

Noise & Vibration Impact Study

**37 King Street
Georgetown, Ontario
Canada**

PN: 25013178

Prepared For
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Table of Contents

1.0 INTRODUCTION..... 1

2.0 SITE AND SURROUNDING AREA 1

2.1 Proposed Construction..... 1

2.2 Project Location & Surroundings..... 1

2.3 Site Inspection 1

3.0 EVALUATION PARAMETERS 2

3.1 Provincial Guidelines 2

3.2 Regional & Municipal Requirements..... 2

3.3 FCM/RAC 2

4.0 ASSESSMENT OF NOISE IMPACTS FROM THE SURROUNDINGS 2

4.1 Project Receivers 2

4.2 Surrounding Transportation Noise 3

4.2.1 Sources 3

4.2.2 Modelling 4

4.2.3 Results 5

4.2.4 Recommendations 6

4.3 Surrounding Stationary Noise 7

4.3.1 Review of Sources 7

4.3.2 Recommendations 8

5.0 ASSESSMENT OF NOISE IMPACTS FROM THE PROJECT 8

5.1 Project & Surrounding Noise Receivers 8

5.2 Project Noise Sources 8

5.3 Recommendations & Mitigation for Impacts from the Project 8

6.0 ASSESSMENT OF RAILWAY VIBRATION IMPACTS TO THE PROJECT 8

6.1 Receivers..... 9

6.2 Sources 9

6.3 Vibration Measurement Results 9

6.4 Recommendations 10

7.0 CONCLUSIONS 11

DISCLAIMERS 12

TT FIGURES

APPENDIX A – ARCHITECT’S DRAWINGS

APPENDIX B – REGULATORY REFERENCES

APPENDIX C – TRANSPORTATION VALIDATION FILE

APPENDIX D – MEASUREMENT RESULTS

APPENDIX E – TRANSPORTATION DATA

List of Tables

Table 1: Project Noise Receivers 3

Table 2: Summary of Future AADT Values 3

Table 3: Summary of Rail Traffic Obtained 4

Table 4: Summary of Unmitigated Transportation Noise 5

Table 5: Exterior Façade Construction Recommendations 6
Table 6: Vibration Measurement Results 9
Table 7: Summary of Transportation Noise Requirements (Ground Transportation)..... 16
Table 8: FCM/RAC Guidelines..... 17

List of Figures

- Figure 1: Project Context Plan & Transportation Sources
- Figure 2: Modelling Results (a-e)

1.0 INTRODUCTION

Thornton Tomasetti (TT) is pleased to present this Noise and Vibration Impact Study (NVIS) regarding the proposed Habitat for Humanity development (Project) located at 37 King Street, Georgetown, Ontario (Project Site).

This report has been prepared at the request of Habitat for Humanity (Client) and is intended to be submitted to relevant Land Use Planning Authorities (LUPAs) to support an application for Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) as a feasibility study.

TT had previously prepared a NVIS study for this project in 2019, however the proposed site plan has since been changed, and up-to-date Metrolinx rail traffic data has been recently obtained, prompting this updated report.

This report discusses the noise and vibration impacts on the Project from surrounding sources, as well as the noise impacts of the Project on itself and surrounding noise sensitive areas. Where applicable, this report provides recommendations intended to meet the requirements of the LUPA. Unless more stringent requirements are identified, the Project should be designed to meet the Ontario Building Code (OBC) as a minimum standard.

2.0 SITE AND SURROUNDING AREA

2.1 Proposed Construction

The Project will consist of three connected “blocks,” each of which will be three stories tall plus a basement. Each “block” will accommodate four residential units (one in the basement, one on the main floor, and two sharing the 2nd & 3rd floors).

The Project is not expected to include significant mechanical noise sources such as roof top heating, ventilation and air conditioning (HVAC) equipment or standby power generators.

The proposed site plan is provided in Appendix A.

2.2 Project Location & Surroundings

The Project Site is located on the northwest corner of the intersection of King Street and Queen Street in Georgetown Ontario. For the purposes of this report, east/west will refer to directions parallel to King Street.

The lands adjacent to the Project Site include residential uses to the east, south and west, and the Georgetown GO Station to the north. The GO station includes approximately 50m of parking lot adjacent to the Project Site, with the station building located on the north side of the parking lot, and then rail tracks located approximately 60m from the edge of the Project Site.

The broader neighborhood includes residential uses in all directions, and localized commercial/industrial buildings north of the rail tracks.

No other significant highways, rail lines, or airports are located in the vicinity of the Project Site.

An illustration of the surrounding area is provided in Figure 1.

2.3 Site Inspection

As part of the previous study, TT personnel inspected the Project Site and surrounding area on October 3, 2018 to observe the ambient noise environment, and to take vibration measurements.

3.0 EVALUATION PARAMETERS

3.1 Provincial Guidelines

The Ontario Ministry of the Environment, Conservation and Parks (MECP) does not have direct authority in approving land use planning decisions, but their guidance documents have been widely adopted by LUPAs.

The MECP's *Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning (NPC-300)* provides province wide guidance regarding assessment standards and criteria for evaluating noise impacts from transportation sources such as roads, railways and aircraft; as well as stationary sources such as mechanical equipment and industrial facilities. In preparing this report, TT has referred to Part A Background and Part C Land Use Planning of NPC-300.

Based on the nature of the Project (residential), it is a noise sensitive land use, and NPC-300 requires assessment of noise impacts on the Project from surrounding noise sources. Because the future occupants of the Project (homeowners) will have direct control of the Project noise sources, NPC-300 does not require the assessment of noise impacts from the Project onto itself.

A summary of the relevant requirements is provided in Appendix B.

3.2 Regional & Municipal Requirements

Georgetown

Georgetown generally defers to the Provincial guidelines regarding noise impacts in regard to land use planning.

3.3 FCM/RAC

The Federation of Canadian Municipalities and Railway Association of Canada (FCM/RAC) does not have direct authority in approving land use planning decisions, but their guidance documents have been widely adopted by LUPAs.

The FCM/RAC's *Guidelines for New Development in Proximity to Railway Operations* provides Canada wide guidance regarding the assessment of rail impacts, including noise and vibration on new developments.

A summary of the FCM/RAC guidance is provided in Appendix B.

4.0 ASSESSMENT OF NOISE IMPACTS FROM THE SURROUNDINGS

The following sections describe TT's identification, quantification, analysis, and recommendations regarding surrounding noise source impacts on the Project.

4.1 Project Receivers

Table 1 provides a summary of the representative noise receivers considered at the Project based on the proposed site plans and surrounding noise sources.

Table 1: Project Noise Receivers

Receiver ID	Receiver Description	Receiver Type	Height (m)
N-Façade	Noise Sensitive Residential Windows	Façade	2.5 – 7.7
E-Façade	Noise Sensitive Residential Windows	Façade	2.5 – 7.7
S-Façade	Noise Sensitive Residential Windows	Façade	2.5 – 7.7
W-Façade	Noise Sensitive Residential Windows	Façade	2.5 – 7.7

The residential units will have private balconies / terraces with a depth of <4m. As the minimum depth requirements outlined in NPC-300 are not met, these private balconies / terraces are not considered to be outdoor amenity areas and not included in this assessment.

4.2 Surrounding Transportation Noise

4.2.1 Sources

Transportation noise in the vicinity of the Project was observed to be dominated by the adjacent King Street and Queen Street, as well as the nearby rail tracks associated with the Georgetown GO station.

4.2.1.1 Surrounding Road Traffic

King Street (adjacent to the south) and Queen Street (adjacent to the east) have been modeled as road noise sources. These sources are illustrated in Figure 1.

Traffic data for King Street and Queen Street was obtained from Associated Engineering in the form of Turning Movement Counts (TMC). This data is provided in Appendix E.

The Annual Average Daily Traffic (AADT) was estimated from the TMC data based on the assumption that 50% of the total daily traffic occurs over the 8-hour TMC measurement time frame (i.e., the AADT is twice the traffic volume counted in the TMC data). Annual traffic volume growth rates of 2% were applied to the streets in order to estimate the AADT for 2035. The day/night traffic split is assumed to be 90% /10%, respectively. Truck data was provided in the TMC data and is conservatively assumed to consist of 50% Medium Trucks and 50% Heavy Trucks. AADT estimates are summarized in Table 2.

Table 2: Summary of Future AADT Values

Road	Segment	Period	Duration (h)	Speed (km/h)	Grade (%)	Total Autos	Total Med Truck	Total Heavy Truck
King Street	West of Queen Street	Day	16	50	0	3,002	46	46
		Night	8	50	0	334	5	5
Queen Street	North of King Street	Day	16	50	0	3,547	33	33
		Night	8	50	0	394	4	4

4.2.1.2 Surrounding Rail Traffic

Rail tracks associated with the Georgetown GO station are used by CN Rail, VIA Rail, and GO Transit. CN and VIA rail traffic was obtained in 2018, and has been projected forward to 2035 based on a 2.5% compounding growth rate. Updated future GO Train traffic data was obtained from Metrolinx in 2025.

Future rail traffic estimates are summarized in Table 3.

Table 3: Summary of Rail Traffic Obtained

Parameter	CN Rail (2018, Freight)	VIA Rail (2018, Passenger)	GO Transit / Metrolinx (Future, Passenger)	
			1 Locomotive	2 Locomotive
Number of Diesel Trains (Day / Night)	11 / 4	4 / 0	56 / 12	8 / 0
Future Number of Locomotives (max)	4	2	1	2
Growth Rate	2.5% per year	2.5% per year	N/A	N/A
Future Number of Cars (max)	140	10	8	8
Maximum Speed	64 km/h	97 km/h	80 km/h	80 km/h

Whistling is expected to occur at both the Trafalgar Road (2.45 km away) and Maple Avenue (1.2km away) crossings. Due to the distance from these crossings to the Project Site, whistle noise is not expected to have a significant impact on the Project Site.

4.2.1.3 Surrounding Aircraft Traffic

The project is not located within the NEF-25 contour of any airport, therefore no further assessment is required.

4.2.2 Modelling

Surrounding noise impacts on the project were modelled using the CadnaA software package.

Noise impacts on the Project façades were assessed using the “building evaluation” feature in CadnaA, allowing for predicted noise levels along the entire façade of the development. Facades considered to be non-noise sensitive (blank walls, etc.) were excluded from the assessment.

4.2.2.1 Road Traffic Noise

Road traffic noise was modelled using CadnaA’s implementation of ISO 9613-2 *Attenuation Of Sound During Propagation Outdoors* and line sources calibrated to match the STAMSON 5.04 implementation of ORNAMENT algorithms (the MECP’s road traffic noise model).

The following assumptions / modelling considerations have been made for the purpose of modelling road traffic noise impacts:

- Intermediary ground surfaces were assumed to be reflective for modelling purposes.
- The screening effects of site grading were included in the modelling conducted.

A validation file comparing the Cadna/A and STAMSON 5.04 road traffic noise model results is provided in Appendix C.

4.2.2.2 Rail Traffic Noise

Rail traffic noise was modelled using CadnaA’s implementation of the U.S. Federal Transit Administration and Federal Rail Administration (FTA/FRA) model.

The following assumptions / modelling considerations have been made for the purpose of modelling rail traffic noise impacts:

- Freight & passenger diesel locomotives as well as rail car wheel noise were modelled using applicable FRA/FTA train classes and settings.
 - Freight diesel locomotive: FRA freight locomotive default settings
 - Passenger diesel locomotive: FTA diesel locomotive default settings
 - Wheel noise: FTA rail car
- Rail noise sources were extended to at least 6x the perpendicular separation distance from the Project Site in each direction.
- Intermediary ground surfaces were assumed to be reflective for modelling purposes.

4.2.3 Results

Figure 2(a-e) and Table 4 provide a summary of the predicted transportation noise impacts from the surroundings, based on the unmitigated scenario, and comparison to the applicable evaluation parameters.

Table 4: Summary of Unmitigated Transportation Noise

Receiver ID	Impact Type	Predicted Result L _{eq} (dBA) Day / Night	Guideline Limit L _{eq} (dBA) Day / Night	Required Mitigation
N-Façade	Road	45 / 39	65 / 60	Design exterior building components to achieve indoor sound level target (minimum of brick veneer or masonry equivalent*). Include central heating. Include central air conditioning. Type D warning clause.
	Locomotive	63 / 60	-	
	Wheel	61 / 59	-	
	Rail Total	65 / 63	60 / 55	
	Road & Rail Total	65 / 63	55 / 50	
E-Façade	Road	58 / 51	65 / 60	Design exterior building components to achieve indoor sound level target (minimum of brick veneer or masonry equivalent*). Include central heating. Include central air conditioning. Type D warning clause.
	Locomotive	60 / 57	-	
	Wheel	58 / 56	-	
	Rail Total	62 / 60	60 / 55	
	Road & Rail Total	63 / 60	55 / 50	
S-Façade	Road	60 / 54	65 / 60	Include central heating. Include central air conditioning. Type D warning clause.
	Road (STAMSON Verification)	60 / 53	65 / 60	
	Locomotive	46 / 44	-	
	Wheel	45 / 43	-	
	Rail Total	49 / 47	60 / 55	
	Road & Rail Total	61 / 55	55 / 50	
W-Façade	Road	55 / 49	65 / 60	Design exterior building components to achieve indoor sound level target (minimum of brick veneer or masonry equivalent*). Include central heating. Include central air conditioning. Type D warning clause.
	Locomotive	59 / 57	-	
	Wheel	58 / 56	-	
	Rail Total	62 / 59	60 / 55	
	Road & Rail Total	62 / 60	55 / 50	

*Brick veneer or equivalent is required where 24-hr rail noise exceeds 60 dBA.

4.2.4 Recommendations

Based on the modelling results obtained, the following recommendations are provided to address surrounding transportation noise impacts on the Project.

4.2.4.1 Heating & Ventilation

Based on the façade noise impacts on the Project from surrounding transportation noise sources, the minimum requirement identified in NPC-300 is for each noise sensitive space in the Project to be provided with central heating, central air conditioning, and for a Type D warning clause to be included in legal documents pertaining to those spaces.

4.2.4.2 Façade Construction

Sensitive receivers along the north, east and west sides of the Project will be exposed to elevated sound levels due to transportation noise, therefore these façades need to be designed to achieve the indoor sound level targets.

Because the 24-hour Leq sound level due to rail transportation noise at the north, east and west façades will be greater than 60 dBA (results not shown), exterior façades of noise sensitive spaces are to be constructed using brick veneer or masonry equivalent construction (STC 54+).

Sensitive receivers along the south façade of the Project are not expected to be exposed to elevated sound levels due to transportation noise, therefore these façades need only be designed to meet the requirements of OBC.

The building component requirements were determined using the National Research Council Building Practice Note BPN-56. The following table provides a summary of the recommended façade construction specifications, based on the room dimensions and exterior elevations illustrated in the architectural drawing set dated April 4, 2024. If a component with a higher STC rating than the noted requirement is used, then it may be possible to reduce the STC rating of other components.

