Land Use Compatibility Study

1900 Appleby Line

LJM Developments

1 October 2021

→ The Power of Commitment



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1. Introduction

1.1 Purpose of this Report

GHD Limited (GHD) was retained by LJM Developments (Applicant) to prepare a Land Use Compatibility Study for the proposed mixed-use development (Development) located at 1900 Appleby Line (Site). This Study has been prepared in support of the planning approvals for the Development.

The Development consists of two 16-storey mixed-use condominiums and one 18-storey mixed-use condominium. There is one planned common outdoor amenity space which is the terrace located on the podium of the 18-storey condominium.

The purpose of this Study is to assess the following potential impacts:

– Land-use compatibility with respect to noise, vibration, odour, dust, and air quality
– Noise impacts at the Development due to future road traffic
– Stationary noise impacts from off-site industrial/commercial facilities
– Stationary noise impacts from on-site HVAC equipment
– Construction Vibration Zone of Influence Assessment

Ambient noise levels at the Development from road traffic are significant and require noise mitigation in the form of upgraded building envelope construction, ventilation requirements, and warning clauses.

The nearest rail line to the Site is the Canadian National Halton Subdivision, which is located farther than 300 metres from the Site and therefore is not considered to warrant assessment in this Study as per the Guidelines for New Development in Proximity to Railway Operations (Railway Association of Canada and Federation of Canadian Municipalities, May 2013).

Cumulative stationary noise levels at the Site from nearby industrial and commercial facilities exceed the applicable stationary noise limits of the MECP. The exceedances are dominated by noise emissions from an exhaust duct, and with appropriate mitigation of this source compliance can be achieved.

There are no significant existing sources of ground-borne vibration in the vicinity of the site. Construction activities at the Site have the potential to result in ground-borne vibration impacts at nearby existing buildings, and construction vibration monitoring is recommended.

This report is subject to, and must be read in conjunction with, the limitations set out in section 1.2 and the assumptions and qualifications contained throughout the Report.

1.2 Scope and Limitations

This report: has been prepared by GHD for LJM Developments and may only be used and relied on by LJM Developments for the purpose agreed between GHD and LJM Developments as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than LJM Developments arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 8 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

Any reports, drawings, memos, or other deliverables produced by GHD shall be produced in a traditional and generally accepted format. Accessible reports, drawings, memos, or other deliverables can be provided by GHD at an additional cost if necessary.

2. Site and Development Design

The Site is bounded by Appleby Line to the north, retail plazas on the west and east side, and Burlington Fire Station 8 to the south. Figure 2.1 below identifies the location of the Site.

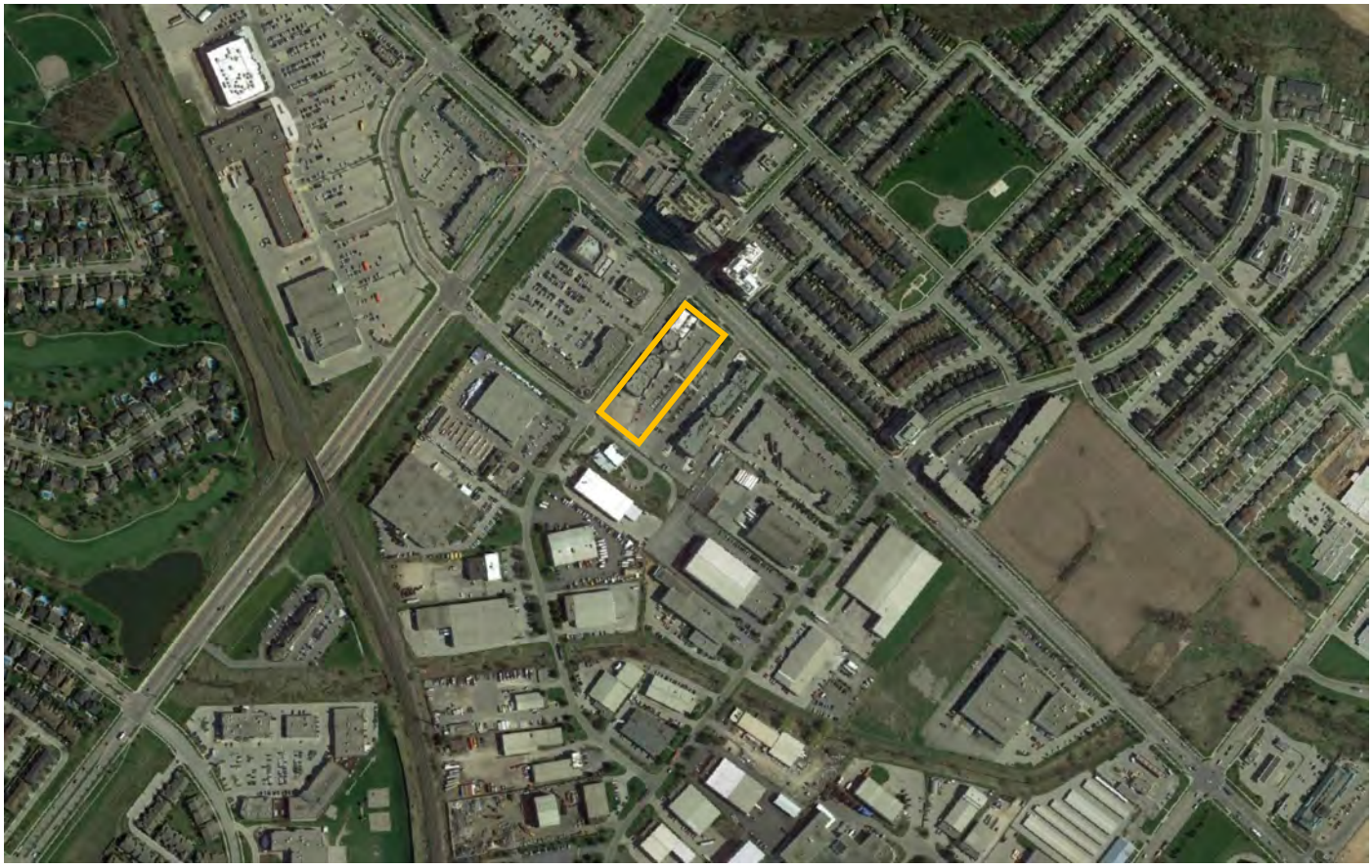


Figure 2.1 Site Location

The Site is currently zoned as Uptown Mixed-Use Centre (UE). The lands surrounding the Site include properties zoned as Uptown Mixed-Use Centre, Open Space and Parks, and Residential to the north, east, west, and Employment, Commercial, and Open Space zones to the south. A zoning map is included as Figure A.1 of Appendix A.

The Site is currently occupied by small-scale commercial uses, which will be demolished prior to construction of the Development. The Development is designed as three phases:

– Phase 1 is the southernmost phase and consists of an 18-storey residential tower atop a two-storey podium made up of retail/office spaces. There is an outdoor amenity space on the 3rd floor level.

– Phase 2 lies between Phase 1 and Phase 2, and consists of a 16-storey residential tower with retail uses on the Ground floor. There are outdoor amenity spaces on the 2nd and 5th floor levels.
– Phase 3 is the northernmost phase and consists of a 16-storey residential tower with retail uses on the Ground floor. There are outdoor amenity spaces on the 2nd and 5th floor levels.

There are existing residential towers that are similar in height to the Development on the north side of Appleby Line (up to 16 storeys). There are also residential uses (2 storeys) approximately 820 metres southwest of the Site and a school (2 storeys) approximately 590 metres southwest of the Site on the east side of Itabashi Way.

3. Land Use Compatibility

The MECP Guideline D-6 "Compatibility Between Industrial Facilities and Sensitive Land Uses" (Guideline D-6) provides recommended minimum separation distances (RMSD) and potential areas of influence (AOI) based on the class of the industrial facility. RMSDs are provided based on the industry size and operation type. The guideline provides direction for land use planning to maximize compatibility of industrial uses with adjacent land uses. The goal of Guideline D-6 is to minimize encroachment of sensitive land uses on industrial facilities and vice versa, in order to address potential incompatibility due to adverse effects such as noise, odour, and dust.

Guideline D-6 separates industry into three broad categories, depending on the nature of their operations and the types of potential impacts:

– **Class I industries** are small scale, self-contained plants or buildings, which produce and store products internally, and have low probability of fugitive emissions. They have daytime operations only, with infrequent movements of products and/or heavy trucks. Some examples include furniture repair and refinishing, electronics manufacturing, auto parts supply, distribution of dairy products, and beverages bottling.
– **Class II industries** perform medium scale processing, with occasional outputs of point source or fugitive emissions. Activities may include some outdoor storage of wastes and materials, frequent movement of products and/or heavy trucks during the daytime, and shift work. Some examples include paint spray booths, feed packing plant, dairy product manufacturing, and dry-cleaning services.
– **Class III industries** conduct large-scale manufacturing and are characterized by persistent and/or intense dust and/or odour, frequent outputs of major annoyances, and have a high probability of fugitive emissions. Activities may include continuous operations and movements of products, outside storage of raw and finished goods, and high levels of production. Some examples include manufacturing of paint and varnish, manufacturing of resins and coatings, solvent recovery plants, organic chemicals manufacturing, breweries, and metal manufacturing.

The following table summarizes the recommended minimum setback distances and areas of potential influence which represents the distance within which adverse effects could potentially occur.

Table 3.1 Guideline D-6 Industry Separation Distances

Industry Classification	RMSD (metres)	AOI (metres)
Class I	20	70
Class II	70	300
Class III	300	1,000

Guideline D-6 provides criteria for classifying industrial land uses, based on their outputs, scale of operations, processes, schedule, and intensity of operations. Often an industry will fall between two Classes. Guideline D-6 states that no incompatible development should occur within the recommended minimum separation distance as noted in Table 2.1.

This study characterizes the feasibility of a high-density residential Development to be located at the Site considering the existing adjacent commercial and industrial facilities. The existing adjacent commercial/industrial land uses are as follows:

Table 3.2 D-6 Classifications and Separation Distances for Surrounding Industries

Facility	Address	Activity	Class Designation	Separation Distance (m)	RMSD (m)	AOI (m)	Outside of AOI
Upper Appleby Professional Centre	1940 Appleby Line	Business centre for medical practice, coffee shops and restaurants	Class I: small scale, self-contained buildings	65	20	70	N
Harvey's	1950 Appleby Line	Restaurant	Class I: small scale, self-contained buildings	40	20	70	N
1860 Appleby Line	1860 Appleby Line	Business centre for developers, and restaurants	Class I: small scale, self-contained buildings	25	20	70	N
Burlington Fire Station 8	1837 Ironston Drive	Building Exhaust on the north side of the building	Class I: small scale, self-contained buildings	20	20	70	N
Roseland Produce	1827 Ironstone Dr	Produce wholesaler	Class II: frequent movement of products and heavy trucks; noise from truck idling	98	70	300	N
RONA Burlington	1830 Ironstone Dr	Hardware store – Home & Garden	Class II: outdoor storage of materials; frequent movement of trucks	127	70	300	N
Ecodyne Limited	4475 Corporate Dr	Manufacturer of industrial water treatment equipment	Class I: produce and store products internally; infrequent truck movements	135	20	70	Y
Metrican Stamping (warehouse)	4501 Corporate Dr	Manufacturer of tooling and stamped metal components	Class II: some outdoor storage of materials; frequent movement of trucks	141	70	300	N
Penske Truck Rental	1815 Ironstone Dr	Truck rental agency	Class II: frequent movement of heavy trucks	148	70	300	N
O'Brien Lifting Solutions	4435 Corporate Dr	Crane dealer that is open 24 hours	Class II: shift work; frequent movement of products and heavy trucks	164	70	300	N
Bluebird Self Storage	1770 Appleby Line	Self-storage facility	Class I: self-contained building; infrequent truck movement	271	20	70	Y
Shipway Stairs	1820 Ironstone Dr	Manufacturer of stair and railing systems	Class II: outdoor storage of materials; frequent movement of trucks	233	70	300	N
The Hardwood Flooring Stores	4450 Corporate Dr	Hardwood flooring store	Class II: some outdoor storage of materials; frequent movement of trucks	284	70	300	N

Facility	Address	Activity	Class Designation	Separation Distance (m)	RMSD (m)	AOI (m)	Outside of AOI
Burlington Auto Works	4401 Corporate Dr	Auto repair shop	Class I: no outdoor storage; low potential of major annoyance or fugitive emissions	294	20	70	Y
Canadian Portable Structures	4400 Corporate Dr	Manufacturer for portable and modular buildings	Class II: outdoor storage of materials products; frequent movement of trucks	340	70	300	Y
Clean Harbors	1790 Ironstone Dr	Oil Recycling Facility	Class II: outdoor storage of materials; frequent movement of trucks; no odour detected during GHD site visit	397	70	300	N
Magnum Steel & Tube (Mst)	4380 Corporate Dr	Steel distributor and service provider	Class I: no outdoor storage; infrequent truck movements; lack of observed noise emissions	417	20	70	Y
ELG Canada Inc.	4375 Corporate Dr	Scrap metal dealer	Class III: outdoor storage of materials; frequent movement of heavy trucks; loud noise detected at site visit.	418	300	1000	N
Formula Solutions Inc.	1550 Appleby Line	Manufacturer in aerospace composites	Class II (to be conservative): some outdoor storage; potential truck movements	477	70	300	Y
Metrican Stamping (manufacturing)	1380 Artisans Court	Automotive parts manufacturer (stamping, welding)	Class II (to be conservative): some outdoor storage; potential truck movements	480	70	300	Y
ABS Machining	1601 Corporate Dr	Large machining, fabrication, and assembly for OEMs	Class II: frequent truck movements; potential output of noise	494	70	300	Y
Walker Emulsions	4365 Corporate Dr	Manufacturer of wax, oil, bio-based and asphalt emulsions	Class III: large scale chemical manufacturing; frequent truck movements; potential for odour	542	300	1000	N
Arzon Limited	4485 Mainway	Manufacturer of welded brass and aluminum tube	Class II (to be conservative): some outdoor storage of materials	651	70	300	Y
NexGen Municipal Inc.	4430 Mainway	Equipment supplier for municipal and industrial waste and recycling	Class II: outdoor storage of materials; frequent movement of trucks	909	70	300	Y

GHD contacted the local MECP District Officer responsible for overseeing industries in the district via telephone regarding any nuisance complaints on July 8, 2021. The District Officer confirmed that there has been no history of complaints from the residences in the area.

3.1 Identified Facilities with Odour Potential

Based on GHD's review and observations collected at the study area on July 6, 2021, Walker Emulsions and Clean Harbors are the only sites likely to have a potential odour impact at the proposed Development site.

3.1.1 Walker Emulsions

Walker Emulsions (Walker) is an asphalt emulsion, wax emulsion, and asphalt cutback manufacturing facility, operating under the Ministry Environmental Compliance Approval (ECA) No. 7910-ANBHPD, issued June 20, 2017, which approves the Facility to produce up to 3,750 tonnes asphalt cement transload, 18,750 tonnes asphalt emulsion, 937 tonnes asphalt cutbacks, 22,475 tonnes wax emulsions and 8,750 tonnes oil emulsions per year.

The ECA requires Walker to implement operating procedures and maintenance programs, which shall specify procedures to prevent and/or minimize odorous emissions (Condition 7.1.d). However, an odour limit is not identified as a condition of the ECA, which typically indicates there is minimal odour generated from the operations. Since odour is a complaint driven compliance obligation, the absence of an odour limit identified on the ECA indicates odour is not a major concern from the Facility. The Facility has no history of odour complaints.

The Facility operations are not eligible for registration on the Environmental Activity and Sector Registry (EASR), therefore, there is no setback available in the EASR Publication. Under Guideline D-6, Walker's current operations could be conservatively described as Class III: Heavy Industry which has a recommended minimum setback distance (RMSD) of 300 metres and a potential area of influence (AOI) of 1000 meters under the D-6 compatibility guidelines. The Facility is located approximately 542 m from the southeast corner of the proposed Development, which is outside the RMSD for Class III Industrial Facilities.

In addition, there is an existing residence area on Itabashi Way that is approximately 300 m from the southwest corner of Walker's operations and the Facility is shown to be currently compatible with this residence. This is further supported from a review of the prevailing wind direction in Burlington. A wind rose detailing the average wind speed and direction for the Burlington Piers Automated Station WMO 71437 from 2016 to 2020 (i.e., 5 years of weather data) is provided in Appendix C, and shows the wind blowing from Walker Emulsions towards the proposed Development (i.e., blowing from the southeast direction) occurs on average only 7 - 8% of the year.

GHD's opinion is that the potential for odour at the proposed Development is minimal.

3.1.2 Clean Harbors

Clean Harbors Canada Inc. operates an oil recycling facility at 1790 Ironstone Drive, under the Ministry Approval No. A210108 for a waste disposal site (transfer/processing). Condition 10.6 of approval amendment of May 17, 2013 requires the facility to clean all tanks, have any potential residue and sludge removed to control odour generated by this type of waste, and conduct internal inspections and integrity testing every five (5) years.

The Clean Harbors facility is currently in compliance with all applicable MECP requirements and standards at its property line. Odour is a complaint driven compliance obligation. The facility has no history of odour complaints; in addition, no odour issues were detected during GHD's site visit. Based on the wind rose, the wind blowing from Clean Harbors towards the proposed Development occurs on average only 6 - 8% of the year.

Given the above, there is minimal potential for adverse odour impacts from their operations on the proposed Development.

3.2 Identified Facilities with Dust Potential

Based on GHD's preliminary review, Canadian Portable Structures and ELG Canada Inc. are the only sites likely to have a potential dust impact at the proposed Development site.

3.2.1 Canadian Portable Structures

Canadian Portable Structures designs and installs portable or modular structures ranging in size from a small kiosk to a large office complex. Operational hours are 8:30 am to 5 pm Monday to Friday. The process is mostly internal to the building, with some outdoor storage of equipment and materials. Frequent movement of vehicles during daytime hours are expected. There is potential of fugitive emissions. However, the facility does not have an MECP approval, indicating that it is not expected to be a significant source of fugitive dust emissions. The facility does not have a history of complaints.

Under Guideline D-6, Canadian Portable Structures could be conservatively described as Class II: Medium Industry with a recommended minimum setback of 70 meters and a potential area of influence of 300 meters. The facility is located approximately 340 m from the project and outside of the potential area of influence. GHD expects minimal impacts from Canadian Portable Structures on the proposed Development.

This is further supported from a review of the prevailing wind direction in Burlington. A wind rose detailing the average wind speed and direction for the Burlington Piers Automated Station WMO 71437 from 2016 to 2020 (i.e., 5 years of weather data) is provided in Appendix C, and shows the wind blowing from Canadian Portable Structures towards the proposed Development (i.e., blowing from the southeast direction) occurs on average less than 2.7% of the year.

Therefore, GHD does not anticipate any compatibility issues between the proposed Development and Canadian Portable Structures.

3.2.2 ELG Canada Inc.

ELG Canada Inc. (ELG) trades, processes, and recycles alloyed scrap into secondary raw materials for the stainless-steel industry at 4375 Corporate Drive. The facility is located approximately 418 m from the proposed Development. The facility does not have a Ministry approval, indicating that it is not expected to be a significant source of fugitive emissions. There is outdoor storage of materials and seemingly unpaved roads in the storage yard. However, the materials are in the form of scrap metal; therefore, there is low potential of dust emissions resulting from the storage piles. This is further supported from a review of the prevailing wind direction in Burlington. The wind blowing from ELG towards the proposed Development occurs on average less than 2.7% of the year.

GHD does not anticipate any compatibility issues between ELG and the Development with respect to dust emissions.

3.3 Identified Facilities with Vibration Potential

Metrican Stamping (Metrican) is an automotive parts stamping facility located at 1380 Artisans Court, consisting of mechanical stamping, mild steel welding, and shipping, and operates under the Ministry Environmental Compliance Approval (ECA) No. 7900-B6XUSM, issued December 11, 2018, which approves the Facility to produce up to 30,000,000 kilograms of metal automotive parts per year.

The ECA requires Metrican to ensure that its vibration emissions comply with the limits set out in MECP publication NPC-207, “Impulse Vibration in Residential Buildings”. There are existing residences located approximately 380 metres from the Metrican facility, and there is no history of vibration related complaints assrociated with this facility. At this separation distance, ground borne vibration emissions from the facility are typically negligible.

The proposed residential buildings of the Development are located approximately 480 m from the Metrican facility, and therefore it is expected that ground borne vibration emissions from the Metrican facility would be of similar magnitude or slightly lower at the Development in comparison to the existing residential uses.

Considering the above, adverse vibration impacts are not anticipated at the Development. GHD notes that Metrican also operates a facility at 4501 Corporate Drive, which does not operate under an ECA or EASR and is listed on Metrican’s website as a logistics facility (warehousing, shipping/receiving) and is therefore not a source of ground borne vibration.

3.4 Identified Facilities with Noise Potential

Based on GHD's preliminary review, there are several industrial and commercial facilities surrounding the Site which have the potential to result in noise impacts at the Development, including Roseland Produce, RONA, Metrican, O'Brien, Harvey's, Upper Appleby Professional Centre, 1860 Appleby Road, Fire Station 8, Shipway Stairs and ELG Canada.

These sites were selected based on GHD's review of aerial imagery as well as observations collected during the site visit on July 6, 2021. ELG was observed to be the most significant source of stationary noise, and has a large component in the impulse noise impact section of this Study due to the nature of its primary noise emissions. Other facilities listed above were also observed to be significant sources of stationary noise.

3.5 Guideline D-6 Assessment Conclusions

The results of this feasibility study indicate that the potential stationary dust and odour impacts from existing adjacent industrial operations to the proposed Development are likely insignificant. Based on the industry classifications noted above and their setbacks relative to the sensitive uses of the Development, GHD has identified the following the industries. The surrounding facilities are located outside of corresponding D-6 class recommended minimum separation distances, but within the Potential Area of Influence Zone. Based on a review of the Ministry approvals (if applicable), history of complaints, and the prevailing wind direction in Burlington, there are no adverse impacts anticipated from the surrounding industries.

Table 3.3 Conclusions Table

Class	Facility	Address	Activity	Separation Distance (m)	AOI (m)	RMSD (m)	Comment
II	Canadian Portable Structures	4400 Corporate Dr	Manufacturer for portable and modular buildings	340	300	70	No compatibility issues expected
II	Clean Harbors	1790 Ironstone Dr	Oil Recycling Facility	397	300	70	No compatibility issues expected
III	ELG Canada Inc.	4375 Corporate Dr	Scrap metal dealer	418	1000	300	No compatibility issues expected
III	Walker Emulsions	4365 Corporate Dr	Manufacturer of wax, oil, bio-based and asphalt emulsions	542	1000	300	No compatibility issues expected

This analysis is not an exhaustive consideration of all possible industrial land uses that could impact the proposed Site, but rather preliminary screening of probable uses in keeping with the current industrial uses. Any proposed industrial uses of these lands should be evaluated to determine future land use compatibility.

4. Noise Impact Assessment

4.1 Sound and Vibration Criteria

4.1.1 Noise By-Law

The City of Burlington Noise By-Law No. 19-2003 (Noise By-Law) stipulates the following requirements relevant to this Study:

– No person shall emit or cause or permit the emission of sound from a stationary source that exceeds the applicable sound level limits of NPC-205.
– MECP Guidelines NPC-115:
  - Construction noise monitoring is not required for compliance with the Noise By-law; however, the MECP stipulates sound level limits applicable to individual pieces of equipment, rather than for overall construction noise. In the presence of persistent noise complaints, sound emission standards for the 11224448-LTR-1-Vance-Construction Noise and Vibration Study 3 various types of construction equipment used on the project should be checked to ensure that they meet the specified limits contained in MECP Publication NPC-115 - "Construction Equipment"
– NPC-216 - Residential Air Conditioning Devices
  - A guideline stating the requirements for installation of air conditioning to be followed for residential developments with respect to environmental noise potential
– NPC-117 - Domestic Outdoor Tools
  - A guideline stating limitations on the use of certain domestic power tools
– The operation of solid waste, refuse, or recyclable bulk lift or refuse compacting equipment between the hours of 9:00 pm until 7:00 am the next day.
– Loading, unloading, delivering, packing, unpacking or otherwise handling of any containers, products, materials, or refuse, whatsoever, unless necessary for the maintenance of an essential services between the hours of 11:00 pm and 7:00 am the next day
– The operation of any construction equipment in connection with construction between the hours of 9:00 pm until 7:00 am the next day, and between the hours of 7:00 pm and 12:00 pm on Sundays.
– No person shall emit or cause or permit the emission of sound from a stationary source that exceeds the applicable sound level limits of NPC-205.

In 2013, the Ontario Ministry of the Environment, Conservation and Parks (MECP) replaced guideline NPC-205 with guideline NPC-300 "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning". Therefore, NPC-300 is used in this Study in place of NPC-205.

4.1.2 Road Noise Criteria

Under NPC-300, road traffic noise impacts are evaluated separately for exterior receptors and interior receptors based on the average day (07:00 to 23:00) and night (23:00 to 07:00) noise impacts. The sound levels are expressed in terms of A-weighted equivalent sound levels (Leq).

NPC-300 defines two categories of receivers for transportation noise:

– Plane of Window (POW): Point corresponding with the centre of a window of a sensitive space.
– Outdoor Living Area (OLA): Outdoor location intended and designed for quiet enjoyment of the outdoor environment that is readily accessible from the building (e.g., backyards, front yards, gardens, terraces, patios). Private balconies and terraces are only considered OLAs if they are greater than 4 metres in depth and if they are the only outdoor living area for the occupant(s).

NPC-300 specifies sound level limits for POW and OLA receivers as summarized in Table 5.1 below.

Table 4.1 Road Traffic – Outdoor Sound Level Limits

Receiver Category	Sound Level Limit (dBA)	
	Day (16-hour Leq)	Night (8-hour Leq)
Plane-of-Window (POW)	55	50
Outdoor Living Area (OLA)	55 (limit for Burlington)	N/A

For POWs, road traffic sound levels exceeding the corresponding criteria above would require additional controls for MECP compliance. Depending on the magnitude of the exceedances, additional controls may include ventilation requirements, requirements for building envelope elements, and/or noise warning clauses.

For OLAs, road traffic sound levels exceeding the daytime limit indicated above would require design of noise barriers to achieve the target, and/or warning clauses.

If POW sound levels from future road traffic exceeD-65 dBA during the day or 60 dBA at night, building envelope components must be designed to achieve the indoor sound level limits of NPC-300. The indoor sound level limits for road and rail traffic are summarized in Table 5.2 below.

Table 4.2 Road and Rail Traffic – Indoor Sound Level Limits

Receiver Category	Road Sound Level Limits (dBA)	
	Day (16-hour Leq)	Night (8-hour Leq)
Indoor living areas (excluding sleeping quarters)	45	45
Sleeping quarters	45	40

4.1.3 Stationary Noise Limits

4.1.3.1 NPC-300 Standard Limits – Steady Noise

NPC-300 defines stationary noise sources as sound from all sources that are normally operated within the property lines of a facility. The noise impact from stationary sources is evaluated based on operations during a predictable worst-case hour. Stationary noise assessment criteria are generally determined based on the MECP's minimum exclusionary sound level limits, as presented in NPC-300, in comparison to the background sound levels experienced in the area.

The Site is in what would generally be considered a Class 1 acoustic environment as defined by NPC-300, as the acoustic environment is dominated by human activities (i.e., road traffic).

Table 4.3 below summarizes the MECP's minimum exclusionary sound level limits for Class 1 areas, which are expressed in terms of 1-hour equivalent sound levels (1-hour Leq):

Table 4.3 MECP Minimum Exclusionary Sound Level Limits for Steady Sound – Class 1

Point of Reception Type	Class 1 Sound Level Limits (dBA)	
	Day (7am – 11pm)	Night (11pm – 7am)
Plane of window	50	45
Outdoor space	50	--

4.1.3.2 NPC-300 Standard Limits – Impulse Noise

As per NPC-300, impulse noise is evaluated separately from steady noise. For impulse noise, the sound level limit at a point of reception expressed in terms of the Logarithmic Mean Impulse Sound Level (LLM), and is dependent on the number of impulses in a given hour. The impulse sound level limits for a Class 1 Area are summarized as follows:

Table 4.4 MECP Minimum Exclusionary Sound Level Limits for Impulsive Sound

Number of Impulses Per Hour	Class 1 Area Sound Level Limits (dBAI)	
	Plane of Window POR (7am – 11pm / 11pm – 7pm)	Outdoor POR (7am – 11pm)
9 or more	50 / 45	50
7 to 8	55 / 50	55
5 to 6	60 / 55	60
4	65 / 60	65
3	70 / 65	70
2	75 / 70	75
1	80 / 75	80

5. Transportation Noise Impact Assessment

5.1 Methodology

The roadways near the Site were modelled as sources of sound using the road element in CadnaA set to predict noise emission rates in accordance with the United States of America's (US) Department of Transportation's Traffic Noise Model (TNM).

The 3D CadnaA model accounts for the complex geometry at the Site and the surrounding area. The area surrounding the Site features significant elevation changes, which have been captured in the model using ground elevation data obtained from "City of Burlington Open Data". Road traffic noise levels were predicted at all POWs of the Development using the Building Noise Map feature of CadnaA, and at OLAs using point receivers.

To demonstrate that the model is generally consistent with the STAMSON model that is the standard in Ontario, a sample STAMSON calculation is included in [Appendix D] representing a north façade window of the Phase 3 Condominium. The prediction results are within ± 1 dBA of the CadnaA noise predictions, indicating that the CadnaA model is consistent with STAMSON.

5.2 Traffic Input Parameters

5.2.1 Road Traffic Data

Future road traffic model parameters used in this Study is summarized as follows:

Table 5.1 Future (2031) Road Traffic Input Parameters

Road Segment	Future AADT	Speed Limit (km/h)	Day / Night Split	Commercial Vehicle Rates (medium trucks / heavy trucks)
Appleby Line (between Upper Middle Road and Ironstone Drive)	41,656	60	90% / 10%	1.9% / 1.8%
Appleby Line (between Heron Way and Upper Middle Road)	42,628	60	90% / 10%	1.9% / 2%

Road Segment	Future AADT	Speed Limit (km/h)	Day / Night Split	Commercial Vehicle Rates (medium trucks / heavy trucks)
Upper Middle Road (between Appleby Line and Imperial Way)	16,391	60	90% / 10%	1.1% / 0.7%
Upper Middle Road (between Heron Way and Appleby Line)	16,863	60	90% / 10%	1.4% / 0.8%

Road traffic volumes for Appleby Line and Upper Middle Road were obtained from received from the Region of Halton in the form of Annual Average Daily Traffic (AADT) volumes for the year 2020. GHD applied an assumed annual growth rate of 2.5% to the volumes to estimate the future 2031 AADT. The day / night split and commercial vehicle rates were assumed based on guidance from the MTO.

Figure B.1 shows the location of the roadways noted above in relation to the Site. All road traffic data and correspondence referenced in this Study is included in Appendix E.

5.3 Results

5.3.1 Road Traffic

5.3.1.1 Plane of Window Receivers

Predicted future road traffic noise impacts at the worst-case POW receivers of the Development are summarized as follows:

Table 5.2 Future Road Noise Levels – Plane of Window

Building	Façade	Future Noise Levels (dBA)		Limits Exceeded?
		Day	Night	
Phase 1	Northeast	60	54	**Yes**
	Southeast	57	50	**Yes**
	Southwest	51	45	No
	Northwest	59	52	**Yes**
Phase 2	Northeast	62	56	**Yes**
	Southeast	60	53	**Yes**
	Southwest	50	45	No
	Northwest	58	52	**Yes**
Phase 3	Northeast	70	64	**Yes**
	Southeast	66	60	**Yes**
	Southwest	53	46	No
	Northwest	63	56	**Yes**

As seen above, future road noise levels at the façades generally range from 50 dBA to 70 dBA during the day and 45 dBA to 64 dBA at night. These sound levels are sufficiently high that the Development must incorporate physical noise mitigation and noise warning clauses in accordance with NPC-300, which are described further in Section 5.4. Figure B.7 shows the predicted road noise levels at the façades throughout the Development.

