAY NOT BE SHOWN (REFER TO SPECIFICATIONS). COORDINATE FINAL LOCATION WITH THE ARCHITECT WITHIN 1000mm (40 IN.) OF LOCATION SHOWN. REVIEW ALL RELOCATIONS OUTSIDE OF THIS RANGE WITH THE CONSULTANT
6. INSTALL THERMOSTATS AND SENSORS AT NOMINALLY 1200mm (48 IN.) ABOVE THE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
7. PROVIDE DIFFUSER DUCT RUN-OUTS THE SAME SIZE AS THE DIFFUSER INLETS UNLESS INDICATED OTHERWISE.
8. MAINTAIN A MINIMUM OF 2400mm (96 IN.) CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUIT, SUSPENDED EQUIPMENT, ETC. THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
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14. BALANCE AIR FLOW RATES EQUALLY BETWEEN ALL INTERIOR DIFFUSERS BASED ON THE MAXIMUM AIR FLOW RATE SHOWN FOR THE ASSOCIATED TERMINAL DEVICE (VAV, FAN COIL, ETC.).

PARKING NOTES

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   - DOMESTIC WATER INCLUDING EXPOSED TRAP SEAL PRIMER LINE
   - SANITARY DRAIN TRAPS
   - ALL WET PIPING WITHIN 8000mm (8M) OF INTAKE SHAFTS AND PARKING ENTRANCE
2. DRUM DRIPS ARE SHOWN ON THE DRAWINGS FOR COORDINATION AND REFERENCE PURPOSES ONLY AND ARE CONSIDERED TENTATIVE. SUBMIT SPRINKLER SHOP DRAWINGS IDENTIFYING ALL REQUIRED DRUM DRIPS. PROVIDE HEAT TRACING AND INSULATION FOR ALL DRUM DRIPS.

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13	ISSUED FOR TENDER	2022/06/09
12	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/05/04
11	ISSUED FOR TENDER	2022/04/19
10	ISSUED FOR TENDER REVIEW	2022/04/01
9	ISSUED FOR CONSULTANT COORDINATION SET 07	2022/03/22
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7	ISSUED FOR COORDINATION	2022/02/17
6	ISSUED FOR PERMIT	2021/11/01
5	ISSUED FOR CONSULTANT COORDINATION SET 06	2021/10/15
4	ISSUED FOR 100% CD	2021/09/20
3	ISSUED FOR CONSULTANT COORDINATION SET 02	2021/08/13
2	ISSUED FOR CONSULTANT COORDINATION SET 01	2021/07/16
1	ISSUED FOR 100% DD	2021/06/08

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DRAWN J.F.	**SCALE** 1 : 50
CHECKED F.A.	**DATE**

