HGC ENGINEERING

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August 14, 2024

2816544 Ontario Inc.
c/o KFA Architects & Planning Inc.
1020 Lawrence Avenue West
Toronto, ON M0A 1CE

By Email: Luca Chandler lchandler@kfarchitecture.com

Re: Addendum Letter No.1 – Noise Feasibility Study, 35 Plains Road, Burlington, Ontario
HGC Project No. 01501356 **Revised**

Introduction & Summary

As requested, HGC Engineering has prepared this addendum letter for the proposed residential development located at 35 Plains Road. Our latest noise report for the development is entitled, "Noise Feasibility Study, 35 Plains Road, Burlington, Ontario" dated July 25, 2022 (Noise Study). Since the completion of that study, the building plans have changed slightly and the building is now proposed to consist of 12-storeys (instead of 9-storeys) and the design of the rooftop amenity area has been updated. The general footprint of the building has not changed significantly. The latest site plan dated July 8, 2024 is attached as Figure 1.

The criteria, description of neighbouring uses, analysis and noise control recommendations contained in the Noise Study remain applicable. An updated traffic noise analysis was conducted based on traffic volumes projected to the year 2034. The recommendations have not changed and are summarized in this letter for ease of reference. Central air conditioning and upgraded building will be required for all units. All residential units will also require noise warning clauses. The residential development is considered feasible from a noise perspective.

Updated Traffic Data

Traffic volumes were for Plains Road and Waterdown Road were obtained from City of Burlington's AADT Open Data and Turning Movement Counts for the year 2018. The SADT volume for QEW was obtained from Ministry of Transportation for the year 2018. The traffic volumes and parameters used in the updated analysis is summarized in Table 1.

Table 1: Future Road Traffic Data

Road Name	AADT	Day / Night Split (% / %)	Commercial Vehicle Percentages		Posted Speed Limit (km/h)
			Medium Truck %	Heavy Truck %	
Plains Road	29 908	90 / 10	1.3	2.1	60
Waterdown Road	23 918	90 / 10	2.2	3.5	50
QEW	244 795*	67 / 33	2.5	7.5	100

*SADT (Summer Average Daily Traffic)

CN personnel recently confirmed that the rail traffic volumes dated July 2022 was valid and therefore considered current as of May 2024, as attached. The projected CN train volumes from the 2022 data set remain much lower than the train volumes used in the Noise Study, as such, the volumes from the Noise Study were used as a conservative analysis and further projection is not required. The reviewer for CN has indicated in their past comments that this approach is reasonable. The latest GO Train data from Metrolinx is already forecasted. Table 2 summarizes the rail traffic data used in the analysis.

Table 2: Rail Traffic Volumes Used in Analysis

Type of Train	Number of Trains Day/ Night	Number of locomotives	Number of cars	Max Speed (KPH)
Freight	15 / 11	4	140	97
Way Freight	10 / 4	1	25	97
Passenger	18 / 0	2	10	150
GO Trains[1]	132/ 21	1	4	153

Note: 1 – Diesel Locomotives

Traffic Noise Predictions

To assess the levels of traffic noise that will impact the site (same methodology outlined in Noise Study), an acoustic model of the development was created, and predictions were made using a numerical computer modelling package (CadnaA version 2023 MR2). CadnaA was used to assess sound levels as it can account for the complexities of the site and surrounding areas such as the large distances to traffic noise sources, topography and intervening buildings. Existing topography of the site and surrounding areas was obtained from Ontario Geohub.

The model is based on the methods from ISO Standard 9613-2.2, “Acoustics - Attenuation of Sound During Propagation Outdoors”, which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures. The 0.75 m roof edge as shown in the building elevations and sections was included in the acoustic model of the proposed building. The model was used to predict traffic noise levels on each floor at each of the residential building facades. Predicted daytime and nighttime traffic sound levels at the façades are shown in Figures 2 and 3. A summary of the highest sound levels from all floors are provided in Table 3 below for the general Prediction locations (Location [A] to [F]) as indicated on Figure 1. Sample CadnaA calculations are also attached.

Table 3: Predicted Traffic Sound Levels, Without Mitigation, [dBA]

Prediction Location	Location	ROAD Day / Night	RAIL Day / Night	TOTAL Day / Night
[A]	North façade	57 / 55	55 / 56	59 / 58
[B]	West façade, North End	60 / 54	56 / 54	61 / 58
[C]	South façade	68 / 61	<40 / <40	68 / 61
[D]	East façade, South End	65 / 59	54 / 54	65 / 60
[E]	Rooftop Amenity Area 1	54 / --	50 / --	55 / --
[F]	Rooftop Amenity Area 2	52 / --	51 / --	55 / --

Recommendations

Outdoor Living Areas

The dwelling units will have balconies that are less than 4 m in depth. Such balconies are not considered to be outdoor living areas under MECP guidelines. They are therefore, exempt from traffic noise assessment and physical mitigation will not be required.

There is a common amenity space located on the rooftop. The west side of the rooftop are green spaces which are not accessible to the residents. At the north end of the rooftop is the mechanical penthouse and an indoor amenity space is located on the south end. The predicted daytime sound levels at the rooftop amenity spaces are 55 dBA or less. Additional mitigation measures are not required.

Indoor Living Areas and Ventilation Requirements

a) Air Conditioning

The predicted sound levels will be greater than 65 dBA during the day and greater than 60 dBA at night at the building facades. To address these excesses, the MECP guidelines recommend that the dwelling units be equipped with central air conditioning systems, so that the windows can be closed and a warning clause to inform future residences of the traffic noise excesses. Window or through-the-wall air conditioning units are not recommended because of the noise they produce and because the units penetrate through the exterior wall which degrades the overall sound insulating properties of the envelope. The location, installation and sound ratings of the outdoor air conditioning devices should minimize noise impacts and comply with criteria of MECP publication NPC-300.

Building Façade Construction

The predicted nighttime sound level at the plane of the window with exposure to the railway line will be greater than 55 dBA and daytime sound levels greater than 60 dBA due to rail traffic noise. MECP and CN guidelines recommend that sound attenuating building constructions need to be specified for all the units with exposure to the roadways and the railways. MECP guidelines recommend that the windows, walls and doors be designed so that the indoor sound levels comply with MECP noise criteria.

The required building components are selected based on the AIF value. To do so, calculations were performed to determine the acoustical insulation factors to maintain indoor sound levels within MECP guidelines. The calculation methods were developed by the National Research Council (NRC). They are

based on the predicted future sound levels at the building facades, and the anticipated area ratios of the facade components (walls, windows and doors) and the floor area of the adjacent room.

Exterior Wall Constructions

The exterior walls may include spandrel glass or metal panels within an aluminum window system. Sufficient sound insulation can typically be achieved by using a drywall assembly on separate framing behind the spandrel panels. The recommended construction of this assembly depends on the details of the exterior spandrel panels as well as the relative wall areas versus the window areas in a given room. Test data from a typical spandrel panel insulated wall assembly can achieve a minimum of STC-48 and thus a spandrel window system with a layer of drywall on a separate frame and insulated is expected to achieve a higher STC rating. Further input regarding the design of the exterior walls can be provided during design development, if required.