5.3.1.2 Outdoor Living Areas

Predicted future road traffic noise impacts at the worst-case OLA receivers of the Development are summarized as follows:

Table 5.3 Future Road Noise Levels – Outdoor Living Area

Receiver ID	Receiver Description	Future Daytime Noise Level (dBA)	Limit Exceeded?
OLA-01	Phase 1 Outdoor Amenity Terrace on 3rd Floor Level (7.5 m AG)	53	No
OLA-02	Phase 2 Outdoor Amenity Terrace on 2nd Floor Level (4.5 m AG)	38	No
OLA-03	Phase 2 Outdoor Amenity Terrace on 5th Floor Level (13.5 m AG)	57	**Yes**
OLA-04	Phase 3 Outdoor Amenity Terrace on 2nd Floor Level (4.5 m AG)	59	**Yes**
OLA-05	Phase 3 Outdoor Amenity Terrace on 5th Floor Level (13.5 m AG)	58	**Yes**
OLA-06	Phase 1 Outdoor Amenity Terrace on Ground Floor Level (1.5 m AG)	46	No

As seen above, the daytime road noise level at the outdoor living areas of the Development range from 38 dBA to 59 dBA. Noise levels at OLA-01 and OLA-02 are sufficiently low that physical noise mitigation and/or noise warning clauses are not required. However, noise levels at OLA-03 to OLA-05 are sufficiently high that noise mitigation is required. Noise mitigation for these OLAs is discussed further in Section 5.4.3.

5.4 Transportation Noise Mitigation

5.4.1 Building Envelope Construction

Predicted future traffic noise levels are sufficiently high that the building envelope must be designed with sufficient sound insulation performance to achieve the sound level criteria of NPC-300 for indoor living spaces. Sound insulation performance for windows and walls are commonly specified in terms of Sound Transmission Class (STC) ratings. Higher STC ratings generally correspond to higher sound insulation performance.

STC rating requirements are dependent on the exterior noise levels, source type/spectrum, angles of incidence, sizes of façade components relative to the room size, and sound absorption characteristics of the subject indoor living space. Using these variables, STC rating requirements can be calculated using the method described in the National Research Council Canada's "Controlling Sound Transmission into Buildings" (BPN 56) publication. In accordance with NPC-300, STC rating requirements are calculated separately for road, rail, and air traffic noise, and are then combined on a logarithmic energy sum basis.

Given the preliminary nature of the design of the Development, detailed floor plans and building elevations are not yet available. Therefore, minimum STC rating requirements have been calculated based on assumed window-to-floor area ratios (i.e., total window area for a room divided by its floor area) of up to 160% for sleeping quarters and "intermediate" sound absorption characteristics. Other sensitive indoor living areas were assumed to have window-to-floor area ratios of up to 100% and "hard" sound absorption characteristics. Note that if the actual window-to-floor area ratios are determined to exceed these values during detailed design, then window STC rating requirements would require an updated assessment to ensure acceptable indoor noise levels.

Based on the above assumptions, the minimum STC rating requirements at the worst-case façades are **STC-36** for windows and **STC-38** for exterior walls. Other façades that have less direct exposure to road traffic noise have lower STC rating requirements, as shown in Figure B.8 of Appendix B.

Examples of window assemblies capable of achieving the necessary performance are included in Table 6.5 below:

Table 5.4 Example Window Assemblies and STC Ratings

STC Requirement	Window Assembly Short Form	Window Assembly Description
STC-33	6-13AS-6	Two 6 mm thick monolithic glass panes separated by an air gap of 13 mm
STC-36	6L-25AS-6	One 6 mm thick laminated glass pane and one 6 mm monolithic glass pane separated by an air gap of 25 mm

STC ratings for windows are dependent on a variety of factors (e.g., frame design, seals, etc.), and can vary significantly between manufacturers. Therefore, the final STC rating requirements for the windows should be included in the specifications, and window suppliers should be required to submit laboratory test data with their shop drawings to demonstrate that the STC requirements will be achieved.

5.4.2 Ventilation

Predicted future traffic noise levels at the façades of the Development are sufficiently high that, at a minimum, provisions must be made to enable installation of central air conditioning at the occupant's discretion (i.e., ductwork must be designed and installed to accommodate a future central air conditioning system installation). This will allow windows and doors to remain closed to help ensure that the indoor sound level limits of NPC-300 are met. Warning clause **Type C** should also be used for all residential dwellings (wording included in Section 8.4). However, if central air conditioning will be installed prior to occupancy, then warning clause **Type D** should be used instead.

5.4.3 Barriers

Predicted future road traffic noise levels at OLA-03 to OLA-05 exceed 55 dBA during the day. In order to mitigate noise levels to within 55 dBA at all of the OLAs, the following barriers are required:

Table 5.5 Recommended Acoustic Barriers

Outdoor Living Area	Minimum Barrier Height	Minimum Barrier Extents
OLA-03	1.1 metres	Northeast and northwest boundaries of outdoor amenity space
OLA-04	1.4 metres	Northwest, northeast, and southeast boundaries of outdoor amenity space
OLA-05	1.6 metres	Entire perimeter of outdoor amenity space

For clarity, the extents of the above barriers are shown in Figure B.9 in Appendix B.

An acoustic barrier may vary in construction, provided it meets the following requirements:

– A minimum surface density of 20 kg/m^2 or meet compliance with requirement and certification CAN/CSA-Z107.9-00 (R2004) – Standard for Certification of Noise Barriers (Reaffirmed 2004).
– Be structurally sound and appropriately designed to withstand wind and snow loading as applicable.
– Constructed without any cracks or surface gaps at grade. If gaps are necessary for drainage purposes, they should be minimized to mitigate the impact on the acoustical performance of the barrier.

6. Stationary Noise Impact Assessment

The potential noise impact from the commercial/industrial facilities south and west of the Site on the Development as well as the road noise has been examined as the focus of this Study. Commercial/industrial facilities that are expected to be the primary contributors to stationary noise impacts at the Development have been identified by qualitative

assessment per the MECP guideline D-6. Further quantitative assessment of noise emissions from those facilities and the road noise has also been carried out in order to estimate the noise impacts at the Development.

6.1 Methodology

Detailed assessment of noise impacts from each of the facilities identified in section 3 above has been carried out using CadnaA version 2021 MR 1 (CadnaA). CadnaA is the industry standard for noise modelling of industrial and commercial facilities, and is based on ISO standard 9613-2 “Acoustics – Attenuation of Sound during Propagation Outdoors”. CadnaA modelling assumptions used in this Study include:

– **Reflection Orde**r: A maximum reflection order of 2 was used to evaluate indirect noise impact from reflecting surfaces.
– **Ground Absorption**: The model was set up with conservative ground absorption coefficients of 0.25 for asphalt surfaces, 0.5 for gravel, and 1.0 for absorptive areas of grass.
– **Receptor Elevation**: POR receptor heights were modelled appropriately based on an assumed storey height of 3 m.
– **Tonality**: A 5 dBA tonal penalty was applied to tonal sources, if applicable.
– **Building Surfaces**: The buildings are modelled as reflective surfaces with an absorption coefficient of 0.21 for smooth surfaces, and 0.37 for structured surfaces (e.g., brick).

6.2 Stationary Noise Sources

A summary of the sound levels of the noise sources is provided in the following sections. Further, the locations, sound levels and IDs of the following described sources are included on Figure B.1 and Table B.1. GHD has included all stationary sources considered to have potential to impact the Development as identified in the D-6 assessment in Section 3.

6.2.1 Transport Trucks

Roseland Produce and Metrican Stamping both use large trucks to transport their products at an assumed volume of 2 vehicles per hour while ELG has an assumed volume of 4 vehicles per hour. All facilities have trucks using an assumed operating speed of 20 km/h. Only day and evening operation is modelled to adhere to the City of Burlington Noise By-Law restrictions.

6.2.2 Forklift Operation

RONA and O’Brien Lifting Solutions both use forklifts for transporting materials around the site. An assumed volume of 10 vehicles per hour has been made with an operating speed of 15 km/h. Only day and evening operation is modelled to adhere to the City of Burlington Noise By-Law restrictions.

6.2.3 Transport Truck Idling

Metrican Stamping has a truck loading area in the back of the establishment. The trucks are modelled outside the facility idling with only day and evening operation to adhere to the City of Burlington Noise By-Law restrictions.

6.2.4 Air Conditioning

Several nearby facilities utilize roof mounted heating, ventilation and air conditioning (HVAC) units. GHD modelled these sources using representative sound data for similar HVAC units. These units are conservatively modelled to operate continuously during the day and evening, and on a 50% duty cycle at night (30 minutes per hour).

6.2.5 ELG Operations

ELG Canada Inc. (ELG) uses backhoes/excavators to lift and drop piles of scrap metal. GHD measured noise levels from this activity during the site visit on July 6th, 2021. This activity was modelled as an impulse source due to the nature of the noise experienced at this location during GHD's site visit. GHD assumed that up to 7 impulses could occur in any daytime hour (approximately one pile drop every 8.5 minutes). Based on GHD's measurements and modelling, this is the maximum frequency of impulses that would result in compliance at existing residences about 320 metres southwest of the facility and at a school 160 metres west of the facility.

Excavator operations aside from the impulse noise described above were included in the model based on representative sound measurements by GHD at similar metal scrapping facilities. These operations include movement of scrap metal materials and engine noise, and were assumed to be continuous during daytime hours.

Although not audible during GHD's site visit, there is a shear at this facility as well based on aerial imagery. GHD modelled this source using representative sound level data, assuming it operates 30 minutes per hour to account for the intermittent nature of this equipment.

GHD spoke with ELG facility staff on August 13, 2021, who confirmed that the facility only conducts metal scrapping activities during the daytime.

6.2.6 Fire Station 8 Wall Exhaust

Based on field measurements and observations conducted during GHD's site visit on July 6th 2021, the Burlington Fire Department Station 8 has an exhaust outlet facing towards the Site. This source has been included in the model based on GHD's source sound level measurements collected during the site visit.

6.3 Steady Noise Results

Steady state noise levels produced from the surrounding industrial and commercial facilities are within the applicable site-specific sound level limits at the PORs of the building shown in Figure B.2. Therefore, noise controls are not necessary to achieve compliance for steady state noise.

The unattenuated modelled steady state results from the surrounding stationary noise sources are summarized below:

Table 6.1 Steady Noise Levels – Plane of Window

Worst-Case POR at Development	Noise Levels (dBA)		Limits Exceeded?
	Day	Night	
Phase 1 tower, plane of window on southwest façade	**55**	**54**	**Yes**
Phase 2 tower, plane of window on southwest façade	50	**47**	**Yes**
Phase 3 tower, plane of window on southeast façade	46	38	No
Phase 1 elevated outdoor amenity space (POR-01)	**59**	--	**Yes**
Phase 1 ground outdoor amenity space (OLA-06)	**57**	--	**Yes**

As seen above, steady noise levels at the Development from the surrounding industrial and commercial facilities exceed the applicable criteria of NPC-300 at the Development by up to 9 dBA at night. The steady noise exceedances are dominated by noise emanating from an exhaust duct through the north wall of the adjacent Fire Station (S-A2). The unmitigated results are further illustrated in Figure B.3.

6.3.1 Steady Noise Mitigation

In order to achieve compliance with the steady noise limits of NPC-300, noise mitigation will be required for the Fire Station exhaust duct (S-A2). The exhaust duct is shown below for ease of reference:



Figure 6.1 Fire Station wall exhaust location (as viewed from north side of building)

GHD expects that this noise source can be effectively mitigated using an acoustic duct silencer designed to achieve the following minimum insertion loss values:

Table 6.2 Fire Station Wall Exhaust Mitigation – Minimum Dynamic Insertion Loss Requirements

Octave Band Centre Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
Silencer Insertion Loss (dB)	5	12	16	22	24	23	18	14

With the inclusion of this the results for steady state noise are as follows:

Table 6.3 Mitigated Steady Noise Levels – Plane of Window

Worst-Case POR at Development	Noise Levels (dBA)		Limits Exceeded?
	Day	Night	
Phase 1 tower, plane of window on southeast façade	50	41	No
Phase 2 tower, plane of window on southeast façade	48	40	No
Phase 3 tower, plane of window on southeast façade	46	38	No
Phase 1 elevated outdoor amenity space (POR-01)	48	--	No
Phase 1 ground outdoor amenity space (OLA-06)	46	--	No

Figure B.4 of Appendix B shows the predicted noise levels throughout the Development with installation of the recommended acoustic duct silencer.

Installation of mitigation for source S-A2 will require the cooperation of the Fire Department. Alternative at-source mitigation could be considered, such as replacement of the fan itself with a lower-noise unit or relocating the exhaust to the southwest wall of the Fire Station. GHD recommends that the Applicant enter into discussions with the Burlington Fire Department to investigate and agree upon appropriate mitigation, which will be the financial responsibility of the Applicant. Based on GHD's experience, a preliminary estimated budgetary cost for installation of an acoustic duct silencer described above is approximately $20,000.

6.4 Impulse Noise Results

GHD has applied the exclusionary impulse noise level limits of 60 dBAI during the daytime corresponding with up to 7 impulses per hour. No nighttime impulse sources have been identified.

The impulse noise impacts from the ELG facility stationary noise sources are summarized below:

Worst-Case POR at Development	Noise Levels (dBA)	Limits Exceeded?
	Day	
Phase 1 tower, east façade	55	No
Phase 2 tower, south façade	52	No
Phase 3 tower, east façade	50	No
Phase 1 elevated outdoor amenity space (POR-01)	49	No
Phase 1 ground outdoor amenity space (OLA-06)	42	No

Figure B.5 of Appendix B shows the predicted impulse noise levels throughout the Development.

GHD notes that, per the Noise By-Law, ELG is obligated to comply with the sound level limits of the MECP at existing points of reception including the windows of a school located at 2170 Itabashi Way. Based on GHD's sound level measurements and model predictions, impulse noise levels from the ELG facility are higher at the school than at the Development. Therefore, provided that ELG complies at existing points of reception, ELG will also comply at the Development.

6.5 Noise Impacts from the Development

6.5.1 Outdoor Noise

Base building cooling and ventilation systems for the Development have the potential to result in noise impacts on noise sensitive spaces within the Development itself and at existing residential uses surrounding the Site. The specific equipment selections are not available at the time of writing due to the preliminary nature of the design; therefore, GHD has modelled noise emissions from on-site mechanical equipment based on experience with developments of similar size including the following:

– Make-up air unit (three total, one per phase)
– Air-cooled chiller (three total, one per phase)
– Parking exhaust fans (one exhaust shaft)
– Transformer
– Emergency generator set (three total, one per phase)

It is common for developments of this size to include one make-up air unit per tower to supply fresh air to the corridors, and one air-cooled chiller (or cooling tower) per tower as part of the central cooling plant. GHD assumed that these would be located on the roof of each tower.

Parking exhaust fans will be required to ventilate the underground parking areas to exhaust fumes from combustion. GHD assumed that a parking exhaust shaft will be located within the limits of Phase 1 as it will be constructed before the other phases and will require a parking exhaust shaft.

As identified in the concept drawings for the Development, the main power transformer will be pad-mounted at grade near the southeast boundary of Phase 1.

The locations and IDs of the Development's noise sources are shown in Figure B.6, and the equipment sound level data is included in Table B.1. A rooftop enclosure has been modelled as a 3.5 m tall acoustic barrier as indicated in Figure B.6.

6.5.1.1 Recommendations

Based on the assumptions described above, GHD recommends the following with respect to the design of on-site mechanical systems for the Development:

– Make-up air units should be selected with overall sound power levels of 88 dBA or lower.
– Air-cooled chillers (or cooling towers) should be selected with overall sound power levels of 89 dBA or lower and should be located within air wells designed to shield from the adjacent buildings.
– The parking exhaust shaft should be located in the south corner of Phase 1 as shown in Figure B.6, and the fans should be selected with an overall sound power level of 82 dBA or lower.
– The emergency generator set should be located in an acoustic enclosure designed to achieve a sound pressure level specification of 75 dBA at a distance of 7 metres. This is typically achieved with a Level 2 acoustic enclosure.

6.5.1.2 On-Site Noise Modelling Results

With implementation of the recommendations above, predicted sound levels from the Development’s on-site stationary noise sources at the worst-case PORs are as follows:

Table 6.4 Steady State Noise Levels – Plane of Window

Building at Worst Case Facade	Noise Levels (dBA)		Limits Exceeded?
	Day	Night	
Phase 1 tower, north façade	46	43	No
Phase 2 tower, south façade	46	43	No
Phase 3 tower, south façade	46	43	No
1940 Ironstone Drive	43	40	No
1893 Appleby Line	36	33	No
1861 Appleby Line	32	30	No

As seen above, with the recommended noise controls it is expected that noise emissions from on-site stationary noise sources will be within the applicable sound level limits of NPC-300.

6.5.2 Indoor Noise

Mechanical equipment and other building services also have the potential to cause annoyance due to noise and vibration transmission to residences. The American Society of Heating, Refrigerating, and Air conditioning Engineers (ASHRAE) guidelines specify acceptable noise levels from such equipment. Specification of noise controls (e.g., silencers, floating concrete slabs, acoustic ceilings, vibration isolators) to achieve these criteria is typically completed as part of the detailed building design, once equipment selections are made and floor layouts are more developed.

The Ontario Building Code stipulates minimum STC and apparent sound transmission class (ASTC) rating requirements for demising partitions separating residential suites from other spaces inside the building. For demising partitions separating suites from elevator shafts or garbage chutes, constructions meeting a minimum STC-55 rating must be used. For demising partitions separating suites from any other space in the building, constructions meeting a minimum STC-50 rating must be used. Suite demising partitions must also achieve a minimum rating of ASTC-47.

7. Construction Vibration

GHD has completed a desktop assessment to determine the potential zone of influence (ZOI) of ground-borne vibrations related to proposed construction activities at the Site.

The City of Burlington does not have any regulations for construction vibration. Therefore, this Study has been prepared referencing the City of Toronto By-Law No. 514-2008 as a guideline (Guideline). As per the Guideline, the ZOI is defined as the area that may potentially be impacted by vibrations emanating from construction activity where the generating peak particle vibration velocity is equal to or greater than 5 mm/s.

7.1 Proposed Construction Activities

Shoring drawings are not available at this time; however, the Applicant has confirmed that construction activities will likely include the following:

1. Drill holes for piles using large augers and fill with concrete.
2. Excavate in stages along with shoring work with backhoes and front-end loaders and install lagging in excavation with granular material to fill voids.
3. Backfilling and compacting on the south side using a sheepsfoot roller (compactor). There will be no pile driving associated with these construction efforts and all pile installations will be within augered holes.

7.2 Potential Zone of Influence

The ZOI study consists of a review of site plan drawings and shoring drawings related to the above noted construction works. It is noted that these comments and recommendations may need to be adjusted in light of any additional information conflicting with these works, such as changes to the proposed construction equipment, procedures or in account of any vibration readings recorded during the construction operations.

Based on the information provided to GHD, it is anticipated that heavy construction equipment with the potential for emitting significant ground vibrations will include the following:

Equipment Type	Equipment Details
Front End Loader (RT)	4 Wheel Drive, 100 kW class
Tractor with Loader/ Backhoe	4 Wheel Drive, 65 kW class
Dump Truck Triaxle	32,000 kg class
Tractor Bulldozer	60 kW and 80 kW class
Compaction Equipment	Sheepsfoot roller with no vibrator

The estimated zone of influence of the construction activities, generating vibrations up to 5 mm/s, is expected to extend a horizontal distance of 25 m from the immediate area of construction. This distance was determined using past case histories prepared for heavy construction equipment (Federal Transit Administration, 1995). A maximum rated energy of 25,000 ft-lbs (33.9 kN-m) was assumed for the construction equipment. A factor of safety was applied to the analysis to ensure adequate protection for the nearest receptors. At a distance greater than 25 m, the vibration levels are anticipated to be below the 5 mm/s criteria. The ZOI may be validated by conducting confirmatory vibration monitoring in the construction compound and at the nearest property line of the Site during construction activities.

7.3 Construction Vibration Monitoring

It is expected that construction efforts will occur throughout the property, including areas close to the Site property line, such that the potential ZOI will extend beyond the Site property line. The attached Figure B.10 in Appendix B shows the estimated zone of influence boundary with respect to the primary construction work area (as confirmed by the project team). Based on a review of the neighbouring properties, the estimated 25 m ZOI will include two existing structures:

– Commercial building located at 1860 Appleby Line
– Burlington Fire Station 8 located at 1837 Ironstone Drive

Based on a search of the City of Burlington Heritage Property Register, there are no designated heritage properties nearby to the Site. GHD recommends that construction vibration monitoring be carried out during select activities with significant potential for vibration when in close proximity (25 m) to the existing buildings within the ZOI. The locations of these existing buildings are indicated in Figure B.10. The vibration monitors should be placed at or close to the property line between the construction activities and the nearest building/structure, and used to ensure that vibration levels do not exceed 5 mm/s. It is noted that vibrations levels below 5 mm/s may be perceived by the adjacent property owners and/or residents in close proximity to the Site and have the potential to result in complaints. Vibration monitoring results during construction will assist in addressing such cases should they arise.

7.4 Vibration Impact Mitigation Measures

Based on the proposed scope of construction activities, it is not anticipated that ground-borne vibration intensities will exceed the outlined limits beyond the proposed 25 m zone of influence. However, the perceived vibration levels in combination with noise levels and visual effects of heavy machinery working in close proximity to adjacent building and properties may result in complaints. Due to the potential for adverse vibration impacts, the following preliminary vibration mitigation measures are recommended:

– At least one week prior to commencement of construction activities, the Applicant shall notify the ward Councillor, staff, and owners/occupants of nearby residences of the scheduled construction activity. The notice shall include: explanation of proposed construction activity and potential to produce vibration; statement of vibration levels which are prohibited (5 mm/s PPV); address where construction will occur; date and time of construction activities; name, address, and phone number through which owners/occupants may contact the applicant and construction management team; contact information of Newmarket staff assigned to the project. The notice shall be distributed to the 34 adjacent properties, with specialised notices for 2 property owners within the construction sites zone of influence. These properties include:
    - Residential condo located at 1940 Ironstone Drive
    - Retirement Home located at 1893 Appleby Line
    - Residential dwellings located from 1801 to 1861 Appleby Line/ Cobra Crescent
    - Commercial building located at 1860 Appleby Line
    - Burlington Fire Station 8 located at 1837 Ironstone Drive
– Vibration generated by construction activity has the potential to damage structures. This damage could be structural damage such as cracking of floor slabs, foundations, columns, beams, or walls; or cosmetic architectural damage such as cracked plaster, stucco, or tile (CDOT 2013). For the commercial building located at 1860 Appleby Line and the Burlington Fire Station 8 located within the estimated construction vibration ZOI,

GHD recommends that any existing significant cracks be identified during the preconstruction documentation surveys, or newly developed cracks formed during construction activity be monitored to ensure minimal expansion during construction and mitigate further structural issues. Pre-construction inspections at the buildings shall be conducted to identify existing cracks in the walls, floors and exterior cladding of the first two stories above grade, and interior finished of all stories below grade in sufficient detail to facilitate comparison of pre-construction and post-construction conditions. If feasible, pre-existing cracks on foundation structures shall be monitored with crack monitoring gauges. The pre-construction inspections shall be conducted with a qualified structural engineer.

– It is recommended that initial monitoring be conducted at the closest property to the initial construction activities to ensure no adverse effects, and to confirm that the estimated ZOI is appropriate.
– If complaints are received, the Applicant shall immediately procure the professional engineer monitoring the project to perform vibration measurement at the complainant's location during activities representative of the offending operation(s), and to provide the complainant and City staff assigned to the project a copy of the measurement results, including an interpretation by the professional engineer of the possible vibration impacts on the building structure. If vibrations are found to exceed the limits set by the Town, all vibration-generating construction activities shall cease and not resume until mitigation measures are implemented to reduce vibration levels such that they are below the applicable limits.

8. Summary of Recommendations

8.1 Stationary Noise Mitigation

Based on GHD's sound level measurements and modelling, steady noise levels at the Development exceed the applicable sound level limits of NPC-300. Steady noise levels at the affected PORs are dominated by noise from an exhaust duct opening at the north wall of the Fire Station. GHD recommends that the Applicant enter into discussions with the Burlington Fire Department to determine the most appropriate means of noise mitigation. GHD expects that this source could be effectively mitigated using an acoustic duct silencer.

8.2 Building Envelope Construction

For the worst-case façades of the Development with direct line-of-sight exposure to noise from Appleby Line, windows must achieve ratings of at least STC-36, and exterior walls must be rated STC-38 or higher. STC rating requirements are shown graphically for each building façade on Figure B.8.

8.3 Ventilation

Predicted future traffic noise levels at the north, west, and south façades of the 5-storey condominium and the north façade of the northernmost 3-storey residence are sufficiently high that, at a minimum, provisions must be made to enable installation of central air conditioning at the occupant's discretion (i.e., ductwork must be designed and installed to accommodate a future central air conditioning system installation). This will allow windows and doors to remain closed to help ensure that the indoor sound level limits of NPC-300 are met. Warning clause **Type C** should also be used for all residential dwellings (wording included in Section 7.3). However, if central air conditioning will be installed prior to occupancy, then warning clause **Type D** should be used instead.

8.4 Acoustic Barriers

Acoustic barriers are required to mitigate excessive noise from future road traffic at OLA-03 to -05, as shown in Figure B.9.

8.5 On-Site Equipment

GHD has provided guidance on the placement and preliminary noise controls for mechanical equipment of the Development. It is anticipated that noise mitigation will be considered through the detailed design process to ensure that the applicable sound level limits of NPC-300 are met.

8.6 Warning Clauses

The following warning clauses are recommended to be included in agreements of Offers of Purchase and Sale, lease/rental agreements, and condominium declarations for some residential dwellings of the Development as specified in Figure B.7 of Appendix B:

Fire Station Warning Clause: “Purchasers/tenants are advised that due to the proximity of the adjacent Fire Station, noise from the Fire Station may at times be audible. Noise emissions from emergency services are exempt from regulation.”

Air Quality Warning Clause: “Purchasers/tenants are advised that due to the proximity of adjacent industries, dust and odours from these facilities may at times be perceptible.”

Balcony Warning Clause: “Purchasers/tenants are advised that the private terraces of each unit are less than 4.0m deep and therefore are not required to have mitigation measures installed for noise as per NPC-300. Sound levels due to road/train traffic, increasing road/train traffic and no mitigation measures may interfere with some activities of the dwelling occupants use of their private terrace”

Warning Clause Type C: “This dwelling unit has been designed with the provision for adding central air conditioning at the occupant’s discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks.”

Warning Clause Type D: “This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks.”

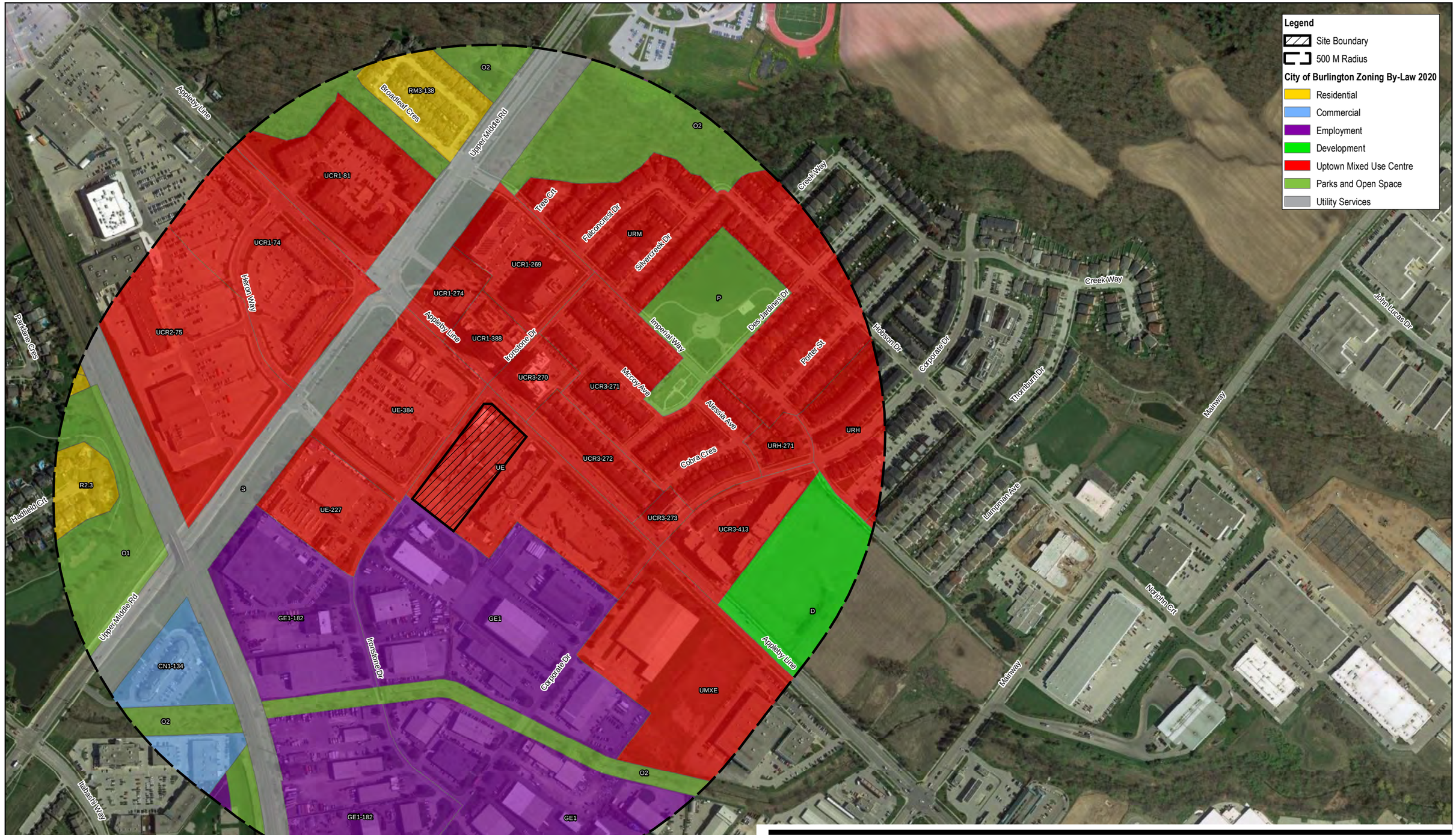
9. Conclusions

The Study concludes that the proposed Development is feasible and will not be restricted by the surrounding air, odour, dust, noise and vibration impact exposures, provided that the proposed Development adheres to the noise mitigation recommended in this Study. The recommended noise mitigation at the Development consists of building envelope construction requirements, provisions for and installation of central air conditioning in the future, noise warning clauses, silencer installation for the Fire Station, and acoustic barriers. The Development is not anticipated to affect the ability of the nearby industrial/commercial facilities to continue to operate.