TITLE

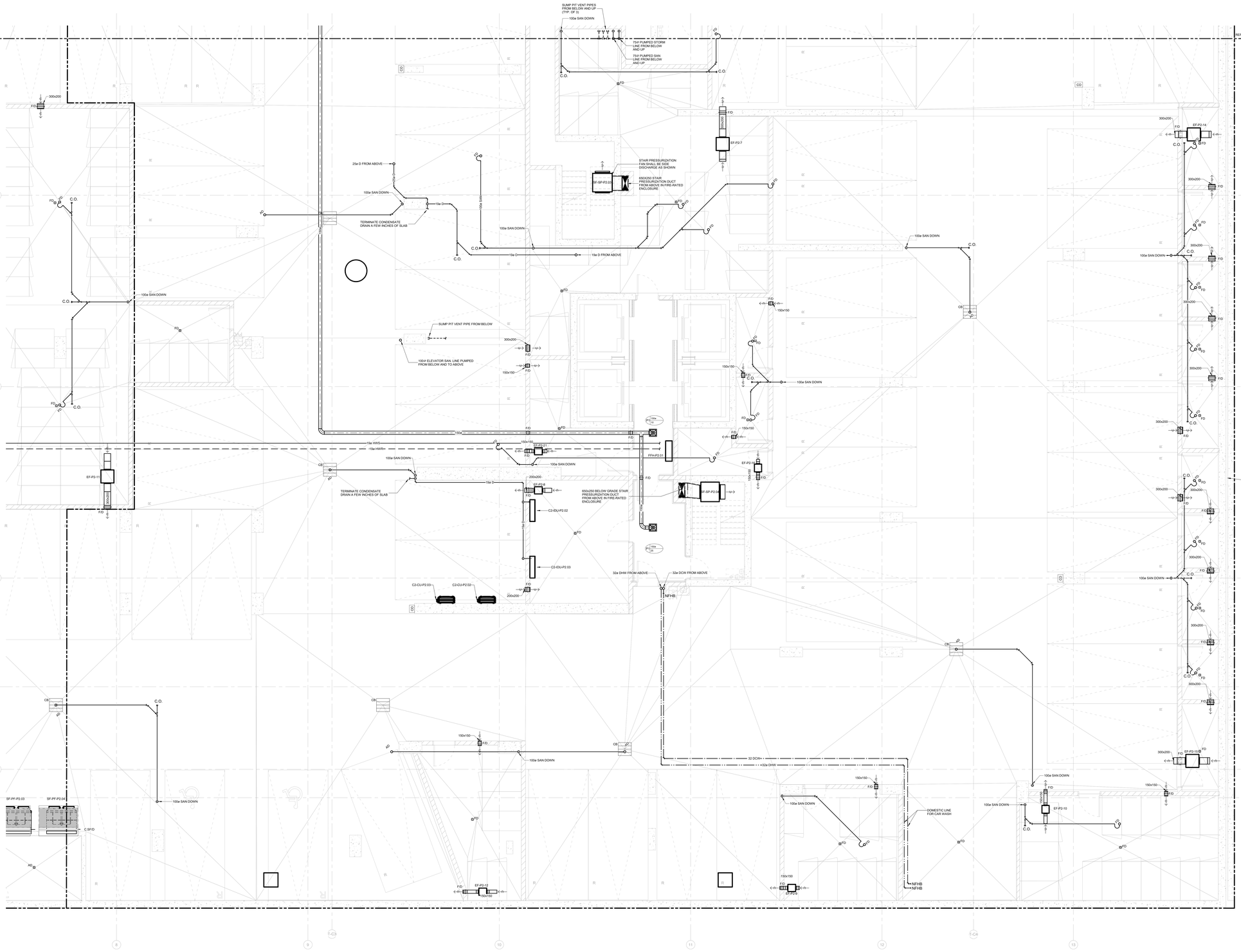
PARKING LEVEL 2 - PART 2 OF 4 - MECHANICAL

PROJECT NO.	**DRAWING NO.**
20371.000	**M301B**

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DATE/TIME PRODUCED:7/13/2022 3:44:59 PM



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2. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS. ASSUME INFORMATION SHOWN ON ONE DRAWING TO BE APPLICABLE TO THE MECHANICAL SYSTEM SCHEMATIC AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATING SYSTEM.
3. VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED.
4. REFER TO THE STANDARD DETAILS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION.

PLUMBING AND DRAINAGE NOTES

1. PROVIDE MINIMUM 75mm (3 IN.) FOR UNDERGROUND SANITARY DRAINAGE UNLESS INDICATED OTHERWISE.
2. PROVIDE APPROVED BACK FLOW PREVENTION FOR ALL TRAP PRIMER SYSTEMS.
3. PROVIDE MINIMUM 100mm (4 IN.) FOR UNDERGROUND STORM DRAINAGE UNLESS INDICATED OTHERWISE.
4. PROVIDE MINIMUM 19mm (3/4 IN.) DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES UNLESS INDICATED OTHERWISE.
5. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL STEEL STRATA OR THROUGH CONCRETE BEAMS WHERE PRACTICAL.
6. HEAT TRACE THE ENTIRE SERVICE TO BE PROTECTED FROM FREEZING IN ALL AREAS INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS. PROVIDE HEAT TRACING TO ACCOMMODATE ALTERATIONS IN THE PIPE LAYOUT DUE TO INTERFERENCES OR OTHER INSTALLATION REQUIREMENTS. CONNECT HEAT TRACING CIRCUIT TO THE ELECTRICAL EMERGENCY POWER SYSTEM WHERE SHOWN ON DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE. COORDINATE WITH ELECTRICAL DIVISION.
7. PROVIDE SHUT-OFF VALVES ON ALL MAIN RISERS AND AT EACH CONNECTION TO EQUIPMENT.
8. PROVIDE COMPLETE VENTING SYSTEMS IN ACCORDANCE WITH THE PLUMBING OR BUILDING CODE.
9. SELF TRACE ALL PIPING WITHIN UNHEATED SPACES SUCH AS PARKING LEVELS, SOFFITS AND WITHIN WALLS WHERE FREEZING MAY OCCUR.