Glazing Constructions

At this early design stage, detailed suite layouts are not available. The typical window to floor areas of 60% for living rooms and bedrooms are there used to determine glazing construction requirements. The minimum acoustical requirement for the basic window glazing, including glass in fixed sections, swing or sliding doors, and operable windows, is provided based on sound entering through the windows and walls.

Based upon these assumptions and highest sound levels predicted at each facade, it was determined that the glazing along most of the building facades must achieve a sound transmission class (STC) rating of 30 or lower in order to achieve the target indoor sound level criteria. However, in an urban environment such as this, we do not typically recommend less than STC-30, which can be achieved using standard glazing assemblies. If window areas are larger, more complex window constructions will be required; conversely, lower requirements would apply if window areas are smaller. Operable sections (doors and windows) typically achieve installed ratings 2 – 3 points lower than these targets.

Warning Clauses

The MECP guidelines and CN recommend that warning clauses be included in the property and tenancy agreements and offers of purchase for all dwelling units. Sampling wording as per NPC-300 is provided below.

TYPE A:

> Purchasers/tenants are advised that sound levels due to increasing road and rail traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment.

Suitable wording for future dwellings requiring central air conditioning systems is given below.

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."

Suitable wording to inform future residents of the adjacent commercial facilities and that sounds from these facilities may at times be audible.

TYPE E:

> Purchasers/tenants are advised that due to the proximity of this development to nearby retail/commercial facilities, sound levels from the facilities may at times be audible.

These sample clauses above are provided by the MECP as examples and can be modified by the Municipality as required.

CN requires a warning clause for all units within 1000 m of a rail yard right-of-way. The wording is provided below and based on correspondences with CN.

TYPE G:

> Warning: Canadian National Railway Company or its assigns or successors in interest has or have a rights-of-way within 1,000 meters from the land the subject hereof. There may be alterations to or expansions of the railway facilities on such rights-of-way in the future including the possibility that the railway or its assigns or successors as aforesaid may expand its operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). CN will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid rights-of-way."

Summary of Recommendations

A summary of the recommended noise control measures is provided below for reference. Refer to the Noise Study for additional details.

1. Central air conditioning will be provided to all residential units which satisfy MECP ventilation requirements.

2. Upgraded glazing constructions will be required for all dwellings units.

3. Warning clauses should be included in the property and tenancy agreements and offers of purchase and sale to inform the future residents of the residential building of the noise issues and the presence of the roadways and nearby commercial and industrial facilities.

4. Tarion Builders Bulletin B19R requires that the internal design of condominium projects integrates suitable acoustic features to insulate the suites from noise from each other and amenities in accordance with the OBC, and limit the potential intrusions of mechanical and electrical services of the buildings on its residents. If B19R certification is to be sought, an acoustical consultant is required to review the mechanical and electrical drawings and details of demising constructions and mechanical/electrical equipment, when available, to help ensure that the noise impact of the development on itself are maintained within acceptable levels.

Table 4: Summary of Noise Control Requirements and Noise Warning Clauses

Prediction Locations	Acoustic Barrier	Ventilation Requirements*	Type of Warning Clause	Glazing
All Units	--	Central A/C	A, D, E, G	STC-30

* The location, installation and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300, as applicable.

Implementation

To ensure that noise control recommendations outlined above are fully implemented, it is recommended:

1) Prior to the issuance of building permits for this development, a Professional Engineer qualified to perform acoustical engineer services in the Province of Ontario should review the exterior wall constructions, architectural plans and building elevations to ensure the building façade including wall and glazing constructions will provide sufficient sound insulation for the indoor spaces and that the outdoor mechanical equipment sound levels are in accordance with the assumptions outlined in the approved noise study or provide noise controls such that the sound levels from the building's ventilation systems meet MECP guideline limits at all off-site receptors, as required.

2) After construction, a Professional Engineer qualified to perform acoustical engineering services in the Province of Ontario should certify that the noise control measures where required have been implemented and constructed in accordance with the detailed noise studies.

Limitations

This document was prepared solely for the addressed party and titled project or named part thereof, and should not be relied upon or used for any other project without obtaining prior written authorization from HGC Engineering. HGC Engineering accepts no responsibility or liability for any consequence of this document being used for a purpose other than for which it was commissioned. Any person or party using or relying on the document for such other purpose agrees, and will by such use or reliance be taken to confirm their agreement to indemnify HGC Engineering for all loss or damage resulting therefrom. HGC Engineering accepts no responsibility or liability for this document to any person or party other than the party by whom it was commissioned.

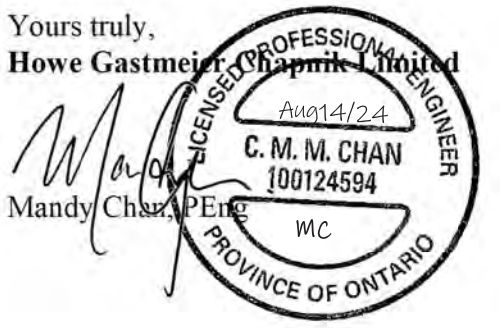
Any conclusions and/or recommendations herein reflect the judgment of HGC Engineering based on information available at the time of preparation and were developed in good faith on information provided by others, as noted in the report, which has been assumed to be factual and accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the

results and conclusions presented.

We trust this information is sufficient for your present purposes. If you require further information or require clarification, please do not hesitate to contact us.