Table 5: Exterior Façade Construction Recommendations

Façade Component	Recommended STC Rating	Notes
North Façade		
Solid Exterior	54	Brick Veneer or Masonry Equivalent
Windows & Doors	31	
East Façade		
Solid Exterior	54	Brick Veneer or Masonry Equivalent
Windows & Doors	28	
West Façade		
Solid Exterior	54	Brick Veneer or Masonry Equivalent
Windows & Doors	28	

Note that these building components are required only for exterior walls of sensitive spaces, such as bedrooms and living rooms. The remaining façades of the Project must meet minimum OBC requirements for the glazing and exterior wall constructions.

STC ratings for exterior doors & windows should be verified by the manufacturer/supplier. Test data should be based on an assembly as close to what will be installed on the project as possible, including the frame in which the window/door will be installed. Test data for glazing only may overestimate the performance by neglecting flanking paths introduced by the frame.

4.2.4.3 Warning Clauses

In cases where environmental noise may be a concern, warning clauses are commonly required by development agreements to be registered on land titles, and included in offers of purchase and sale, lease/rental agreements, and condominium declarations. The following examples of warning clause wordings are based on applicable guidance documents and TT's experience regarding common requests from stakeholders. Precise wordings may be modified by the developer with input from the relevant LUPA(s), stakeholders, and/or legal counsel if required.

The **Type D** warning clause is required to be included in the development agreements if one or more representative POW receptors is predicted to be exposed to transportation sound pressure levels greater than 65 dBA during the 16-hour day (07:00 – 23:00) or 60 dBA during the 8-hour night (23:00 – 07:00) (excluding train whistle noise), and the Project includes central air conditioning. An example of a Type D warning clause is as follows:

"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."

The **CN/Metrolinx Rail** warning clause is required to be included in the development agreements if one or more dwelling units included in the Project are located within 300m of rail tracks. The typical rail warning clause is as follows:

"Canadian National Railway Company / Metrolinx carrying on business as GO Transit or their assigns or successors in interest has or have a right-of-way within 300 meters from the land the subject hereof. There may be alterations to or expansions of the rail facilities on such right-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). The railway will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid right-of-way."

4.3 Surrounding Stationary Noise

4.3.1 Review of Sources

North of the Georgetown GO Station is the Metrolinx Georgetown Layover Yard, which may accommodate multiple idling Metrolinx locomotives. Based on satellite imagery, idling locomotives are expected to be located primarily at the east end of the layover yard, which will be closer to existing residential receptors than to the Project Site. Therefore, assuming that the layover yard operations comply with applicable stationary noise limits at the existing residential receptors, they will also comply with applicable limits at the Project Site.

Additionally, TT understands that Metrolinx is in the process of constructing a new layover yard approximately 4km to the east, which will replace the operations at the existing Georgetown Layover

Yard. Based on the information available to TT, construction of the new layover yard is expected to be completed in 2026/2027.

Based on observations made at the time of TT's site inspection, no other potentially significant stationary noise sources were identified on the surrounding residential or nearby commercial/industrial properties.

TT is not aware of any other planned developments in the vicinity which could introduce new significant noise sources in the area.

4.3.2 Recommendations

Based on TT's review of the surrounding stationary noise sources, no additional physical mitigation measures are recommended for the Project at this time.

The **Type E** warning clause may be included in the development agreements for the Project if one or more unusual noise sources may have impacts on the Project, for informational purposes only. The Type E warning clause in no way reduces the obligation for a stationary noise source and/or Project to meet the sound level limits applicable to stationary noise sources impacting sensitive land uses. An example of a Type E warning clause is as follows:

"Purchasers/tenants are advised that due to the proximity of the adjacent Georgetown GO Station and Metrolinx Layover Yard, noise from the idling locomotives may at times be audible."

5.0 ASSESSMENT OF NOISE IMPACTS FROM THE PROJECT

The following sections describe TT's identification, quantification, analysis, and recommendations regarding the impact of noise sources associated with the Project.

5.1 Project & Surrounding Noise Receivers

Both the project and adjacent residential areas represent noise sensitive land uses, and are subject to the stationary noise impact criteria identified in NPC-300.

5.2 Project Noise Sources

At this early stage of design, the specific type, number, and location of environmental noise sources associated with the Project have not been determined. For the purposes of a preliminary assessment, it is assumed that one (1) residential air conditioning system will be associated with each occupied unit.

5.3 Recommendations & Mitigation for Impacts from the Project

The MECP document NPC-216 identifies applicable noise standards for residential air conditioners, specifically that new equipment rated for 38,900 BTU or less should be rated for a maximum sound power level of 76 dB.

6.0 ASSESSMENT OF RAILWAY VIBRATION IMPACTS TO THE PROJECT

The FCM/RAC guidelines identify dwellings within 75 meters from railways alignments as susceptible to vibration impact and recommend a maximum vibration limit of 0.14 mm/sec root-mean-square (RMS) between 4 and 200 Hz.

The Project's closest foundations will be within 75 meters of the railway right-of-way, therefore vibration levels due to railway activity have been assessed through on-site measurements, as described below.

6.1 Receivers

Train vibration measurements were performed on October 3, 2018 at three locations on site.

- Measurement location 1 was 5 – 8m south of the north edge of the site, 67 – 70m away from the closest rail line.
- Measurement location 2 was 17 – 20m south of the north edge of the site, 79 – 82m from the closest rail line.
- Measurement location 3 was 27m south of the north edge of the site, 89m from the closest rail line.

These measurement locations are shown in Appendix A. Note that measurement locations 1 and 2 were moved from 1a and 2a to 1b and 2b midway through the measurements

6.2 Sources

5 GO trains (all eastbound) and 3 CN Rail trains (2 eastbound and 1 westbound) were measured during a three-hour period from 6:45am to 9:45am. Because the site is located directly adjacent to the Georgetown GO station, all GO trains stopped at the station before departing. All of the GO trains were heading eastbound, with westbound trains stopping at the station during the afternoon and evening hours, approximately 4:00pm to 8:00pm. Because the GO trains stopped at the station, they had speeds of approximately 0 – 10 km/hr at the site location. They generally had between 11 and 12 cars.

The station also serves as a VIA Rail station, with approximately 4 – 6 VIA Rail trains arriving and departing the station each day. No VIA Rail trains were measured during the measurement period. However, because the VIA Rail trains also stop at the station, they also travel at very low speeds at the site location and are expected to produce similar levels of vibration to the GO trains.

Three CN Rail trains were measured during the measurement period. These trains had between 80 and 150 cars and travelled at approximately 40 – 60 km/hr. Because the CN trains do not stop at the station, they have much higher speeds and produce higher levels of vibration at the site than the passenger trains.

6.3 Vibration Measurement Results

Table 6 provides a summary of the vibration measurement results, with additional details provided in Appendix D.

Table 6: Vibration Measurement Results

Measurement Description	Max 1/3 OB RMS Vertical Velocity (mm/s)				
	1a	1b	2a	2b	3
Ambient vibration 1 (no trains)	0.0033		0.0031		0.0024
GO train 1 departure, eastbound	0.018		0.012		0.010
GO train 2 arrival, eastbound	0.026		0.013		0.011
GO train 2 departure, eastbound	0.014		0.010		0.009
GO train 3 departure, eastbound	0.014		0.008		0.008
Ambient vibration 2 (no trains)		0.0063		0.0055	0.0034

	Max 1/3 OB RMS Vertical Velocity (mm/s)				
	1a	1b	2a	2b	3
GO train 4 arrival, eastbound		0.024		0.017	0.011
GO train 4 departure, eastbound		0.018		0.012	0.009
CN train 1, westbound		0.068		0.041	0.036
CN train 2, eastbound		0.077		0.076	0.050
GO train 5 arrival, eastbound		0.023		0.016	0.011
GO train 5 departure, eastbound		0.022		0.014	0.009
CN train 3, eastbound		0.085		0.051	0.067

6.4 Recommendations

All of the measured vibration levels from train pass-bys were below both the MECP and CN vibration limits at all measurement locations.

No additional mitigation is recommended for rail vibration at this time.

7.0 CONCLUSIONS

Based on the data reviewed, and modelling conducted, the proposed development can comply with the applicable requirements of NPC-300 through the inclusion of the recommendations identified in Section 4.2.4 and Section 5.3 of this report:

- North, east and west façades of the Project should be constructed with brick façade or masonry equivalent, and STC 28 (E/W) or STC 31 (N) windows;
- All units should be provided with central heating and air conditioning;
- All units should be provided with warning clauses related to the central air conditioning, nearby layover yard, and CN/Metrolinx operations; and,
- Project AC units should be selected to comply with NPC-216.

No additional mitigation is required in relation to surrounding stationary noise sources or railway vibration. Therefore, the proposed development is considered to be feasible regarding noise and vibration.

Please do not hesitate to contact us if there are any questions.

Yours Truly,

Thornton Tomasetti



Robert Fuller, P.Eng.
Project Engineer



Reviewed by:

Marcus Li, P.Eng.
Vice President

DISCLAIMERS

This report is provided in accordance with the contractual agreement between TT and the Client. In addition to our contractual obligations TT notes the following general disclaimers and qualifications regarding the content of this report.

In preparing this report, TT has relied upon the accuracy and completeness of information provided by the Client and other third parties (manufacturers, other consultants, etc.) and accepts no responsibility for errors or omissions by other parties in the information provided to TT.

This report has been prepared solely for the benefit of the Client and the content of this report is intended for informational purposes only. This report shall not be relied upon by any other parties, including but not limited to other consultants retained by the Client, or utilized for any other purposes.

Ultimate responsibility for the design and construction remains solely with the architect/engineer of record and/or the contractor(s). Achieving the required mitigation requirements relies on correct incorporation of mitigation recommendations into Architectural and Mechanical drawings and specifications, as well as correct installation during construction. It is recommended that the implementation of mitigation measures be reviewed by a qualified consultant.

On request, TT will provide a proposal for additional work such as to peer review mitigation measures or observe on-site conditions as appropriate; however, notwithstanding the foregoing, it is expressly understood and agreed that TT shall not have control or charge of, and shall not be responsible for the acts or omissions, including but not limited to means, methods, techniques, sequences and procedures, of the Design Professionals and/or Contractors performing design and/or construction on the Project. Accordingly, TT shall not be held responsible for the failure of any party to properly incorporate the mitigation measures stated in this report.

TT Figures

Figure 1: Project Context Plan & Transportation Sources

Figure 2: Modelling Results (a-e)

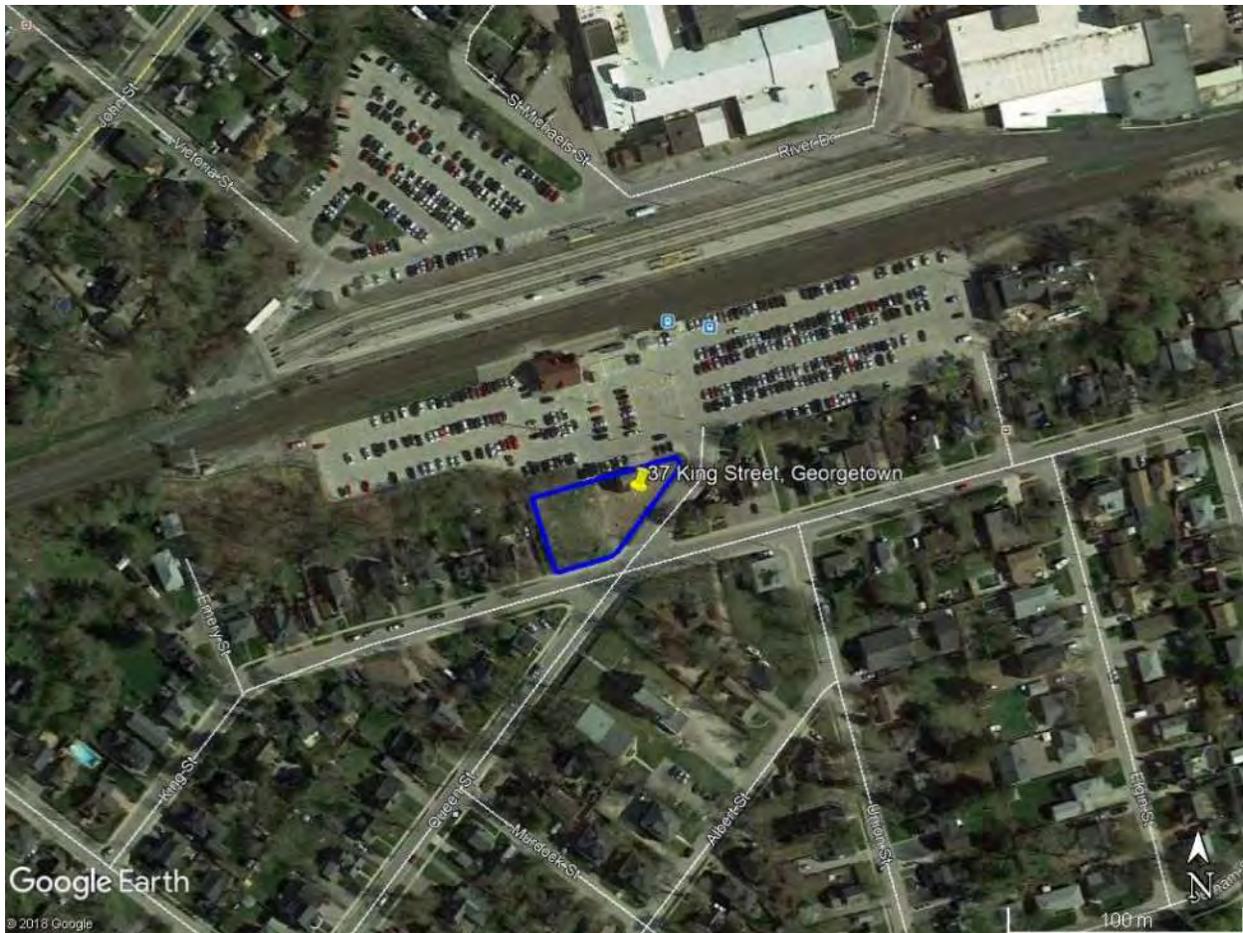
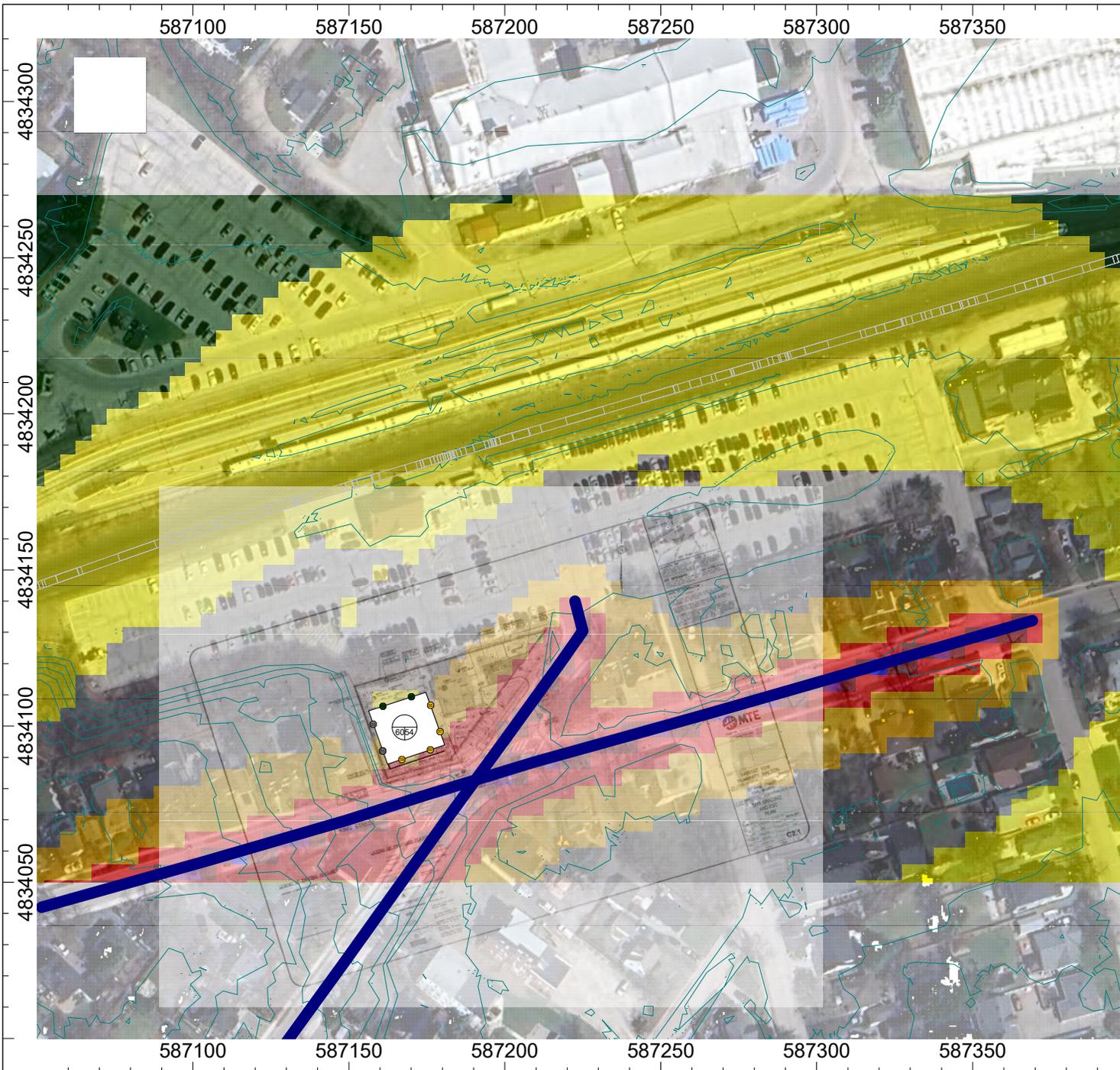