HVAC NOTES

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4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF GRILLES AND DIFFUSERS. REQUEST CLARIFICATION FOR ANY DIFFUSER OR GRILLE WITH MORE THAN A 600mm (2 FT.) DIFFERENCE IN SIZE.
5. TEMPERATURE SENSORS ARE LOCATED TO AID IN PRICING ONLY AND ALL REQUIRED SENSORS MAY NOT BE SHOWN (REFER TO SPECIFICATIONS). COORDINATE FINAL LOCATION WITH THE ARCHITECT WITHIN 1000mm (40 IN.) OF LOCATION SHOWN. REVIEW ALL RELOCATIONS OUTSIDE OF THIS RANGE WITH THE CONSULTANT.
6. LOCATE THERMOSTATS AT NOMINALLY 1200mm (48 IN.) ABOVE THE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
7. PROVIDE DIFFUSER DUCT RUN-OUTS THE SAME SIZE AS THE DIFFUSER INLETS UNLESS INDICATED OTHERWISE.
8. MAINTAIN A MINIMUM OF 2400mm (96 IN.) CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUIT, SUSPENDED EQUIPMENT, ETC. THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
9. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL STEEL STRATA OR THROUGH CONCRETE BEAMS WHERE PRACTICAL.
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13. PROVIDE 600x400x1200 (WxHxL) INTERNAL ACOUSTIC INSULATED ELBOW OR STRAIGHT TRANSFER DUCTS UNLESS INDICATED OTHERWISE. TRANSFER AIR DUCTS IN LIEU OF TRANSFER GRILLES ARE NOT ACCEPTABLE.
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2. DRUM DRIPS SHOWN ON THE DRAWINGS ARE FOR COORDINATION AND REFERENCE PURPOSES ONLY AND ARE CONSIDERED TENTATIVE. SUBMIT SPRINKLER SHOP DRAWINGS IDENTIFYING ALL REQUIRED DRUM DRIPS. PROVIDE HEAT TRACING AND INSULATION FOR ALL DRUM DRIPS.

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4	ISSUED FOR 50% CD	2021/09/20
3	ISSUED FOR CONSULTANT COORDINATION SET 02	2021/08/13
2	ISSUED FOR CONSULTANT COORDINATION SET 01	2021/07/16
1	ISSUED FOR 100% DD	2021/06/08

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENTIONS

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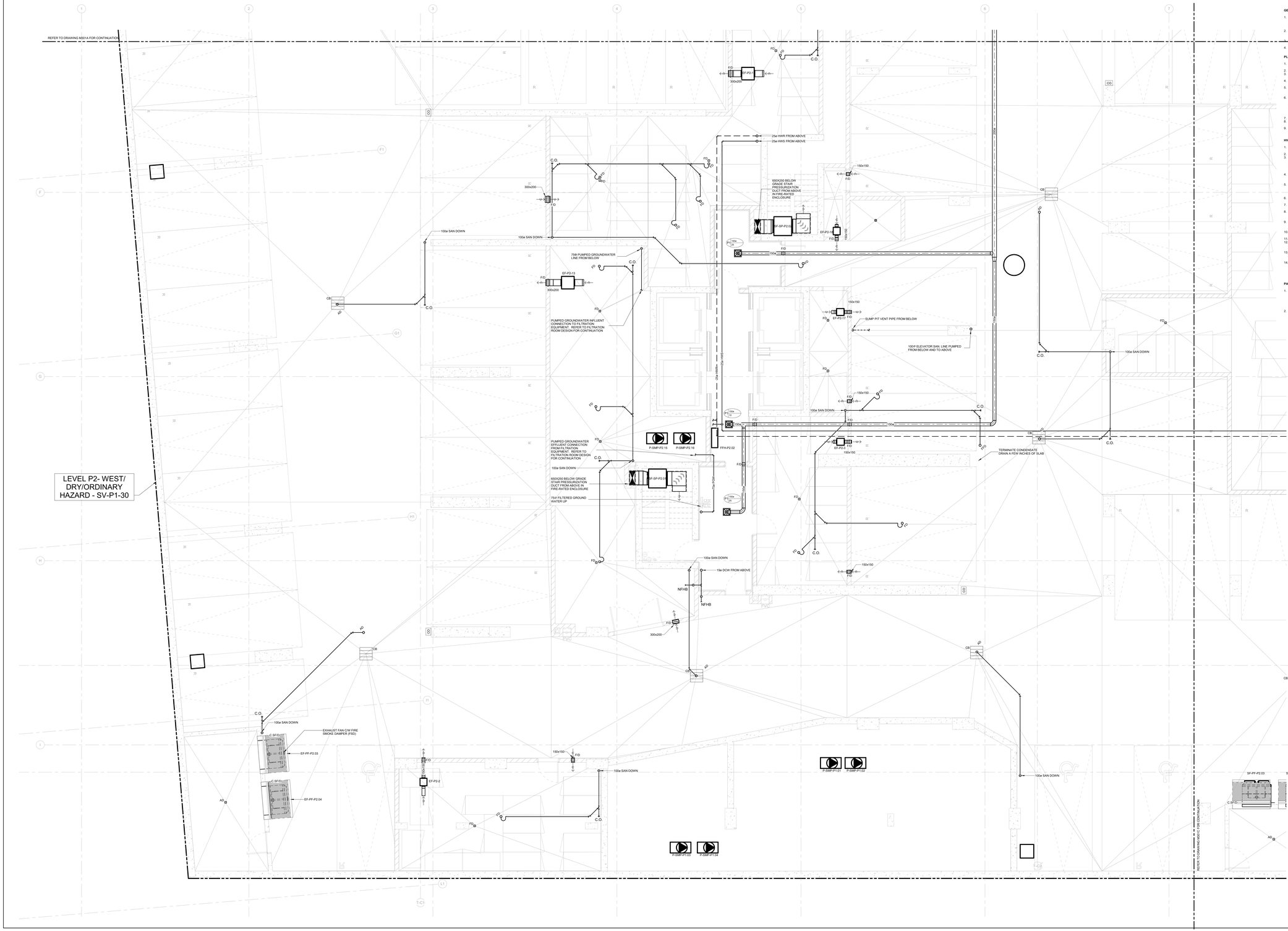
PARKING LEVEL 2 - PART 3 OF 4 - MECHANICAL