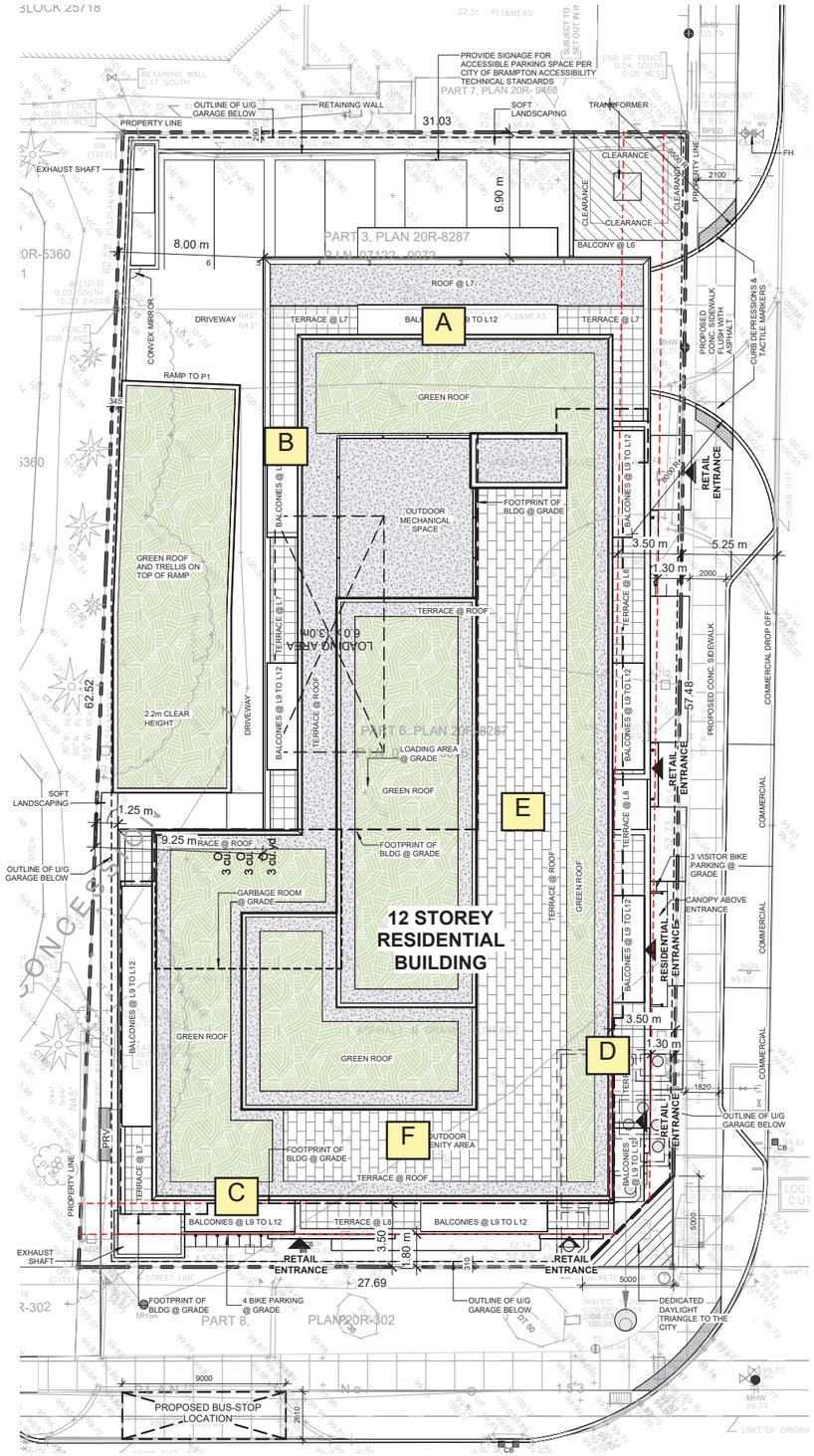
Thank you.

Yours truly,
Howe Gastmeier Chapnik Limited



Mandy Chan, PEng

Attach: Figures 1-3, Traffic Data & Correspondences, Tables of Predicted Sound Levels per Traffic Source.



1 Site Plan
1 : 150

NOTES:

1. THIS SITE PLAN HAS BEEN PREPARED IN ACCORDANCE TO THE ZONING BY-LAW NO. 2020.384 OF THE CITY OF BURLINGTON
2. ANY GRADE ELEVATIONS ARE SHOWN FOR REFERENCE ONLY. REFER TO GRADING AND SITE SERVICING PLAN FOR GRADING AND U/G SERVICES.
3. ALL SITE AREA LIGHTING TO BE DIRECTED DOWNWARD AND DEFLECTED AWAY FROM ADJACENT LOTS, ROADS AND STREETS.
4. ALL CURBING AND DRIVEWAY ENTRANCES TO BE DESIGNED IN ACCORDANCE WITH THE CITY'S MATERIALS STANDARDS AND SPECIFICATIONS MANUAL
5. THE BUILDING AND THE SITE HAS BEEN DESIGNED TO BE BARRIER FREE IN ACCORDANCE WITH THE REQUIREMENTS OF BILL 118 AND 126, ACCESSIBILITY FOR ONTARIANS WITH DISABILITY ACT, 2005 AND IN THE GENERAL CONTENTS OF THE ONTARIO BUILDING CODE
6. 15% OF ALL RESIDENTIAL SUITES SHALL BE PROVIDED WITH BARRIER-FREE DESIGN REQUIREMENTS IN ACCORDANCE WITH OBC 3.7.2.1.(1)
7. GUARD RAILS IN ACCORDANCE TO OBC 2006 SHALL BE PROVIDED WHEREVER GRADE DIFFERENCE EXCEEDS 600mm. DETAILS TO BE SUBMITTED AT BUILDING PERMIT STAGE
8. CONSTRUCTION OF ASPHALT PAVING ALONG SERVICE ROUTE:
   40mm COMPACTED HL-3 ASPHALT
   50mm COMPACTED HL-8 ASPHALT
9. RAMP TO THE U/G GARAGE SHALL BE DESIGNED WITH A SLOPE NOT EXCEEDING 15.0% AND WITH TRANSITION AREAS AT THE TOP AND BOTTOM HAVING MAXIMUM SLOPES OF 7.5% FOR A MINIMUM DISTANCE OF 6.0m.



2 CONTEXT PLAN

PROJECT STATISTICS
35 PLAINS ROAD EAST RESIDENTIAL DEVELOPMENT
Wednesday, July 3, 2024

PROJECT NO. 21024

1.0 SITE STATISTICS

1.1 LOT AREA	sq.m.	sq. ft.	acres	hectares
Lot	1,992.0	21,441.5	0.49	0.20
Land conveyed to the City as daylight triangle	12.5			
Lot (minus Daylight Triangle)	1,979.5	21,306.9	0.49	0.20

1.2 LOT FRONTAGE	metres	feet
Lot Frontage (Measured 7.5m from Property Line on Plains Road East)	84.6	277.6

1.3 PROPOSED BUILDING HEIGHT	metres	feet	BUILDING SETBACKS	
Measured FROM Est. Grade from Plains Road East	42.5	139.43	Cooke Blvd.	3.5m max. GF, 1.3m other storeys
			Plains Road E	3.5m max. GF, 1.8m other storeys

1.4 MAXIMUM SITE DENSITY	Units per Hectare
	813.34

2.0 GBFA

*Includes all the areas above and below grade with the exception of parking areas, stairwells and below grade.