Figure 1. Site and Surrounding Area



**Thornton
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Client Name

Habitat for Humanity

Project Name

37 King Street
Georgetown

Sound Pressure Levels



Grid = 5m x 5m ; Height = 1.5m

Legend

- + Point Source
- Line Source
- Railway
- Building
- Barrier
- ▽ Height Point
- Contour Line
- Building Evaluation

Figure Title

Sound Level Contours
Road Traffic Noise Impacts

Produced By

RF

TT Project #

25013178

Figure #

2a

Date

10/02/2025



**Thornton
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Client Name
Habitat for Humanity

Project Name
37 King Street
Georgetown

Sound Pressure Levels

-
-
-
-
-
-
-
-
-
-
-

Grid = 5m x 5m ; Height = 1.5m

Legend

- Point Source
- Line Source
- Railway
- Building
- Barrier
- Height Point
- Contour Line
- Building Evaluation

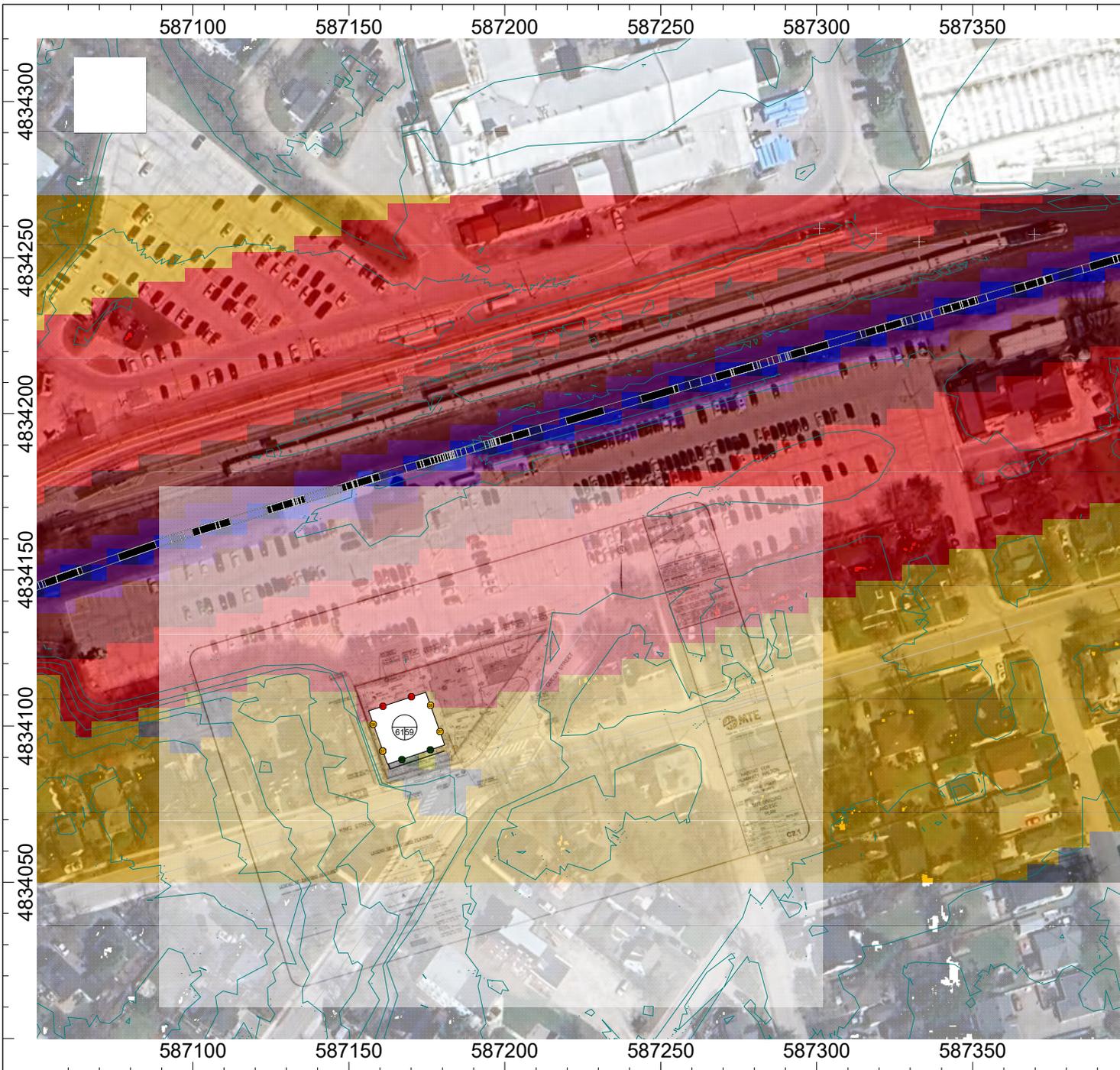
Figure Title
Sound Level Contours
Locomotive Noise Impacts

Produced By
RF

TT Project #
25013178

Date
10/02/2025

Figure #
2b



**Thornton
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Client Name
Habitat for Humanity

Project Name
37 King Street
Georgetown

Sound Pressure Levels



Grid = 5m x 5m ; Height = 1.5m

Legend

- Point Source
- Line Source
- Railway
- Building
- Barrier
- Height Point
- Contour Line
- Building Evaluation

Figure Title
Sound Level Contours
Rail Car Noise Impacts

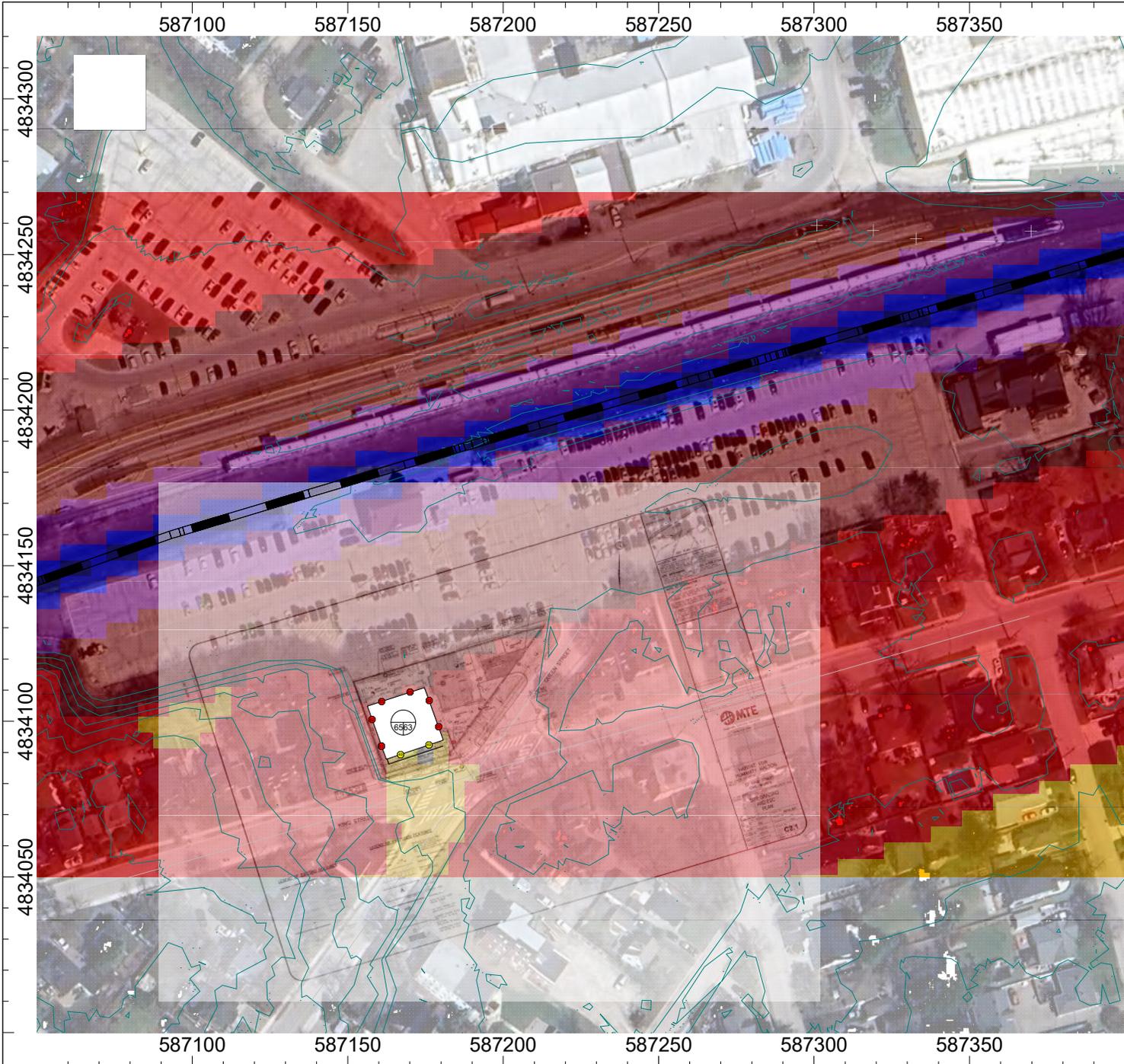
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Date
10/02/2025

Figure #

2c



**Thornton
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Client Name
Habitat for Humanity

Project Name
37 King Street
Georgetown

Sound Pressure Levels

-
-
-
-
-
-
-
-
-
-
-

Grid = 5m x 5m ; Height = 1.5m

Legend

- + Point Source
- Line Source
- Railway
- Building
- Barrier
- Height Point
- Contour Line
- Building Evaluation

Figure Title
Sound Level Contours
Combined Rail Noise Impacts

Produced By
RF

TT Project #
25013178

Figure #

Date
10/02/2025

2d



**Thornton
Tomasetti**

Client Name
Habitat for Humanity

Project Name
37 King Street
Georgetown

Sound Pressure Levels

-
-
-
-
-
-
-
-
-
-
-

Grid = 5m x 5m ; Height = 1.5m

Legend

- Point Source
- Line Source
- Railway
- Building
- Barrier
- Height Point
- Contour Line
- Building Evaluation

Figure Title
Sound Level Contours
All Road & Rail Sources

Produced By
RF

TT Project #
25013178

Figure #

Date
10/02/2025

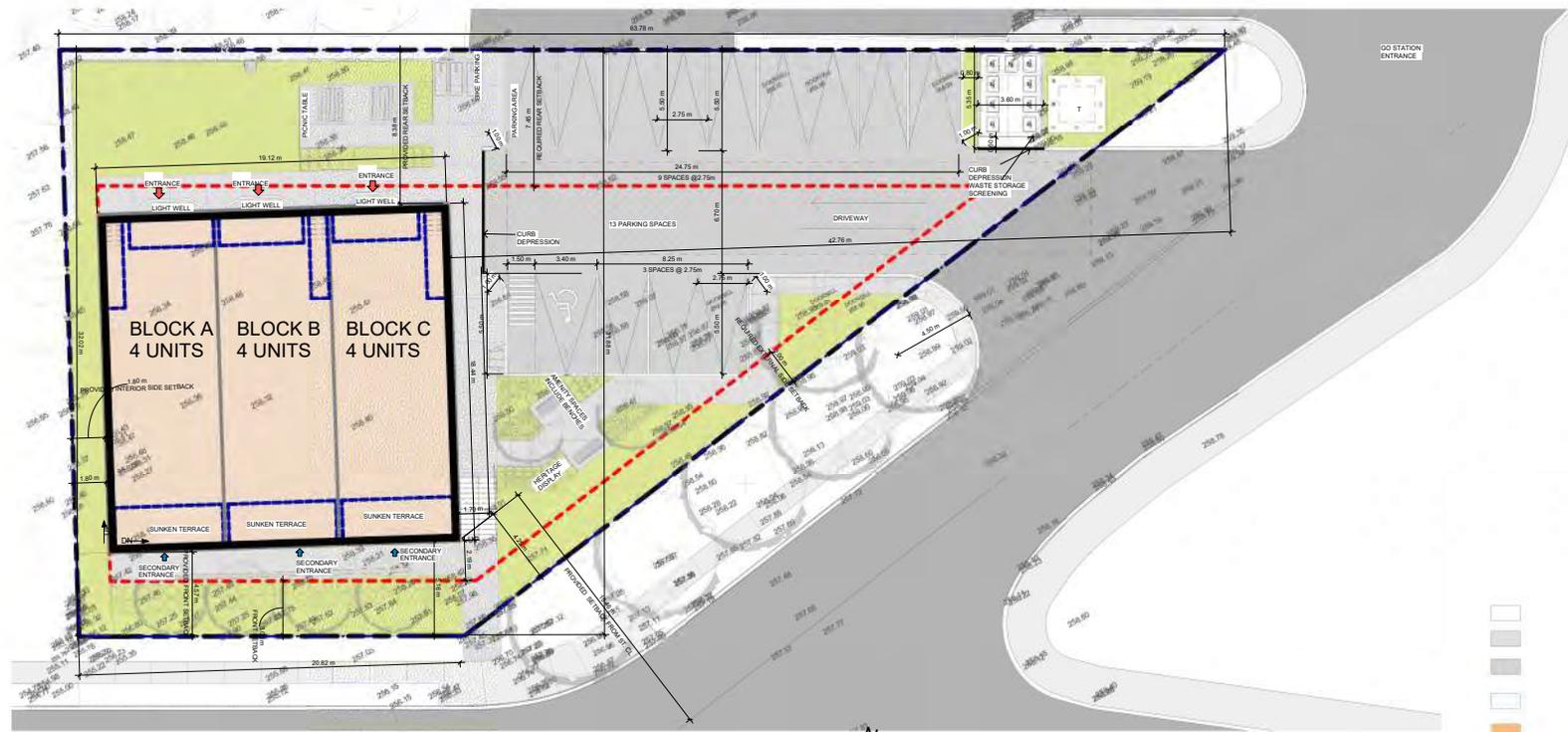
2e

Appendix A – Architect’s Drawings

LEGAL DESCRIPTION

CREDIT NOTES:
THIS SITE PLAN IS BASED UPON AND MUST BE READ IN CONJUNCTION WITH THE SURVEY PLAN PREPARED BY SKIRA & ASSOCIATES LTD., DATED AUGUST, 2017, DWG NUMBER 217-086.
CHAMBERLAIN ARCHITECT SERVICES LIMITED ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE DATA SUPPLIED AND SUCH DATA IS NOT INCLUDED UNDER SEALS OF CERTIFICATION, IF ANY.
REGISTERED PLAN 37, LOTS 8 & AND 10
TOWN OF HALTON HILLS (GEORGETOWN), ONTARIO