Appendices

Appendix A

Site Plan, Land Use Zoning Designation Plan, D-6 Setback Distance



Paper Size ANSI B

0 30 60 90 120

Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

GHD

LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON, ONTARIO

Project No. **11228027**
Revision No. **-**
Date **Jul 29, 2021**

ZONING MAP

FIGURE A.1

Q:\GIS\PROJECTS\11228000s\11228027\Layouts\202107_RPT001\11228027_202107_RPT001_GIS001.mxd
Print date: 29 Jul 2021 - 16:20

Data source: Google Earth Imagery, Date: 05/07/2018, City of Burlington Zoning By-Law 2020, Accessed 2021

1900 APPLEBY LINE
BURLINGTON, ONTARIO

LJM DEVELOPMENTS

PROJECT: 17024
DATE: SEPT 27 2021
ISSUED FOR: REZONING

ARCHITECTURAL DRAWING LIST

- A001 COVER PAGE + CONTEXT PLAN
- A002 PROJECT STATISTICS
- A100 SITE PLAN
- A100a SITE PLAN SIMPLIFIED
- A101 PARKING LEVEL 1 PLAN
- A102 PARKING LEVEL 2-3 PLAN
- A201 GROUND FLOOR PLAN
- A202 2ND FLOOR PLAN
- A203 3RD FLOOR PLAN
- A204 4TH FLOOR PLAN
- A205 5TH TO 16TH FLOOR PLAN
- A217 17TH AND 18TH FLOOR PLAN
- A401 EAST AND NORTH ELEVATIONS
- A501 BUILDING SECTIONS



2 BUILDING RENDERING
SCALE NTS



1 CONTEXT PLAN
SCALE NTS

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1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

COVER

NTS

A001

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1900 Appleby Line
Burlington
17024

PRELIMINARY PROJECT STATISTICS

28 September 2021

SITE AREA	**12,486.0 m2**	134,403	sf
Road Dedication	**186.0 m2**	2,002	sf
Net Site Area	**12,300.0 m2**	132,400	sf

AREA CALCULATIONS

Phase One
GFA 14,557 m2 156,695 sf
SITE AREA 3301 m2 35,533 sf

FLOOR	Parking	STUDIO	1B	1B+D	2B/2B+D	TOTAL	RESIDENTIAL GFA m²	Retail m²	Office m²
Surface	16								
P1	80								
P2	83								
1						**0**	**807**	0	123
2						**0**	**43**		1697
3		1		2	2	**5**	**862**		
4		1	1	5	4	**11**	**735**		
5		1	1	5	4	**11**	**735**		
6		1	1	5	4	**11**	**735**		
7		1	1	5	4	**11**	**735**		
8		1	1	5	4	**11**	**735**		
9		1	1	5	4	**11**	**735**		
10		1	1	5	4	**11**	**735**		
11		1	1	5	4	**11**	**735**		
12		1	1	5	4	**11**	**735**		
13		1	1	5	4	**11**	**735**		
14		1	1	5	4	**11**	**735**		
15		1	1	5	4	**11**	**735**		
16		1	1	5	4	**11**	**735**		
17		1	1	5	4	**11**	**735**		
18		1	1	5	4	**11**	**735**		
MECH									
TOTAL	**179**	**16**	**15**	**77**	**62**	**170**	**12,737**	**0**	**1,820**
		9%	*9%*	*45%*	*36%*				

Amenity Provided
Indoor 849 m2
Outdoor 794 m2
Parking Required
Resident 170
Visitor 26
Office (1/100m2) 18.2
Total **214**
Parking Provided **179**
FSI **3.86**
AVG UNIT SIZE **75** m2 **806.48** sf

Phase Two
GFA 15,197 m2 163,584 sf
SITE AREA 4,141.0 m2 44,575 sf

FLOOR	Parking	STUDIO	1B	1B+D	2B/2B+D	TOTAL	RESIDENTIAL GFA m²	Retail m²	Office m²
Surface	37								
P1	128								
P2	128								
1			1	14		8	**23**	**1534**	642
2			1	14		8	**23**	**1534**	
3			1	14		8	**23**	**1534**	
4			1	14		8	**23**	**1534**	
5			1	3	3	4	**11**	**800**	
6			1	3	3	4	**11**	**800**	
7			1	3	3	4	**11**	**800**	
8			1	3	3	4	**11**	**800**	
9			1	3	3	4	**11**	**800**	
10			1	3	3	4	**11**	**800**	
11			1	3	3	4	**11**	**800**	
12			1	3	3	4	**11**	**800**	
13			1	3	3	4	**11**	**800**	
14			1	3	3	4	**11**	**800**	
15			1	3	3	4	**11**	**800**	
16			1	3	3	4	**11**	**800**	
17									
18									
MECH									
TOTAL	**293**	**15**	**78**	**36**	**72**	**201**	**14,555**	**642**	**0**
		7%	*39%*	*18%*	*36%*				

Amenity Provided
Indoor 402 m2
Outdoor 402 m2
Parking Required
Resident 201
Visitor 30
Total **231**
Parking Provided **293**
FSI **3.51**
AVG UNIT SIZE **72** m2 **779.45** sf

Phase Three
GFA 15,047 m2 161,970 sf
SITE AREA 5,137.0 m2 55,296 sf

FLOOR	Parking	STUDIO	1B	1B+D	2B/2B+D	TOTAL	RESIDENTIAL GFA m²	Retail m²	Office m²
Surface	30								
P1	135								
P2	135								
1			14		5	**19**	**1350**	939	
2			14		5	**19**	**1350**		
3			14		5	**19**	**1350**		
4			14		5	**19**	**1350**		
5		1	3	3	4	**11**	**800**		
6		1	3	3	4	**11**	**800**		
7		1	3	3	4	**11**	**800**		
8		1	3	3	4	**11**	**800**		
9		1	3	3	4	**11**	**800**		
10		1	3	3	4	**11**	**800**		
11		1	3	3	4	**11**	**800**		
12		1	3	3	4	**11**	**800**		
13		1	3	3	4	**11**	**800**		
14		1	3	3	4	**11**	**800**		
15		1	3	3	4	**11**	**800**		
16		1	3	3	4	**11**	**800**		
17									
18									
MECH									
TOTAL	**300**	**12**	**78**	**36**	**63**	**189**	**14,108**	**939**	**0**
		6%	*41%*	*19%*	*33%*				

Amenity Provided
Indoor 378 m2
Outdoor 378 m2
Parking Required
Resident 189
Visitor 19
Total **208**
Parking Provided **300**
FSI **2.75**
AVG UNIT SIZE **75** m2 **803.48** sf

PROJECT TOTALS

Proposed Phase 1-3	Parking	STUDIO	1B	1B+D	2B/2B+D	TOTAL	RESIDENTIAL GFA	Retail	Office	
	772	43	171	149	197	560	41400	1581	1820	
FSI						3.59	3.366	0.129	0.148	

Remaining buildings	Parking						RESIDENTIAL GFA	Retail	Office	
							0	5752	0	

Total GFA	
Residential	41400 sqm
Retail	7333 sqm
Office	1820 sqm
	50553 sqm

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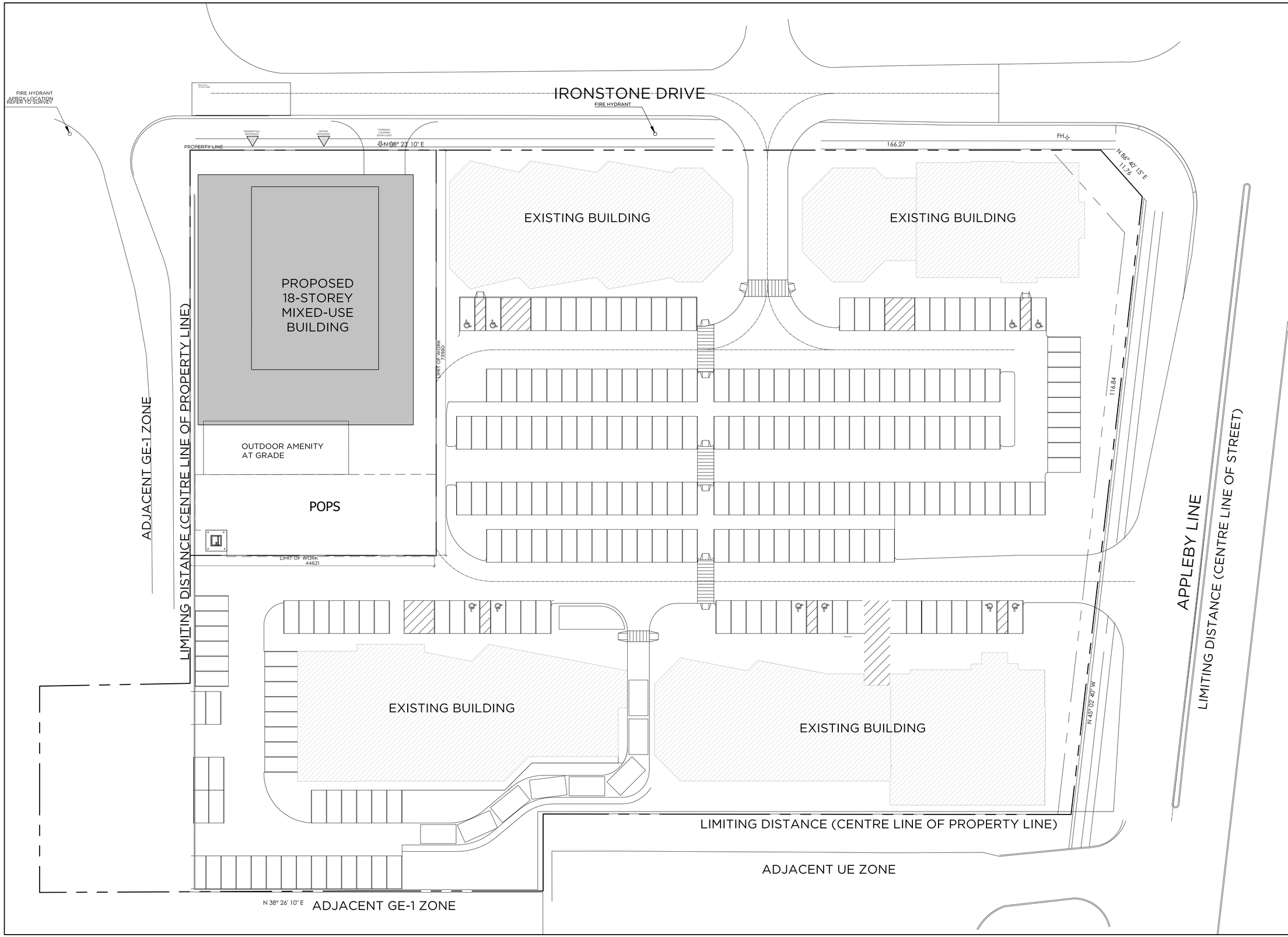
1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

PROJECT
STATISTICS

NTS

A002



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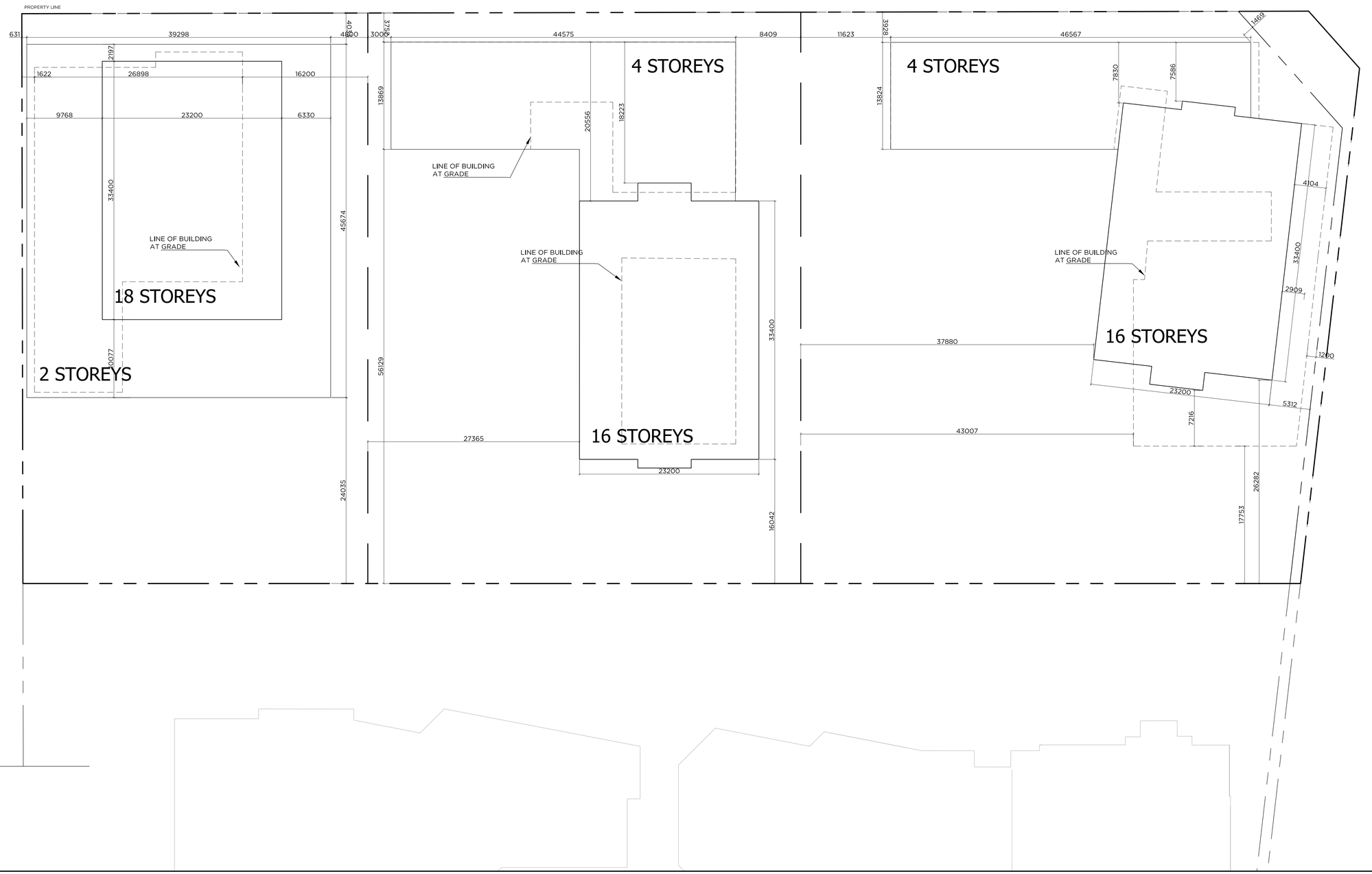
1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

SITE
PLAN

1:250

A100



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1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

SIMPLIFIED
SITE PLAN

1:250

A100a

128 SPACES

135 SPACES

80 PARKING SPACES

PROPERTY LINE

STORM

WATER

LONG TERM BIKE STORAGE [18]

LONG TERM BIKE STORAGE [21]

VEST.

GARBAGE ROOM

SERVICE

STORAGE [13 LOCKERS]

TRANSFORMER

LIMIT OF WORK

798.69 m²

SLOPE DOWN 5m @ 7.5%

SLOPE DOWN 7.660m @ 15%

SLOPE DOWN 5m @ 7.5%

6000

6000 TYP.

2358

2584

1600

2146

2358

1326

5500

600

20

16

10

3

2

7

1

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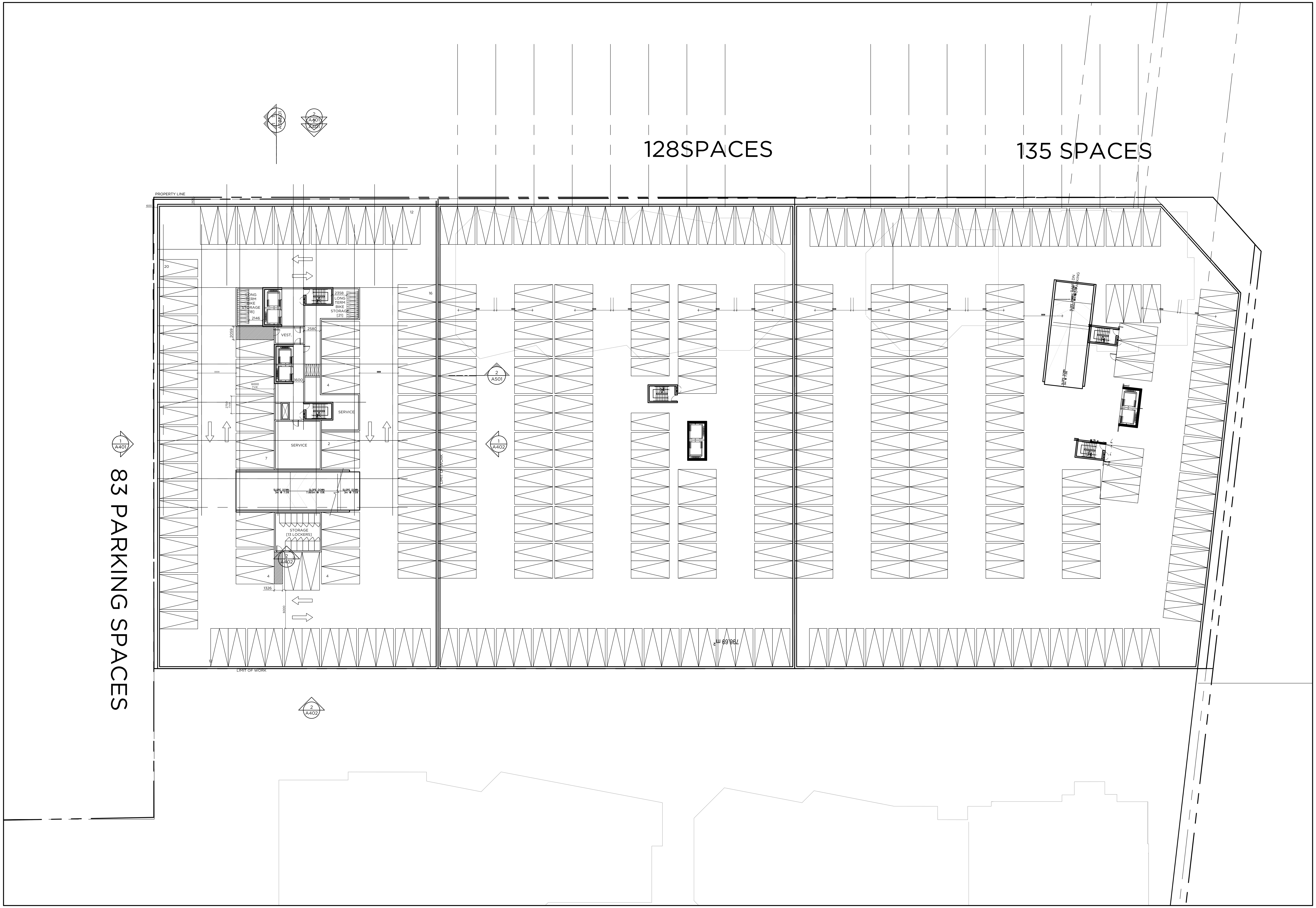
1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

P1 LEVEL
PLAN

1:250

A101



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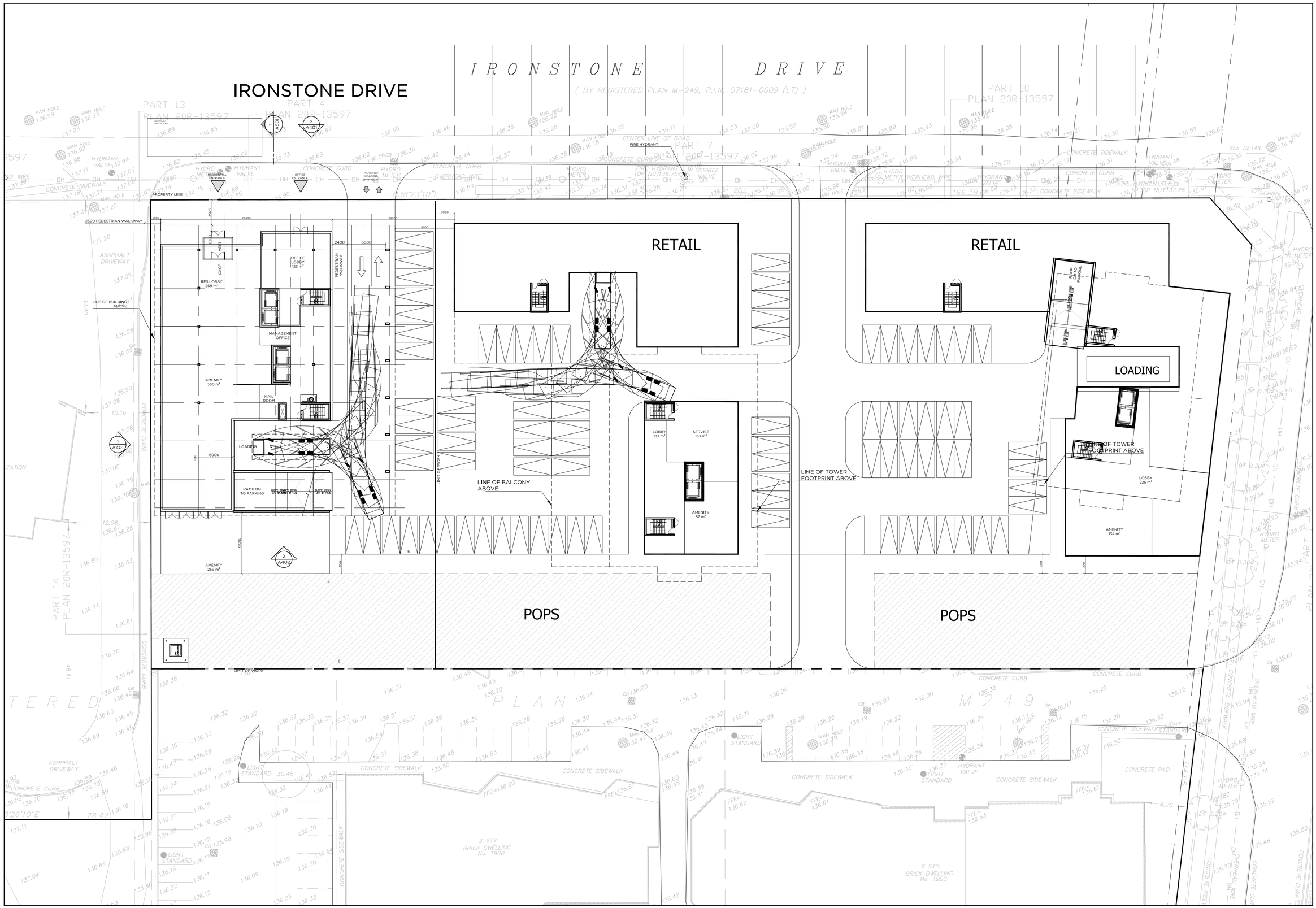
1880 APPLEBY LINE REDEVELOPMENT

LJM DEVELOPMENTS

P2-P3 LEVEL PLAN

1:100

A102



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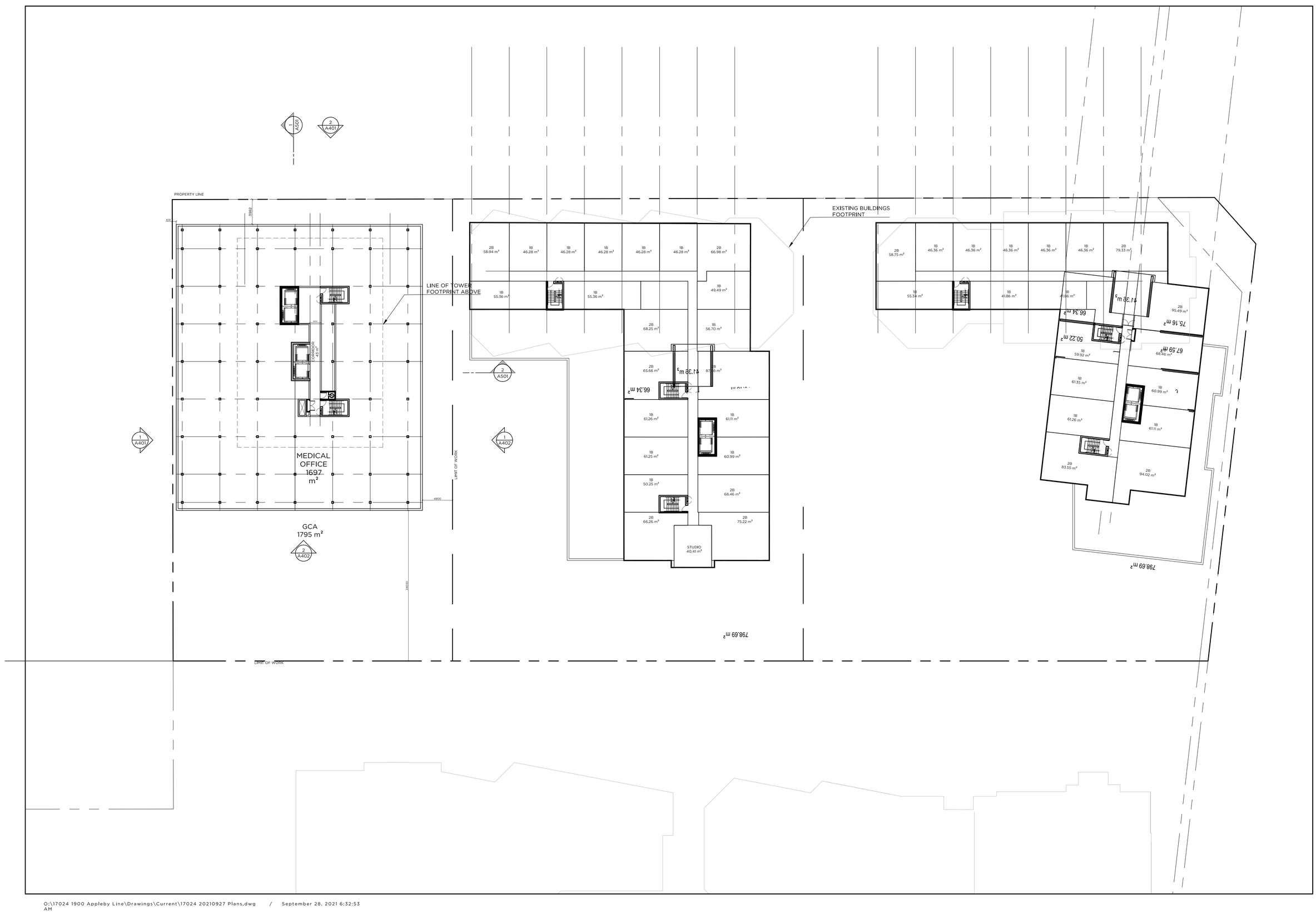
1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

GROUND FLOOR PLAN

1:250

A201



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1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

2ND FLOOR
PLAN

1:250

A202

PROPERTY LINE

EXISTING BUILDINGS FOOTPRINT

RES
NSA
###m²

527

4276

2979

TERRACE

2B
72.21 m²

STUDIO
35.5 m²

2B
65.71 m²

1B+D
67.02 m²

1B+D
48.47 m²

1B+D
62.16 m²

1B+D
62.15m²

2B+D
86.67m²

GREEN
ROOF

CORRIDOR
72m²

INDOOR
AMENITY
197m²

GREEN
ROOF

OUTDOOR
AMENITY
TERRACE
266m²

1130

9730

4800

GCA
786.50 m²

LIMIT OF WORK

LIMIT OF WORK

33457

28500

798.69 m²

2B
58.94 m²

1B
46.28 m²

1B
55.36 m²

1B
49.49 m²

2B
68.25 m²

1B
56.70 m²

2B
65.66 m²

2B
87.86 m²

1B
61.26 m²

1B
61.11 m²

1B
61.25 m²

1B
60.99 m²

1B
50.25 m²

2B
68.46 m²

2B
66.26 m²

2B
75.22 m²

STUDIO
40.41 m²

2B
58.75 m²

1B
46.36 m²

1B
55.34 m²

1B
41.86 m²

2B
79.33 m²

2B
95.49 m²

1B
59.92 m²

1B
68.46 m²

1B
61.35 m²

1B
60.99 m²

1B
61.26 m²

1B
61.11 m²

2B
83.55 m²

2B
94.02 m²

798.69 m²

1 A401

2 A501

1 A501

2 A401

2 A501

1 A402

2 A402

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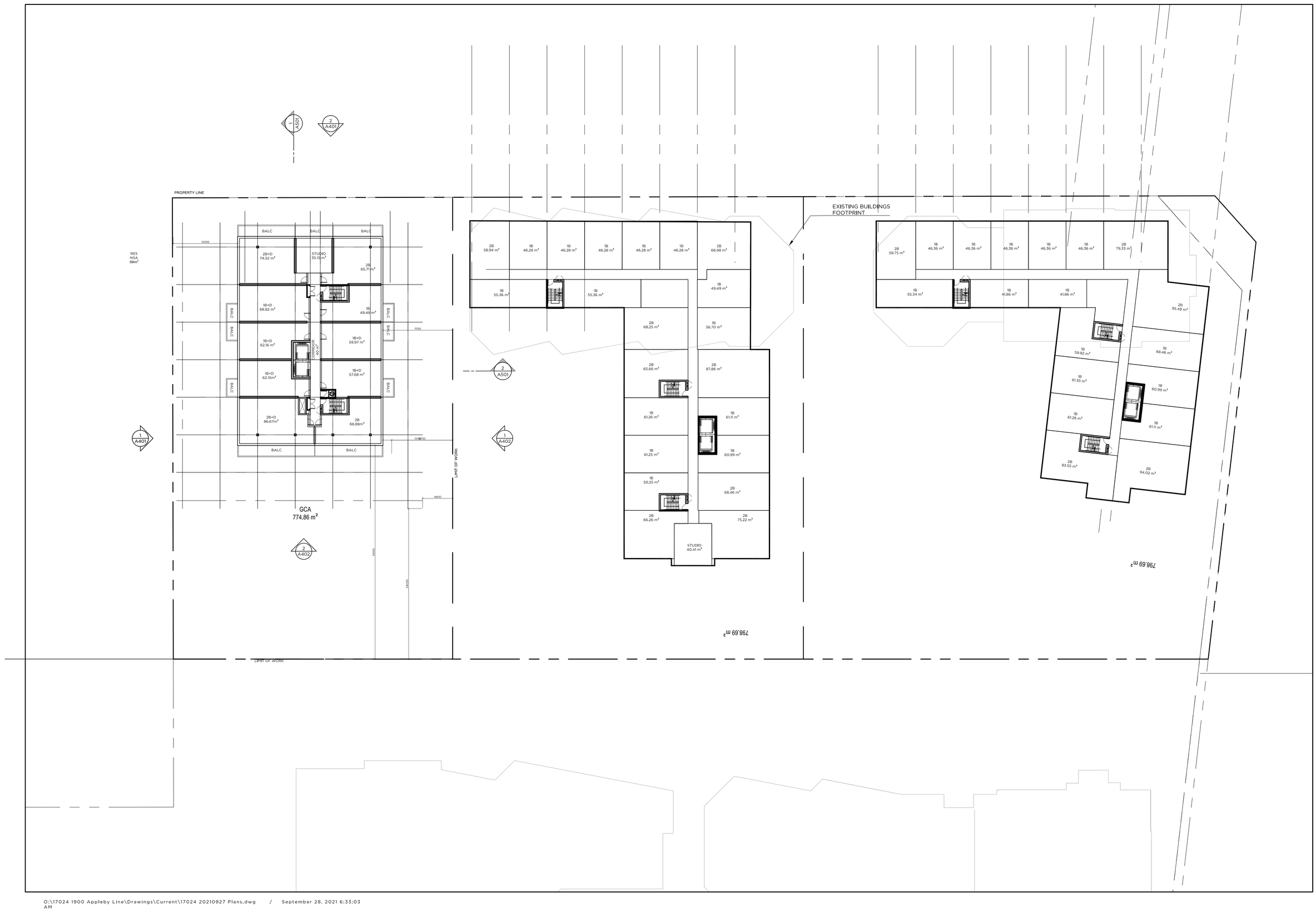
1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