2.1 RESIDENTIAL CONDOMINIUM PROPOSED FLOOR AREA		GFA sq.m.	GFA sq. ft.	GBFA* excl.	GBFA* sq.m.	GBFA* sq. ft.
P2 - LEVEL	1 x	26.35	284	147.31	213.670	2300
P1 - LEVEL	1 x	26.35	284	114.31	140.550	3667
L1	1 x	198.31	2135	84.02	282.370	3039
L2	1 x	1,006.29	11158	17.81	1,024.195	11549
L3	1 x	1,208.03	13003	17.80	1,225.830	13195
L4	1 x	1,208.03	13003	17.80	1,225.830	13195
L5	1 x	1,208.03	13003	17.80	1,225.830	13195
L6	1 x	1,208.03	13003	17.80	1,225.830	13195
L7	1 x	1,208.03	13003	17.80	1,225.830	13195
L8	1 x	1,043.05	11217	17.80	1,059.860	11408
L9	1 x	985.22	10605	17.80	1,003.020	10796
L10	1 x	969.48	10435	17.80	980.380	10550
L11	1 x	962.47	10360	17.80	980.375	10550
L12	1 x	962.47	10360	17.80	980.375	10550
L13	1 x	962.48	10360	17.80	980.380	10550
Total GFA		12135.44	130625		1304746	140659

2.2 NON-RESIDENTIAL GBFA		sq.m.	sq. ft.	excl.	sq.m.	sq. ft.
Retail - L1	1 x	452.78	4874	4.62	457.40	4923
Total GBFA		452.78	4874		457.40	4923
2.3 GRAND TOTAL GFA & GBFA		12588.22	135498		1352506	145582

3.0 FLOOR AREA RATIO

	FAR	Total Allowable Area
(Grand Total GBFA divided by LOT AREA)	6.8	8764.7 / 94343

4.0 UNIT STATISTICS

UNIT COUNT	1-BED	1-BED + D	2-BED	2-BED + D	3-BED	Studio	TOTAL
L2	9	0	4	1	0	1	15 Units
L3	12	1	4	1	0	0	18 Units
L4	12	1	4	1	0	0	18 Units
L5	12	1	4	1	0	0	18 Units
L6	12	1	4	1	0	0	18 Units
L7	8	2	5	0	0	0	15 Units
L8	9	3	4	0	0	0	15 Units
L9	2	0	4	1	4	0	11 Units
L10	2	0	4	1	4	0	11 Units
L11	2	0	4	1	4	0	11 Units
L12	2	0	4	1	4	0	11 Units
Total Units	82	8	45	9	16	1	161 Units
Ratio	51%	5%	28%	6%	10%	1%	100%

5.0 AMENITY AREA

5.1 AMENITY AREA REQUIRED	sq.m.	sq. ft.
Bylaw Number 2020.384		
Total	1240.0	13,347.2

5.2 AMENITY AREA PROVIDED	Outdoor - sq.m.	Indoor - sq.m.	sq.m.	sq. ft.
Level 1	0.00	0.00	0.00	0.0
Level 2 (Balconies)	95.60	0.00	95.60	1,029.0
Level 3 (Balconies)	100.78	0.00	100.78	1,117.1
Level 4 (Balconies)	100.78	0.00	100.78	1,117.1
Level 5 (Balconies)	100.78	0.00	100.78	1,117.1
Level 6 (Balconies)	100.78	0.00	100.78	1,117.1
Level 7 (Balconies & Terraces)	177.63	0.00	177.63	1,912.0
Level 8 (Balconies & Terraces)	146.90	0.00	146.90	1,581.2
Level 9 (Balconies & Terraces)	136.69	0.00	136.69	1,460.5
Level 10 (Balconies)	117.41	0.00	117.41	1,263.7
Level 11 (Balconies)	117.41	0.00	117.41	1,263.7
Level 12 (Balconies)	117.41	0.00	117.41	1,263.7
Level 13 (Indoor and Outdoor Amenity)	232.88	100.93	333.81	3,593.0
Total Amenity Area Provided	1,556.02	100.93	1,656.95	17,835.3

6.0 PARKING

6.1 PARKING REQUIRED	Total
Bylaw Number 2020.384	
Residential	88 spaces *
Visitor and Non-Residential Shared Parking Spaces	4 spaces **
Total Parking Required	92 spaces

* Including 4 accessible spaces ** Including 2 accessible spaces

6.2 TOTAL PARKING PROVIDED	Resident	Accessible	Visitor	Total
Residential				
P2 Level	62	2	0	64 spaces
P1 Level	44	2	0	46 spaces
At Grade	0	0	0	0 spaces
Total Residential Parking				110 spaces
Parking Ratio for Residential Scope	0.68 Parking Ratio			

Visitor and Non-Residential Parking Spaces	Commercial Visitor	Accessible	Car Share	Total
At Grade	3	1	2	6 spaces
On Street	0	0	0	0 spaces
Total Commercial Parking				6 spaces

6.3 BIKE PARKING PROVIDED	Res. Short Term	Res. Long Term	Comm. Short Term	Comm. Long Term	Total
At Grade	11	0	3	2	20 spaces
P1 Level	0	81	0	0	81 spaces
P2 Level	0	0	0	0	0 spaces
TOTAL BIKE PARKING PROVIDED					101 Spaces
6.4 GRAND TOTAL PARKING PROVIDED					116 Parking Spaces 101 Bicycle Spaces

35 PLAINS ROAD EAST

BURLINGTON, ONTARIO

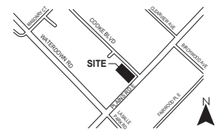
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All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepancies are to be reported to the Architect before proceeding with the work.

Revisions

6	Issued for PAC	2023-11-22
12	Issued for OPA & ZBLA	2024-07-08

Notes

Context Plan



Project North Stamp

Client

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KFA architects + planners inc.
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TORONTO - ON - M5T 2C8
416-535-6226 - telephone
www.kfarchitecture.com

Project No.:	21024
Scale:	1 : 150
Issue Date:	11/21/2023
Drawn By:	AC

Title

SITEPLAN, CONTEXT PLAN & STATS

No.