NO.	ISSUED	DATE



- (a) All surface drainage will be self-contained, collected and discharged at a location to be approved prior to the issuance of a building permit.
 (b) The portions of the driveway within the municipal boulevard will be paved by the applicant.
 (c) At the entrances to the site, the municipal curb and sidewalk will be continuous through the driveway and a curb depression will be provided for each entrance.
 (d) All proposed cutting within the municipal boulevard area for the site is to be as follows:
 1) For all single family residential properties including on street townhouses, all curbing is to stop at the property limit or the back of the municipal sidewalk, whichever is applicable; or
 2) For all other proposals including Industrial, Commercial and Condominium developments, all entrances to the site are to be in accordance with OPSS 050.010 (save and except Detail 'A' which shall match City of Mississauga Standard 2240.031).
 (e) All excess excavated material will be removed from the site.
 (f) The existing drainage pattern will be maintained except where noted.
 (g) The applicant will be required to contact all utility companies to obtain, if required, locates prior to the installation of hoarding within the municipal right-of-way.
 (h) The applicant will be responsible for the cost of any utility relocations necessitated by the site plan.
 (i) All internal site area to be standard 2-stage curbing and gutter as per O.P.S.D. 600.076.
 (j) Prior to commencing construction, all required hoarding in accordance with the Ontario Occupational Health & Safety Act and regulations for construction projects, must be erected and then maintained throughout all phases of construction.
 (k) Should any works be required within the municipal right-of-way, a Road Occupancy Permit will be required. P.U.C.C approval will be required. For further information please contact the P.U.C.C/Permit Technologist, located at 3185 Mavis Road.
 (l) All asphalt and base materials of the existing driveway to be removed are to be reinstated with logal and sod.
 (m) Refer to the Site Grading Plan prepared by Chain Infrastructure Consultants Ltd., Drawing (C102-SITE GRADING PLAN), Issued for approval MARCH 2023 and FB7 0724 for the purposes of obtaining site grading information.

TRAFFIC NOTES:
 (i) All damaged or disturbed areas within the municipal right of way to be reinstated at the Owner's expense.
 (ii) All landscaping and grading within close proximity to the proposed access points is to be designed to ensure that adequate sight distances are available for all approaching and exiting motorists and pedestrians.
 (iii) The portion of the driveway within the municipal boulevard is to be paved by the Owner.
 (iv) Driveway accesses shall maintain a 7.5m setback from abutting roadways such as utilities and trees.
 (v) Any above ground utilities located within 1.5m of a proposed access are to be relocated at the Owner's expense.
 (vi) The cost for any road improvements required in support of this development application will be borne by the Owner.
 (vii) The Owner shall make satisfactory arrangements with the Transportation and Works Department for the design, construction and payment of all costs associated with works necessary to support access to this site.
 (viii) Any access by animal or vehicle shall be provided internally through the site.
 (ix) Details of the site specific access configurations will be finalized in conjunction with the Site Plan review/approval process.

1 Site Plan
A001 1 : 125

GENERAL PROVISIONS

Zone Code : MDR-10741
City : Town of Halton Hills
Property Address : 27 King Street, Georgetown, ON
Zoning Bylaw : 2010-0050
Lot Area : 1387.6m²

ZONING DATA

REQUIRED	PROVIDED
MINIMUM LOT FRONTAGE	4.57M
LOT COVERAGE	26%
MINIMUM FRONT YARD	4.29M
MINIMUM INTERIOR SIDE YARD	1.80M
MINIMUM EXTERIOR SIDE YARD	4.24M
MINIMUM REAR YARD	7.43M
MINIMUM REAR YARD	8.38M

PARKING REQUIREMENT

REQUIRED	PARKING PROPOSED
2 spaces per dwelling unit plus 0.5 spaces per dwelling unit for visitor parking, if each individual dwelling unit includes an attached garage, does not front on a public street, the street townhouse	12
RESIDENTIAL: 12 PARKING SPACES	12
ACC-PARKING: 28 TYPICAL PARKING	15 TYPICAL PARKING
TOTAL REQUIREMENT= 28	TOTAL PROPOSED= 13

SITE STATISTICS

Site Category	Area	Area SF	PERCENTAGE
BUILDING FOOTPRINT	352 m ²	3790 SF	26%
HARD LANDSCAPE	224 m ²	2410 SF	17%
HARDSCAPE	16 m ²	173 SF	1%
HARDSCAPE	18 m ²	191 SF	1%
HARDSCAPE	403 m ²	4341 SF	30%
HARDSCAPE	9 m ²	102 SF	1%
SOFT LANDSCAPE	334 m ²	3598 SF	25%
Grand total	1337	14368 SF	

OVERALL SITE

DESCRIPTION	AREA (SM)	AREA (SF)	PERCENTAGE
OVERALL SITE	1337.68 m ²	14408.87 SF	100.0%



ACCESSIBLE PARKING

ACCESSIBLE PARKING: 1 SPACE PLUS 2% OF TOTAL REQUIRED
 1.1 x (28/100) = 3.08
 TOTAL REQUIRED ACCESSIBLE PARKING=15 (TYPE A)

TYPE	DESCRIPTION	COUNT
VEHICLE ACC PARKING	TYPE A - 3.4mX5.5m	1
VEHICLE PARKING	2.75m x 5.5m	12
BIKE PARKING	UJG PARKING	3

ZONING INFO

ZONE: 2010-0050
 Medium Density Residential Two
 Exception: 07 (MDR2)(107)(H)

REQUIRED	PROVIDED
MIN. NUMBER OF PARKING SPACES	28
MAX. HEIGHT	10.0m
	116m

REFER TO SETBACK PLAN FOR AS APPROVED SETBACKS VS PROPOSED BUILDING

PARKING PROVIDED NUMBER AS FROM THE APPROVED LANDPLOT
 MIN. PARKING NUMBER

GFA

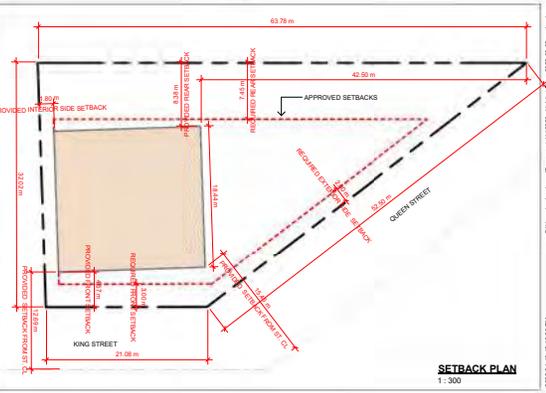
ML	Area	FSI
GROUND FLOOR	316.15 m ²	0.072152
T/O BASEMENT	293.90 m ²	0.067075
T/O SECOND FLOOR	296.28 m ²	0.067817
T/O THIRD FLOOR	292.76 m ²	0.066814
EG	75.08	0.016879
Grand total	1199.08 m ²	0.273658



SETBACK CALCULATION

length no.	Begin elev	end elev	length	(wall+e2)/2/ML
L1	256.80	256.68	9.67	2482.68
L2	256.68	258.24	9.52	2451.02
L3	258.24	258.75	18.51	4743.38
L4	258.75	258.75	39.19	4965.41
L5	258.75	258.76	16.36	4233.23
L6	258.76	256.80	1.99	513.68
TOTAL			75.08	39188.79
EG				258.34

SITE PLAN - ESTABLISHED GRADE
1 : 500



SITE PLAN

SHEET NAME

START DATE: APRIL 2024

CHECKED BY: SM

SCALE: As Indicated

PROJECT NO: 123012

DRAWING: A001

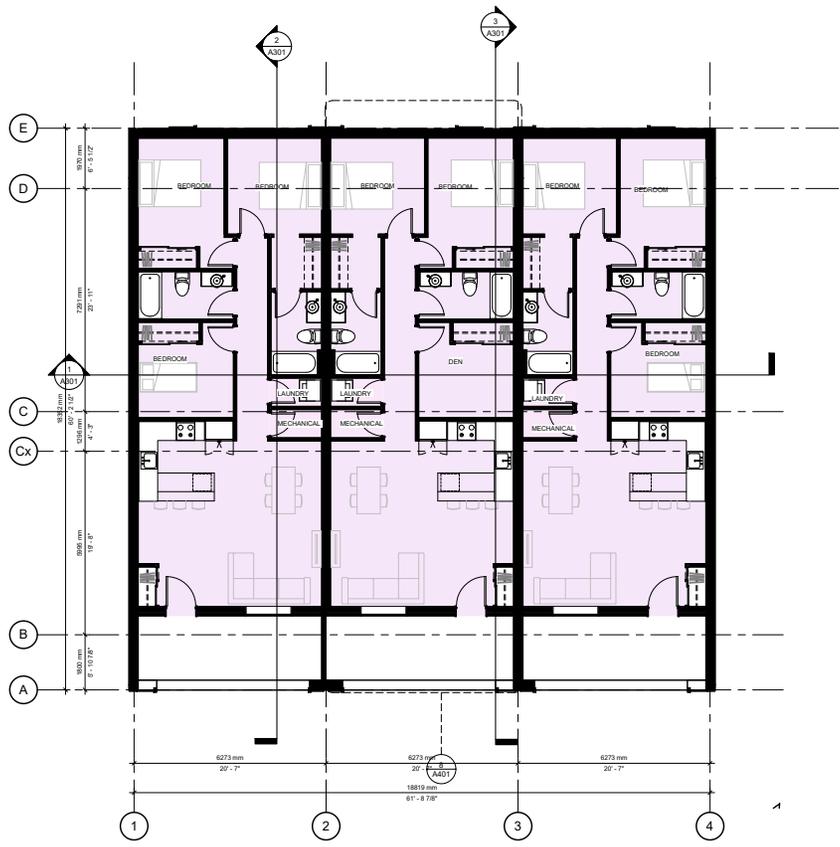
1 : 300

Unit Schedule						
Name	UNIT AREA	TOTAL Area	TOTAL AREA Hc.	Comments	Level	Count
UNIT 1	94 m ²	282 m ²	0.03 hectare	3 BEDROOM	T/O BASEMENT	3
UNIT 2	86 m ²	256 m ²	0.03 hectare	3 BEDROOM	GROUND FLOOR	3
UNIT 3	110 m ²	330 m ²	0.03 hectare	2 BEDROOM	<varies>	9
UNIT 4	99 m ²	296 m ²	0.03 hectare	2 BEDROOM	<varies>	9



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NO.	ISSUED	DATE
1	REVISIONS/NOTES	2012/04/24

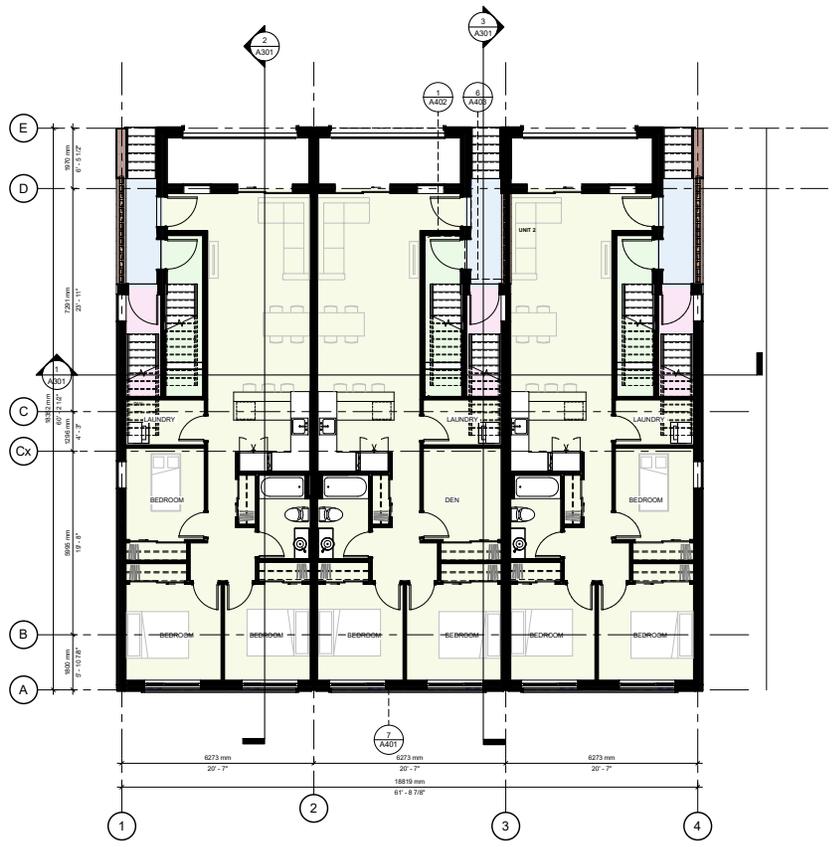


UNIT LEGEND

□ SERVICE

□ UNIT 1

2 BASEMENT FLOOR PLAN
 A101 1:75



UNIT LEGEND

□ ENTRANCE

□ UNIT 2

□ UNIT 3

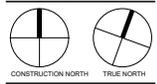
□ UNIT 4

1 GROUND FLOOR
 A101 1:75

DO NOT SCALE DRAWINGS. USE ONLY DIMENSIONS MARKED. ISSUED FOR CONSTRUCTION. VERIFY DIMENSIONS PRIOR TO CONSTRUCTION. SITE SERVICE ENGINEERING WORK. NO PART ARCHITECT ASSUMES LIABILITY OF ANY ERRORS, OMISSIONS OR DISCREPANCIES.