3RD FLOOR
PLAN

1:250

A203



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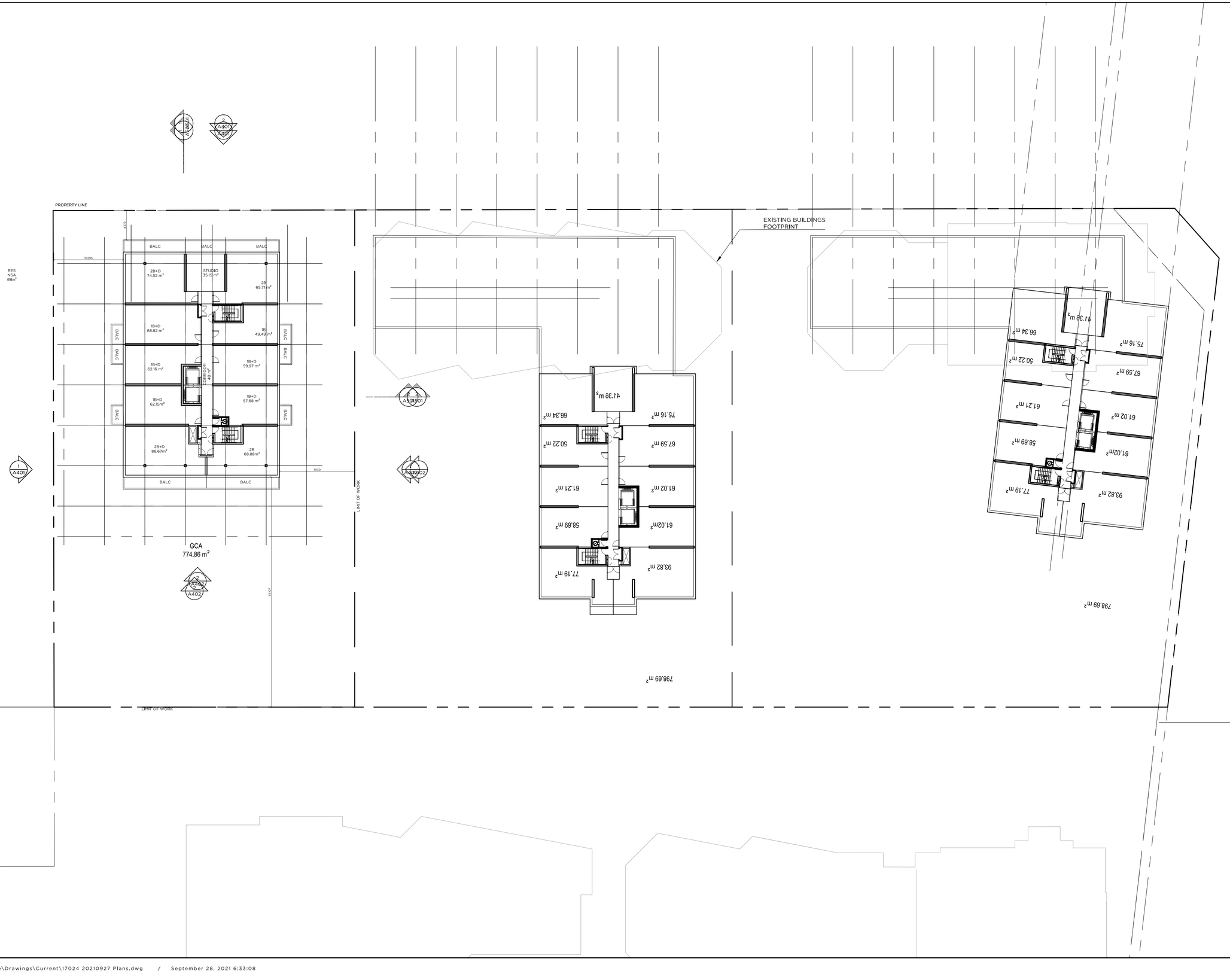
1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

4TH FLOOR
PLAN

1:150

A204



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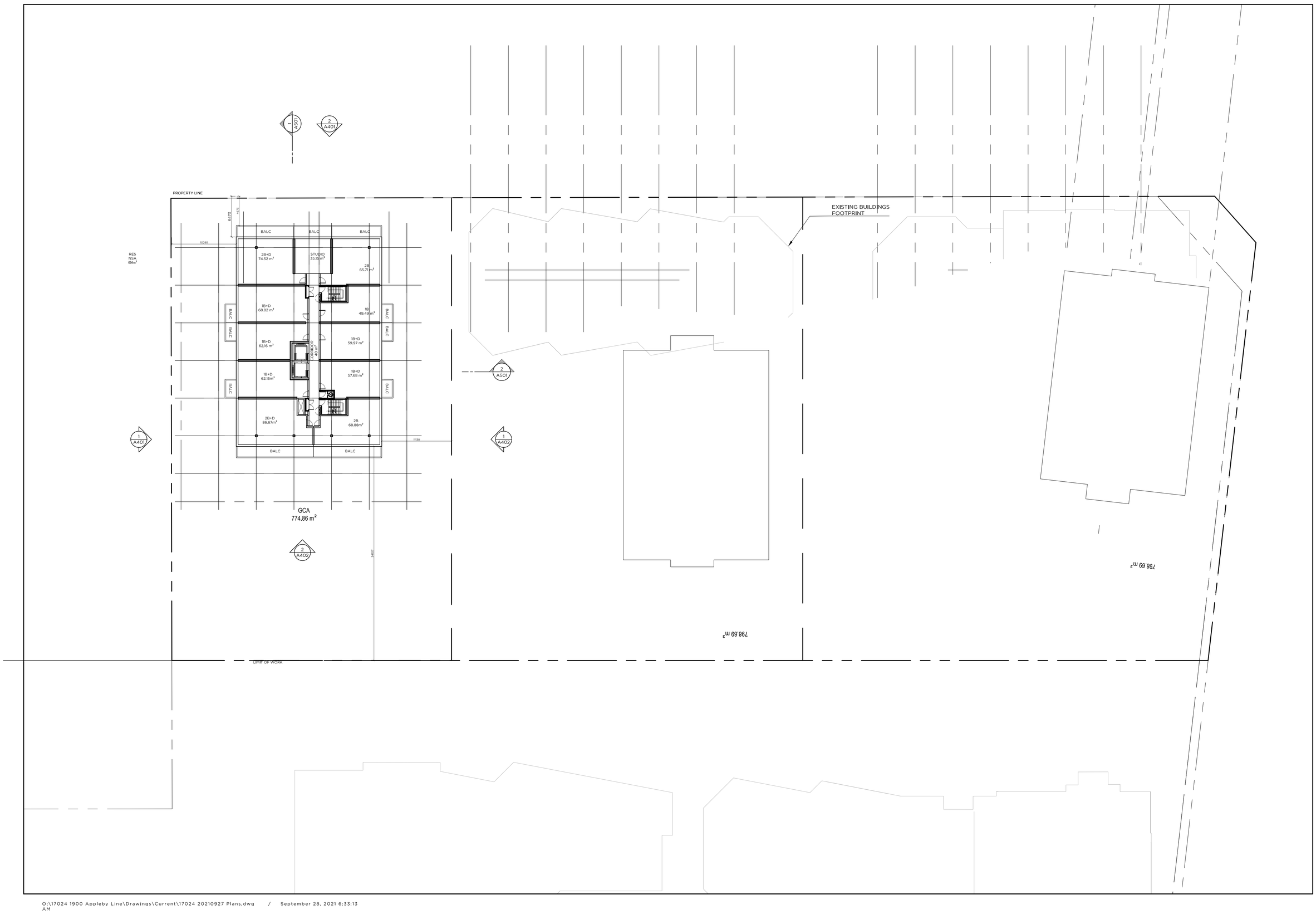
1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

5TH-16TH FLOOR
PLAN

1:250

A205



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1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

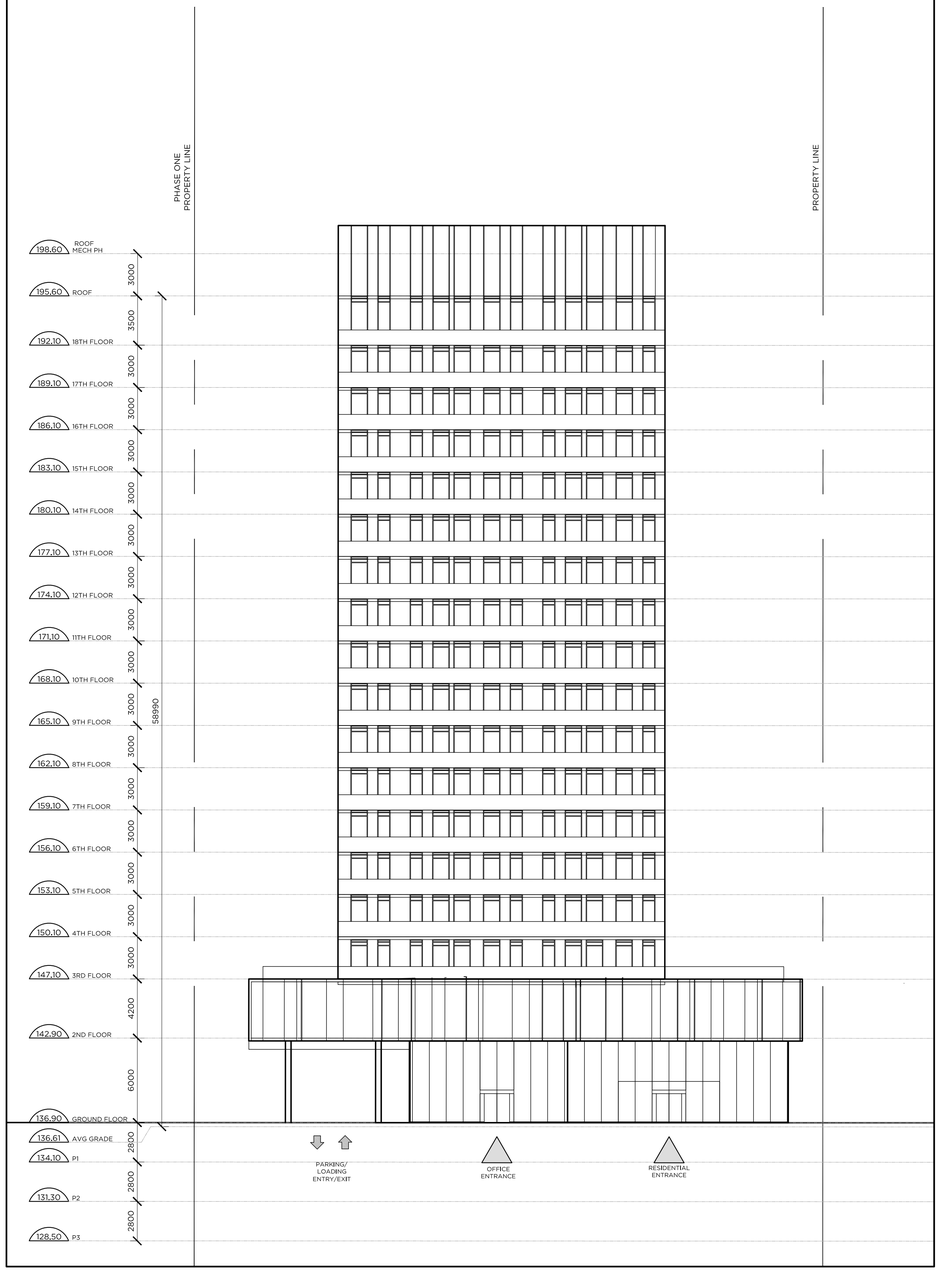
17TH-18TH FLOOR
PLAN

1:250

A217



1 EAST BUILDING ELEVATION
SCALE 1:200



2 NORTH BUILDING ELEVATION
SCALE 1:200

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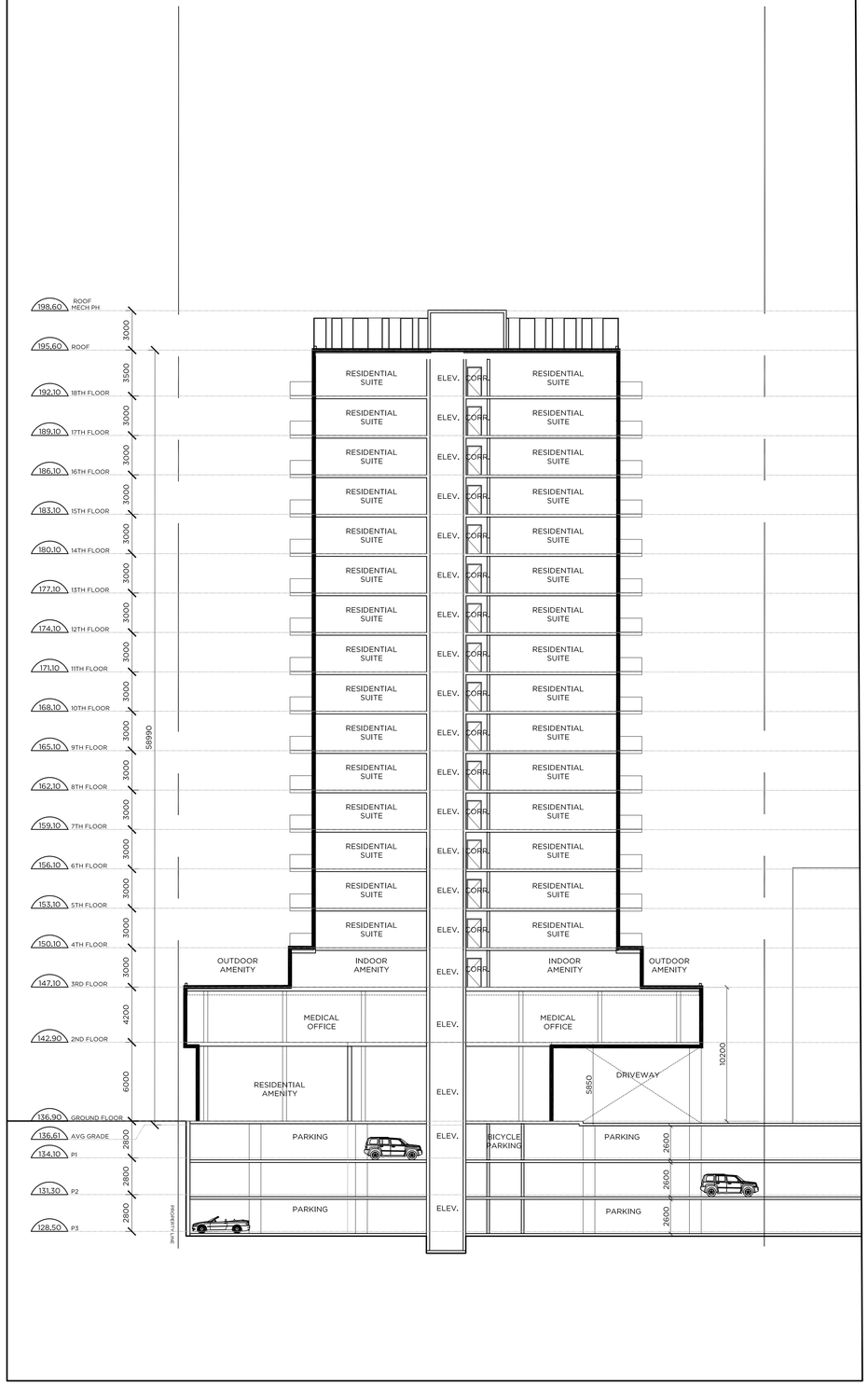
1880 APPLEBY LINE
REDEVELOPMENT

LJM DEVELOPMENTS

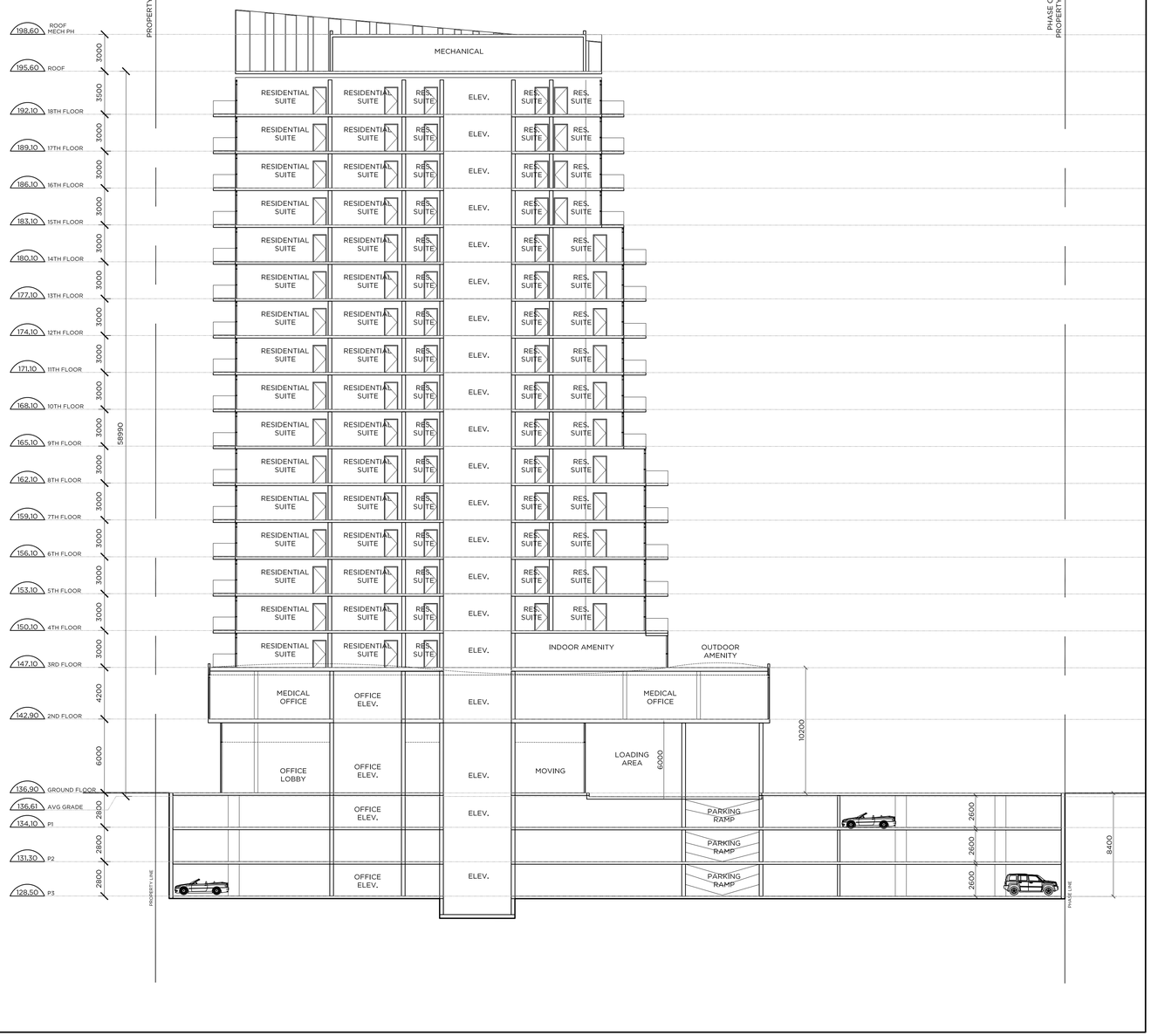
CONCEPTUAL
BUILDING
ELEVATION

1:200

A401



1 EAST-WEST BUILDING SECTION
SCALE 1:200



2 NORTH-SOUTH BUILDING SECTION
SCALE 1:200

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REVISION RECORD

NORTH

405-317 ADELAIDE STREET WEST
TORONTO CANADA M5V 1P9
+1 416 599 9729
WWW.RAWDESIGN.CA

17024

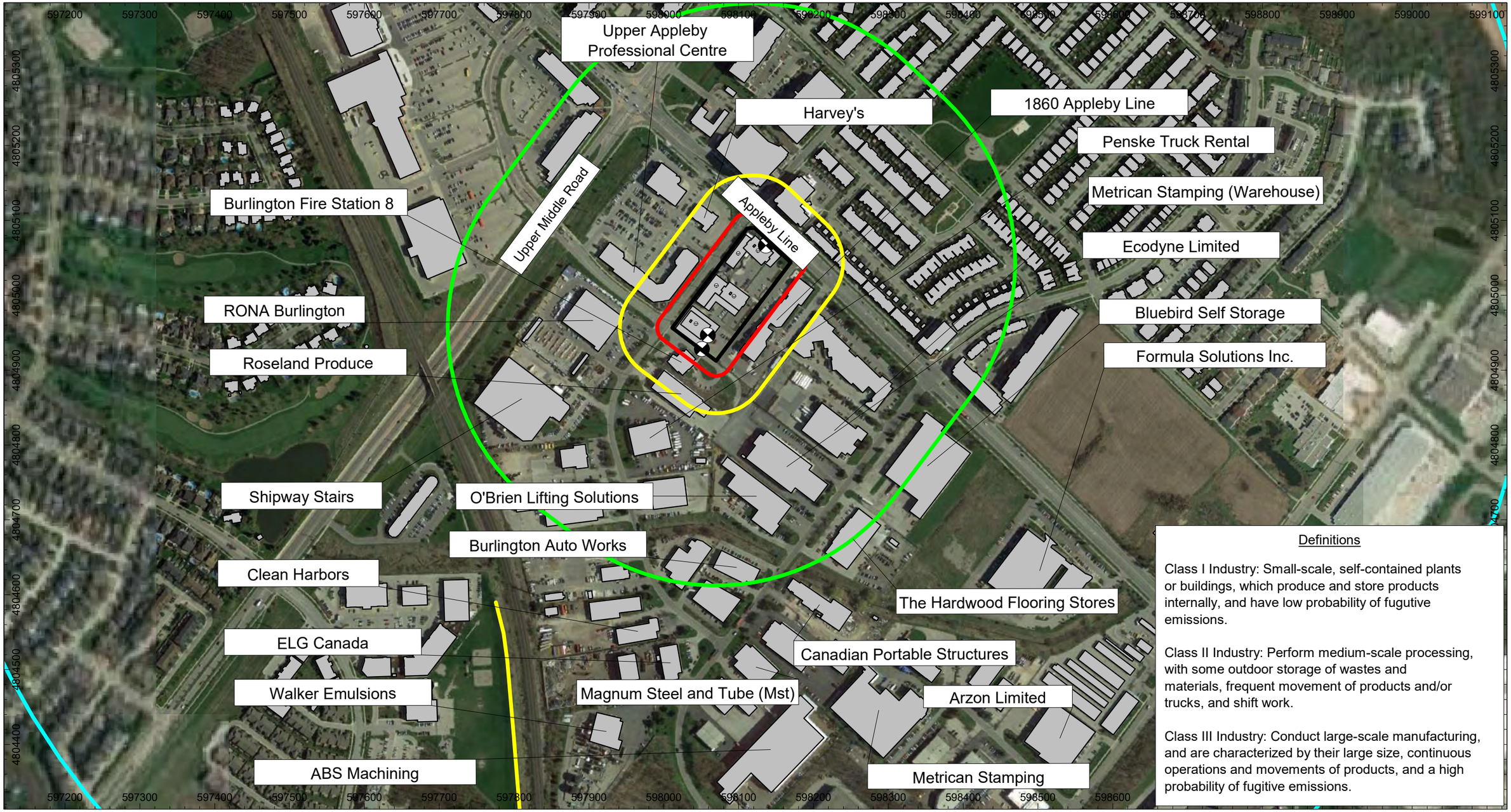
1880 APPLEBY LINE REDEVELOPMENT

LJM DEVELOPMENTS

NORTH + WEST BUILDING SECTIONS

1:200

A501



Definitions

Class I Industry: Small-scale, self-contained plants or buildings, which produce and store products internally, and have low probability of fugutive emissions.

Class II Industry: Perform medium-scale processing, with some outdoor storage of wastes and materials, frequent movement of products and/or trucks, and shift work.

Class III Industry: Conduct large-scale manufacturing, and are characterized by their large size, continuous operations and movements of products, and a high probability of fugitive emissions.

Source: Google Satellite

N

- 20 m setback - Class I RMSD dBA
- 70 m setback - Class I AOI / Class II RMSD dBA
- 300 m setback - Class II AOI / Class III RMSD dBA
- 1000 m setback - Class III AOI dBA
- Sensitive Land Uses dBA

GHD

NOISE FEASIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

D-6 GUIDELINE SETBACKS

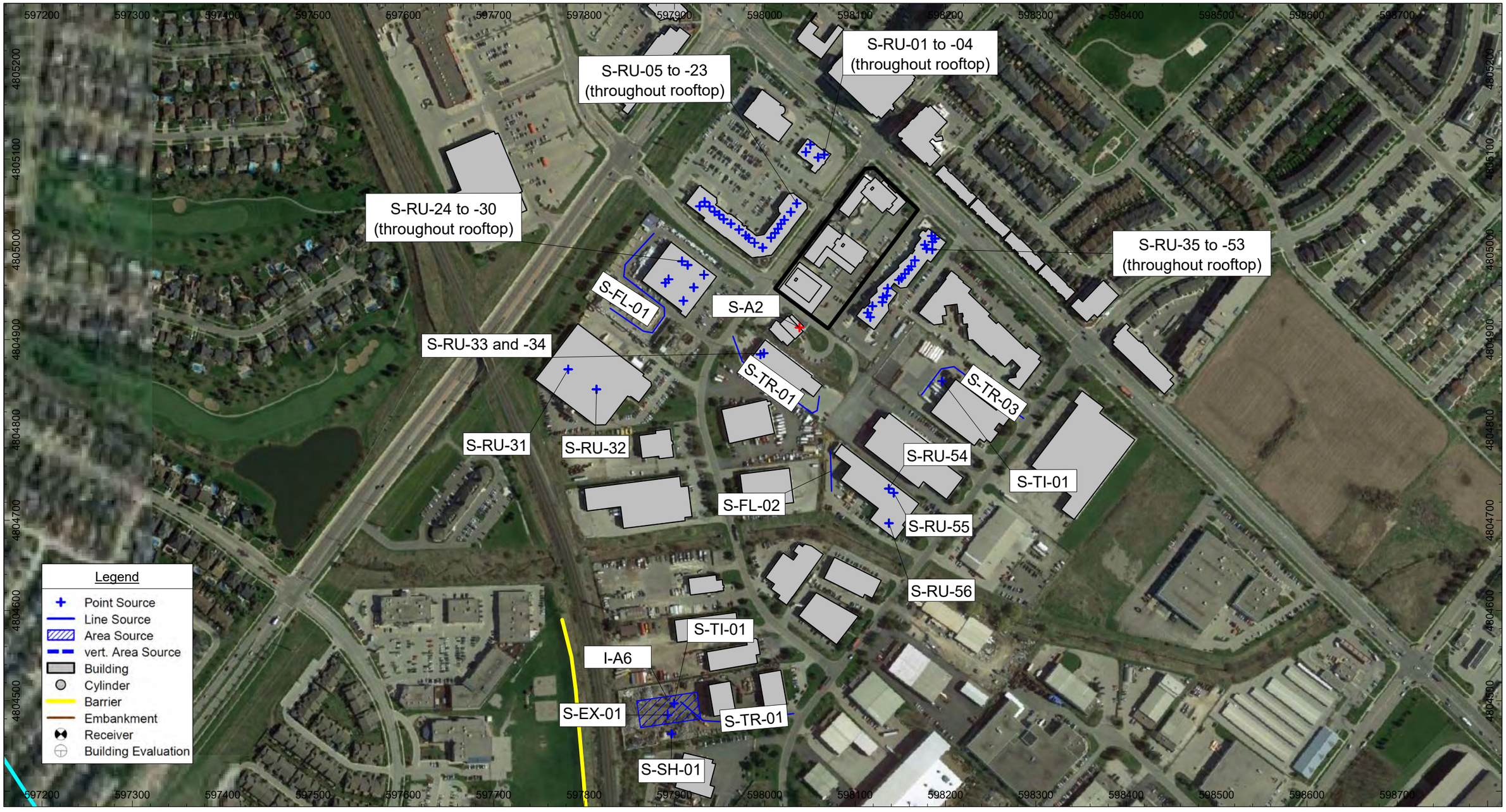
11228027
13.08.2021

FIGURE A.3

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna

Appendix B

D-6 Setback Distance



Source: Google Satellite

N

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LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

11228027
16.08.2021

STATIONARY NOISE SOURCE LOCATION PLAN

FIGURE B.1

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna



Source: Google Satellite

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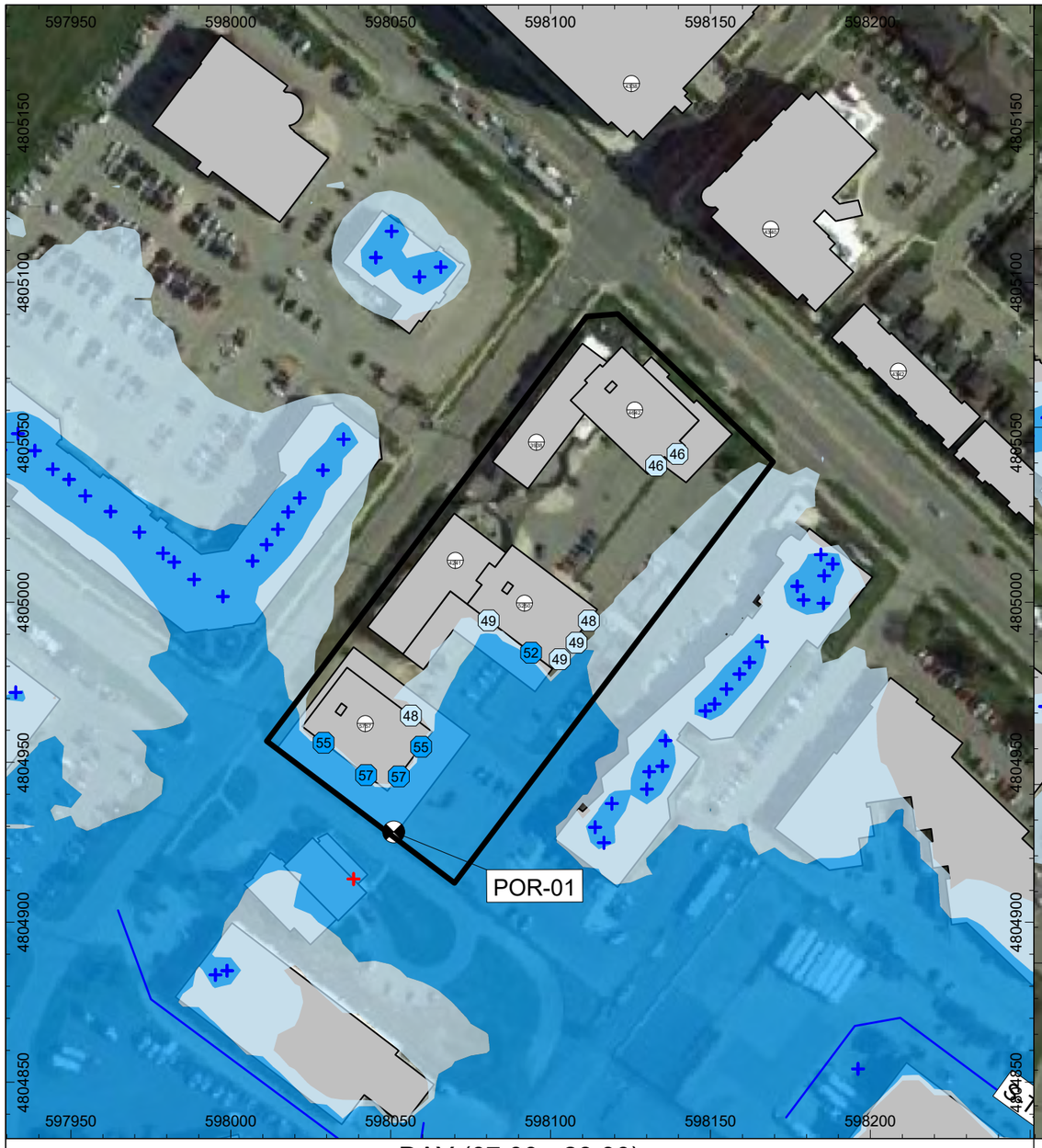
LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