PROJECT NO.	DRAWING NO.
20371.000	**M301C**

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GENERAL NOTES

1. DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS BASED ON SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT
2. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS. ASSUME INFORMATION SHOWN ON ONE DRAWING IS SHOWN ON ALL. REVIEW THE MECHANICAL SYSTEM SCHEMATIC AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM
3. ENSURE STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED
4. REFER TO THE STANDARD DETAILS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION.

PLUMBING AND DRAINAGE NOTES

1. PROVIDE MINIMUM 75mm (3 IN.) FOR UNDERGROUND SANITARY DRAINAGE UNLESS INDICATED OTHERWISE
2. PROVIDE APPROVED BACK FLOW PREVENTION FOR ALL TRAP PRIMER SYSTEMS.
3. PROVIDE MINIMUM 100mm (4 IN.) FOR UNDERGROUND STORM DRAINAGE UNLESS INDICATED OTHERWISE
4. PROVIDE MINIMUM 19mm (3/4 IN.) DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES UNLESS INDICATED OTHERWISE.
5. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL STEEL STRATA OR THROUGH CONCRETE BEAMS WHERE PRACTICAL.
6. HEAT TRACE THE ENTIRE SERVICE TO BE PROTECTED FROM FREEZING IN ALL AREAS INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS. PROVIDE HEAT TRACING TO ACCOMMODATE ALTERATIONS IN THE PIPE LAYOUT DUE TO INTERFERENCES OR OTHER INSTALLATION REQUIREMENTS. CONNECT HEAT TRACING CIRCUIT TO THE ELECTRICAL EMERGENCY POWER SYSTEM WHERE SHOWN ON DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE. COORDINATE WITH ELECTRICAL DIVISION.
7. PROVIDE SHUT-OFF VALVES ON ALL MAIN RISERS AND AT EACH CONNECTION TO EQUIPMENT.
8. PROVIDE COMPLETE VENTING SYSTEMS IN ACCORDANCE WITH THE PLUMBING OR BUILDING CODE
9. HEAT TRACE ALL PIPING WITHIN UNHEATED SPACES SUCH AS PARKING LEVELS, SOFFITS AND WITHIN WALLS WHERE FREEZING MAY OCCUR.