A001

Figure 1: Site Plan Showing Traffic Noise Prediction Locations

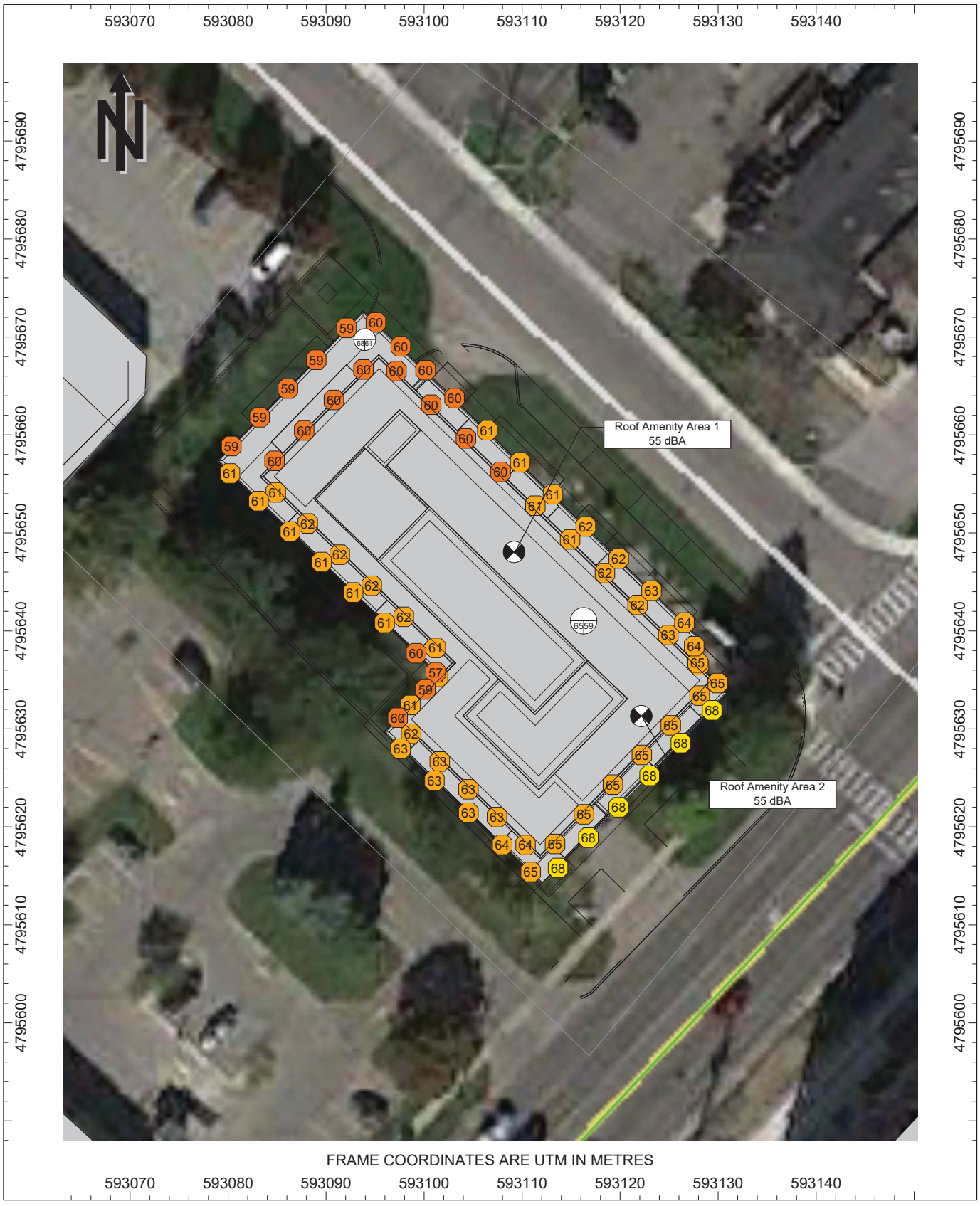


Figure 2: Predicted Daytime Traffic Sound Levels, Leq [dBA]

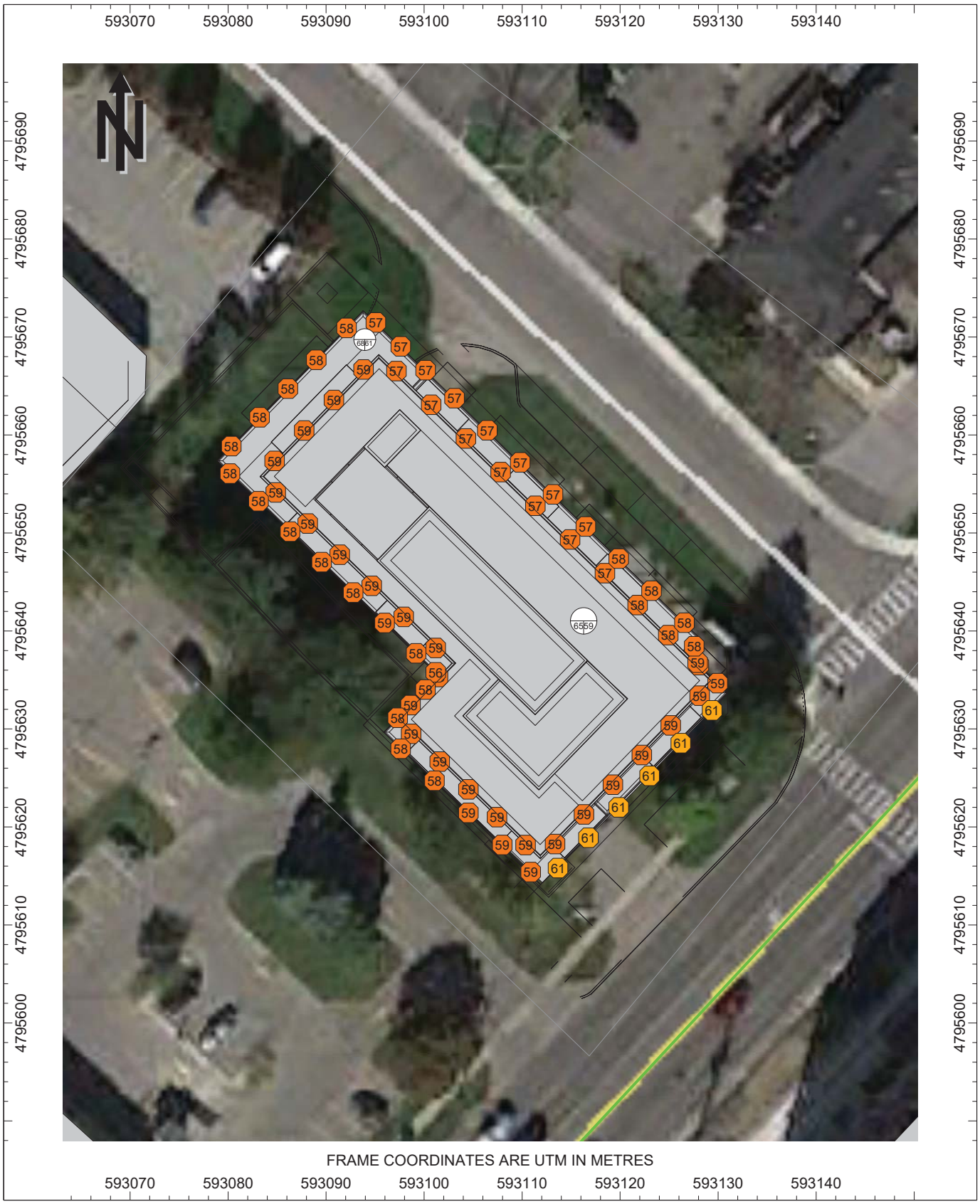


Figure 3: Predicted Nighttime Traffic Sound Levels, Leq [dBA]

Mandy Chan

From: Sarangan Srikanth <Sarangan.Srikanth@cn.ca>
Sent: April 26, 2024 9:03 AM
To: Mandy Chan; GLD-Permits; Umair Naveed
Subject: RE: Traffic Data Request/Confirmation OAK-34.80

Hello Mandy,

Thank you for the email.

This is to confirm that the data remains unchanged.

Thank you,

Sarangan Srikanth
Officer Public Works | Engineering-GLD- Eastern Canada
T: **905-669-3000** | C: **437-329-4963**

What's New at CN | *Quoi de neuf au CN*

From: Mandy Chan <machan@hgcengineering.com>
Sent: Thursday, April 25, 2024 9:29 AM
To: GLD-Permits <permits.gld@cn.ca>; Umair Naveed <Umair.Naveed@cn.ca>; Jessica.Schmid@cn.ca; Sarangan Srikanth <Sarangan.Srikanth@cn.ca>
Subject: Re: Traffic Data Request/Confirmation OAK-34.80

CAUTION: This email originated from outside CN: DO NOT click links or open attachments unless you recognize the sender AND KNOW the content is safe.