11228027
16.08.2021

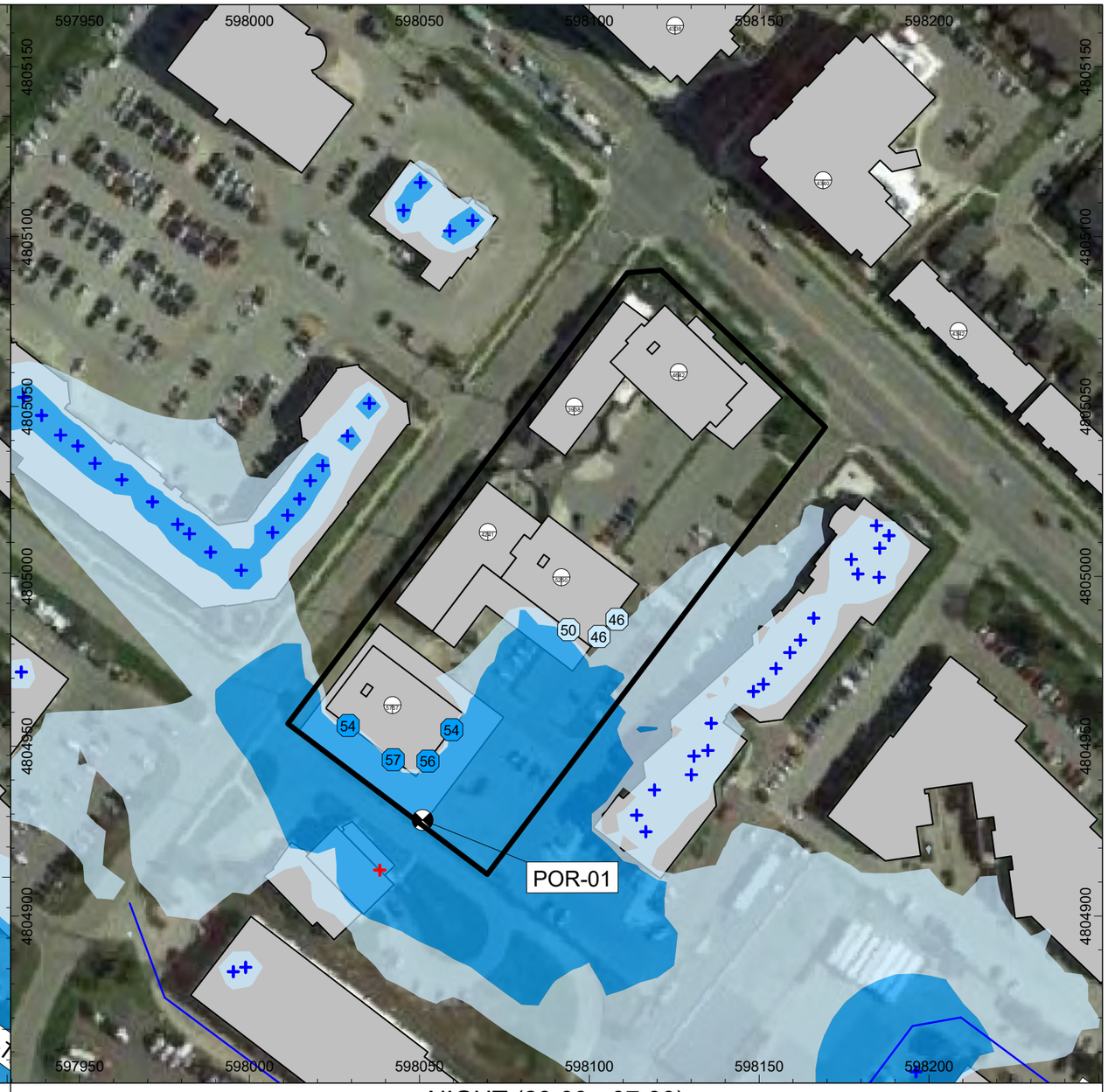
POINT OF RECEPTION LOCATION PLAN

FIGURE B.2

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna



DAY (07:00 - 23:00)



NIGHT (23:00 - 07:00)

Source: Google Satellite

N

Legend

> 45 dBA

> 50 dBA

GHD

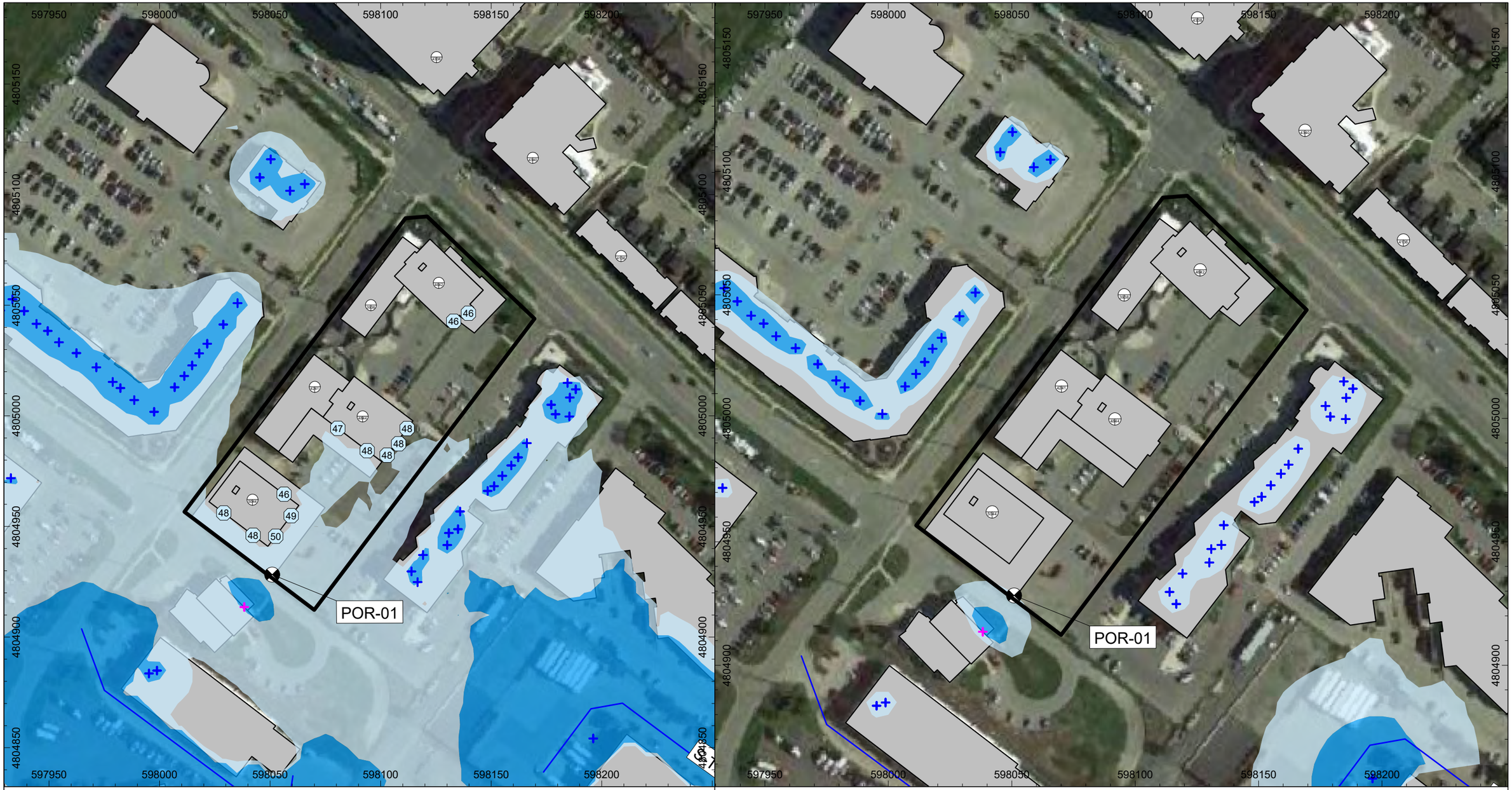
LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

OFF-SITE NOISE CONTOUR PLOT (Steady State, 10.5 m A.G.)

11228027
16.08.2021

FIGURE B.3

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna



DAY (07:00 - 23:00) NIGHT (23:00 - 07:00)

Source: Google Satellite

N

Legend

> 45 dBA

> 50 dBA

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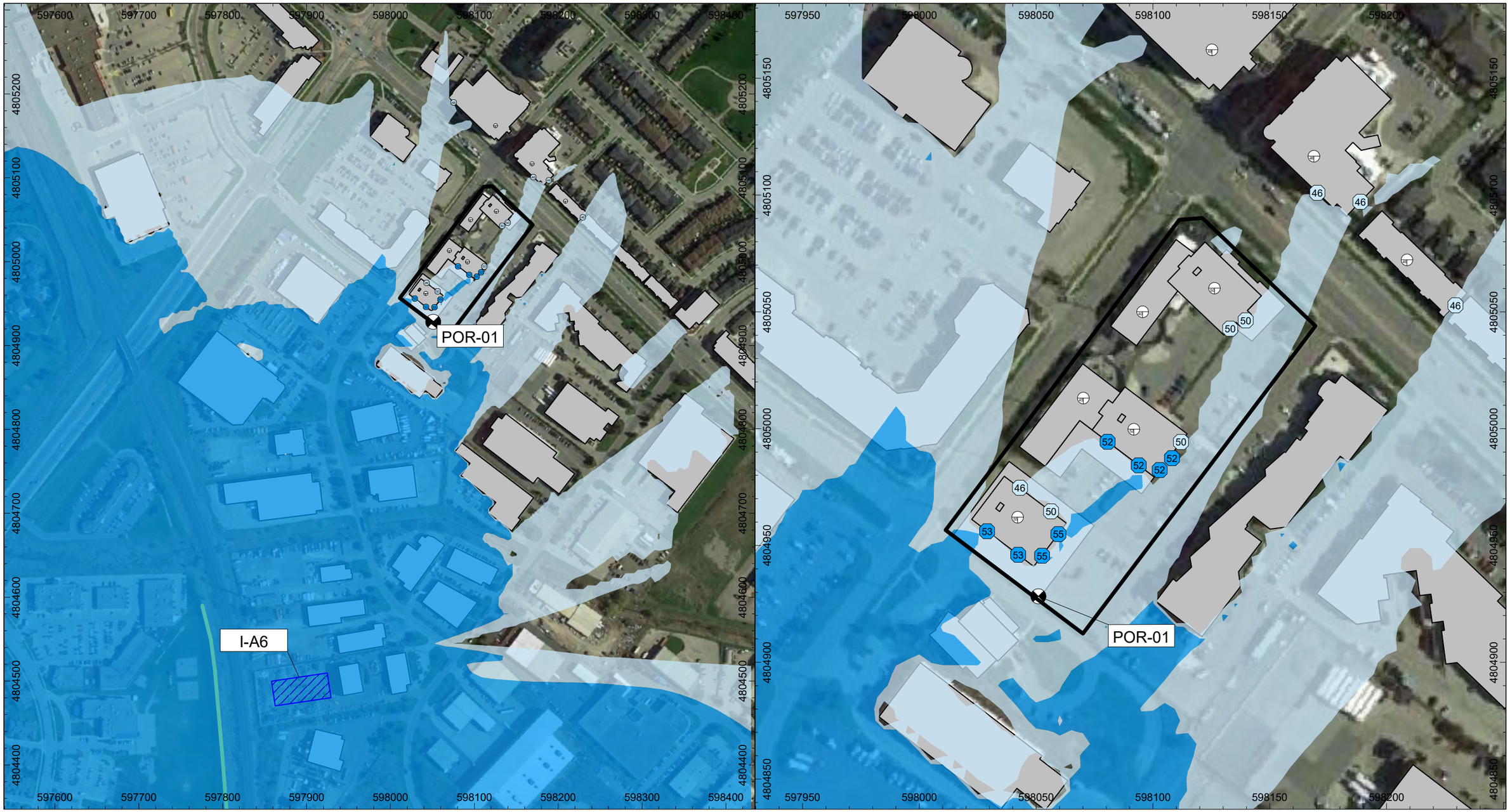
LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

11228027
16.08.2021

OFF-SITE NOISE CONTOUR PLOT MITIGATED (Steady State, 10.5 m A.G.)

FIGURE B.4

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna



Source: Google Satellite

N

Legend

> 45 dBAI

> 50 dBAI

GHD

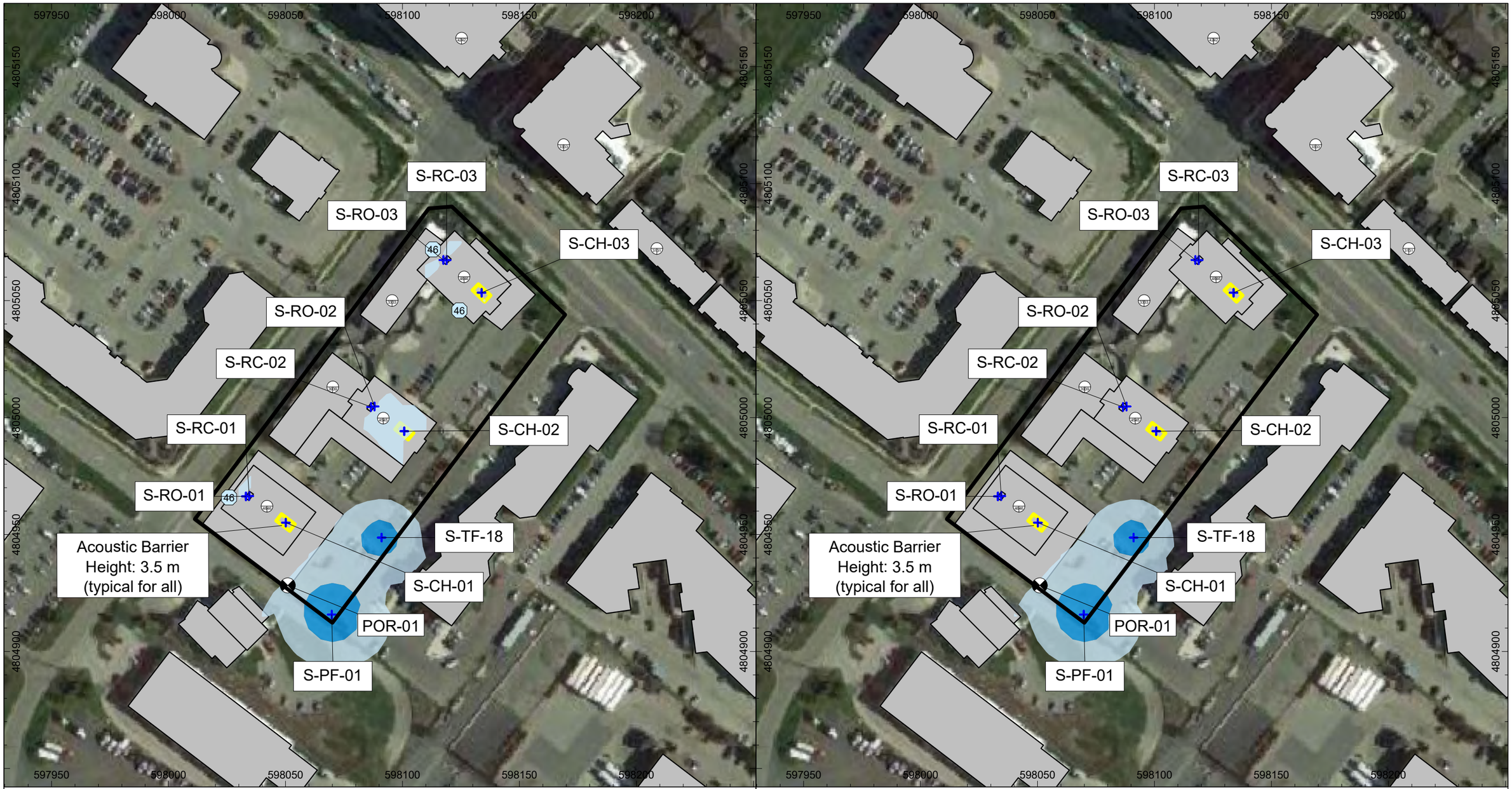
LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

IMPULSE NOISE CONTOUR PLOT (Impulse, Daytime, 10.5 m A.G.)

11228027
16.08.2021

FIGURE B.5

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna



Source: Google Satellite

N

Legend

> 45 dBA

> 50 dBA

GHD

LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

ON-SITE NOISE CONTOUR PLOT (Steady State, 10.5 m A.G.)

11228027
16.08.2021

FIGURE B.6

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna



DAY (07:00 - 23:00) | NIGHT (23:00 - 07:00)

Source: Google Satellite

N

Legend

- > 0 dBA
- > 55 dBA
- > 65 dBA

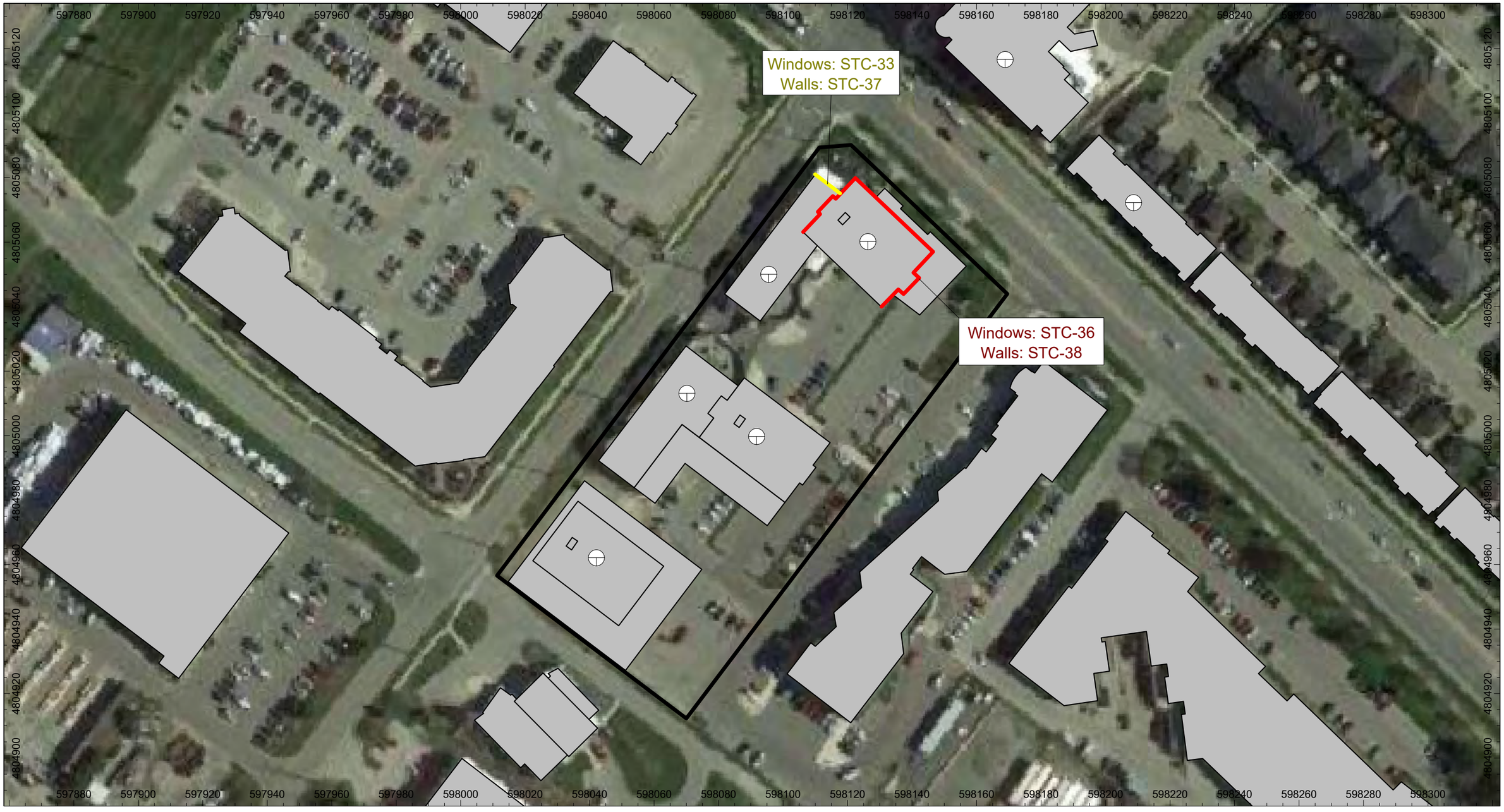
LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

FUTURE ROAD TRAFFIC (Future)

11228027
16.08.2021

FIGURE B.7

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna



Source: Google Satellite

N

GHD

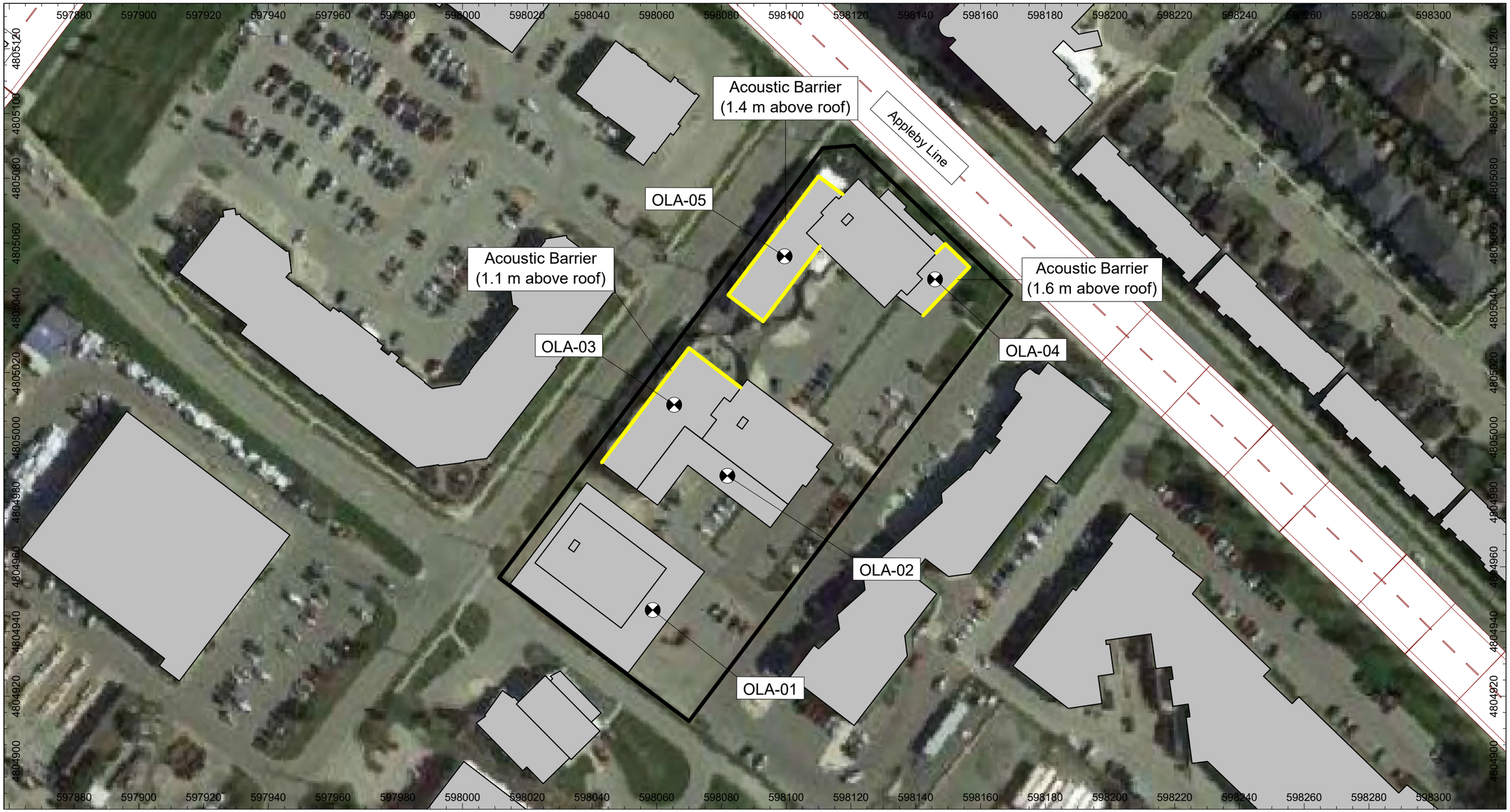
LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

STC WINDOW/WALL REQUIREMENTS

11228027
16.08.2021

FIGURE B.8

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900AppleyLine_v2021.00.cna



Source: Google Satellite

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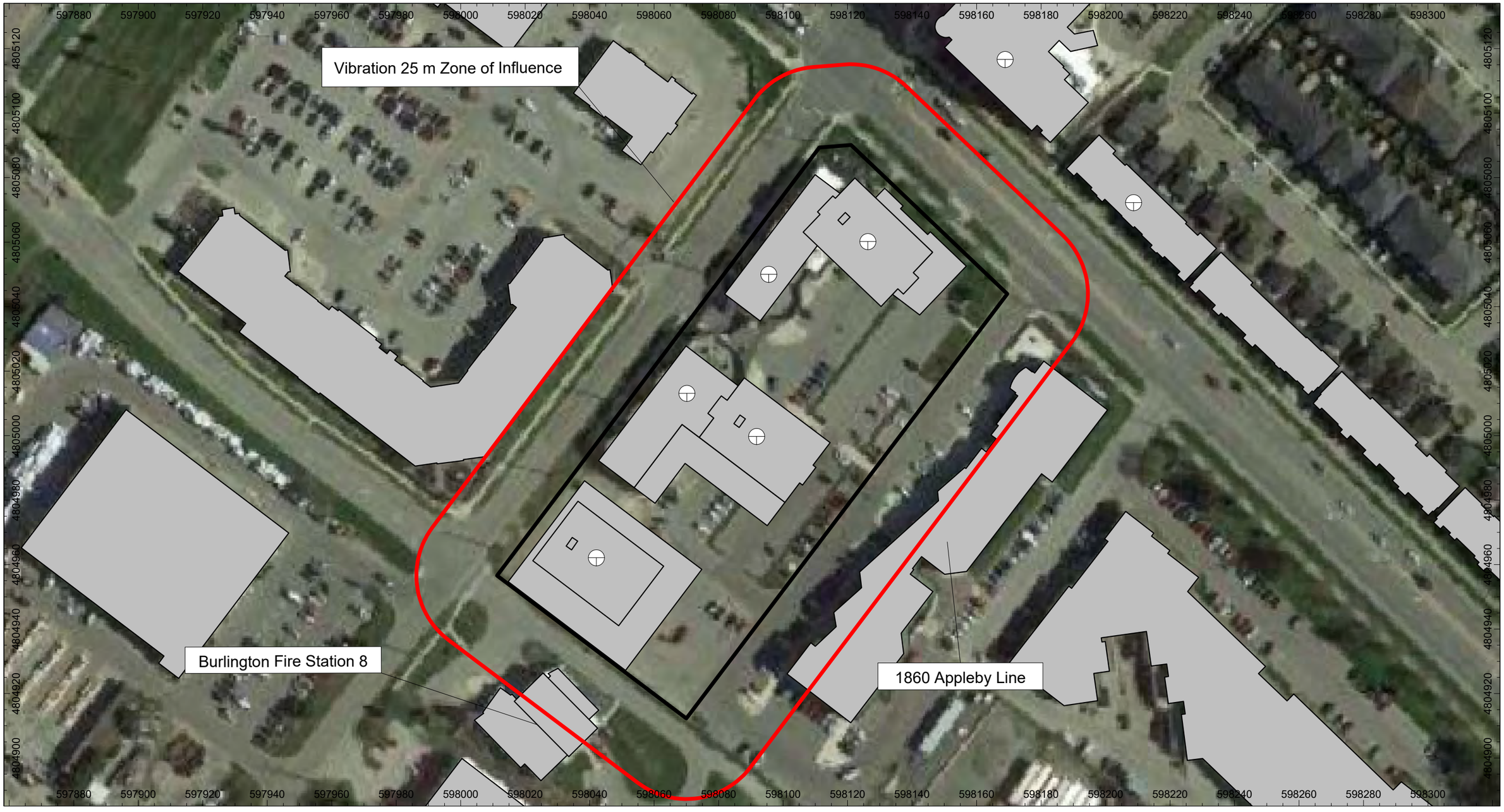
LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

ACOUSTIC BARRIER LOCATIONS

11228027
16.08.2021

FIGURE B.9

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna



Source: Google Satellite

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LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON

CONSTRUCTION VIBRATION ZOI

11228027
16.08.2021

FIGURE B.10

CadnaA File: \\ghdnet\ghd\CA\Waterloo\Projects\662\11228027\Tech\Noise\04_CadnaA\11228027_1900ApplebyLine_v2021.00.cna

Table B.1

Noise Source Summary
LJM Developments
1900 Appleby Line, Burlington, Ontario

Cadna A ID	Source Description	Sound Power Level[1] (dBA)	Source Characteristics[2]	Source Location[3]	Noise Control Measures[4]	Source Type
Steady State Sources						
S-A2	Fire Station Exhaust	96.2	S	O	U	Point
S-EX-01	Excavator Moving Material	111.4	S	O	U	Point
S-FL-01	Forklift	109.9	S	O	U	Line
S-FL-02	Forklift	109.9	S	O	U	Line
S-RU-01	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-02	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-03	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-04	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-05	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-06	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-07	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-08	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-09	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-10	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-11	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-12	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-13	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-14	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-15	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-16	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-17	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-18	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-19	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-20	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-21	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-22	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-23	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-24	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-25	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-26	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-27	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-28	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-29	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-30	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-31	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-32	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-33	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-34	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-35	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-36	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-37	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-38	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-39	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-40	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-41	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-42	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-43	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-44	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-45	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-46	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-47	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-48	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-49	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-50	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-51	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-52	Air Conditioning Unit	76.5	S	O	U	Point
S-RU-53	Air Conditioning Unit	76.5	S	O	U	Point

Table B.1

Noise Source Summary
LJM Developments
1900 Appleby Line, Burlington, Ontario

Cadna A ID	Source Description	Sound Power Level[1] (dBA)	Source Characteristics[2]	Source Location[3]	Noise Control Measures[4]	Source Type
S-RU-54	Air Conditioning Unit	87.6	S	O	U	Point
S-RU-55	Air Conditioning Unit	87.6	S	O	U	Point
S-RU-56	Air Conditioning Unit	76.5	S	O	U	Point
S-SH-01	Shear	110.6	S	O	U	Point
S-TI-01	Idling Truck	91.9	S	O	U	Point
S-TR-01	Truck Route	109.9	S	O	U	Line
S-TR-03	Truck Route	109.9	S	O	U	Line
Impulse Sources						
I-A6	ELG Scrap Dropping	95.7	I	O	U	Area

Notes:

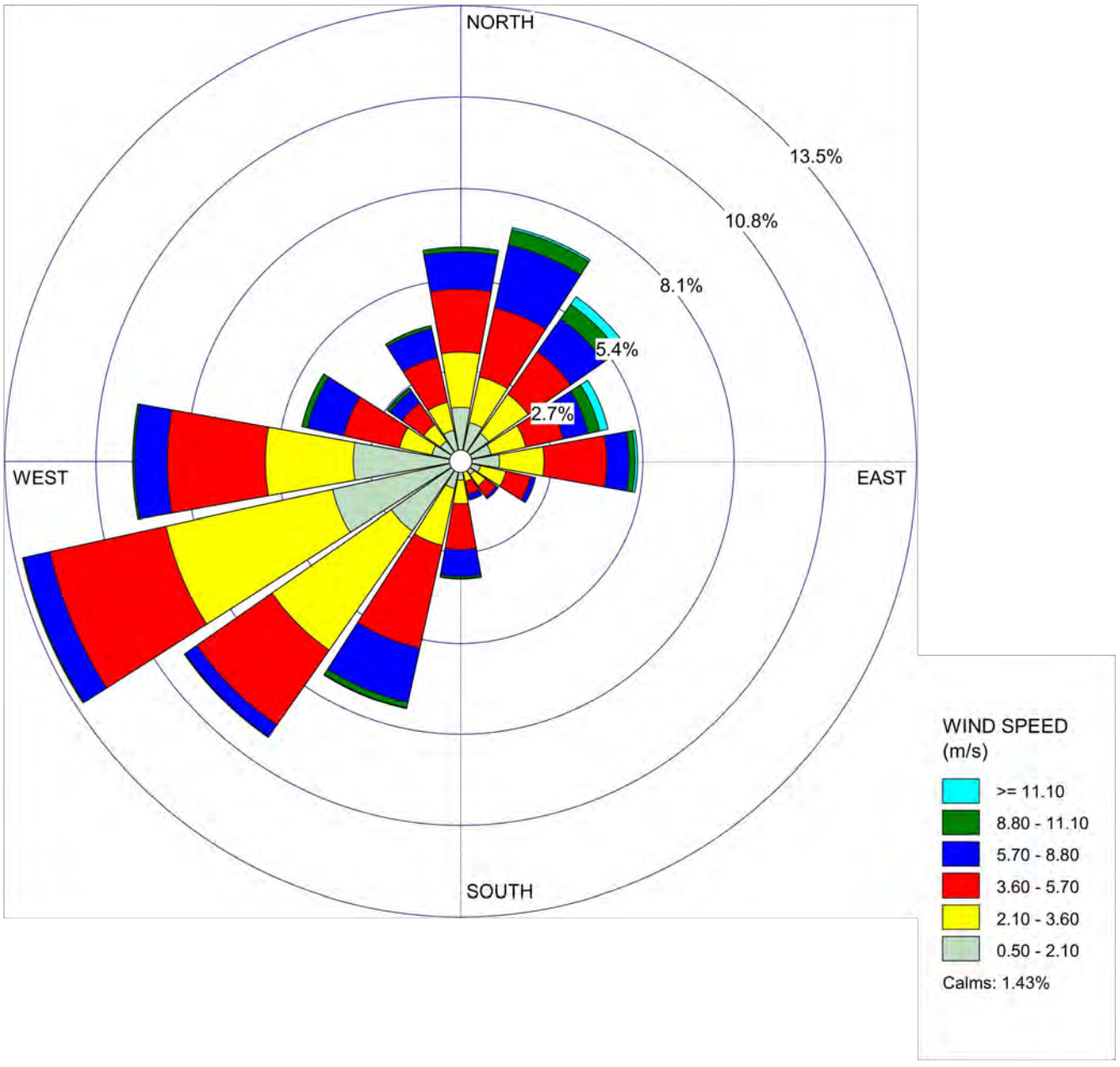
[1] Sound Power Level (PWL) in dBA, excludes +5 dBA total penalty if applicable.
[2] Sound characteristics:
- S – Steady
- Q – Quasi-steady impulsive
- I – Impulsive
- B – Buzzing
- T – Tonal
- C – Cyclic

[3] Source location:
- O – Outside of building
- I – Inside of building

[4] Noise control measures:
- S – Silencer, acoustic louvre, muffler
- A – Acoustic lining, plenum
- B – Barrier, berm, screening
- L – Lagging
- E – Acoustic enclosure
- O – Other
- U – Uncontrolled
- AC – Administrative control

Appendix C

Burlington Wind Rose (2016 - 2021)



LAND USE COMPATIBILITY STUDY
LJM DEVELOPMENTS
1900 APPLEBY LINE, BURLINGTON, ONTARIO

Project No. **11228027**
Date **August 2021**

WIND ROSE PLOT

FIGURE C.1

Filename: N:\CA\Waterloo\Projects\662\11228027\Digital_Design\ACAD\Figures\RPT001\11228027-GHD-0000-RPT-EN-0101_WA-001.dwg
Plot Date: 09 August 2021 2:15 PM

Appendix D

MECP Approvals for Adjacent Land Uses

Content Copy Of Original

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 7910-ANBHPD
Issue Date: June 20, 2017

Walker Emulsions Limited
4365 Corporate Drive
Burlington, Ontario
L7L 5P7

Site Location: 4365 Corporate Drive
Burlington, Ontario

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act , R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

Description Section

An asphalt emulsion, wax emulsion and asphalt cutback manufacturing facility, consisting of the following processes and support units:

- asphalt cement transload activities;
- asphalt, wax and oil emulsion production processes;
- asphalt cutback production process;
- mixing and blending tanks;
- QA/QC laboratory;

including the *Equipment* and any other ancillary and support processes and activities, operating at a *Facility Production Limit* of up to **3,750 tonnes asphalt cement transload, 18,750 tonnes asphalt emulsion, 937 tonnes asphalt cutbacks, 22,475 tonnes wax emulsions and 8,750 tonnes oil emulsions per year** discharging to the air as described in the *Original ESDM Report.*

For the purpose of this environmental compliance approval, the following definitions apply:

1. "*ACB list"* means the document entitled "Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants", as amended from time to time and published by the *Ministry* and available on a Government website;
2. "*Acceptable Point of Impingement Concentration"* means a concentration accepted by the *Ministry* as not likely to cause an adverse effect for a *Compound of Concern* that,
   a. is not identified in the *ACB list,* or
   b. is identified in the *ACB list* as belonging to the category "Benchmark 2" and has a concentration at a *Point of Impingement* that exceeds the concentration set out for the contaminant in that document.