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HABITAT FOR HUMANITY

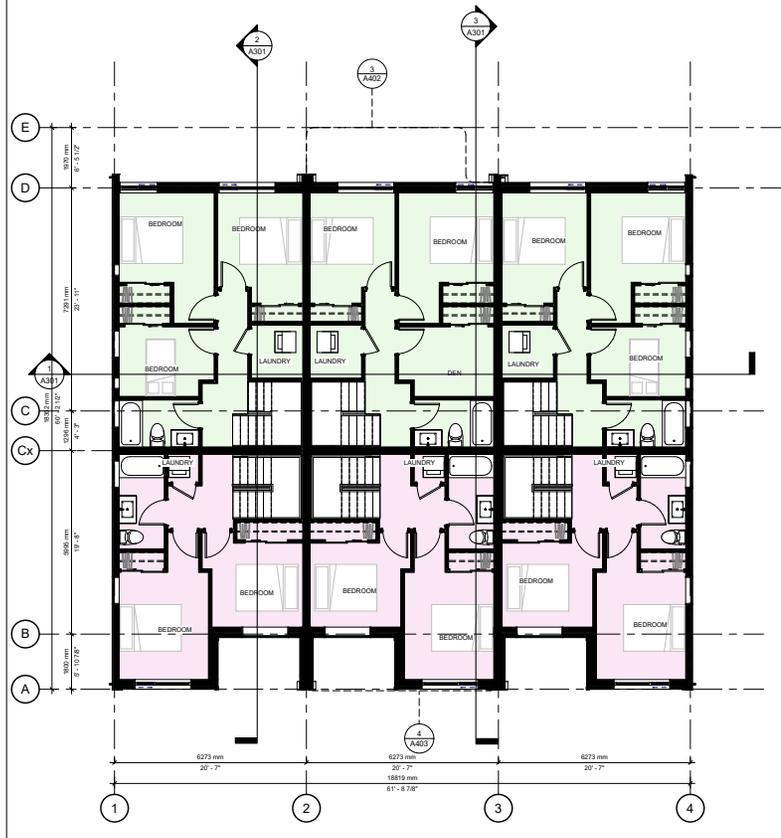
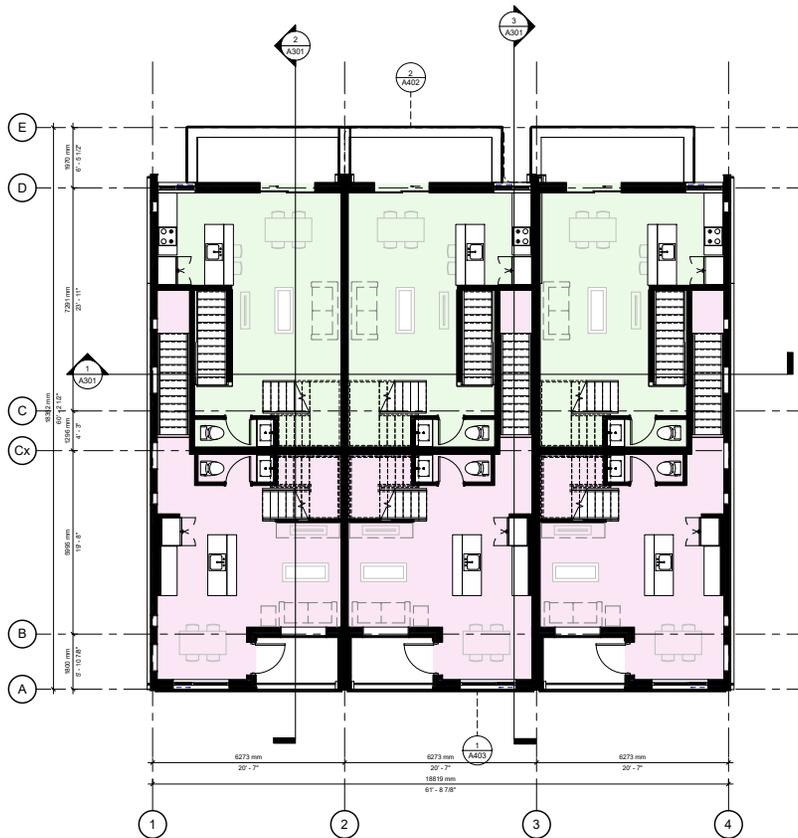
37 King Street, Georgetown, ON

BASEMENT & GROUND FLOOR

START DATE	June 6, 2019
DRAWN BY	Author
CHECKED BY	Checker
SCALE	1 : 75
PROJECT NO.	123012

A101

Unit Schedule						
Name	UNIT AREA	TOTAL Area	TOTAL AREA Hc.	Comments	Level	Count
UNIT 1	94 m ²	282 m ²	0.03 hectare	3 BEDROOM	T/O BASEMENT	3
UNIT 2	86 m ²	258 m ²	0.03 hectare	3 BEDROOM	GROUND FLOOR	3
UNIT 3	113 m ²	339 m ²	0.03 hectare	2 BEDROOM	<varies>	9
UNIT 4	99 m ²	296 m ²	0.03 hectare	2 BEDROOM	<varies>	9



UNIT LEGEND

- UNIT 3
- UNIT 4

UNIT LEGEND

- UNIT 3
- UNIT 4

1 SECOND FLOOR PLAN
A102 1:75

2 THIRD FLOOR PLAN
A102 1:75



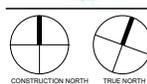
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NO.	ISSUED	DATE
1	REVISIONS/CHANGES	2015.04.15

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HABITAT FOR HUMANITY

37 King Street, Georgetown, ON

SHEET NAME

SECOND & THIRD FLOOR

START DATE	June 6, 2019
DRAWN BY	Author
CHECKED BY	Checker
SCALE	1:75
PROJECT NO.	123012

A102



3 SOUTH ELEVATION
A201 1:75



1 EAST ELEVATION
A201 1:75



2 NORTH ELEVATION
A201 1:75



4 WEST ELEVATION
A201 1:75

FINISH LEGEND

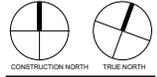
- 1 MASONRY
- 2 NEW TECH - HORIZONTAL
- 3 WINDOW GLASS
- 4 1 MILLION - TYPICAL
- 5 4mm ALUMINUM CLADDING - BLACK
- 6 WOOD FINISH SIDING
- 7 GUTTER
- 8 BLACK PAINT
- 9 SASH
- 10 CORRUGATED SIDING - BLACK - ROOF SCREEN
- 11 WOOD COMPOSITE SIDING
- 12 Facade Wood Finish 3
- 13 THERMALLY BROKEN ALUMINUM MULLION - BLACK
- 14
- 15 WOOD COMPOSITE / WOOD STAIN
- 16 EXTERIOR DOOR / WINDOW FRAME
- 17 EIFS - Exterior Insulation
- 18 ?
- 19 ?
- 20 ?
- 21 WOOD COMPOSITE / WOOD STAIN



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NO.	ISSUED	DATE
1	REVISIONS/NOTES	2019.04.18

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CHAMBERLAIN ARCHITECT SERVICES LIMITED HAS COMPLETED CONSTRUCTION OF A SIMILARLY SIZED AT BUILDING WITHOUT PERMISSIONS MAY REFLECT THE CONTRACT OWNER'S CHOICE. MAKING MINOR CHANGES TO PLANS DOES NOT NECESSARILY IMPLY A CHANGE OF THEIR MANAGEMENT. PROCEED WITH REFERENCE TO SET AND TO BE TO CONSTRUCTION PERMITMENT & SEAL.



HABITAT FOR HUMANITY

37 King Street, Georgetown, ON

START DATE	June 6, 2019
DRAWN BY	Author
CHECKED BY	Checker
SCALE	As Indicated
PROJECT NO.	123012

A201

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Appendix B – Regulatory References

NPC-300

Transportation Noise Definitions

For the purposes of complying with the transportation noise limits identified in NPC-300, impacts to noise sensitive land uses are assessed at both “outdoor living areas” and the “plane of window” of noise sensitive indoor spaces. Selection of representative receivers considers the following:

- Outdoor sound limits apply to areas that are intended and designed for the quiet enjoyment of the outdoor environment and are readily accessible from the building. These typically include backyards, front yards, gardens, and terraces or patios greater than 4m in depth. Impacts to outdoor areas are typically assessed at a height of 1.5m above grade/floor level and either 3m from the façade or the centre of the outdoor living area (whichever is closer to the façade).
- Plane of window sound limits apply to all noise sensitive spaces, such as bedrooms and sleeping quarters, living/dining rooms, eat-in kitchens, dens, lounges, classrooms, therapy or treatment rooms, assembly spaces for worship, etc. Plane of window sound limits do not apply to non-sensitive spaces such as washrooms, laundry rooms, mechanical rooms, corridors, etc.

Table 7: Summary of Transportation Noise Requirements (Ground Transportation)

Source Type	Receiver Type*	Daytime Sound Level 07:00 – 23:00 Leq-16h (dBA)	Nighttime Sound Level 23:00 – 07:00 Leq-8h (dBA)	Requirements
Road & Rail***	Outdoor	≤ 55	-	None
		56 - 60	-	Optional Barrier Type A Warning Clause**
		> 60	-	Barrier Required to Achieve ≤ 60 dBA Type B Warning Clause**
Road & Rail***	Plane of Window	≤ 55	≤ 50	None
		56 – 65	51 – 60	Include central heating & optional central A/C Type C warning clause
		> 65	> 60	Include central heating & central A/C Type D warning clause
Road	Indoor In Non-Sleeping / Sleeping Rooms	45 / 45	45 / 40	None – Indoor sound level target
	Plane of Window of Sleeping & Non-Sleeping Rooms	> 65	> 60	Design exterior building components to achieve indoor sound level target
Rail	Indoor In Non-Sleeping / Sleeping Rooms	40 / 40	40 / 35	None – Indoor sound level target
	Plane of Window of Sleeping & Non-Sleeping Rooms	> 60	> 55	Design exterior building components to achieve indoor sound level target
	Plane of Window of Sleeping Rooms	-	-	Minimum of brick veneer or masonry equivalent construction from foundation to rafters in 1st row of dwellings if within 100m of tracks

*"Sleeping Rooms" include all types of sleeping quarters, and "Non-Sleeping Rooms" include all other sensitive indoor spaces.

**Unless post-barrier sound level is ≤ 55 dBA.

***Excluding whistle noise.

FCM/RAC

The following table provides a summary of the FCM/RAC’s identified rail infrastructure influence radii, and other parameters.

Table 8: FCM/RAC Guidelines

Rail Infrastructure	Potential Noise Influence Radius	Recommended Minimum Separation*	Recommended Minimum Noise Barrier Height**	Potential Vibration Influence Radius	Recommended Maximum Vibration Impact
Freight Rail Yard	1000 m	300 m	Varies	75 m	0.14 mm/s RMS between 4 Hz and 200 Hz.
Principle Main Line	300 m	30 m	5.5 m		
Secondary Main Line	250 m	30 m	4.5 m		
Principle Branch Line	150 m	15 m	4.0 m		
Secondary Branch Line	75 m	15 m	N/A		
Spur Line	75 m	15 m	N/A		

*Measured from closest rail property line to new building façade.

**Height relative to top of rail. Only applicable to developments directly adjacent to rail facilities, to be constructed adjoining & parallel to the railway right-of-way, with returns at both ends.

The FCM/RAC guidelines further recommend that if applicable, vibration measurements be collected from a minimum of five (5) train pass-by events covering the range of train types and activities on the rail line.

Appendix C – Transportation Validation File

Filename: HHGT.te Time Period: Day/Night 16/8 hours
Description:

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

Car traffic volume : 3002/334 veh/TimePeriod *
Medium truck volume : 46/5 veh/TimePeriod *
Heavy truck volume : 46/5 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 2456
Percentage of Annual Growth : 2.00
Number of Years of Growth : 17.00
Medium Truck % of Total Volume : 1.50
Heavy Truck % of Total Volume : 1.50
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: King (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 : 15.00 / 15.00 m
Receiver height : 7.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

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

Car traffic volume : 3591/399 veh/TimePeriod *
Medium truck volume : 33/4 veh/TimePeriod *
Heavy truck volume : 33/4 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 2902
Percentage of Annual Growth : 2.00

Number of Years of Growth : 17.00
 Medium Truck % of Total Volume : 0.90
 Heavy Truck % of Total Volume : 0.90
 Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Queen (day/night)

 Angle1 Angle2 : 0.00 deg 90.00 deg
 Wood depth : 0 (No woods.)
 No of house rows : 0 / 0
 Surface : 2 (Reflective ground surface)
 Receiver source distance : 18.00 / 18.00 m
 Receiver height : 7.50 / 4.50 m
 Topography : 1 (Flat/gentle slope; no barrier)
 Reference angle : 0.00

Results segment # 1: King (day)

 Source height = 1.10 m

ROAD (0.00 + 58.23 + 0.00) = 58.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	58.23	0.00	0.00	0.00	0.00	0.00	0.00	58.23

Segment Leq : 58.23 dBA

Results segment # 2: Queen (day)

 Source height = 0.97 m

ROAD (0.00 + 54.14 + 0.00) = 54.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	57.94	0.00	-0.79	-3.01	0.00	0.00	0.00	54.14

Segment Leq : 54.14 dBA

Total Leq All Segments: 59.66 dBA

Results segment # 1: King (night)

Source height = 1.10 m

ROAD (0.00 + 51.65 + 0.00) = 51.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	51.65	0.00	0.00	0.00	0.00	0.00	0.00	51.65

Segment Leq : 51.65 dBA

Results segment # 2: Queen (night)

Source height = 1.00 m

ROAD (0.00 + 47.77 + 0.00) = 47.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	51.57	0.00	-0.79	-3.01	0.00	0.00	0.00	47.77