AVERTISSEMENT : ce courriel provient d'une source externe au CN : NE CLIQUEZ SUR AUCUN lien ou pièce jointe à moins de reconnaitre l'expéditeur et d

Good morning,

We received the attached data in 2022 and would like confirmation that this data is still valid for use to update a noise assessment.
Site is at 35 Plains Road, Burlington. https://secure-web.cisco.com/1PgxaQ9M0OevWZW-wW53DQLyb--T83iVKkawFdZknQMvqk6U8zFGkd5UBXiKGAly8f_G_6Mp1KtZxWAlkVdrhh6y8OQ6wKc37oit8Ca8d9HnOtE0k15ZvLlfOb5glyUN0rJuan-vyT4H2UMUUOwEyCPgeYc2dD669vjhCaVPbxAOgGYZZePhlovB9ofKAhYr6TU7uc0xwOtmMygKuf3xs99PRZO6XvQY69NkPNKjuK3Z0IdPdhecJOHX-l7rtj7pdrUHJjLxy_tn-tzJrxpFpwwBkT31CokeZhU6OQ5ZQ9xnMToIMeae_iO6zyI0boNNTujWcJK30lcnx_07G3hs4NsFiAqVu3V3iUv-TbIzeCE2gXldePlw10wN85iNJLb41ybXjHSnnxhOVcDiHIGQulYjm7xzrCE1DMCeAlCF84rFeCky8HVo-eVp6IWFLlBoc/https%3A%2F%2Fmaps.app.goo.gl%2FvSFasdeJmUmRi2258

Thanks.

Regards,

Mandy Chan, PEng
Senior Engineer, Associate

HGC Engineering **NOISE | VIBRATION | ACOUSTICS**
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Visit our website: http://secure-web.cisco.com/14afJ7u2VGdaMUua4VjAxaDvc7GhFEX_okzrZO8NVkQX5wZcEPGyquJvR5wLyA_xNxIOGRt6RNY4cp71Whzx7simbLirqIrr12CLlN0xR1zvTYuCN3s8Q3DEmYutxM2bSFQnoaIumgK-vpPJSYs2HGE8cM0XF27ZzvHR7Rdu8AfEHNS6d8QYN_p2CAqWi7QjRTW4CNY78QdDgIOCBkNehCD3582oyGO3Vr6cmXFXEfAEGCv1So1I5vh2sBz354aBGQ_EXZ4Sk-r2eYCuLw_s1rkc1rtfWwnIoH2-IScbSgQ9r0FmIJnqHKwYuiaEAoBOAvVLPLrUkkgRRMkIxr9ev1fUWm0yprM8pNmnpfSSI5Xtl9i0-PXKIN-dNhVCP04Deisp5jKMIWTXW7iN7ADbMWFzOrUbMap8jotbXUEETbk0bdEa46z7cr9BcfAFodVx9/http%3A%2F%2Fwww.hgcengineering.com **Follow Us** – LinkedIn | Twitter | YouTube

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From: Umair Naveed <Umair.Naveed@cn.ca> **On Behalf Of** GLD-Permits
Sent: Tuesday, September 27, 2022 2:38 PM
To: Mandy Chan <machan@hgcengineering.com>
Subject: RE: Traffic Data Request/Confirmation OAK-34.80

Good Afternoon Mandy,

This Email is regarding your request for the Train Traffic Data for the following location: OAK – 34.78- Waterdown Road Burlington ON

If you have any extra questions please feel free to Email the GLD department.

Thank you,

GLD Team

Mandy Chan

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: May 23, 2024 2:14 PM
To: Mandy Chan
Subject: RE: Rail Traffic Volume Request - 35 Plains Rd Burlington Noise Study

Good afternoon Mandy,

Further to your request dated May 3rd, 2024, the subject lands (35 Plains Rd, Burlington) are located outside of 300 metres, in proximity of the of the CN Oakville Subdivision (which carries Lakeshore West GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel trains. The GO rail fleet combination on this Subdivision will consist of up to 1 locomotive and 4 passenger cars. The typical GO rail weekday train volume forecast near the subject lands, including both revenue and equipment trips is in the order of 153 trains. *The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive		1 Diesel Locomotive
Day (0700-2300)	132	Night (2300-0700)	21

The current track design speed near the subject lands is 95 mph (153 km/h).

There are no *anti-whistling by-laws* in affect near the subject lands.

Operational information is subject to change and may be influenced by, among other factors, service planning priorities, operational considerations, funding availability and passenger demand.

It should be noted that this information only pertains to Metrolinx rail service. It would be prudent to contact other rail operators in the area directly for rail traffic information pertaining to non-Metrolinx rail service.

*At this time we do not expect the frequency of trains to increase beyond 2032. It is expected that the number of passenger cars may increase during peak periods to increase capacity as required. Exact numbers are unknown at this time.

I trust this information is useful. Should you have any questions or concerns, please do not hesitate to contact me.

Best Regards,

Farah Faroque (she/her)
Project Analyst, Third Party Projects Review
Real Estate & Development
Metrolinx
10 Bay Street | Toronto | Ontario | M5J 2N8
T: 437.900.2291

METROLINX

Highway	Location Description	Dist (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT
403			1989	UC	76000	79800	85900	72200
403			1990	UC	77600	83000	90000	73700
403			1991	UC	79900	84700	91900	77500
403			1992	UC	79900	84700	91900	76700
403			1993	UC	80000	84300	90900	74900
403			1994	UC	80800	85600	92400	75100
403			1995	UC	80800	85300	92400	75300
403			1996	UC	80800	85500	94500	76800
403			1997	UC	85800	90100	100400	80700
403			1998	UC	97200	103000	113700	92300
403			1999	UC	95600	101300	111900	90800
403			2000	UC	100200	106200	118200	94200
403			2001	UC	104000	111400	122300	97700
403			2002	UC	106100	113000	124800	99300
403			2003	UC	107500	113600	125900	101500
403			2004	UC	113000	121000	132900	106200
403			2005	UC	113300	119900	132500	106300
403			2006	UC	120000	126900	140200	112900
403			2007	UC	119300	126500	138100	111900
403			2008	UC	122300	129200	121300	114400
403			2009	UC	117400	124400	137400	110400
403			2010	UC	128300	135600	149300	120600
403			2011	UC	131300	131700	136300	124600
403			2012	UC	126900	127700	135800	120600
403			2013	UC	131900	132300	132600	125200
403			2014	C	123000	135300	131600	110700
403			2015	C	137000	150700	146600	123300
403			2016	C	139600	153600	149400	125600
403			2017	C	138600	151600	151300	125800
403			2018	C	144800	158700	157800	130700
403			2019	C	147300	161000	160000	133300
403	WATERDOWN RD IC BURLINGTON	3.3	1988	UC	68500	71900	77400	64400
403			1989	UC	68700	72100	77600	65300
403			1990	UC	69400	74300	80500	65900
403			1991	UC	72300	76600	83100	70100
403			1992	UC	75100	79600	86400	72100
403			1993	UC	78000	82200	88700	73100
403			1994	UC	86800	92000	99200	80700
403			1995	UC	89700	94600	102600	83600
403			1996	UC	92700	98100	108400	88200
403			1997	UC	94700	99400	110800	89000
403			1998	UC	98600	104500	115400	93700
403			1999	UC	107500	114000	125800	102100
403			2000	C	115500	130500	130500	104000
403			2001	C	117900	132800	133000	106200