   With respect to the *Original ESDM Report,* the *Acceptable Point of Impingement*

Concentration for a *Compound of Concern* mentioned above is the concentration set out in the *Original ESDM Report;*

3. "*Acoustic Assessment Report"* means the report, prepared in accordance with *Publication NPC-233* and Appendix A of the *Basic Comprehensive User Guide,* by Bhuwan M. Prasad of WSP Canada Inc. and dated January 10, 2016 submitted in support of the application, that documents all sources of noise emissions and *Noise Control Measures* present at the *Facility,* as updated in accordance with Condition 5 of this *Approval;*
4. "*Acoustic Assessment Summary Table"* means a table prepared in accordance with the *Basic Comprehensive User Guide* summarising the results of the *Acoustic Assessment Report,* as updated in accordance with Condition 5 of this *Approval;*
5. "*Activated Carbon Reactors"* means the activated carbon reactors used to adsorb contaminants as described in the *Company's* application, this *Approval* and in the supporting documentation submitted with the Application, to the extent approved by this *Approval*.
6. "*Approval"* means this entire Environmental Compliance Approval and any *Schedules* to it;
7. "*Basic Comprehensive User Guide"* means the *Ministry* document titled "Basic Comprehensive Certificates of Approval (Air) User Guide" dated March 2011, as amended;
8. "*Company"* means **Walker Emulsions Limited** that is responsible for the construction or operation of the *Facility* and includes any successors and assigns in accordance with section 19 of the *EPA;*
9. "*Compound of Concern"* means a contaminant described in paragraph 4 subsection 26 (1) of *O. Reg. 419/05,* namely, a contaminant that is discharged from the *Facility* in an amount that is not negligible;
10. "*Description Section"* means the section on page one of this *Approval* describing the *Company's* operations and the *Equipment* located at the *Facility* and specifying the *Facility Production Limit* for the *Facility;*
11. "*Director"* means a person appointed for the purpose of section 20.3 of the *EPA* by the *Minister* pursuant to section 5 of the *EPA;*
12. "*District Manager"* means the District Manager of the appropriate local district office of the *Ministry,* where the *Facility* is geographically located;
13. "*Emission Summary Table"* means a table described in paragraph 14 of subsection 26 (1) of *O. Reg. 419/05;*
14. "*Environmental Assessment Act"* means the Environmental Assessment Act, R.S.O. 1990, c.E.18, as amended;
15. "*EPA"* means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;
16. "*Equipment"* means equipment or processes described in the *ESDM Report,* this *Approval* and in the *Schedules* referred to herein and any other equipment or processes;
17. "*Equipment with Specific Operational Limits"* means any *Equipment* related to the thermal oxidation of waste or waste derived fuels, fume incinerators or any other *Equipment* that is specifically referenced in any published *Ministry* document that outlines specific operational guidance that must be considered by the *Director* in issuing an *Approval;*
18. "*ESDM Report"* means the most current Emission Summary and Dispersion Modelling Report that describes the *Facility.* The *ESDM Report* is based on the *Original ESDM Report* and is updated after the issuance of this *Approval* in accordance with section 26 of *O. Reg. 419/05* and the *Procedure Document;*
19. "*Exhausted"* means the capacity of the activated carbon to adsorb contaminants is reached and the *Activated Carbon Reactors* are no longer able to effectively adsorb vapours;
20. "*Facility"* means the entire operation located on the property where the *Equipment* is located;

21. "*Facility Production Limit"* means the production limit placed by the *Director* on the main product(s) or raw materials used by the *Facility;*
22. "*Log"* means a document that contains a record of each change that is required to be made to the *ESDM Report* and *Acoustic Assessment Report,* including the date on which the change occurred. For example, a record would have to be made of a more accurate emission rate for a source of contaminant, more accurate meteorological data, a more accurate value of a parameter that is related to a source of contaminant, a change to a *Point of Impingement* and all changes to information associated with a *Modification* to the *Facility* that satisfies Condition 2;
23. "*Minister"* means the Minister of the Environment and Climate Change or such other member of the Executive Council as may be assigned the administration of the *EPA* under the Executive Council Act;
24. "*Ministry"* means the ministry of the *Minister;*
25. "*Modification"* means any construction, alteration, extension or replacement of any plant, structure, equipment, apparatus, mechanism or thing, or alteration of a process or rate of production at the *Facility* that may discharge or alter the rate or manner of discharge of a *Compound of Concern* to the air or discharge or alter noise or vibration emissions from the *Facility;*
26. "*Noise Control Measures"* means measures to reduce the noise emissions from the *Facility* and/or *Equipment* including, but not limited to, silencers, acoustic louvres, enclosures, absorptive treatment, plenums and barriers;
27. "*O. Reg. 419/05"* means Ontario Regulation 419/05, Air Pollution – Local Air Quality, as amended;
28. "*Original ESDM Report"* means the Emission Summary and Dispersion Modelling Report which was prepared in accordance with section 26 of *O. Reg. 419/05* and the *Procedure Document* by David Hofbauer of WSP Canada Inc. and dated June 14, 2017 submitted in support of the application, and includes any changes to the report made up to the date of issuance of this *Approval;*
29. "*Point of Impingement"* has the same meaning as in section 2 of *O. Reg. 419/05;*
30. "*Point of Reception"* means Point of Reception as defined by *Publication NPC-300*;
31. "*Procedure Document"* means *Ministry* guidance document titled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated February 2017, as amended;
32. "*Processes with Significant Environmental Aspects"* means the *Equipment* which, during regular operation, would discharge one or more contaminants into the air in an amount which is not considered as negligible in accordance with section 26 (1) 4 of *O. Reg. 419/05* and the *Procedure Document;*
33. "*Publication NPC-207"* means the *Ministry* draft technical publication "Impulse Vibration in Residential Buildings", November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, published by the *Ministry,* August 1978, as amended;
34. "*Publication NPC-233"* means the *Ministry* Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October, 1995, as amended;
35. "*Publication NPC-300"* means the *Ministry* Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", August 2013, as amended;
36. "*Schedules"* means the following schedules attached to this *Approval* and forming part of this *Approval* namely:
    - Schedule A - Supporting Documentation;
37. "*Toxicologist"* means a qualified professional currently active in the field of risk assessment and

toxicology that has a combination of formal university education, training and experience necessary to assess contaminants; and

38. "*Written Summary Form"* means the electronic questionnaire form, available on the *Ministry* website, and supporting documentation, that documents the activities undertaken at the *Facility* in the previous calendar year.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. **GENERAL**
   1. Except as otherwise provided by this *Approval,* the *Facility* shall be designed, developed, built, operated and maintained in accordance with the terms and conditions of this *Approval* and in accordance with the following *Schedules* attached hereto:
      - Schedule A - Supporting Documentation
2. **LIMITED OPERATIONAL FLEXIBILITY**
   1. Pursuant to section 20.6 (1) of the *EPA* and subject to Conditions 2.2 and 2.3 of this *Approval,* future construction, alterations, extensions or replacements are approved in this *Approval* if the future construction, alterations, extensions or replacements are *Modifications* to the *Facility* that:
      a. are within the scope of the operations of the *Facility* as described in the *Description Section* of this *Approval;*
      b. do not result in an increase of the *Facility Production Limit* above the level specified in the *Description Section* of this *Approval;* and
      c. result in compliance with the performance limits as specified in Condition 4.
   2. Condition 2.1 does not apply to,
      a. the addition of any new *Equipment with Specific Operational Limits* or to the *Modification* of any existing *Equipment with Specific Operational Limits* at the *Facility;* or
      b. *Modifications* to the *Facility* that would be subject to the *Environmental Assessment Act.*
   3. Condition 2.1 of this *Approval* shall expire ten (10) years from the date of this *Approval,* unless this *Approval* is revoked prior to the expiry date. The *Company* may apply for renewal of Condition 2.1 of this *Approval* by including an *ESDM Report* and an *Acoustic Assessment Report* that describes the *Facility* as of the date of the renewal application.
3. **REQUIREMENT TO REQUEST AN *ACCEPTABLE POINT OF IMPINGEMENT CONCENTRATION***
   1. Prior to making a *Modification* to the *Facility* that satisfies Condition 2.1.a. and 2.1.b., the *Company* shall prepare a proposed update to the *ESDM Report* to reflect the proposed *Modification.*
   2. The *Company* shall request approval of an *Acceptable Point of Impingement Concentration* for a *Compound of Concern* if the *Compound of Concern* is not identified in the *ACB list* as belonging to the category "Benchmark 1" and a proposed update to an *ESDM Report* indicates that one of the following changes with respect to the concentration of the *Compound of Concern* may occur:
      a. The *Compound of Concern* was not a *Compound of Concern* in the previous version of the

ESDM Report and

i. the concentration of the *Compound of Concern* exceeds the concentration set out for the contaminant in the *ACB list;* or

ii. the *Compound of Concern* is not identified in the *ACB list;* or

b. The concentration of the *Compound of Concern* in the updated *ESDM Report* exceeds the higher of,

i. the most recent *Acceptable Point of Impingement Concentration,* and

ii. the concentration set out for the contaminant in the *ACB list,* if the contaminant is identified in that document.

3. The request required by Condition 3.2 shall propose a concentration for the *Compound of Concern* and shall contain an assessment, performed by a *Toxicologist,* of the likelihood of the proposed concentration causing an adverse effect at *Points of Impingement.*
4. If the request required by Condition 3.2 is a result of a proposed *Modification* described in Condition 3.1, the *Company* shall submit the request, in writing, to the *Director* at least 30 days prior to commencing to make the *Modification.* The *Director* shall provide written confirmation of receipt of this request to the *Company.*
5. If a request is required to be made under Condition 3.2 in respect of a proposed *Modification* described in Condition 3.1, the *Company* shall not make the *Modification* mentioned in Condition 3.1 unless the request is approved in writing by the *Director.*
6. If the *Director* notifies the *Company* in writing that the *Director* does not approve the request, the *Company* shall,
   a. revise and resubmit the request; or
   b. notify the *Director* that it will not be making the *Modification.*
7. The re-submission mentioned in Condition 3.6 shall be deemed a new submission under Condition 3.2.
8. If the *Director* approves the request, the *Company* shall update the *ESDM Report* to reflect the *Modification.*
9. Condition 3 does not apply if Condition 2.1 has expired.

4. **PERFORMANCE LIMITS**
   1. Subject to Condition 4.2, the *Company* shall not discharge or cause or permit the discharge of a *Compound of Concern* into the air if,
      a. the *Compound of Concern* is identified in the *ACB list* as belonging to the category "Benchmark 1" and the discharge results in the concentration at a *Point of Impingement* exceeding the Benchmark 1 concentration; or
      b. the *Compound of Concern* is not identified in the *ACB list* as belonging to the category "Benchmark 1" and the discharge results in the concentration at a *Point of Impingement* exceeding the higher of,
         i. if an *Acceptable Point of Impingement Concentration* exists, the most recent *Acceptable Point of Impingement Concentration,* and
         ii. the concentration set out for the contaminant in the *ACB list,* if the contaminant is identified in that document.
   2. Condition 4.1 does not apply if the benchmark set out in the *ACB list* has a 10-minute averaging period and no ambient monitor indicates an exceedance at a *Point of Impingement* where human activities regularly occur at a time when those activities regularly occur.
   3. The *Company* shall ensure that the noise emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-300*.
   4. The *Company* shall ensure that the vibration emissions from the *Facility* comply with the limits

set out in *Ministry Publication NPC-207.*

5. The *Company* shall operate any *Equipment with Specific Operational Limits* approved by this *Approval* in accordance with the *Original ESDM Report.*

5. **DOCUMENTATION REQUIREMENTS**
   1. The *Company* shall maintain an up-to-date *Log.*
   2. No later than March 31 in each year, the *Company* shall update the *Acoustic Assessment Report* and shall update the *ESDM Report* in accordance with section 26 of *O. Reg. 419/05* so that the information in the reports is accurate as of December 31 in the previous year.
   3. The *Company* shall make the *Emission Summary Table* (see section 27 of *O. Reg. 419/05)* and *Acoustic Assessment Summary Table* available for examination by any person, without charge, by posting it on the Internet or by making it available during regular business hours at the *Facility.*
   4. The *Company* shall, within three (3) months after the expiry of Condition 2.1 of this *Approval,* update the *ESDM Report* and the *Acoustic Assessment Report* such that the information in the reports is accurate as of the date that Condition 2.1 of this *Approval* expired.
   5. Conditions 5.1 and 5.2 do not apply if Condition 2.1 has expired.

6. **REPORTING REQUIREMENTS**
   1. Subject to Condition 6.2, the *Company* shall provide the *Director* no later than June 30 of each year, a *Written Summary Form* to be submitted through the *Ministry's* website that shall include the following:
      a. a declaration of whether the *Facility* was in compliance with section 9 of the *EPA, O. Reg. 419/05* and the conditions of this *Approval;*
      b. a summary of each *Modification* satisfying Condition 2.1.a. and 2.1.b. that took place in the previous calendar year that resulted in a change in the previously calculated concentration at a *Point of Impingement* for any *Compound of Concern* or resulted in a change in the sound levels reported in the *Acoustic Assessment Summary Table* at any *Point of Reception.*
   2. Condition 6.1 does not apply if Condition 2.1 has expired.

7. **OPERATION AND MAINTENANCE**
   1. The *Company* shall prepare and implement, not later than three (3) months from the date of this *Approval,* operating procedures and maintenance programs for all *Processes with Significant Environmental Aspects,* which shall specify as a minimum:
      a. frequency of inspections and scheduled preventative maintenance;
      b. procedures to prevent upset conditions;
      c. procedures to minimize all fugitive emissions;
      d. procedures to prevent and/or minimize odorous emissions;
      e. procedures to prevent and/or minimize noise emissions; and
      f. procedures for record keeping activities relating to the operation and maintenance programs.
   2. The *Company* shall ensure that all *Processes with Significant Environmental Aspects* are operated and maintained in accordance with this *Approval,* the operating procedures and maintenance programs;
   3. The *Company* shall monitor the operational parameters of the *Activated Carbon Reactors*, either as specified in the manual of the *Activated Carbon Reactor* manufacturer, or as deemed necessary in accordance with *Facility* operational conditions. The results of monitoring these parameters shall be manually or digitally recorded in a log.
   4. The *Company* shall ensure that the activated carbon in the *Activated Carbon Reactors* is replaced before it is *Exhausted*
   5. The *Company* shall prepare and implement procedures to monitor and keep a daily record of

all asphalt product storage tanks temperature, to ensure that storage tanks do not operate above the maximum operating temperature described in the *ESDM Report.*

8. **COMPLAINTS RECORDING AND REPORTING**
    1. If at any time, the *Company* receives an environmental complaint from the public regarding the operation of the *Equipment* approved by this *Approval,* the *Company* shall take the following steps:
        a. Record and number each complaint, either electronically or in a log book. The record shall include the following information: the time and date of the complaint and incident to which the complaint relates, the nature of the complaint, wind direction at the time and date of the incident to which the complaint relates and, if known, the address of the complainant.
        b. Notify the *District Manager* of the complaint within two (2) business days after the complaint is received, or in a manner acceptable to the *District Manager.*
        c. Initiate appropriate steps to determine all possible causes of the complaint, and take the necessary actions to appropriately deal with the cause of the subject matter of the complaint.
        d. Complete and retain on-site a report written within one (1) week of the complaint date. The report shall list the actions taken to appropriately deal with the cause of the complaint and set out steps to be taken to avoid the recurrence of similar incidents.
9. **RECORD KEEPING REQUIREMENTS**
    1. Any information requested by any employee in or agent of the *Ministry* concerning the *Facility* and its operation under this *Approval,* including, but not limited to, any records required to be kept by this *Approval,* shall be provided to the employee in or agent of the *Ministry,* upon request**,** in a timely manner.
    2. Unless otherwise specified in this *Approval,* the *Company* shall retain, for a minimum of five (5) years from the date of their creation all reports, records and information described in this *Approval,* including,
        a. a copy of the *Original ESDM Report* and each updated version*;*
        b. a copy of each version of the *Acoustic Assessment Report;*
        c. supporting information used in the emission rate calculations performed in the *ESDM Reports* and *Acoustic Assessment Reports;*
        d. the records in the *Log;*
        e. copies of each *Written Summary Form* provided to the *Ministry* under Condition 6.1 of this *Approval;*
        f. records of maintenance, repair and inspection of *Equipment* related to all *Processes with Significant Environmental Aspects;* and
        g. all records related to environmental complaints made by the public as required by Condition 8 of this *Approval.*
10. **REVOCATION OF PREVIOUS APPROVALS**
    1. This *Approval* replaces and revokes all Certificates of Approval (Air) issued under section 9 *EPA* and Environmental Compliance Approvals issued under Part II.1 *EPA* to the *Facility* in regards to the activities mentioned in subsection 9(1) of the *EPA* and dated prior to the date of this *Approval.*

SCHEDULE A

Supporting Documentation

1. Environmental Compliance Approval Application, dated October 12, 2011, signed by Scott Hurley and submitted by the *Company;*

2. Emission Summary and Dispersion Modelling Report, prepared by David Hofbauer of WSP Canada Inc. and dated June 14, 2017; and
3. *Acoustic Assessment Report,* prepared by Bhuwan M. Prasad of WSP Canada Inc. and dated January 10, 2016.

The reasons for the imposition of these terms and conditions are as follows:

1. **GENERAL**
   Condition No. 1 is included to require the *Approval* holder to build, operate and maintain the *Facility* in accordance with the Supporting Documentation in Schedule A considered by the *Director* in issuing this *Approval.*
2. **LIMITED OPERATIONAL FLEXIBILITY, REQUIREMENT TO REQUEST AN *ACCEPTABLE POINT OF IMPINGEMENT CONCENTRATION* AND PERFORMANCE LIMITS**
   Conditions No. 2, 3 and 4 are included to limit and define the *Modifications* permitted by this *Approval,* and to set out the circumstances in which the *Company* shall request approval of an *Acceptable Point of Impingement Concentration* prior to making *Modifications.* The holder of the *Approval* is approved for operational flexibility for the *Facility* that is consistent with the description of the operations included with the application up to the *Facility Production Limit.* In return for the operational flexibility, the *Approval* places performance based limits that cannot be exceeded under the terms of this *Approval. Approval* holders will still have to obtain other relevant approvals required to operate the *Facility,* including requirements under other environmental legislation such as the *Environmental Assessment Act.*
3. **DOCUMENTATION REQUIREMENTS**
   Condition No. 5 is included to require the *Company* to maintain ongoing documentation that demonstrates compliance with the performance limits as specified in Condition 4 of this *Approval* and allows the *Ministry* to monitor on-going compliance with these performance limits. The *Company* is required to have an up to date *ESDM Report* and *Acoustic Assessment Report* that describe the *Facility* at all times and make the *Emission Summary Table* and *Acoustic Assessment Summary Table* from these reports available to the public on an ongoing basis in order to maintain public communication with regard to the emissions from the *Facility.*
4. **REPORTING REQUIREMENTS**
   Condition No. 6 is included to require the *Company* to provide a yearly *Written Summary Form* to the *Ministry,* to assist the *Ministry* with the review of the site's compliance with the *EPA,* the regulations and this *Approval.*
5. **OPERATION AND MAINTENANCE**
   Condition No. 7 is included to require the *Company* to properly operate and maintain the *Processes with Significant Environmental Aspects* to minimize the impact to the environment from these processes.
6. **COMPLAINTS RECORDING AND REPORTING PROCEDURE**
   Condition No. 8 is included to require the *Company* to respond to any environmental complaints regarding the operation of the *Equipment,* according to a procedure that includes methods for preventing recurrence of similar incidents and a requirement to prepare and retain a written report.
7. **RECORD KEEPING REQUIREMENTS**
   Condition No. 9 is included to require the *Company* to retain all documentation related to this

Approval and provide access to employees in or agents of the *Ministry,* upon request, so that the *Ministry* can determine if a more detailed review of compliance with the performance limits as specified in Condition 4 of this *Approval* is necessary.

8. **REVOCATION OF PREVIOUS APPROVALS**
   Condition No. 10 is included to identify that this *Approval* replaces all Section 9 Certificate(s) of Approval and Part II.1 Approvals in regards to the activities mentioned in subsection 9(1) of the *EPA* and dated prior to the date of this *Approval.*

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 8861-88EJWU issued on August 30, 2010.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993, S.O. 1993, c. 28 (Environmental Bill of Rights), the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Environmental Commissioner
1075 Bay Street, Suite 605
Toronto, Ontario
M5S 2B1

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act
Ministry of the Environment and Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or** www.ert.gov.on.ca

This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ebr.gov.on.ca*, you can determine when the leave to appeal period ends.*

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 20th day of June, 2017

Rudolf Wan, P.Eng.
Director
appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

MS/
c: District Manager, MOECC Halton-Peel
David Hofbauer, WSP Canada Inc.

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Ontario

Ministry of the Environment
Ministère de l'Environnement

CERTIFICATE OF APPROVAL
AIR
NUMBER 8275-8M7QJU
Issue Date: September 30, 2011

O'Brien Installations Limited
4435 Corporate Drive
Burlington, Ontario
L7L 5T9

Site Location: 4435 Corporate Drive
Burlington City, Regional Municipality of Halton, Ontario

You have applied in accordance with Section 9 of the Environmental Protection Act for approval of:

- one (1) paint spray booth operating less than 10 hours per week for the application of solvent based coatings at a maximum rate of 8 litres per hour, equipped with one (1) natural gas fired air make up unit having a maximum thermal input of 2,553,236 kilojoules per hour and 12.75 square metres of dry type paint arrestor filters, exhausting into the atmosphere through two (2) stacks, each equipped with a velocity cone, each at a volumetric flow rate of 5.19 cubic metres per second, having an exit diameter of 0.63 metre, extending 2 metres above the roof and 12.63 metres above grade;

all in accordance with the Application for Approval (Air & Noise) dated November 15, 2010 and signed by Randy Mullin, (Plant Manager), O'Brien Installations Limited, and all supporting information associated with the application including the Emission Summary and Dispersion Modelling Report prepared by United Spray Booths Ltd., dated November 15, 2010, and signed by R. Ahmed, P.Eng.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

(1) "Act" means the *Environmental Protection Act;*

(2) "Certificate" means this Certificate of Approval issued in accordance with the Act;

(3) "District Manager" means the District Manager, Halton-Peel District Office, Central Region of the Ministry;

(4) "Equipment" means the paint spray booth described in the Owner's application, this Certificate and in the supporting documentation referred to herein, to the extent approved by this Certificate;

(5) "Manual" means a document or a set of documents that provide written instructions to staff of the Owner;

(6) "Ministry" means the Ontario Ministry of the Environment; and

(7) "Owner" means O'Brien Installations Limited, and includes its successors and assignees.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

GENERAL

1. Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the

Equipment in accordance with the description given in this Certificate, application for approval of the Equipment and the submitted supporting documents and plans and specifications as listed in this Certificate.

2. Where there is a conflict between a provision of any submitted document referred to in this Certificate and the Conditions of this Certificate, the Conditions in this Certificate shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

OPERATION AND MAINTENANCE

3. The Owner shall ensure that the Equipment is properly operated and maintained at all times. The Owner shall:

(1) prepare, not later than three (3) months after the date of this Certificate, and update as necessary, a Manual outlining the operating procedures and a maintenance program for the Equipment, including:

(a) routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;

(b) emergency procedures;

(c) procedures for any record keeping activities relating to operation and maintenance of the Equipment;

(d) the frequency of inspection and replacement of the filter material in the Equipment;

(e) procedures for recording and responding to environmental complaints; and

(f) appropriate measures to minimize odorous emissions from all potential sources.

(2) implement the recommendations of the operating and maintenance Manual.

RECORD RETENTION

4. The Owner shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this Certificate. These records as well as the Manual shall be made available to staff of the Ministry upon request. The Owner shall retain:

(1) all records on the maintenance, repair and inspection of the Equipment; and

(2) all records on the environmental complaints, including:

(a) a description, time and date of each incident;

(b) operating conditions (e.g. the product name(s) being sprayed, any upset conditions, etc.) at the time of the incident; and

(c) a description of the measures taken to address the cause of the incident and to prevent a similar occurrence in the future.

NOTIFICATION OF COMPLAINTS

5. The Owner shall notify the District Manager, in writing, of each environmental complaint and the measures taken to address the cause of the complaint within five (5) business days of the complaint.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition Nos. 1 and 2 are imposed to ensure that the Equipment is built and operated in the manner in which it was described for review and upon which approval was granted. These conditions are also included to emphasize the

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precedence of Conditions in the Certificate and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.

2. Condition No. 3 is included to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the Act, the regulations and this Certificate.

3. Condition No. 4 is included to require the Owner to keep records and provide information to staff of the Ministry so that compliance with the Act, the regulations and this Certificate can be verified.

4. Condition No. 5 is included to require the Owner to notify staff of the Ministry so that compliance with the Act, the regulations and this Certificate can be verified.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

AND

The Director
Section 9, *Environmental Protection Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca**

The above noted works are approved under Section 9 of the Environmental Protection Act.

DATED AT TORONTO this 30th day of September, 2011

Sherif Hegazy, P.Eng.
Director
Section 9, *Environmental Protection Act*

TT/
c: District Manager, MOE Halton-Peel District Office
R. Ahmed, P.Eng., United Spray Booths Ltd.

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 7900-B6XUSM
Issue Date: December 11, 2018

Metrican Stamping Co. Inc.
1380 Artisans Court
Burlington, Ontario
L7L 5Y2

Site Location: Metrican Stamping Co. Inc.
1380 Artisans Crt
Burlington City, Regional Municipality of Halton
L7L 5Y2

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act , R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

Description Section

An automotive parts stamping facility, consisting of the following processes and support units:

- mechanical stamping;
- mild steel welding;
- shipping;

including the Equipment, processes and any other ancillary and support processes and activities, **operating at a maximum production rate of up to 30,000,000 kilograms of metal automotive parts per year** , exhausting to the atmosphere as described in the *Original ESDM Report* .