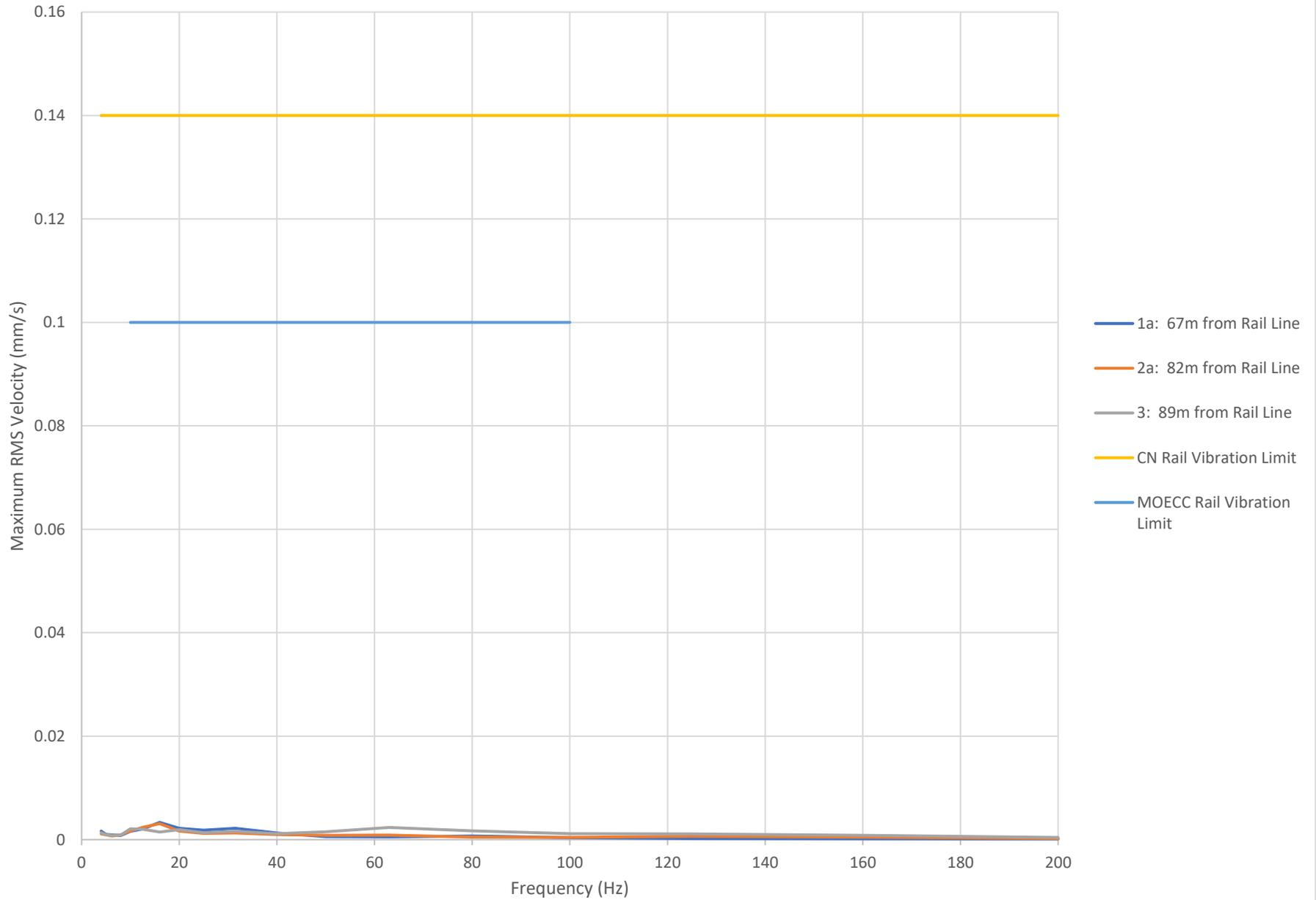
Segment Leq : 47.77 dBA

Total Leq All Segments: 53.14 dBA

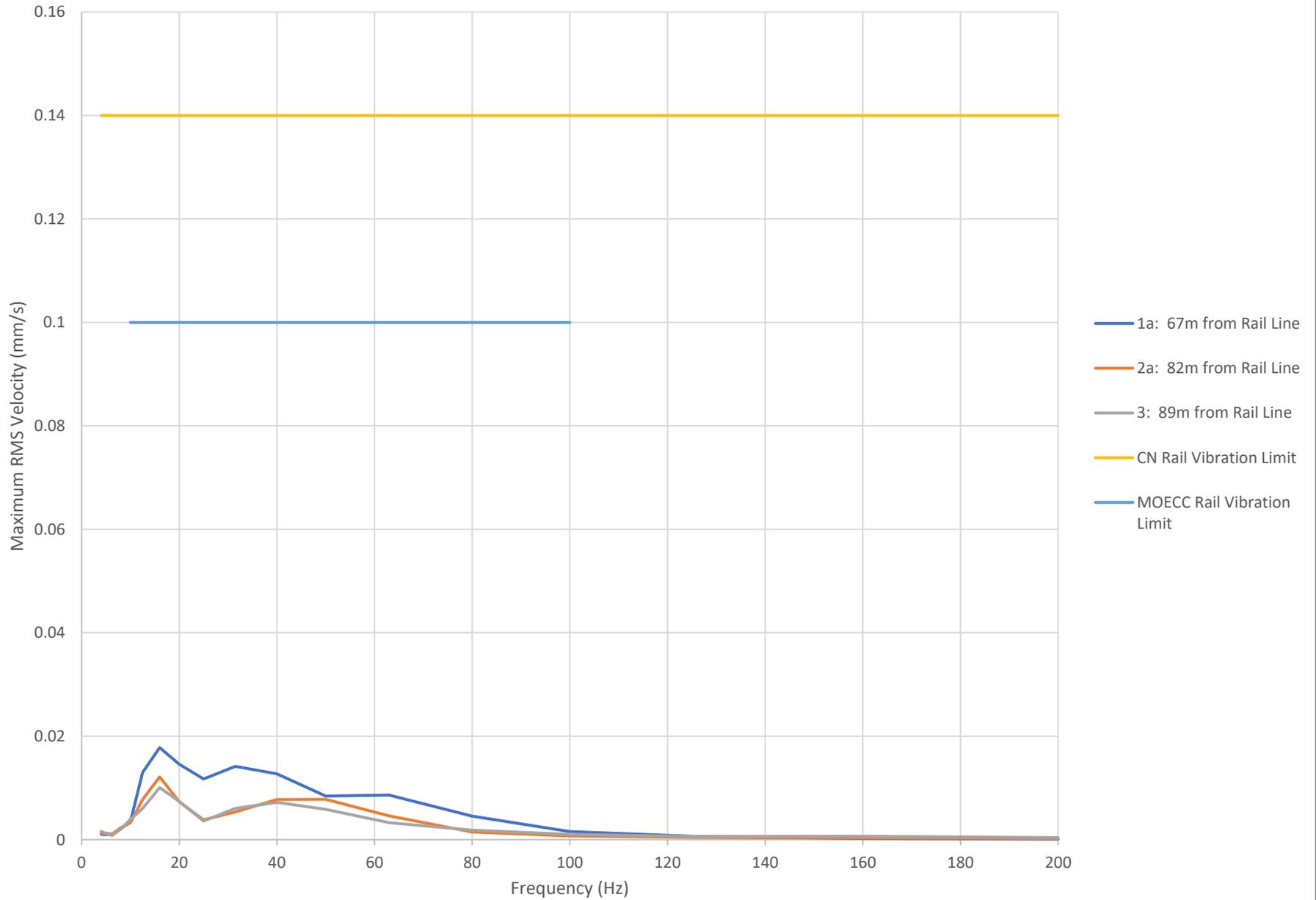
TOTAL Leq FROM ALL SOURCES (DAY): 59.66
(NIGHT): 53.14

Appendix D – Measurement Results

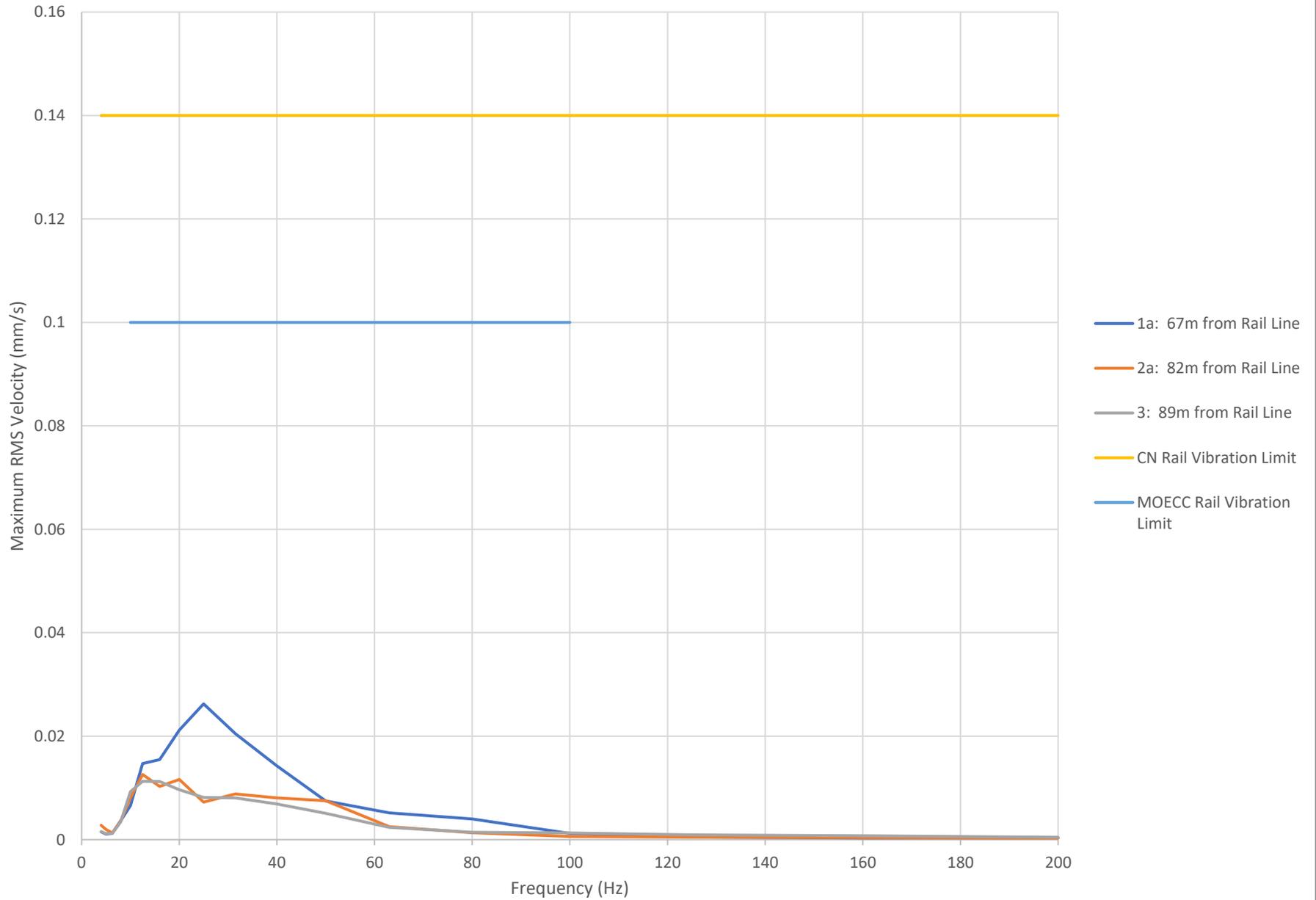
Ambient Vibration 1 (no trains)