HVAC NOTES

1. PROVIDE MINIMUM 19mm (3/4 IN.) HWS/HWR AND CHS/CHR BRANCH PIPES UNLESS INDICATED OTHERWISE
2. PROVIDE TYPE CV-1 CONTROL VALVES UNLESS INDICATED OTHERWISE.
3. PROVIDE ALL DUCTWORK DOWNSTREAM OF TERMINAL EQUIPMENT (E.F. FAN COILS, HEAT PUMPS, VAV BOXES AND FAN POWERED BOXES) EQUAL TO THE EQUIPMENT OUTLET SIZE UNLESS INDICATED OTHERWISE. WHERE THE DUCTWORK SIZE IS LARGER THAN THE EQUIPMENT OUTLET SIZE, INCREASE THE DUCT SIZE UP TO THE NEAREST EVEN SIZE (E.G., PROVIDE 350mm (14 IN.) FOR 319mm (12.5 IN.) OR 326mm (13 IN.) OUTLET). PROVIDE TRANSITION DUCTS AS REQUIRED.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF GRILLES AND DIFFUSERS. REQUEST CLARIFICATION FOR ANY DIFFUSER OR GRILLE WITH MORE THAN A 600mm (24 IN.) DIFFERENCE IN SIZE.
5. TEMPERATURE SENSORS ARE LOCATED TO AID IN PRICING ONLY AND ALL REQUIRED SENSORS MAY NOT BE SHOWN (REFER TO SPECIFICATIONS). COORDINATE FINAL LOCATION WITH THE ARCHITECT WITHIN 1000mm (40 IN.) OF LOCATION SHOWN. REVIEW ALL RELOCATIONS OUTSIDE OF THIS RANGE WITH THE CONSULTANT
6. INSTALL THERMOSTATS AND SENSORS AT NOMINALLY 1200mm (48 IN.) ABOVE THE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
7. PROVIDE DIFFUSER DUCT RUN-OUTS THE SAME SIZE AS THE DIFFUSER INLETS UNLESS INDICATED OTHERWISE.
8. MAINTAIN A MINIMUM OF 2400mm (96 IN.) CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC. THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
9. INSTALL ALL PIPING OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. ROUTE PIPING WITHIN STRUCTURAL STEEL STRATA OR THROUGH CONCRETE BEAMS WHERE PRACTICAL.
10. ENSURE STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. PROVIDE ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY AS REQUIRED.
11. PROVIDE ALL OPEN ENDED DUCTWORK COMPLETE WITH WIRE MESH.
12. PROVIDE DISCHARGE DUCTWORK FOR EXHAUST FANS EQUAL TO THE DISCHARGE OF THE FAN OR AS A MINIMUM OR LARGER AS INDICATED. TRANSITION AS REQUIRED FOR LARGER DUCTS.
13. PROVIDE 600x400x1200 (WxHxL) INTERNAL ACOUSTIC INSULATED ELBOW OR STRAIGHT TRANSFER DUCTS UNLESS INDICATED OTHERWISE. TRANSFER AIR DUCTS IN LIEU OF TRANSFER GRILLES ARE NOT ACCEPTABLE.
14. BALANCE AIR FLOW RATED EQUALLY BETWEEN ALL INTERIOR DIFFUSERS BASED ON THE MAXIMUM AIR FLOW RATE SHOWN FOR THE ASSOCIATED TERMINAL DEVICE (VAV, FAN COIL, ETC.).

PARKING NOTES

1. PROVIDE HEAT TRACING ON THE FOLLOWING SERVICES:
   - FIRE SPRINKLER
   - FIRE STANDPIPE SYSTEM
   - DOMESTIC WATER INCLUDING EXPOSED TRAP SEAL PRIMER LINE
   - SANITARY DRAIN TRAPS
   - ALL WET PIPING WITHIN 8000mm (8M) OF INTAKE SHAFTS AND PARKING ENTRANCE
2. DRUM DRIPS SHOWN ON THE DRAWINGS ARE FOR COORDINATION AND REPRESENTATIVE PURPOSES ONLY AND ARE CONSIDERED TENTATIVE. SUBMIT SPRINKLER SHOP DRAWINGS IDENTIFYING ALL REQUIRED DRUM DRIPS. PROVIDE HEAT TRACING AND INSULATION FOR ALL DRUM DRIPS.

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NO.	REVISIONS	DATE
14	REISSUED FOR TENDER	2022/07/08
13	ISSUED FOR TENDER	2022/06/03
12	ISSUED FOR BELOW SLAB DRAINAGE TENDER	2022/05/04
11	ISSUED FOR TENDER	2022/04/19
10	ISSUED FOR TENDER REVIEW	2022/04/01
9	ISSUED FOR CONSULTANT COORDINATION SET 07	2022/03/22
8	ISSUED FOR BELOW SLAB DRAINAGE REVIEW	2022/03/08
7	ISSUED FOR COORDINATION	2022/02/17
6	ISSUED FOR PERMIT	2021/11/01
5	ISSUED FOR CONSULTANT COORDINATION SET 03	2021/10/15
4	ISSUED FOR 50% CD	2021/09/20
3	ISSUED FOR CONSULTANT COORDINATION SET 02	2021/08/13
2	ISSUED FOR CONSULTANT COORD FOR DCW SIZE	2021/07/16
1	ISSUED FOR 100% DD	2021/06/08

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PARKING LEVEL 2 - PART 4 OF 4 - MECHANICAL

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