For the purpose of this environmental compliance approval, the following definitions apply:

1. "*ACB list"* means the document entitled "Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants", as amended from time to time and published by the *Ministry* and available on a Government website;
2. "*Acceptable Point of Impingement Concentration"* means a concentration accepted by the *Ministry* as not likely to cause an adverse effect for a *Compound*

of Concern that,

a. is not identified in the *ACB list,* or

b. is identified in the *ACB list* as belonging to the category “Benchmark 2” and has a concentration at a *Point of Impingement* that exceeds the concentration set out for the contaminant in that document.
With respect to the *Original ESDM Report,* the *Acceptable Point of Impingement Concentration* for a *Compound of Concern* mentioned above is the concentration set out in the *Original ESDM Report;*

3. "*Acoustic Assessment Report"* means the report, prepared in accordance with *Publication NPC-233* and Appendix A of the *Basic Comprehensive User Guide,* by Gavin Moore of GHD and dated January 12, 2018 submitted in support of the application, that documents all sources of noise emissions and *Noise Control Measures* present at the *Facility,* as updated in accordance with Condition 5 of this *Approval;*
4. "*Acoustic Assessment Summary Table"* means a table prepared in accordance with the *Basic Comprehensive User Guide* summarising the results of the *Acoustic Assessment Report,* as updated in accordance with Condition 5 of this *Approval;*
5. "*Approval"* means this entire Environmental Compliance Approval and any *Schedules* to it;
6. "*Basic Comprehensive User Guide"* means the *Ministry* document titled "Basic Comprehensive Certificates of Approval (Air) User Guide” dated March 2011, as amended;
7. "*Company"* means Metrican Stamping Co. Inc. that is responsible for the construction or operation of the *Facility* and includes any successors and assigns in accordance with section 19 of the *EPA;*
8. "*Compound of Concern"* means a contaminant described in paragraph 4 subsection 26 (1) of *O. Reg. 419/05,* namely, a contaminant that is discharged from the *Facility* in an amount that is not negligible;
9. "*Description Section"* means the section on page one of this *Approval* describing the *Company's* operations and the *Equipment* located at the *Facility* and specifying the *Facility Production Limit* for the *Facility;*
10. "*Director"* means a person appointed for the purpose of section 20.3 of the *EPA* by the *Minister* pursuant to section 5 of the *EPA;*
11. "*District Manager"* means the District Manager of the appropriate local district office of the *Ministry,* where the *Facility* is geographically located;
12. "*Emission Summary Table"* means a table described in paragraph 14 of subsection 26 (1) of *O. Reg. 419/05;*

13. "*Environmental Assessment Act"* means the Environmental Assessment Act, R.S.O. 1990, c.E.18, as amended;
14. "*EPA"* means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;
15. "*Equipment"* means equipment or processes described in the *ESDM Report,* this *Approval* and in the *Schedules* referred to herein and any other equipment or processes;
16. "*Equipment with Specific Operational Limits"* means any *Equipment* related to the thermal oxidation of waste or waste derived fuels, fume incinerators or any other *Equipment* that is specifically referenced in any published *Ministry* document that outlines specific operational guidance that must be considered by the *Director* in issuing an *Approval;*
17. "*ESDM Report"* means the most current Emission Summary and Dispersion Modelling Report that describes the *Facility.* The *ESDM Report* is based on the *Original ESDM Report* and is updated after the issuance of this *Approval* in accordance with section 26 of *O. Reg. 419/05* and the *Procedure Document;*
18. "*Facility"* means the entire operation located on the property where the *Equipment* is located;
19. "*Facility Production Limit"* means the production limit placed by the *Director* on the main product(s) or raw materials used by the *Facility;*
20. "*Log"* means a document that contains a record of each change that is required to be made to the *ESDM Report* and *Acoustic Assessment Report,* including the date on which the change occurred. For example, a record would have to be made of a more accurate emission rate for a source of contaminant, more accurate meteorological data, a more accurate value of a parameter that is related to a source of contaminant, a change to a *Point of Impingement* and all changes to information associated with a *Modification* to the *Facility* that satisfies Condition 2;
21. "*Minister"* means the Minister of the Environment, Conservation and Parks or such other member of the Executive Council as may be assigned the administration of the *EPA* under the Executive Council Act;
22. "*Ministry"* means the ministry of the *Minister;*
23. "*Modification"* means any construction, alteration, extension or replacement of any plant, structure, equipment, apparatus, mechanism or thing, or alteration of a process or rate of production at the *Facility* that may discharge or alter the rate or manner of discharge of a *Compound of Concern* to the air or discharge or alter noise or vibration emissions from the *Facility;*
24. "*Noise Control Measures"* means measures to reduce the noise emissions from

the *Facility* and/or *Equipment* including, but not limited to, silencers, acoustic louvres, enclosures, absorptive treatment, plenums and barriers;

25. "*O. Reg. 419/05"* means Ontario Regulation 419/05, Air Pollution – Local Air Quality, as amended;
26. "*Original ESDM Report"* means the Emission Summary and Dispersion Modelling Report which was prepared in accordance with section 26 of *O. Reg. 419/05* and the *Procedure Document* by Gavin Moore / GHD Limited and dated January 11, 2018, submitted in support of the application, and includes any changes to the report made up to the date of issuance of this *Approval;*
27. "*Point of Impingement"* has the same meaning as in section 2 of *O. Reg. 419/05;*
28. "*Point of Reception"* means Point of Reception as defined by *Publication NPC-300;*
29. "*Procedure Document"* means *Ministry* guidance document titled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated February 2017, as amended;
30. "*Processes with Significant Environmental Aspects"* means the *Equipment* which, during regular operation, would discharge one or more contaminants into the air in an amount which is not considered as negligible in accordance with section 26 (1) 4 of *O. Reg. 419/05* and the *Procedure Document;*
31. "*Publication NPC-207"* means the *Ministry* draft technical publication "Impulse Vibration in Residential Buildings", November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, published by the *Ministry,* August 1978, as amended;
32. "*Publication NPC-233"* means the *Ministry* Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October, 1995, as amended;
33. "*Publication NPC-300"* means the *Ministry* Publication NPC-300, “Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300”, August 2013, as amended;
34. "*Schedules"* means the following schedules attached to this *Approval* and forming part of this *Approval* namely: Schedule A - Supporting Documentation;
35. "*Toxicologist"* means a qualified professional currently active in the field of risk assessment and toxicology that has a combination of formal university education, training and experience necessary to assess contaminants; and
36. "*Written Summary Form"* means the electronic questionnaire form, available on the *Ministry* website, and supporting documentation, that documents the activities undertaken at the *Facility* in the previous calendar year.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. **GENERAL**
    1. Except as otherwise provided by this *Approval,* the *Facility* shall be designed, developed, built, operated and maintained in accordance with the terms and conditions of this *Approval* and in accordance with the following *Schedules* attached hereto: Schedule A - Supporting Documentation.

2. **LIMITED OPERATIONAL FLEXIBILITY**
    1. Pursuant to section 20.6 (1) of the *EPA* and subject to Conditions 2.2 and 2.3 of this *Approval,* future construction, alterations, extensions or replacements are approved in this *Approval* if the future construction, alterations, extensions or replacements are *Modifications* to the *Facility* that:
        a. are within the scope of the operations of the *Facility* as described in the *Description Section* of this *Approval;*
        b. do not result in an increase of the *Facility Production Limit* above the level specified in the *Description Section* of this *Approval;* and
        c. result in compliance with the performance limits as specified in Condition 4.
    2. Condition 2.1 does not apply to,
        a. the addition of any new *Equipment with Specific Operational Limits* or to the *Modification* of any existing *Equipment with Specific Operational Limits* at the *Facility;* or
        b. *Modifications* to the *Facility* that would be subject to the *Environmental Assessment Act.*
    3. Condition 2.1 of this *Approval* shall expire ten (10) years from the date of this *Approval,* unless this *Approval* is revoked prior to the expiry date. The *Company* may apply for renewal of Condition 2.1 of this *Approval* by including an *ESDM Report* and an *Acoustic Assessment Report* that describes the *Facility* as of the date of the renewal application.

3. **REQUIREMENT TO REQUEST AN *ACCEPTABLE POINT OF IMPINGEMENT CONCENTRATION***
    1. Prior to making a *Modification* to the *Facility* that satisfies Condition 2.1.a. and 2.1.b., the *Company* shall prepare a proposed update to the *ESDM Report* to reflect the proposed *Modification.*

2. The *Company* shall request approval of an *Acceptable Point of Impingement Concentration* for a *Compound of Concern* if the *Compound of Concern* is not identified in the *ACB list* as belonging to the category “Benchmark 1” and a proposed update to an *ESDM Report* indicates that one of the following changes with respect to the concentration of the *Compound of Concern* may occur:
    a. The *Compound of Concern* was not a *Compound of Concern* in the previous version of the *ESDM Report* and
        i. the concentration of the *Compound of Concern* exceeds the concentration set out for the contaminant in the *ACB list;* or
        ii. the *Compound of Concern* is not identified in the *ACB list;* or
    b. The concentration of the *Compound of Concern* in the updated *ESDM Report* exceeds the higher of,
        i. the most recent *Acceptable Point of Impingement Concentration,* and
        ii. the concentration set out for the contaminant in the *ACB list,* if the contaminant is identified in that document.

3. The request required by Condition 3.2 shall propose a concentration for the *Compound of Concern* and shall contain an assessment, performed by a *Toxicologist,* of the likelihood of the proposed concentration causing an adverse effect at *Points of Impingement.*
4. If the request required by Condition 3.2 is a result of a proposed *Modification* described in Condition 3.1, the *Company* shall submit the request, in writing, to the *Director* at least 30 days prior to commencing to make the *Modification.* The *Director* shall provide written confirmation of receipt of this request to the *Company.*
5. If a request is required to be made under Condition 3.2 in respect of a proposed *Modification* described in Condition 3.1, the *Company* shall not make the *Modification* mentioned in Condition 3.1 unless the request is approved in writing by the *Director.*
6. If the *Director* notifies the *Company* in writing that the *Director* does not approve the request, the *Company* shall,
    a. revise and resubmit the request; or
    b. notify the *Director* that it will not be making the *Modification.*
7. The re-submission mentioned in Condition 3.6 shall be deemed a new submission under Condition 3.2.

8. If the *Director* approves the request, the *Company* shall update the *ESDM Report* to reflect the *Modification.*
9. Condition 3 does not apply if Condition 2.1 has expired.

4. **PERFORMANCE LIMITS**
    1. Subject to Condition 4.2, the *Company* shall not discharge or cause or permit the discharge of a *Compound of Concern* into the air if,
        a. the *Compound of Concern* is identified in the *ACB list* as belonging to the category "Benchmark 1" and the discharge results in the concentration at a *Point of Impingement* exceeding the Benchmark 1 concentration; or
        b. the *Compound of Concern* is not identified in the *ACB list* as belonging to the category “Benchmark 1” and the discharge results in the concentration at a *Point of Impingement* exceeding the higher of,
            i. if an *Acceptable Point of Impingement Concentration* exists, the most recent *Acceptable Point of Impingement Concentration,* and
            ii. the concentration set out for the contaminant in the *ACB list,* if the contaminant is identified in that document.
    2. Condition 4.1 does not apply if the benchmark set out in the *ACB list* has a 10-minute averaging period and no ambient monitor indicates an exceedance at a *Point of Impingement* where human activities regularly occur at a time when those activities regularly occur.
    3. The *Company* shall ensure that the noise emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-300.*
    4. The *Company* shall ensure that the vibration emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-207.*
    5. The *Company* shall operate any *Equipment with Specific Operational Limits* approved by this *Approval* in accordance with the *Original ESDM Report.*

5. **DOCUMENTATION REQUIREMENTS**
    1. The *Company* shall maintain an up-to-date *Log.*
    2. No later than June 30 in each year, the *Company* shall update the *Acoustic Assessment Report* and shall update the *ESDM Report* in accordance with section 26 of *O. Reg. 419/05* so that the information in the reports is accurate as of December 31 in the previous year.
    3. The *Company* shall make the *Emission Summary Table* (see section 27 of *O. Reg. 419/05)* and *Acoustic Assessment Summary Table* available for examination by any person, without charge, by posting it on the Internet or by

making it available during regular business hours at the *Facility.*

4. The *Company* shall, within three (3) months after the expiry of Condition 2.1 of this *Approval,* update the *ESDM Report* and the *Acoustic Assessment Report* such that the information in the reports is accurate as of the date that Condition 2.1 of this *Approval* expired.
5. Conditions 5.1 and 5.2 do not apply if Condition 2.1 has expired.

6. **REPORTING REQUIREMENTS**
    1. Subject to Condition 6.2, the *Company* shall provide the *Director* no later than August 31 of each year, a *Written Summary Form* to be submitted through the *Ministry's* website that shall include the following:
        a. a declaration of whether the *Facility* was in compliance with section 9 of the *EPA, O. Reg. 419/05* and the conditions of this *Approval;*
        b. a summary of each *Modification* satisfying Condition 2.1.a. and 2.1.b. that took place in the previous calendar year that resulted in a change in the previously calculated concentration at a *Point of Impingement* for any *Compound of Concern* or resulted in a change in the sound levels reported in the *Acoustic Assessment Summary Table* at any *Point of Reception.*
    2. Condition 6.1 does not apply if Condition 2.1 has expired.

7. **OPERATION AND MAINTENANCE**
    1. The *Company* shall prepare and implement, not later than three (3) months from the date of this *Approval,* operating procedures and maintenance programs for all *Processes with Significant Environmental Aspects,* which shall specify as a minimum:
        a. frequency of inspections and scheduled preventative maintenance;
        b. procedures to prevent upset conditions;
        c. procedures to minimize all fugitive emissions;
        d. procedures to prevent and/or minimize odorous emissions;
        e. procedures to prevent and/or minimize noise emissions; and
        f. procedures for record keeping activities relating to the operation and maintenance programs.
    2. The *Company* shall ensure that all *Processes with Significant Environmental Aspects* are operated and maintained in accordance with this *Approval,* the operating procedures and maintenance programs.

8. **COMPLAINTS RECORDING AND REPORTING**

1. If at any time, the *Company* receives an environmental complaint from the public regarding the operation of the *Equipment* approved by this *Approval,* the *Company* shall take the following steps:
    a. Record and number each complaint, either electronically or in a log book. The record shall include the following information: the time and date of the complaint and incident to which the complaint relates, the nature of the complaint, wind direction at the time and date of the incident to which the complaint relates and, if known, the address of the complainant.
    b. Notify the *District Manager* of the complaint within two (2) business days after the complaint is received, or in a manner acceptable to the *District Manager.*
    c. Initiate appropriate steps to determine all possible causes of the complaint, and take the necessary actions to appropriately deal with the cause of the subject matter of the complaint.
    d. Complete and retain on-site a report written within one (1) week of the complaint date. The report shall list the actions taken to appropriately deal with the cause of the complaint and set out steps to be taken to avoid the recurrence of similar incidents.

9. **RECORD KEEPING REQUIREMENTS**
    1. Any information requested by any employee in or agent of the *Ministry* concerning the *Facility* and its operation under this *Approval,* including, but not limited to, any records required to be kept by this *Approval,* shall be provided to the employee in or agent of the *Ministry,* upon request**,** in a timely manner.
    2. Unless otherwise specified in this *Approval,* the *Company* shall retain, for a minimum of five (5) years from the date of their creation all reports, records and information described in this *Approval,* including,
        a. a copy of the *Original ESDM Report* and each updated version*;*
        b. a copy of each version of the *Acoustic Assessment Report;*
        c. supporting information used in the emission rate calculations performed in the *ESDM Reports* and *Acoustic Assessment Reports;*
        d. the records in the *Log;*
        e. copies of each *Written Summary Form* provided to the *Ministry* under Condition 6.1 of this *Approval;*
        f. records of maintenance, repair and inspection of *Equipment* related to all *Processes with Significant Environmental Aspects;* and

g. all records related to environmental complaints made by the public as required by Condition 8 of this *Approval.*

10. **REVOCATION OF PREVIOUS APPROVALS**
    1. This *Approval* replaces and revokes all Certificates of Approval (Air) issued under section 9 *EPA* and Environmental Compliance Approvals issued under Part II.1 *EPA* to the *Facility* in regards to the activities mentioned in subsection 9(1) of the *EPA* and dated prior to the date of this *Approval.*

SCHEDULE A

Supporting Documentation

1. Environmental Compliance Approval Application, dated January 11, 2018, signed by Carrie Gervais and submitted by the *Company;*
2. *Original ESDM Report*, including the Emission Summary and Dispersion Modelling Report dated January 11, 2018, the revisions dated November 27, 2018, and the submission dated November 28, 2018, all prepared by Gavin Moore of GHD Limited;
3. *Acoustic Assessment Report* prepared by Gavin Moore of GHD and dated January 12, 2018.

The reasons for the imposition of these terms and conditions are as follows:

1. **GENERAL**
   Condition No. 1 is included to require the *Approval* holder to build, operate and maintain the *Facility* in accordance with the Supporting Documentation in Schedule A considered by the *Director* in issuing this *Approval.*
2. **LIMITED OPERATIONAL FLEXIBILITY, REQUIREMENT TO REQUEST AN *ACCEPTABLE POINT OF IMPINGEMENT CONCENTRATION* AND PERFORMANCE LIMITS**
   Conditions No. 2, 3 and 4 are included to limit and define the *Modifications* permitted by this *Approval,* and to set out the circumstances in which the *Company* shall request approval of an *Acceptable Point of Impingement Concentration* prior to making *Modifications.* The holder of the *Approval* is approved for operational flexibility for the *Facility* that is consistent with the description of the operations included with the application up to the *Facility Production Limit.* In return for the operational flexibility, the *Approval* places performance based limits that cannot be exceeded under the terms of this

Approval. Approval holders will still have to obtain other relevant approvals required to operate the *Facility,* including requirements under other environmental legislation such as the *Environmental Assessment Act.*

3. **DOCUMENTATION REQUIREMENTS**
   Condition No. 5 is included to require the *Company* to maintain ongoing documentation that demonstrates compliance with the performance limits as specified in Condition 4 of this *Approval* and allows the *Ministry* to monitor on-going compliance with these performance limits. The *Company* is required to have an up to date *ESDM Report* and *Acoustic Assessment Report* that describe the *Facility* at all times and make the *Emission Summary Table* and *Acoustic Assessment Summary Table* from these reports available to the public on an ongoing basis in order to maintain public communication with regard to the emissions from the *Facility.*

4. **REPORTING REQUIREMENTS**
   Condition No. 6 is included to require the *Company* to provide a yearly *Written Summary Form* to the *Ministry,* to assist the *Ministry* with the review of the site's compliance with the *EPA,* the regulations and this *Approval.*

5. **OPERATION AND MAINTENANCE**
   Condition No. 7 is included to require the *Company* to properly operate and maintain the *Processes with Significant Environmental Aspects* to minimize the impact to the environment from these processes.

6. **COMPLAINTS RECORDING AND REPORTING PROCEDURE**
   Condition No. 8 is included to require the *Company* to respond to any environmental complaints regarding the operation of the *Equipment,* according to a procedure that includes methods for preventing recurrence of similar incidents and a requirement to prepare and retain a written report.

7. **RECORD KEEPING REQUIREMENTS**
   Condition No. 9 is included to require the *Company* to retain all documentation related to this *Approval* and provide access to employees in or agents of the *Ministry,* upon request, so that the *Ministry* can determine if a more detailed review of compliance with the performance limits as specified in Condition 4 of this *Approval* is necessary.

8. **REVOCATION OF PREVIOUS APPROVALS**
   Condition No. 10 is included to identify that this *Approval* replaces all Section 9 Certificate(s) of Approval and Part II.1 Approvals in regards to the activities mentioned in subsection 9(1) of the *EPA* and dated prior to the date of this *Approval.*

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 3406-7XMTFP issued on July 29, 2010.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993, S.O. 1993, c. 28 (Environmental Bill of Rights), the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Environmental Commissioner
1075 Bay Street, Suite 605
Toronto, Ontario
M5S 2B1

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or** www.ert.gov.on.ca

This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ebr.gov.on.ca*, you can*

determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 11th day of December, 2018

Christina Labarge, P.Eng.
Director
appointed for the purposes of Part II.1 of the *Environmental Protection Act*

MV/
c: District Manager, MECP Halton-Peel
Gavin Moore, GHD Limited

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Ontario

Ministry of the Environment
Ministère de l'Environnement

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A210108
Notice No. 1
Issue Date: May 17, 2013

Clean Harbors Canada, Inc.
3221 North Service Rd
Post Office Box, No. 5028
Burlington, Ontario
L7N 3G2

Site Location: 1790 Ironstone Drive
Burlington City, Regional Municipality of Halton
L7L 5V3

You are hereby notified that I have amended Approval No. A210108 issued on September 19, 2012 for a Waste Disposal Site (Transfer/Processing) , as follows:

I. Conditions 10.5 and 10.6 are hereby revoked and replaced with the following:

10.5 Commencing February 6, 2014, on an annual basis thereafter, all tanks shall be externally inspected and tested.

10.6 Commencing April 8, 2016, and every five (5) years thereafter, all tanks shall be cleaned and have any potential residue and sludge removed to control odour generated by this type of waste and conduct internal inspections and integrity testing.

The reason for this amendment to the ECA is as follows:

To correct an administrative error in ECA no. A210208 issued on September 19, 2012.

This Notice shall constitute part of the approval issued under Approval No. A210108 dated September 19, 2012

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by

this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal 's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 17th day of May, 2013

Dale Gable, P.Eng.
Director
appointed for the purposes of Part II.1 of the *Environmental Protection Act*

DL/
c: District Manager, MOE Halton-Peel
Mike Branch, Clean Harbors Canada, Inc.

Content Copy Of Original

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER A210108
Notice No. 10
Issue Date: September 21, 2018

Clean Harbors Canada Inc.
1790 Ironstone Dr
Burlington, Ontario
L7L 5V3

Site Location: 1790 Ironstone Drive
1790 Ironstone Dr
Burlington City, Regional Municipality of Halton
L7L 5V3

You are hereby notified that I have amended Approval No. A210108 issued on for a waste disposal site (transfer/processing) , as follows:

I. The following Item is hereby added to Schedule "A":

15. Document entitled "Clean Harbors Canada Inc. Operations Manual" dated December 2012.

The reason for this amendment to the Approval is as follows:

1. To recognize updates to the Design and Operations report as required by Condition 14.6 of this Approval.

This Notice shall constitute part of the approval issued under Approval No. A210108 dated

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not

be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act
Ministry of the Environment and Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or** www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 21st day of September, 2018

Dale Gable, P.Eng.
Director
appointed for the purposes of Part II.1 of the *Environmental Protection Act*

AN/
c: District Manager, MOECC Halton-Peel
Mike Branch, Clean Harbors Canada Inc.

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ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 8151-BLRMTJ
Issue Date: July 2, 2020

Arzon Limited
4485 Mainway
Burlington, Ontario
L7L 7P3

Site Location: 4485 Mainway
Burlington City, Ontario

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

- one (1) baghouse dust collector serving three (3) brass tube mills, discharging into the air at a volumetric flow rate of 7.55 cubic metres per second, via a stack extending 2.8 metres above the roof and 11.4 metres above grade;
- one (1) aluminum tube mill, equipped with an air filter, discharging into the air at a volumetric flow rate of 2.83 cubic metres per second, via a stack extending 2.8 metres above the roof and 11.5 metres above grade;
- one (1) quality control fume hood, discharging into the air at a volumetric flow rate of 0.39 cubic metres per second, via a stack extending 0.8 metre above the roof and 9.4 metres above grade;
- two (2) natural gas fired tube mill burners, each having a maximum heat input of 1,055,000 kilojoules per hour, discharging into the air a volumetric flow rate of 0.05 cubic metre per second, via a stack discharging at 1.7 metres above the roof and 10.3 metres above grade;
- one (1) maintenance welding exhaust, discharging into the air a volumetric flow rate of 0.24 cubic metre per second, at 2.4 metres above grade;

all in accordance with the Application for an Environmental Compliance Approval (Air and Noise) and all supporting information dated January 7, 2020 and signed by Martin Baschiera, including the Acoustic Assessment Report prepared by Pinchin Ltd., dated December 20, 2019 and signed by Aidan Maher.

For the purpose of this environmental compliance approval, the following definitions apply:

1. *"Approval"* means this Environmental Compliance Approval, including the application and supporting documentation listed above;
2. *Company"* means Arzon Limited, that is responsible for the construction or operation of the *Facility* and includes any successors and assigns;
3. "*District Manager"* means the District Manager of the appropriate local district office of the *Ministry,* where the *Facility* is geographically located;
4. "*EPA"* means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended ;
5. "*Equipment"* means all the equipment, described in the *Company*'s application, this *Approval* and in the supporting documentation submitted with the application, to the extent approved by this *Approval;*
6. "*Facility"* means the entire operation located on the property where the *Equipment* is located;
7. "*Manual"* means a document or a set of documents that provide written instructions to staff of the *Company;*
8. "*Ministry"* means the ministry of the government of Ontario responsible for the *EPA* and includes all officials, employees or other persons acting on its behalf; and
9. "*Publication NPC-300"* means the *Ministry* Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", August 2013, as amended.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. **OPERATION AND MAINTENANCE**
    1. The *Company* shall ensure that the *Equipment* is properly operated and maintained at all times. The *Company* shall:
        a. prepare, before commencement of operation of the *Equipment* and update, as necessary, a *Manual* outlining the operating procedures and a maintenance program for the *Equipment,* including:
            i. routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the *Equipment* suppliers;

ii. emergency procedures, including spill clean-up procedures;

iii. procedures for any record keeping activities relating to operation and maintenance of the *Equipment;*

iv. all appropriate measures to minimize particulate matter, noise and odorous emissions from all potential sources;

b. implement the recommendations of the *Manual.*

2. **NOISE**
   1. The *Company* shall, at all times, ensure that the noise emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-300.*

3. **RECORD RETENTION**
   1. The *Company* shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the recording activities required by this *Approval,* and make these records available for review by staff of the *Ministry* upon request. The *Company* shall retain:
      a. all records on the maintenance, repair and inspection of the *Equipment;*
      b. all records of any upset conditions associated with the operation of the *Equipment;*and
      c. all records of any environmental complaints, including:
         i. a description, time and date of each incident to which the complaint relates;
         ii. wind direction at the time of the incident to which the complaint relates; and
         iii. a description of the measures taken to address the cause of the incident to which the complaint relates and to prevent a similar occurrence in the future.

4. **NOTIFICATION OF COMPLAINTS**
   1. The *Company* shall notify the *District Manager,* in writing, of each environmental complaint within two (2) business days of the complaint. The notification shall include:
      a. a description of the nature of the complaint;
      b. the time and date of the incident to which the complaint relates; and
      c. a description of the measures taken to address the cause of the incident to which the complaint relates and to prevent a similar occurrence in the

future.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition No. 1 is included to emphasize that the *Equipment* must be maintained and operated according to a procedure that will result in compliance with the *EPA,* the Regulations and this *Approval.*
2. Condition No. 2 is included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the *Facility.*
3. Condition No. 3 is included to require the *Company* to keep records and to provide information to the Ministry so that compliance with the *EPA*, the regulations and this *Approval* can be verified.
4. Condition No. 4 is included to require the *Company* to notify staff of the *Ministry* so as to assist the *Ministry* with the review of the site's compliance.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary* Environmental Review Tribunal 655 Bay Street, Suite 1500 Toronto, Ontario M5G 1E5	AND	The Minister of the Environment, Conservation and Parks 777 Bay Street, 5th Floor Toronto, Ontario M7A 2J3	AND	The Director appointed for the purposes of Part II.1 of the Environmental Protection Act Ministry of the Environment, Conservation and Parks 135 St. Clair Avenue West, 1st Floor Toronto, Ontario M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or** www.ert.gov.on.ca

This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at https://ero.ontario.ca/, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 2nd day of July, 2020

Rudolf Wan, P.Eng.
Director
appointed for the purposes of Part II.1 of the *Environmental Protection Act*

QN/
c: District Manager, MECP Halton-Peel
Daniel Barbisan, Pinchin

Ministry of the Environment, Conservation and Parks
Operations Division

Confirmation of Registration

Registration Number: R-010-2111470457
Version Number: 001
Date Registration Filed: Jul 25, 2019 14:17:38 PM

Dear Sir/Madam,

FORMULA SOLUTIONS INC.

101-1550 APPLEBY Line
BURLINGTON ON L7L 6V1

You have registered, in accordance with Section 20.21(1) (a) of the *Environmental Protection Act*, the use, operation, construction, alteration, extension or replacement of any plant, structure, equipment, apparatus, mechanism or thing that is located at the facility noted below, or the alteration of a process or rate of production at the facility, including the activities set out in schedule 'A'.

101-1550 APPLEBY Line BURLINGTON ON L7L 6V1

Please note that the facility noted above is subject to the applicable provisions of O. Reg. 245/11, and O. Reg.1/17.

The activity related information provided during the registration process is included as part of the confirmation of registration as schedule 'A'.

Dated on Jul 25, 2019

Director
Environmental Approvals Access and Service Integration Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto ON M4V 1P5

Any questions related to this registration and the Environmental Activity and the Sector Registry should be directed to:

Ministry of the Environment, Conservation and Parks

Customer Service Representative

Environmental Approvals Access and Service Integration Branch

Phone:(416) 314-8001

Toll free: 1-800-461-6290

Schedule 'A'

Part 3 - Activity Information

3.1 Industry Eligibility Check

a. Please select the facility's primary North American Industry Classification System (NAICS) code.	326130	
b. Does the facility have any other applicable NAICS codes?	☐ Yes	☑ No
b. i. If yes, please select the facility's secondary NAICS code(s), and confirm any other applicable NAICS code(s).		
c. Are you engaged in an activity at the facility that may discharge or from which may be discharged a contaminant into any part of the natural environment other than water?	☑ Yes	☐ No
d. Is the activity exempt from requiring an Environmental Compliance Approval (ECA) under section 9 (1) of the Environmental Protection Act (EPA) other than an activity that has been prescribed by an EASR regulation under Part II.2 of the Act?	☐ Yes	☑ No
e. Are the only activities engaged in at the facility, other than activities described in question 3.1d above, prescribed under a single other EASR regulation?	☐ Yes	☑ No
f. Is an alternative low-carbon fuel site within the meaning of Ontario Regulation (O. Reg.) 79/15 (Alternative Low-Carbon Fuels) operated at the facility?	☐ Yes	☑ No
g. Is the activity a renewable energy project as defined in the EPA?	☐ Yes	☑ No
h. Is an end-of-life vehicle waste disposal site within the meaning of O. Reg. 85/16 operated at the facility?	☐ Yes	☑ No

3.2 Facility Related Information

a. Has a site-specific air standard ever been set for a contaminant discharged from the facility? (section 35 of O. Reg. 419/05 (Air Pollution -- Local Air Quality))	☐ Yes	☑ No
b. Has a person ever been registered in the Ministry's Technical Standards Registry – Air Pollution under section 39 of O. Reg. 419/05 (Air Pollution – Local Air Quality) in respect of the facility?	☐ Yes	☑ No
c. Do all of the activities to be registered occur exclusively at the site? *Please Note: Discrete activities that involve the use of equipment that is intended to be moved from one site to another to perform the same function (such as the use of mobile rock crushing equipment or mobile PCB destruction equipment) are not prescribed for the purpose of the Environmental Activity and Sector Registry, and an Environmental Compliance Approval may be required.*	☑ Yes	☐ No
d. Is the facility located on a property that has been deemed a single property under subsection 4 (2) of O. Reg. 419/05?	☐ Yes	☑ No
e. Is the facility located in an area of development control within the Niagara Escarpment Planning Area?	☐ Yes	☑ No
e. i. If yes, has a development permit required under section 24 of the Niagara Escarpment Planning and Development Act (NEPDA) in respect of the facility been issued?	☐ Yes	☐ No
f. Is there a landfilling site that is no longer permitted to accept waste for disposal located on the site on which the facility is located?	☐ Yes	☑ No
g. Is the activity part of an undertaking to which the Environmental Assessment Act applies?	☐ Yes	☑ No
g. i. If yes, is one or more of the following conditions met: - All class EA requirements have been completed, including decisions on any Part II order requests; OR - The facility has received approval to proceed with the undertaking.	☐ Yes	☐ No

h. Please provide a description of the facility. The description should include a summary of operations and activities at the facility that discharge contaminants, as well as what is produced, if applicable.