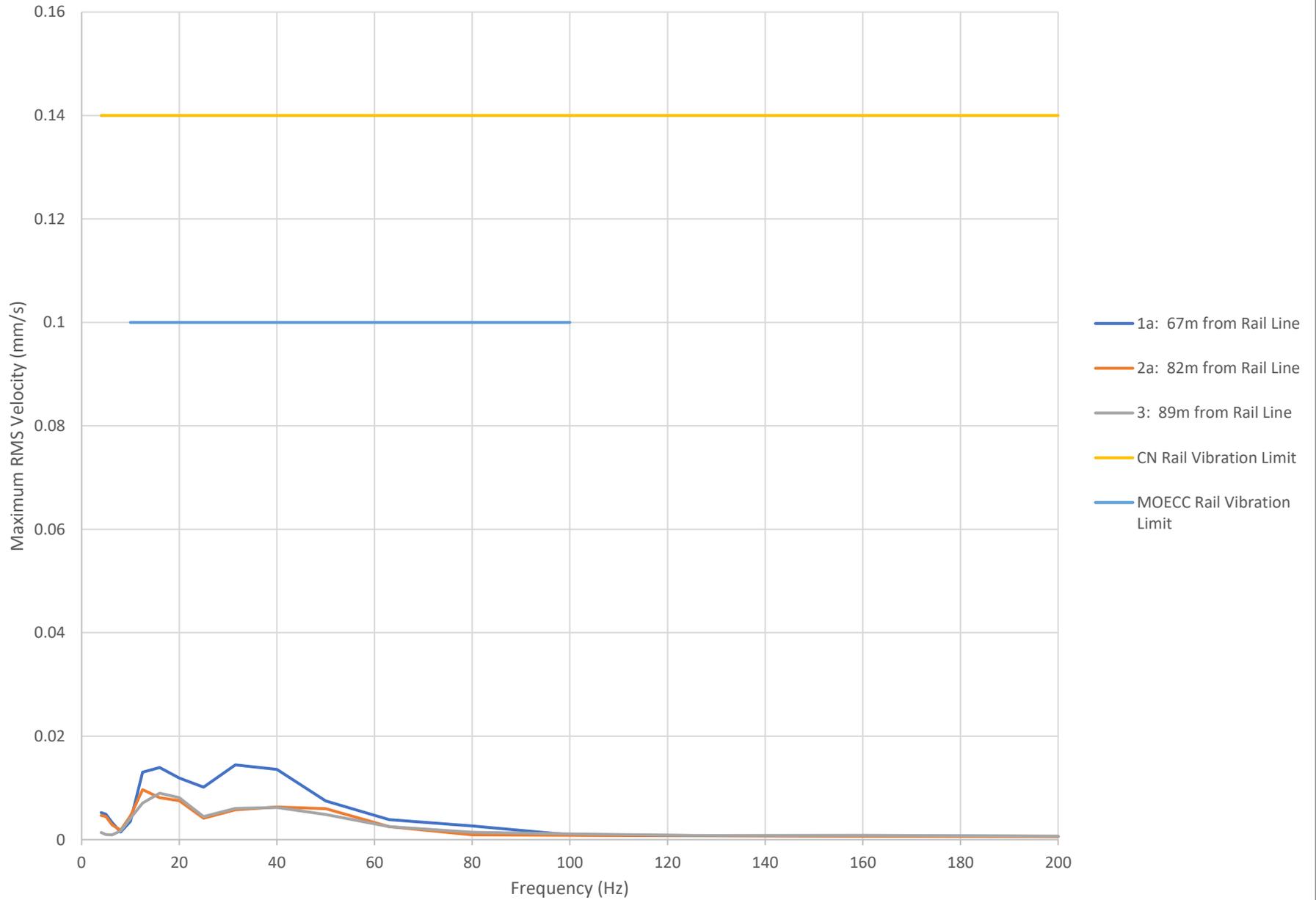
GO train 1 departure, eastbound



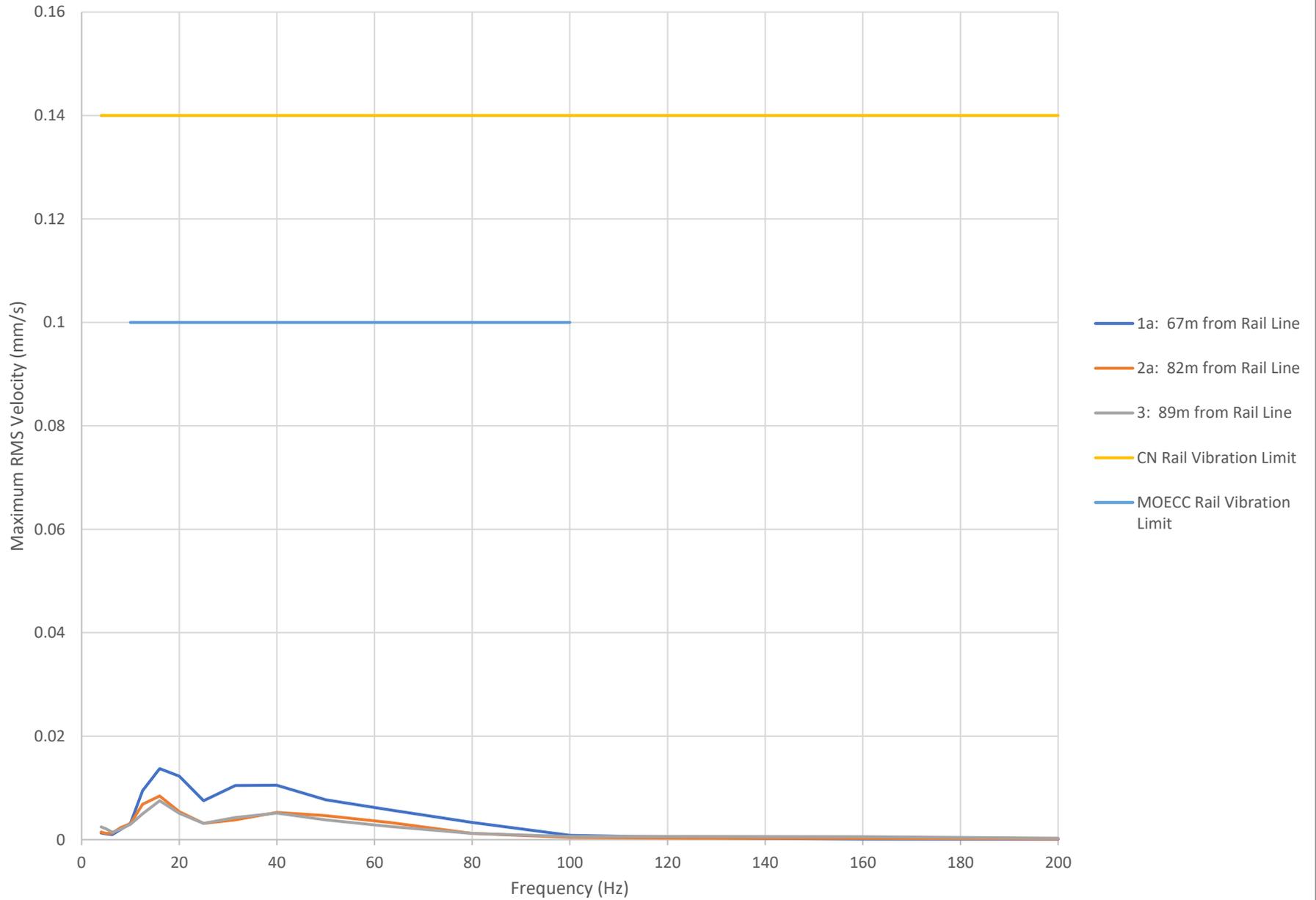
GO train 2 arrival, eastbound



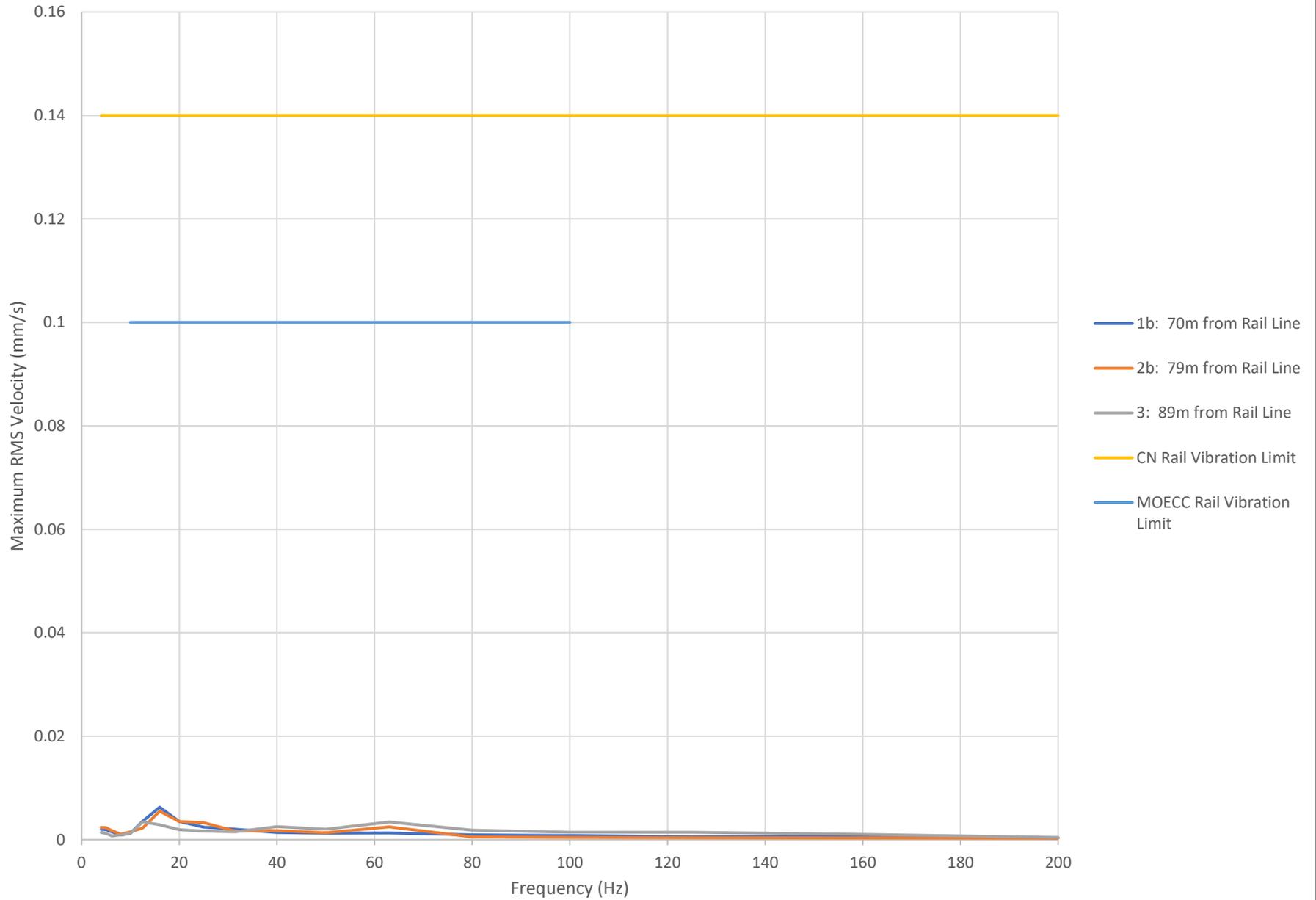
GO train 2 departure, eastbound



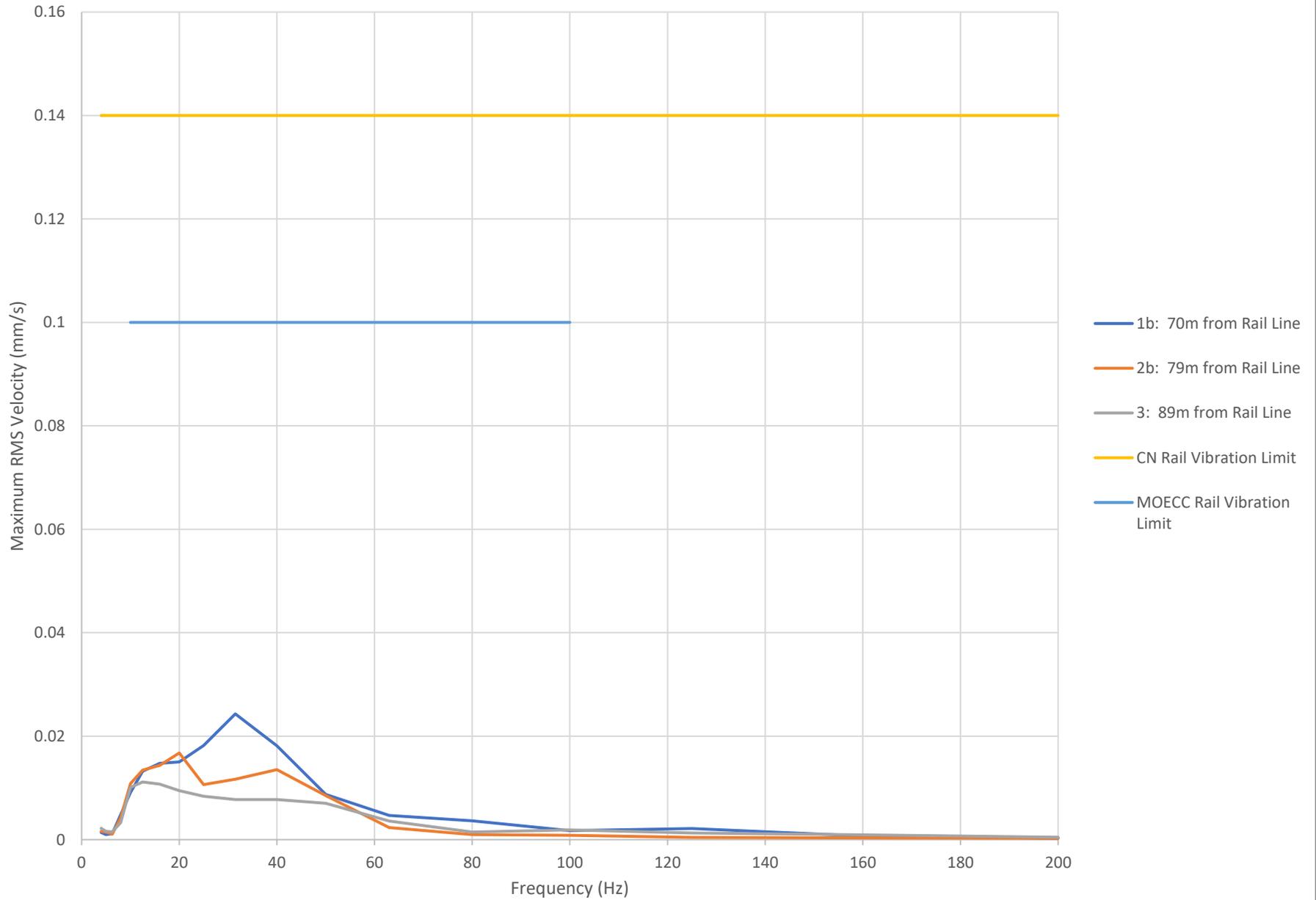
GO train 3 departure, eastbound



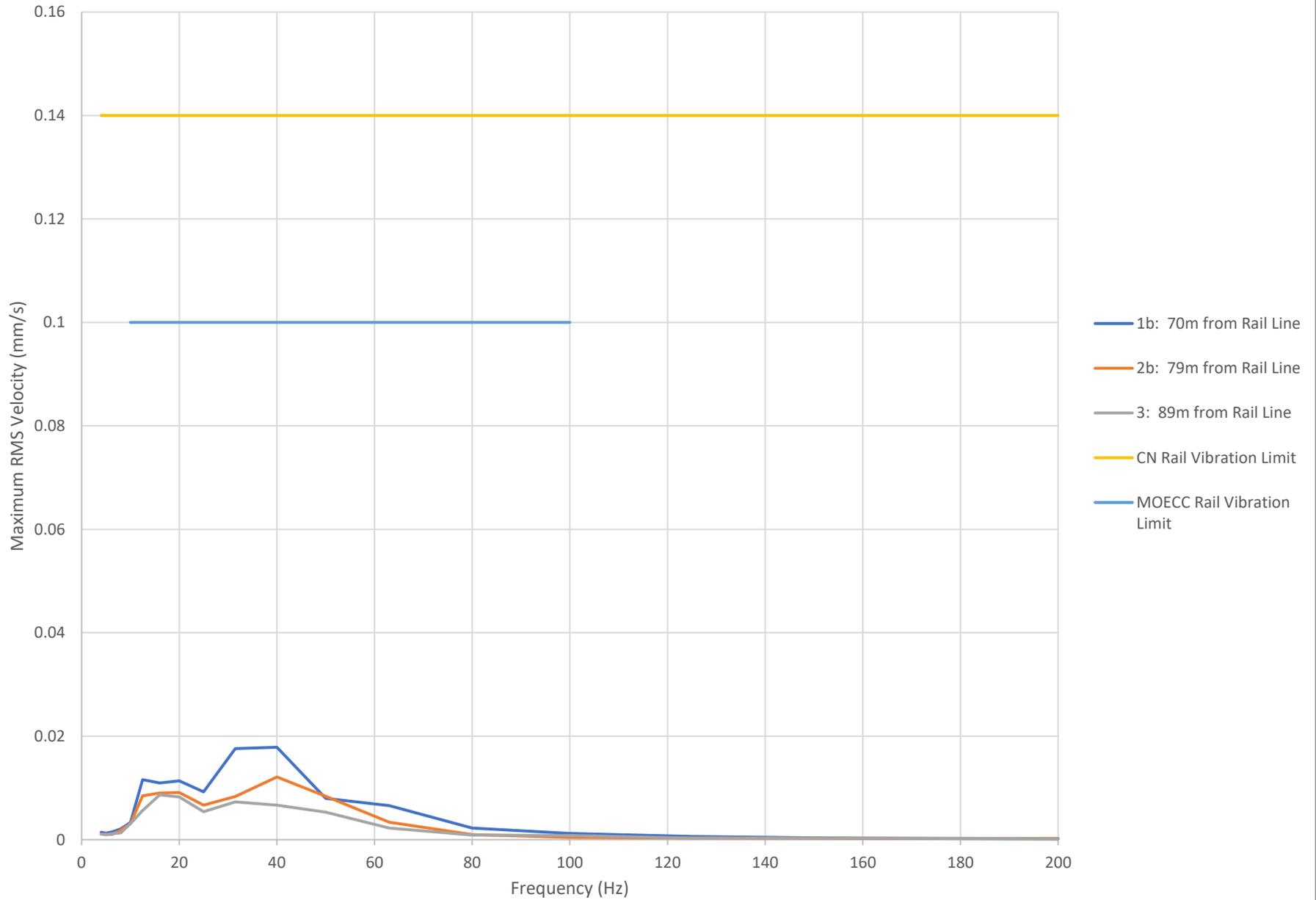
Ambient Vibration 2 (no trains)