Highway	Location Description	Dist (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT
403			2002	C	121600	136200	137200	109400
403			2003	C	126300	141100	142000	114000
403			2004	C	131000	147500	147800	118000
403			2005	C	124000	138100	139200	111400
403			2006	C	125400	139300	140400	112800
403			2007	C	128200	142500	144400	115200
403			2008	C	131000	144600	142600	117500
403			2009	C	133800	147200	148500	120400
403			2010	C	116900	128800	130000	105200
403			2011	C	139400	153600	155000	125500
403			2012	C	122000	134400	131600	109900
403			2013	UC	145000	145500	145800	137600
403			2014	C	147800	162600	158100	133000
403			2015	C	145800	160400	156000	131200
403			2016	C	148200	163000	158600	133400
403			2017	C	150700	164900	164500	136700
403			2018	C	153200	167900	167000	138300
403			2019	C	149700	163600	162700	135500
403	E JCT HWY 6 IC	1.4	1988	UC	68300	71700	77200	64200
403			1989	UC	68800	72200	77700	65400
403			1990	UC	69800	74700	81000	66300
403			1991	UC	71900	76200	82700	69700
403			1992	UC	72100	76400	82900	69200
403			1993	UC	72400	76300	82300	67800
403			1994	UC	72600	77000	83000	67500
403			1995	UC	72600	76600	83000	67700
403			1996	UC	72600	76800	84900	69000
403			1997	UC	77600	81500	90800	72900
403			1998	UC	88300	93600	103300	83900
403			1999	UC	87700	93000	102600	83300
403			2000	UC	91300	96800	107700	85800
403			2001	UC	94900	101600	111600	89200
403			2002	UC	98600	105100	116000	92300
403			2003	UC	102200	108000	119700	96500
403			2004	UC	105900	113400	124600	99500
403			2005	UC	109500	115900	128100	102700
403			2006	UC	105800	111900	123600	99600
403			2007	UC	108200	114800	125200	101500
403			2008	UC	120400	127200	119400	112600
403			2009	UC	124100	131500	145200	116700
403			2010	UC	115300	121900	134200	108400
403			2011	UC	115000	115400	119400	109100
403			2012	UC	118000	118700	126300	112100
403			2013	UC	127900	128300	128600	121400
403			2014	C	118400	130200	126700	106600

Waterdown Rd @ Masonry Crt

Total Count Diagram

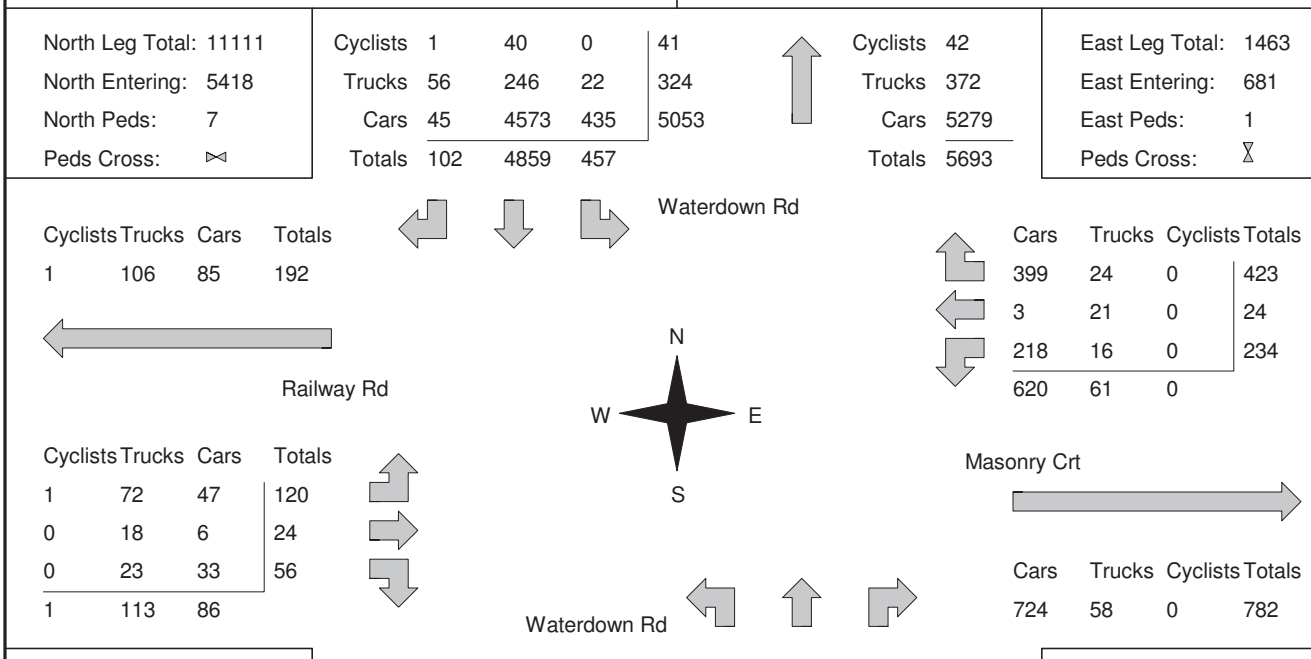
Municipality: Burlington
Site #: 0000202006
Intersection: Waterdown Rd & Masonry Crt
TFR File #: 1
Count date: 21-Jun-2018