This report was prepared in support of the Application for Air Emission - Environmental Activity and Sector Registration (AE-EASR) for air emissions generated by one (1) semi-downdraft spray paint booth and one (1) rooftop air makeup unit operated by Formula Solutions Inc. The spray paint booth is part of the workshop that manufactures various composite materials used in the automotive industries. The finishing operation requires the application of finishing coats or paints on the products in the dedicated spray paint booth. The workshop is located in an industrial building located at 1550 Appleby Line, Burlington, Ontario (Facility).

i. Please enter the date on which the facility commenced or will commence operations.	2019-07-31	
j. Is the facility located in a multi-tenant building?	☐ Yes	☑ No

3.3 Activity Related Information

a. Does the land disposal of waste as defined in Regulation 347 General – Waste Management occur at the facility?	☐ Yes	☑ No
b. Does the facility process or dispose of waste by way of thermal treatment, other than the thermal treatment of wood fuel that meets the specifications in Chapter 5 of the EASR publication in a wood-fired combustor?	☐ Yes	☑ No
c. Does the facility use a wood-fired combustor?	☐ Yes	☑ No
c. i. If yes, does the wood-fired combustor have a nominal load heat input capacity of less than 3 megawatts?	☐ Yes	☐ No
c. ii. If yes, was the wood-fired combustor installed at the facility on or after January 31, 2017?	☐ Yes	☐ No
c. iii. If yes, does the wood-fired combustor exclusively use one or more of the following as fuel: - Wood chips that meet the specifications set out in Chapter 5 of the EASR publication. - Wood briquettes that meet the specifications set out in Chapter 5 of the EASR publication. - Wood pellets that meet the specifications set out in Chapter 5 of the EASR publication.	☐ Yes	☐ No
d. Does the facility have any plating processes that use cadmium, cyanide, chromium or nickel, including chrome plating, electroplating or electroless plating?	☐ Yes	☑ No
e. Is an electrolytic stripping process that removes cadmium, chromium or nickel from an object used at the facility?	☐ Yes	☑ No
f. Are metals processed outdoors at the facility, including torching, shearing, shredding or plasma cutting, other than for the purpose of routine maintenance carried out at the facility on any plant, structure, equipment, apparatus or thing?	☐ Yes	☑ No
g. Is a fossil-fuel electric power generation facility with a maximum electrical power output capacity equal to or greater than 25 megawatts operated at the facility?	☐ Yes	☑ No
h. Is a combustion source that uses biogas, biomass, coal, petroleum coke or waste as a fuel, or that uses a fuel derived from biogas, biomass, coal, petroleum coke or waste other than a small wood-fired combustor operated at the facility?	☐ Yes	☑ No
i. Is a combustion turbine used at the facility?	☐ Yes	☑ No

Part 4 - Operational Information

4.1 Air

a. Does the EASR Emission Summary and Dispersion Modelling (ESDM) Report provide for modifications that have not yet been implemented at the facility? ☐ Yes ☑ No

a. i. If yes, please provide the date on which the modifications will be completed.

b. Has an instrument under O. Reg. 419/05 been issued in respect of the facility? ☐ Yes ☑ No

b. i. If yes, what type(s) of instruments (including any notices, orders or approvals) has (have) been issued? (select all that apply)

ss. 7(1) Specified Dispersion Models ☐

ss. 8(2) Negligible Sources ☐

ss. 10(2) Operating Conditions ☐

ss. 11(2) Refined Emission Rates ☐

ss. 13.1 Value of Dispersion Modelling Parameters ☐

ss. 13(1) Meteorological Data ☐

ss. 14(6) Area of Modelling Coverage ☐

ss. 20(5) Speed-up Order ☐

Other ☐

List all that have been issued

c. To what standard did the licensed engineering practitioner assess compliance of the facility's emissions (please select the applicable box(es)):

Section 19 of O. Reg. 419/05 (Schedule 2) ☑

Section 20 of O. Reg. 419/05 (Schedule 3) ☐

N/A – The amount of any contaminant discharged from the site is negligible ☐

N/A – Source(s) discharge only sound as a contaminant ☐

N/A – Source(s) discharge sound as a contaminant and the amount of any other contaminant discharged is negligible ☐

d. Please select all applicable boxes that apply to a discharge of a contaminant(s) to air from the facility:

Contaminant(s) belonging to Benchmark 1 category of ACB list is at or below the concentration for each specified averaging period set out for the contaminant ☑

Contaminant(s) belonging to Benchmark 2 category of ACB list is at or below the concentration for each specified averaging period set out for the contaminant ☑

Contaminant(s) belonging to Benchmark 2 category of ACB list is above the concentration for a specified averaging period set out for the contaminant ☐

The concentration of the contaminant(s) does not have a Ministry standard, guideline, or screening level set out for the contaminant ☐

N/A – The amount of any contaminant discharged from the site is negligible	☐
N/A – Source(s) discharge only sound as a contaminant	☐
N/A – Source(s) discharge sound as a contaminant and the amount of any other contaminant discharged is negligible	☐

e. Does the facility operate a generator for non-emergency purposes?	☐ Yes	☑ No
f. Does the facility use or operate a large boiler or heater greater than 10.5 gigajoules per hour?	☐ Yes	☑ No
g. Will an Emissions Summary Table be uploaded? *Please Note: An Emissions Summary Table is required to be uploaded at the time of registration. An Emissions Summary Table is also required to be uploaded if any modifications to the facility require an update to the EASR ESDM. Additionally, as part of the 10 year review required by O. Reg. 1/17, an updated Emissions Summary Table is required to be uploaded.*	☑ Yes	☐ No

h. Please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the EASR ESDM Report and made statements in the EASR ESDM Report Supplement and the date signed.

First Name	Last Name	Licence Number(s)	Date Signed
Andrei	Cornel	90273657	2019-07-22

4.2 Fugitive Dust Control

a. Does the EASR ESDM Report prepared for the facility identify a source of fugitive dust?	☐ Yes	☑ No
a. i. If yes, has a licensed engineering practitioner signed and sealed a Best Management Practice Plan (BMPP) for fugitive dust control?	☐ Yes	☐ No
b. Has a BMPP for fugitive dust control been prepared as a result of a written notice from the Director issued under O. Reg. 1/17?	☐ Yes	☑ No

c. Please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the BMPP for fugitive dust control and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed

4.3 Noise

a. Please select the noise assessment method that was completed for the facility:

The facility meets the 1000m setback distance	☐
Primary Noise Screening Method	☑
Secondary Noise Screening Method	☐
Acoustic Assessment Report	☐

a. i. If the Primary Noise Screening Method was used, is the actual separation distance from the facility to the closest Point of Noise Reception equal to or greater than the minimum separation distance as determined by the Primary Noise Screening Method?	☑ Yes	☐ No
a. ii. If the Secondary Noise Screening Method was used, is the combined sound level from the facility at each affected Point of Noise Reception as determined by the Secondary Noise Screening Method less than or equal to the applicable sound level limit set out in Chapter 3 of the EASR publication?	☐ Yes	☐ No
a. iii. If an acoustic assessment was completed, did the acoustic assessment determine that the combined sound level from the facility at each affected Point of Noise Reception less than or equal to of the applicable sound level limit set out in Chapter 3 of the EASR publication?	☐ Yes	☐ No

a. iii. a) If no, has a Noise Abatement Action Plan been developed for the facility? ☐ Yes ☐ No

a. iii. b) If yes, please provide the title of the Noise Abatement Action Plan and the date it was prepared.

Name of NAAP	Date Prepared

b. Has an Acoustic Audit Report been prepared as a result of a written notice from the Director? ☐ Yes ☑ No

b. i. If yes, please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the acoustic audit report, and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed

c. Will an Acoustic Assessment Summary Table be uploaded? ☐ Yes ☑ No
Please Note: An Acoustic Assessment Summary Table is required to be uploaded at the time of registration if an Acoustic Assessment was completed for the facility. An Acoustic Assessment Summary Table is also required to be uploaded if any modifications to the facility require an update to the facility's noise report. Additionally, as part of the 10 year review required by O. Reg. 1/17, an updated Acoustic Assessment Summary Table is required to be uploaded.

d. Please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the noise report, and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed
Andrei	Cornel	90273657	2019-07-22

4.4 Odour

a. Did the Odour Screening Report indicate that a circumstance which requires a BMPP for odour to be prepared exists at the facility? ☐ Yes ☑ No

b. Did the Odour Screening Report indicate that a circumstance which requires an Odour Control Report (OCR) to be prepared exists at the facility? ☐ Yes ☐ No

b. i. If yes, please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the Odour Control Report and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed

c. Has a BMPP for odour been prepared as a result of a written notice from the Director issued under O. Reg. 1/17? ☐ Yes ☑ No

d. Please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the BMPP for odour and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed

Ministry of the Environment, Conservation and Parks
Operations Division

Confirmation of Registration

Registration Number: R-010-5110604778
Version Number: 001
Date Registration Filed: Sep 27, 2018 09:16:24 AM

Dear Sir/Madam,

ABS MACHINING INC.

1495 SEDLESCOMB DRIVE
MISSISSAUGA ON L4X 1M4

You have registered, in accordance with Section 20.21(1) (a) of the *Environmental Protection Act*, the use, operation, construction, alteration, extension or replacement of any plant, structure, equipment, apparatus, mechanism or thing that is located at the facility noted below, or the alteration of a process or rate of production at the facility, including the activities set out in schedule 'A'.

1601 Corporate Drive Burlington ON L7L 5R6

Please note that the facility noted above is subject to the applicable provisions of O. Reg. 245/11, and O. Reg.1/17.

The activity related information provided during the registration process is included as part of the confirmation of registration as schedule 'A'.

Dated on Sep 27, 2018

Director
Environmental Approvals Access and Service Integration Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto ON M4V 1P5

Any questions related to this registration and the Environmental Activity and the Sector Registry should be directed to:

Ministry of the Environment, Conservation and Parks

Customer Service Representative

Environmental Approvals Access and Service Integration Branch

Phone:(416) 314-8001

Toll free: 1-800-461-6290

Schedule 'A'

Part 3 - Activity Information

3.1 Industry Eligibility Check

a. Please select the facility's primary North American Industry Classification System (NAICS) code.	333611	
b. Does the facility have any other applicable NAICS codes?	☐ Yes	☑ No
b. i. If yes, please select the facility's secondary NAICS code(s), and confirm any other applicable NAICS code(s).		
c. Are you engaged in an activity at the facility that may discharge or from which may be discharged a contaminant into any part of the natural environment other than water?	☑ Yes	☐ No
d. Is the activity exempt from requiring an Environmental Compliance Approval (ECA) under section 9 (1) of the Environmental Protection Act (EPA) other than an activity that has been prescribed by an EASR regulation under Part II.2 of the Act?	☐ Yes	☑ No
e. Are the only activities engaged in at the facility, other than activities described in question 3.1d above, prescribed under a single other EASR regulation?	☐ Yes	☑ No
f. Is an alternative low-carbon fuel site within the meaning of Ontario Regulation (O. Reg.) 79/15 (Alternative Low-Carbon Fuels) operated at the facility?	☐ Yes	☑ No
g. Is the activity a renewable energy project as defined in the EPA?	☐ Yes	☑ No
h. Is an end-of-life vehicle waste disposal site within the meaning of O. Reg. 85/16 operated at the facility?	☐ Yes	☑ No

3.2 Facility Related Information

a. Has a site-specific air standard ever been set for a contaminant discharged from the facility? (section 35 of O. Reg. 419/05 (Air Pollution -- Local Air Quality))	☐ Yes	☑ No
b. Has a person ever been registered in the Ministry's Technical Standards Registry – Air Pollution under section 39 of O. Reg. 419/05 (Air Pollution – Local Air Quality) in respect of the facility?	☐ Yes	☑ No
c. Do all of the activities to be registered occur exclusively at the site? *Please Note: Discrete activities that involve the use of equipment that is intended to be moved from one site to another to perform the same function (such as the use of mobile rock crushing equipment or mobile PCB destruction equipment) are not prescribed for the purpose of the Environmental Activity and Sector Registry, and an Environmental Compliance Approval may be required.*	☑ Yes	☐ No
d. Is the facility located on a property that has been deemed a single property under subsection 4 (2) of O. Reg. 419/05?	☐ Yes	☑ No
e. Is the facility located in an area of development control within the Niagara Escarpment Planning Area?	☐ Yes	☑ No
e. i. If yes, has a development permit required under section 24 of the Niagara Escarpment Planning and Development Act (NEPDA) in respect of the facility been issued?	☐ Yes	☐ No
f. Is there a landfilling site that is no longer permitted to accept waste for disposal located on the site on which the facility is located?	☐ Yes	☑ No
g. Is the activity part of an undertaking to which the Environmental Assessment Act applies?	☐ Yes	☑ No
g. i. If yes, is one or more of the following conditions met: - All class EA requirements have been completed, including decisions on any Part II order requests; OR - The facility has received approval to proceed with the undertaking.	☐ Yes	☐ No

h. Please provide a description of the facility. The description should include a summary of operations and activities at the facility that discharge contaminants, as well as what is produced, if applicable.

ABS Machining Inc. operates a machine manufacturing facility located at 1601 Corporate Drive in Burlington, Ontario; the facility is located in an area zoned for general employment use. The main processes consist of the machining of parts, fabrications, and assemblies.
ABS Machining Inc. is expected to emit products of combustion, volatile compounds, fumes, and particulates.
The significant sources of contaminant emissions to the atmosphere include: the exhaust points of the heating and cooling equipment, the paint booth stack, the shot blast booth fugitive source, the welding areas, and the furnace units.

i. Please enter the date on which the facility commenced or will commence operations.	2015-01-01	
j. Is the facility located in a multi-tenant building?	☐ Yes	☑ No

3.3 Activity Related Information

a. Does the land disposal of waste as defined in Regulation 347 General – Waste Management occur at the facility?	☐ Yes	☑ No
b. Does the facility process or dispose of waste by way of thermal treatment, other than the thermal treatment of wood fuel that meets the specifications in Chapter 5 of the EASR publication in a wood-fired combustor?	☐ Yes	☑ No
c. Does the facility use a wood-fired combustor?	☐ Yes	☑ No
c. i. If yes, does the wood-fired combustor have a nominal load heat input capacity of less than 3 megawatts?	☐ Yes	☐ No
c. ii. If yes, was the wood-fired combustor installed at the facility on or after January 31, 2017?	☐ Yes	☐ No
c. iii. If yes, does the wood-fired combustor exclusively use one or more of the following as fuel: - Wood chips that meet the specifications set out in Chapter 5 of the EASR publication. - Wood briquettes that meet the specifications set out in Chapter 5 of the EASR publication. - Wood pellets that meet the specifications set out in Chapter 5 of the EASR publication.	☐ Yes	☐ No
d. Does the facility have any plating processes that use cadmium, cyanide, chromium or nickel, including chrome plating, electroplating or electroless plating?	☐ Yes	☑ No
e. Is an electrolytic stripping process that removes cadmium, chromium or nickel from an object used at the facility?	☐ Yes	☑ No
f. Are metals processed outdoors at the facility, including torching, shearing, shredding or plasma cutting, other than for the purpose of routine maintenance carried out at the facility on any plant, structure, equipment, apparatus or thing?	☐ Yes	☑ No
g. Is a fossil-fuel electric power generation facility with a maximum electrical power output capacity equal to or greater than 25 megawatts operated at the facility?	☐ Yes	☑ No
h. Is a combustion source that uses biogas, biomass, coal, petroleum coke or waste as a fuel, or that uses a fuel derived from biogas, biomass, coal, petroleum coke or waste other than a small wood-fired combustor operated at the facility?	☐ Yes	☑ No
i. Is a combustion turbine used at the facility?	☐ Yes	☑ No

Part 4 - Operational Information

4.1 Air

a. Does the EASR Emission Summary and Dispersion Modelling (ESDM) Report provide for modifications that have not yet been implemented at the facility? ☐ Yes ☑ No

a. i. If yes, please provide the date on which the modifications will be completed.

b. Has an instrument under O. Reg. 419/05 been issued in respect of the facility? ☐ Yes ☑ No

b. i. If yes, what type(s) of instruments (including any notices, orders or approvals) has (have) been issued? (select all that apply)

ss. 7(1) Specified Dispersion Models	☐
ss. 8(2) Negligible Sources	☐
ss. 10(2) Operating Conditions	☐
ss. 11(2) Refined Emission Rates	☐
ss. 13.1 Value of Dispersion Modelling Parameters	☐
ss. 13(1) Meteorological Data	☐
ss. 14(6) Area of Modelling Coverage	☐
ss. 20(5) Speed-up Order	☐
Other	☐

List all that have been issued

c. To what standard did the licensed engineering practitioner assess compliance of the facility's emissions (please select the applicable box(es)):

Section 19 of O. Reg. 419/05 (Schedule 2)	☑
Section 20 of O. Reg. 419/05 (Schedule 3)	☑
N/A – The amount of any contaminant discharged from the site is negligible	☐
N/A – Source(s) discharge only sound as a contaminant	☐
N/A – Source(s) discharge sound as a contaminant and the amount of any other contaminant discharged is negligible	☐

d. Please select all applicable boxes that apply to a discharge of a contaminant(s) to air from the facility:

Contaminant(s) belonging to Benchmark 1 category of ACB list is at or below the concentration for each specified averaging period set out for the contaminant	☑
Contaminant(s) belonging to Benchmark 2 category of ACB list is at or below the concentration for each specified averaging period set out for the contaminant	☑
Contaminant(s) belonging to Benchmark 2 category of ACB list is above the concentration for a specified averaging period set out for the contaminant	☐
The concentration of the contaminant(s) does not have a Ministry standard, guideline, or screening level set out for the contaminant	☑

N/A – The amount of any contaminant discharged from the site is negligible	☐	
N/A – Source(s) discharge only sound as a contaminant	☐	
N/A – Source(s) discharge sound as a contaminant and the amount of any other contaminant discharged is negligible	☐	
e. Does the facility operate a generator for non-emergency purposes?	☐ Yes	☑ No
f. Does the facility use or operate a large boiler or heater greater than 10.5 gigajoules per hour?	☑ Yes	☐ No
g. Will an Emissions Summary Table be uploaded? *Please Note: An Emissions Summary Table is required to be uploaded at the time of registration. An Emissions Summary Table is also required to be uploaded if any modifications to the facility require an update to the EASR ESDM. Additionally, as part of the 10 year review required by O. Reg. 1/17, an updated Emissions Summary Table is required to be uploaded.*	☑ Yes	☐ No

h. Please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the EASR ESDM Report and made statements in the EASR ESDM Report Supplement and the date signed.

First Name	Last Name	Licence Number(s)	Date Signed
Sadie	Bachynski	100135636	2018-09-14

4.2 Fugitive Dust Control

a. Does the EASR ESDM Report prepared for the facility identify a source of fugitive dust?	☐ Yes	☑ No
a. i. If yes, has a licensed engineering practitioner signed and sealed a Best Management Practice Plan (BMPP) for fugitive dust control?	☐ Yes	☐ No
b. Has a BMPP for fugitive dust control been prepared as a result of a written notice from the Director issued under O. Reg. 1/17?	☐ Yes	☑ No

c. Please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the BMPP for fugitive dust control and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed

4.3 Noise

a. Please select the noise assessment method that was completed for the facility:

The facility meets the 1000m setback distance	☐
Primary Noise Screening Method	☐
Secondary Noise Screening Method	☐
Acoustic Assessment Report	☑

a. i. If the Primary Noise Screening Method was used, is the actual separation distance from the facility to the closest Point of Noise Reception equal to or greater than the minimum separation distance as determined by the Primary Noise Screening Method?	☐ Yes	☐ No
a. ii. If the Secondary Noise Screening Method was used, is the combined sound level from the facility at each affected Point of Noise Reception as determined by the Secondary Noise Screening Method less than or equal to the applicable sound level limit set out in Chapter 3 of the EASR publication?	☐ Yes	☐ No
a. iii. If an acoustic assessment was completed, did the acoustic assessment determine that the combined sound level from the facility at each affected Point of Noise Reception less than or equal to of the applicable sound level limit set out in Chapter 3 of the EASR publication?	☑ Yes	☐ No

a. iii. a) If no, has a Noise Abatement Action Plan been developed for the facility? ☐ Yes ☐ No

a. iii. b) If yes, please provide the title of the Noise Abatement Action Plan and the date it was prepared.

Name of NAAP	Date Prepared

b. Has an Acoustic Audit Report been prepared as a result of a written notice from the Director? ☐ Yes ☑ No

b. i. If yes, please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the acoustic audit report, and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed

c. Will an Acoustic Assessment Summary Table be uploaded? ☑ Yes ☐ No
Please Note: An Acoustic Assessment Summary Table is required to be uploaded at the time of registration if an Acoustic Assessment was completed for the facility. An Acoustic Assessment Summary Table is also required to be uploaded if any modifications to the facility require an update to the facility's noise report. Additionally, as part of the 10 year review required by O. Reg. 1/17, an updated Acoustic Assessment Summary Table is required to be uploaded.

d. Please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the noise report, and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed
Trevor	Copeland	100198447	2018-09-14

4.4 Odour

a. Did the Odour Screening Report indicate that a circumstance which requires a BMPP for odour to be prepared exists at the facility? ☐ Yes ☑ No

b. Did the Odour Screening Report indicate that a circumstance which requires an Odour Control Report (OCR) to be prepared exists at the facility? ☐ Yes ☐ No

b. i. If yes, please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the Odour Control Report and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed

c. Has a BMPP for odour been prepared as a result of a written notice from the Director issued under O. Reg. 1/17? ☐ Yes ☑ No

d. Please provide the Name(s) and Licence Number(s) of the Licensed Engineering Practitioner(s) that signed and sealed the BMPP for odour and the date signed and sealed.

First Name	Last Name	Licence Number(s)	Date Signed

Appendix E

Road Traffic Data and Correspondance

Master Station	Description	Count date	total vol	ampk end	ampk vol	off pk end	offpk vol	pm pk end	pkhr vol	8hr vol	13hr vol	posted speed (km)	50%speed (km)	avg (km)	85percent.	Variance	exceeding (%)	#cars	# sml trk	# med trk/bus	# hvy trk	%cars	%smal trk	% med trk/bus	% hvy trk	headway max (sec)	headway min (sec)	temp min (C)	Temp max (C)	surface
102003	Appleby Line - between Upper Middle Road and Ironstone Drive	7-Oct-20	31,748	8:45	1,965	12:30	2,352	16:30	2,848	17,984	26,566	60	50	50	60.12	0.12	15.10%	30,158	327	609	562	95.3%	1.0%	1.9%	1.8%	1.18	90.00	14	29	Dry
102004	Appleby Line - between Heron Way and Dryden Avenue	7-Oct-20	32,489	8:45	2,086	12:45	2,393	16:30	2,930	18,578	27,284	60	50	59	68.87	8.87	41.30%	30,764	342	624	646	95.0%	1.1%	1.9%	2.0%	1.20	112.50	14	26	Dry
103814	Upper Middle Road - between Appleby Line and Imperial Way	6-Oct-20	12,492	8:45	882	12:30	850	17:30	1,410	7,443	10,559	60	50	57	68.45	8.45	37.60%	12,000	115	141	92	97.2%	0.9%	1.1%	0.7%	2.47	450.00	12	25	Dry
103815	Upper Middle Road - between Heron Way and Appleby Line	6-Oct-20	12,852	9:00	765	14:00	971	17:45	1,348	7,776	11,099	60	40	48	58.22	-1.78	8.58%	12,383	104	178	101	97.0%	0.8%	1.4%	0.8%	2.45	900.00	11	25	Dry

From: trafficdatarequests <trafficdatarequests@halton.ca>
Sent: Thursday, June 10, 2021 3:28 PM
To: Ben Wiseman <Ben.Wiseman@ghd.com>
Subject: RE: AADT/SADT Traffic Data for Noise Feasibility Study

> You don't often get email from trafficdatarequests@halton.ca. Learn why this is important Hi Ben,

Please find attached data for requested intersection.

Please let us know if you have further question

Regards,

From: Ben Wiseman <Ben.Wiseman@ghd.com>
Sent: Friday, June 4, 2021 5:54 PM
To: Access Halton <accesshalton@halton.ca>
Cc: Andrew DeFaria <Andrew.DeFaria@ghd.com>
Subject: RE: AADT/SADT Traffic Data for Noise Feasibility Study

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. If you are unsure or need assistance please contact the IT Service Desk.

Hi there,

GHD is working on a Noise Study for a proposed development located at 1900 Appleby Line. Here a Google Maps link for reference: https://goo.gl/maps/cDhBfFkofntwtGXx8



Appendix F

Sample Stamson Calculation

STAMSON 5.0 SUMMARY REPORT Date: 25-07-2021 17:45:17
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: Appleby.te Time Period: Day/Night 16/8 hours
Description: North Tower Facade POW-01

Road data, segment # 1: Appleby Line (day/night)

Car traffic volume : 36869/4097 veh/TimePeriod
Medium truck volume : 729/81 veh/TimePeriod
Heavy truck volume : 767/85 veh/TimePeriod
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Appleby Line (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 22.54 / 22.54 m
Receiver height : 46.50 / 46.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Upper Middle (day/night)

Car traffic volume : 14843/1649 veh/TimePeriod
Medium truck volume : 212/24 veh/TimePeriod
Heavy truck volume : 121/13 veh/TimePeriod
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Upper Middle (day/night)

Angle1 Angle2 : 6.00 deg 23.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 254.40 / 254.40 m
Receiver height : 46.50 / 46.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Appleby Line	1.19	69.78	69.78
2.Upper Middle	0.94	43.48	43.48
Total			69.79 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Appleby Line	1.19	63.24	63.24
2.Upper Middle	0.94	36.92	36.92
Total			63.25 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 69.79
(NIGHT): 63.25

Appendix G

STC Calculations

Room Name:	North Podium Bedroom
Room Type:	Sleeping Quarters (Bedroom)

	Day	Night	
Indoor Sound Level Criteria (dBA):	45	40	** No need for separate criteria for rail noise (rail sound levels corrected in total)*

	1			2			3			4			
Façade Name:	North			East			South			West			
	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	
Road Traffic Sound Level (dBA):	66	59	0 to 90 degrees			0 to 90 degrees			30 to 90 degrees			40 to 90 degrees	
Rail Traffic Sound Level (dBA):			0 to 90 degrees			0 to 90 degrees			0 to 90 degrees			0 to 90 degrees	
*Total Corrected Sound Level (dBA):	69	62		0	0		0	0		0	0		** 5 dB added to rail sound level to account for more stringent criteria*

Noise Characterization:	D - Mixed Road Traffic / Distant Aircraft	
Room Floor Area:	9	m^2
Room Absorption:	Intermediate	(alpha: 0.8)
Time Period:	Night	

	1				2				3				4					
Component Type	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Building Component Description	*Correction for Spectrum (Table 5)*
Fixed Glazing	7.2	80%	85%	27		0%		0		0%		0		0%		0	c. Sealed Thin Window / Operable Thick Window	*4*
Operable Window		0%		0		0%		0		0%		0		0%		0	b. Double Exterior Door / Single-Glazed Window / Operable Thin Window	*2*
Glazed Door		0%		0		0%		0		0%		0		0%		0	a. Single Exterior Door	*1*
Exterior Wall	0.9	10%	15%	29		0%		0		0%		0		0%		0	d. Sealed Thick Window / Exterior Wall / Roof & Ceiling	*7*

Errors:

Window-to-Floor Area Ratio:	*80%*
Operable:	*0%*
Door:	*0%*
Total:	80%

Room Name:	North Podium Living Room
Room Type:	Other (Living Room/Kitchen)

	Day	Night	
Indoor Sound Level Criteria (dBA):	45	45	** No need for separate criteria for rail noise (rail sound levels corrected in total)*

	1			2			3			4			
Façade Name:	North			East			South			West			
	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	
Road Traffic Sound Level (dBA):	66	59	0 to 90 degrees			0 to 90 degrees			30 to 90 degrees			0 to 90 degrees	
Rail Traffic Sound Level (dBA):			0 to 90 degrees			0 to 90 degrees			0 to 90 degrees			0 to 90 degrees	
*Total Corrected Sound Level (dBA):	69	62		0	0		0	0		0	0		** 5 dB added to rail sound level to account for more stringent criteria*

Noise Characterization:	D - Mixed Road Traffic / Distant Aircraft	
Room Floor Area:	28	m^2
Room Absorption:	Hard	(alpha: 0.5)
Time Period:	Day	

	1				2				3				4					
Component Type	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Building Component Description	*Correction for Spectrum (Table 5)*
Fixed Glazing	12.5	45%	90%	28		0%		0		0%		0		0%		0	c. Sealed Thin Window / Operable Thick Window	*4*
Operable Window		0%		0		0%		0		0%		0		0%		0	b. Double Exterior Door / Single-Glazed Window / Operable Thin Window	*2*
Glazed Door		0%		0		0%		0		0%		0		0%		0	a. Single Exterior Door	*1*
Exterior Wall	1	4%	10%	30		0%		0		0%		0		0%		0	d. Sealed Thick Window / Exterior Wall / Roof & Ceiling	*7*

Errors:

Window-to-Floor Area Ratio:	*45%*
Operable:	*0%*
Door:	*0%*
Total:	45%

Room Name:	(NE) North Tower Bedroom
Room Type:	Sleeping Quarters (Bedroom)

	Day	Night	
Indoor Sound Level Criteria (dBA):	45	40	** No need for separate criteria for rail noise (rail sound levels corrected in total)*

	1			2			3			4			
Façade Name:	North			East			South			West			
	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	
Road Traffic Sound Level (dBA):	70.1	63.6	60 to 90 degrees	66	60	0 to 90 degrees			30 to 90 degrees			40 to 90 degrees	
Rail Traffic Sound Level (dBA):			0 to 90 degrees			0 to 90 degrees			0 to 90 degrees			0 to 90 degrees	
*Total Corrected Sound Level (dBA):	76.1	69.6		69	63		0	0		0	0		** 5 dB added to rail sound level to account for more stringent criteria*

Noise Characterization:	D - Mixed Road Traffic / Distant Aircraft	
Room Floor Area:	9	m^2
Room Absorption:	Intermediate	(alpha: 0.8)
Time Period:	Night	

	1				2				3				4					
Component Type	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Building Component Description	*Correction for Spectrum (Table 5)*
Fixed Glazing	7.2	80%	67%	36	7.2	80%	16%	35		0%		0		0%		0	c. Sealed Thin Window / Operable Thick Window	*4*
Operable Window		0%		0		0%		0		0%		0		0%		0	b. Double Exterior Door / Single-Glazed Window / Operable Thin Window	*2*
Glazed Door		0%		0		0%		0		0%		0		0%		0	a. Single Exterior Door	*1*
Exterior Wall	0.9	10%	13%	37	0.9	10%	4%	35		0%		0		0%		0	d. Sealed Thick Window / Exterior Wall / Roof & Ceiling	*7*

Errors:

Window-to-Floor Area Ratio:	*160%*
Operable:	*0%*
Door:	*0%*
Total:	160%

Room Name:	(NE) North Tower Living Room
Room Type:	Other (Living Room/Kitchen)

	Day	Night	
Indoor Sound Level Criteria (dBA):	45	45	** No need for separate criteria for rail noise (rail sound levels corrected in total)*

	1			2			3			4			
Façade Name:	North			East			South			West			
	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	Day	Night	Angle of Incidence	
Road Traffic Sound Level (dBA):	70.1	63.6	60 to 90 degrees	66	60	0 to 90 degrees			0 to 90 degrees			0 to 90 degrees	
Rail Traffic Sound Level (dBA):			0 to 90 degrees			0 to 90 degrees			0 to 90 degrees			0 to 90 degrees	
*Total Corrected Sound Level (dBA):	76.1	69.6		69	63		0	0		0	0		** 5 dB added to rail sound level to account for more stringent criteria*

Noise Characterization:	D - Mixed Road Traffic / Distant Aircraft
Room Floor Area:	28 m^2
Room Absorption:	Hard (alpha: 0.5)
Time Period:	Day

	1				2				3				4					
Component Type	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Area (m^2)	Window/ Floor (%)	% Sound Energy	STC Required	Building Component Description	*Correction for Spectrum (Table 5)*
Fixed Glazing	12.5	45%	73%	36	12.5	45%	16%	36		0%		0		0%		0	c. Sealed Thin Window / Operable Thick Window	*4*
Operable Window		0%		0		0%		0		0%		0		0%		0	b. Double Exterior Door / Single-Glazed Window / Operable Thin Window	*2*
Glazed Door		0%		0		0%		0		0%		0		0%		0	a. Single Exterior Door	*1*
Exterior Wall	1	4%	9%	38	1	4%	2%	37		0%		0		0%		0	d. Sealed Thick Window / Exterior Wall / Roof & Ceiling	*7*

Errors:

Window-to-Floor Area Ratio:	*89%*
Operable:	*0%*
Door:	*0%*
Total:	89%