Weather conditions:
Sunny

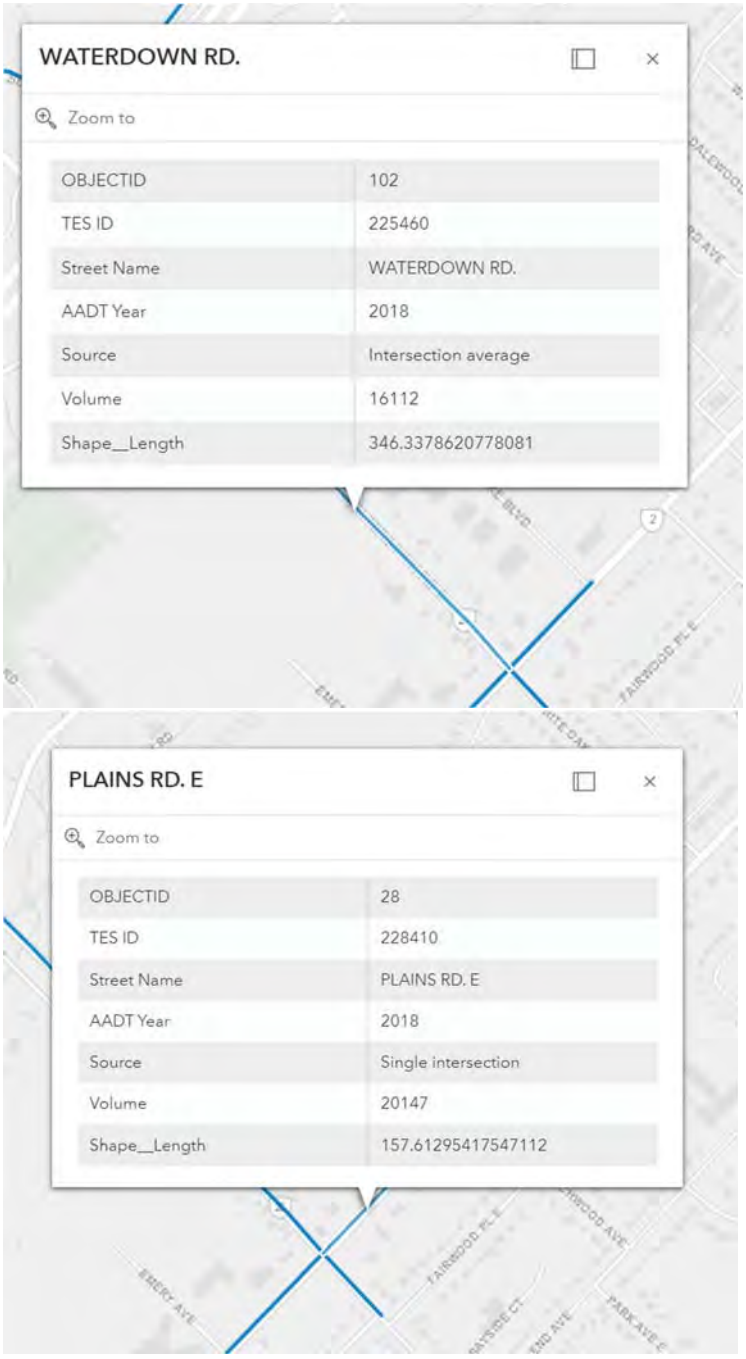
Person(s) who counted:
Nik

**** Signalized Intersection ****

Major Road: Waterdown Rd runs N/S



Comments



City of Burlington Annual Average Daily Traffic (AADT) - Years 2016 – 2018
Open Data

Table A1: Summary of Predicted Daytime Sound Levels per Traffic Source

Location	Façade	Daytime Sound Levels (dBA)			
		403	Plains	Waterdown	Rail
[A]	North	54	48	52	55
[B]	West	53	57	55	54
[C]	South	34	68	50	38
[D]	East	49	62	33	52
[E]	Roof	47	53	41	50
[F]	Roof	48	50	35	51

Table A2: Summary of Predicted Nighttime Sound Levels per Traffic Source

Location	Façade	Nighttime Sound Levels (dBA)			
		403	Plains	Waterdown	Rail
[A]	North	54	42	46	56
[B]	West	53	50	48	54
[C]	South	34	61	44	38
[D]	East	49	56	26	52

NorthFacade	593089	4795663	125.2																
Src ID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	CmetN	ReflD	ReflN	LrD	LrN
403EB	592500	4796147	111.1	126	126	69.9	0	0.0	1.0	1.6	3.2	0.0	0.0	0.0	0.0	0.0	0.0	51	51
403WB	592479	4796161	111.1	126	126	70.2	0	0.0	-0.9	2.4	3.5	0.0	0.0	0.0	0.0	0.0	0.0	51	51
PlainsRd	593158	4795626	102.0	118	112	65.0	0	0.0	-1.3	4.3	2.2	0.0	0.0	0.0	0.0	0.0	0.0	48	42
Rail	592637	4796027	105.6	127	127	68.0	0	0.0	-0.3	2.3	2.1	0.0	0.0	0.0	0.0	0.0	0.0	55	56
WaterdownRd	592758	4795781	108.5	114	107	59.2	0	0.0	-1.1	2.1	1.5	0.0	0.0	0.0	0.0	0.0	0.0	52	46

SouthFacade2nd	593119	4795621	107.5																
Src ID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	CmetN	ReflD	ReflN	LrD	LrN
403EB	592507	4796182	111.2	126	126	70.0	0	0.0	0.2	22.2	3.8	0.0	0.0	0.0	0.0	0.0	0.0	30	30
403WB	592487	4796203	111.1	126	126	70.2	0	0.0	-1.8	23.1	3.6	0.0	0.0	0.0	0.0	0.0	0.0	31	31
PlainsRd	593190	4795673	102.0	118	112	50.9	0	0.0	-2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	68	61
Rail	592643	4796068	105.5	127	127	68.7	0	0.0	-0.9	20.1	1.2	0.0	0.0	0.0	0.0	0.0	0.0	38	38
WaterdownRd	592743	4795807	108.3	114	107	53.3	0	0.0	-1.6	11.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0	50	44

RoofOLA1	593122	4795632	141.9																
Src ID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	CmetN	ReflD	ReflN	LrD	LrN
403EB	592484	4796144	111.0	126	126	70.2	0	0.0	1.7	7.2	4.0	0.0	0.0	0.0	0.0	0.0	0.0	43	-
403WB	592457	4796149	110.9	126	126	70.4	0	0.0	-0.8	9.2	4.0	0.0	0.0	0.0	0.0	0.0	0.0	44	-
PlainsRd	593161	4795638	102.2	118	112	59.9	0	0.0	-1.5	6.4	1.1	0.0	0.0	0.0	0.0	0.0	0.0	53	-
Rail	592591	4796022	105.3	127	127	68.5	0	0.0	-0.3	7.7	1.9	0.0	0.0	0.0	0.0	0.0	0.0	50	-
WaterdownRd	592744	4795803	108.8	114	107	56.0	0	0.0	-0.9	17.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	41	-

RoofOLA2	593109	4795648	141.9																
Src ID	X	Y	Z	LxD	LxN	Adiv	K0	Dc	Agnd	Abar	Aatm	Afol	Ahous	CmetD	CmetN	ReflD	ReflN	LrD	LrN
403EB	592490	4796149	111.0	126	126	69.8	0	0.0	1.9	5.9	4.0	0.0	0.0	0.0	0.0	0.0	0.0	45	-
403WB	592457	4796151	110.8	126	126	70.0	0	0.0	-0.8	8.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	45	-
PlainsRd	593129	4795595	102.1	118	112	61.3	0	0.0	-1.5	6.8	1.7	0.0	0.0	0.0	0.0	0.0	0.0	50	-
Rail	592609	4796027	105.3	127	127	68.1	0	0.0	-0.4	6.3	2.2	0.0	0.0	0.0	0.0	0.0	0.0	51	-
WaterdownRd	592739	4795805	108.7	114	107	63.0	0	0.0	-0.7	16.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	35	-

Where: Lr = Lx - Adiv + K0 + Dc - Agnd - Abar - Aatm - Afol - Ahous + Cmet + Refl