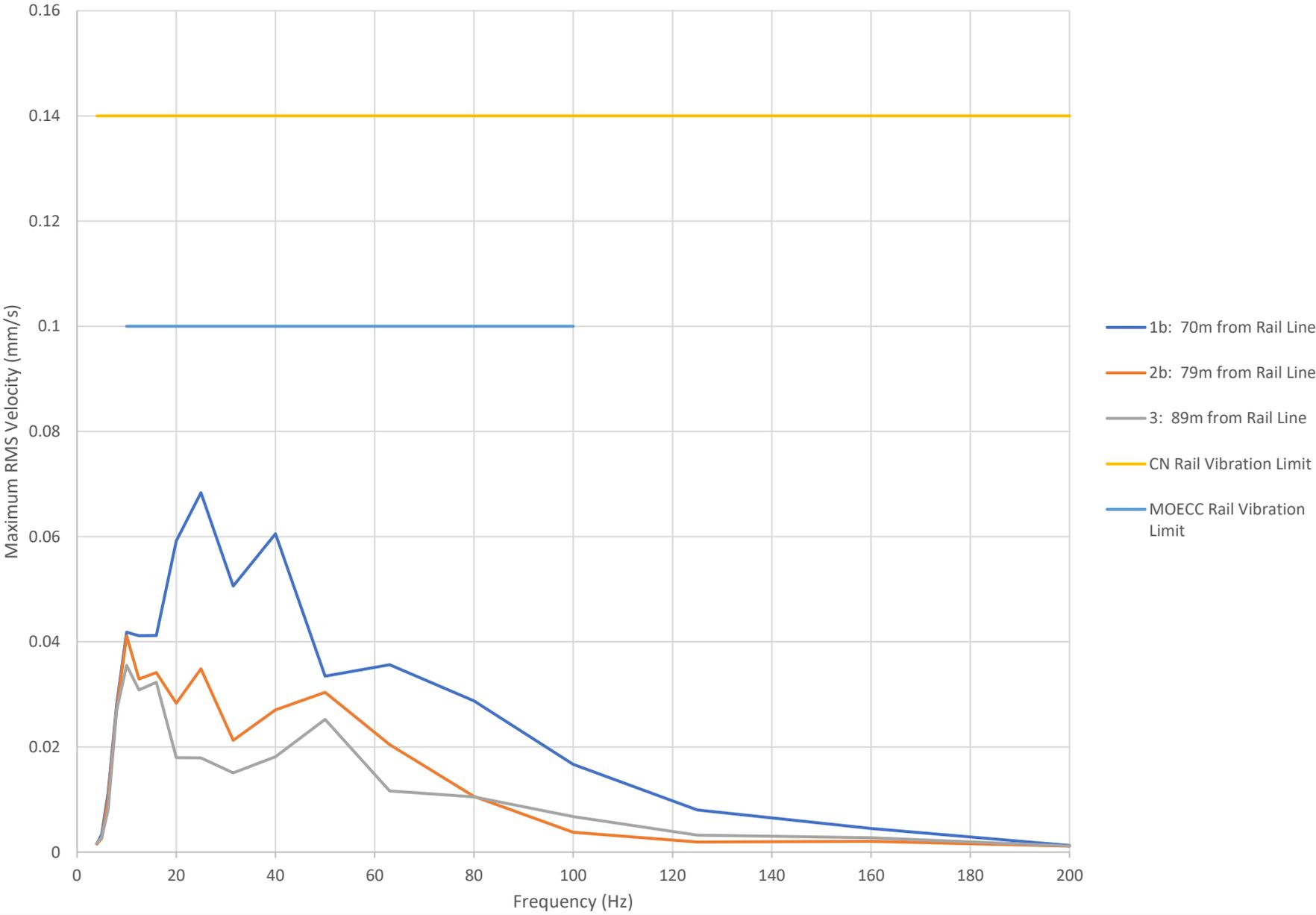
GO train 4 arrival, eastbound



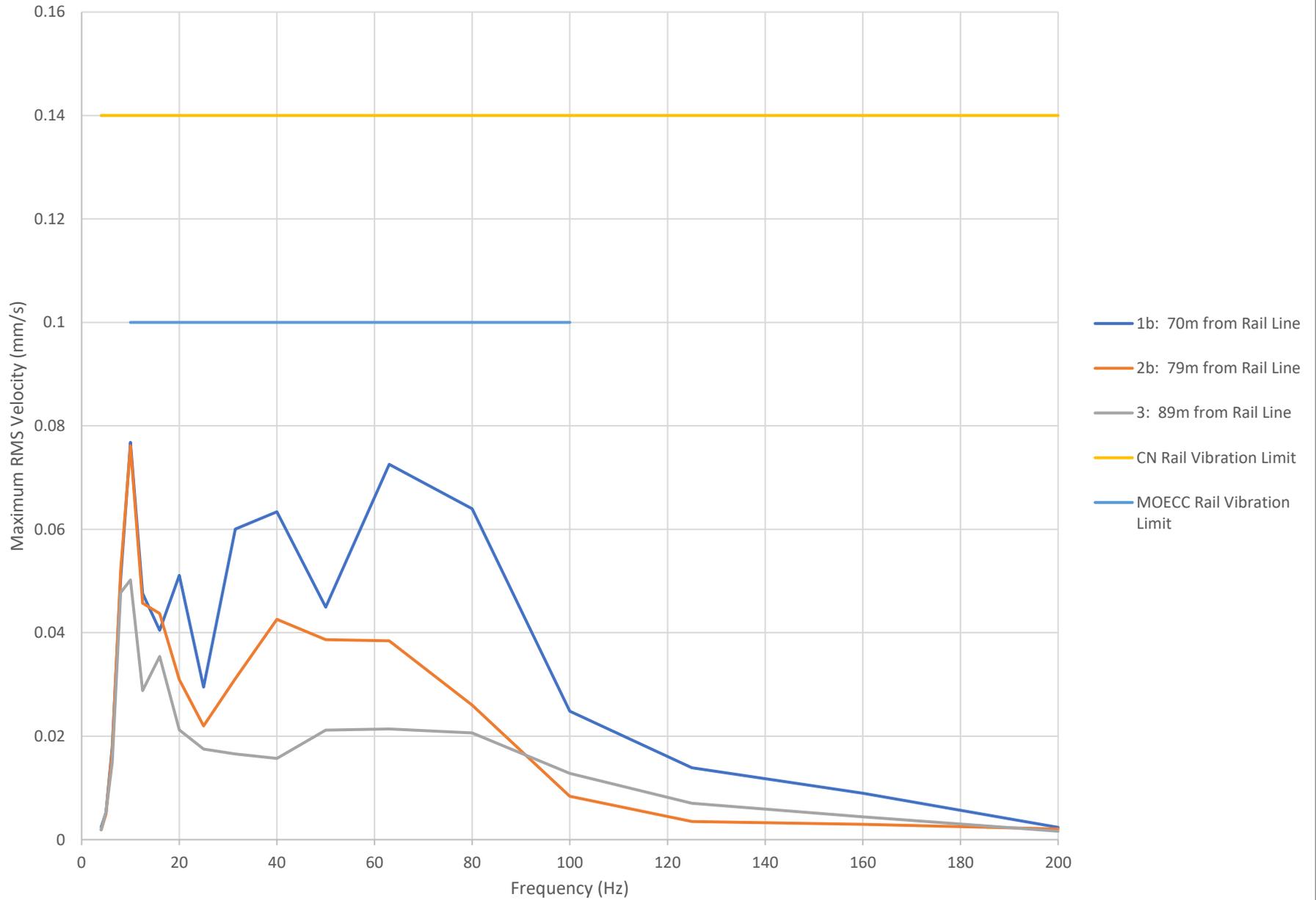
GO train 4 departure, eastbound



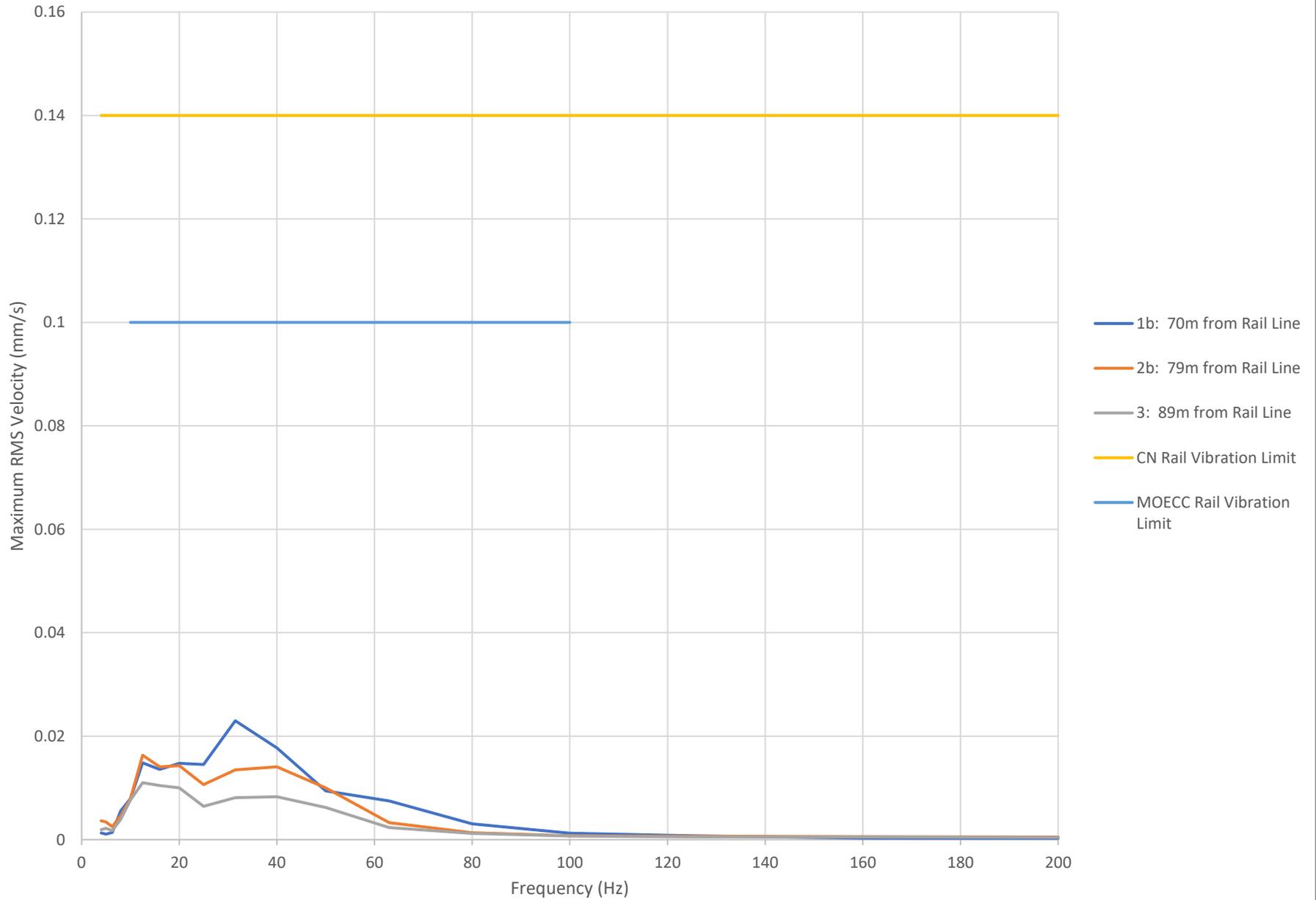
CN train 1, westbound



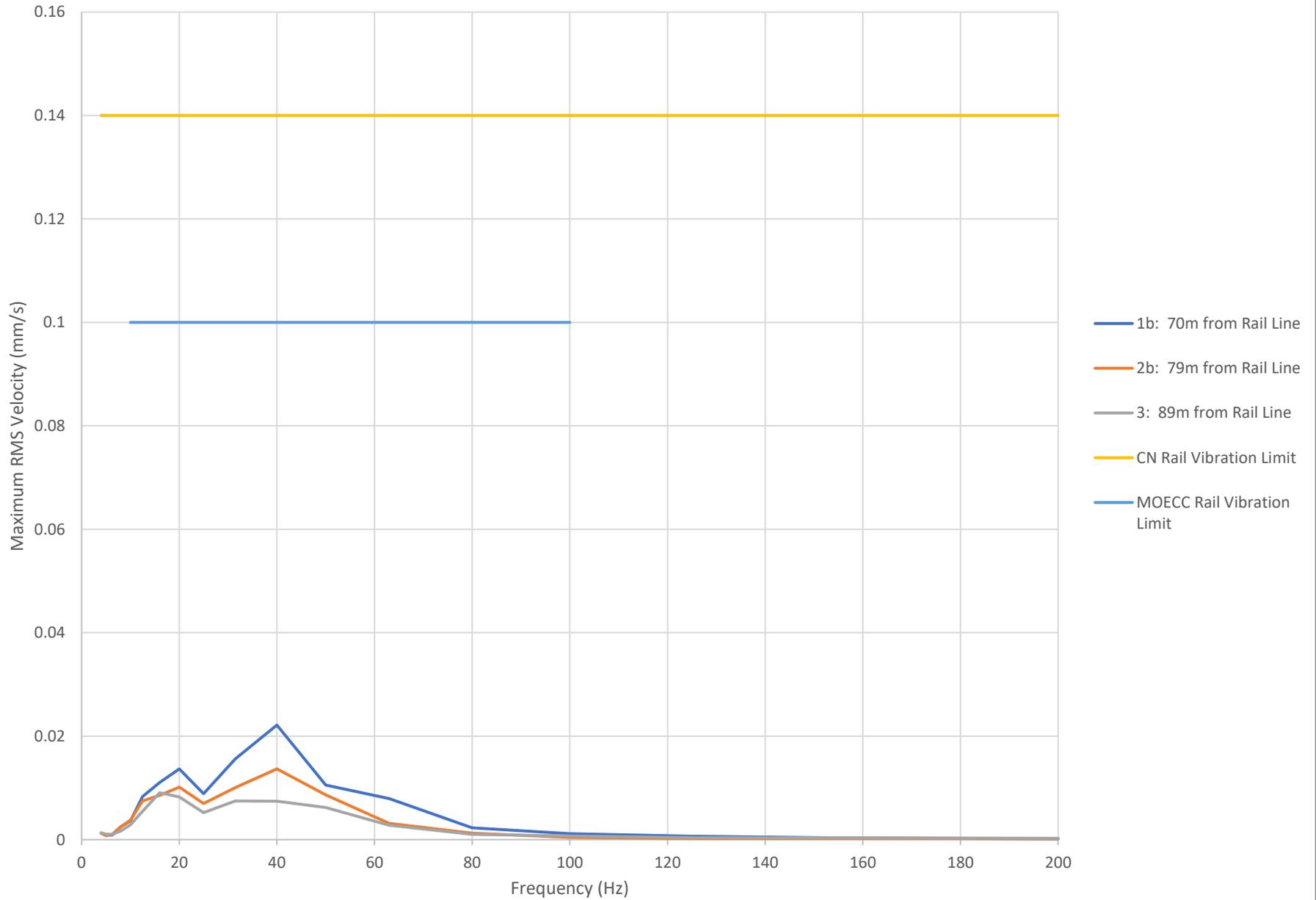
CN train 2, eastbound



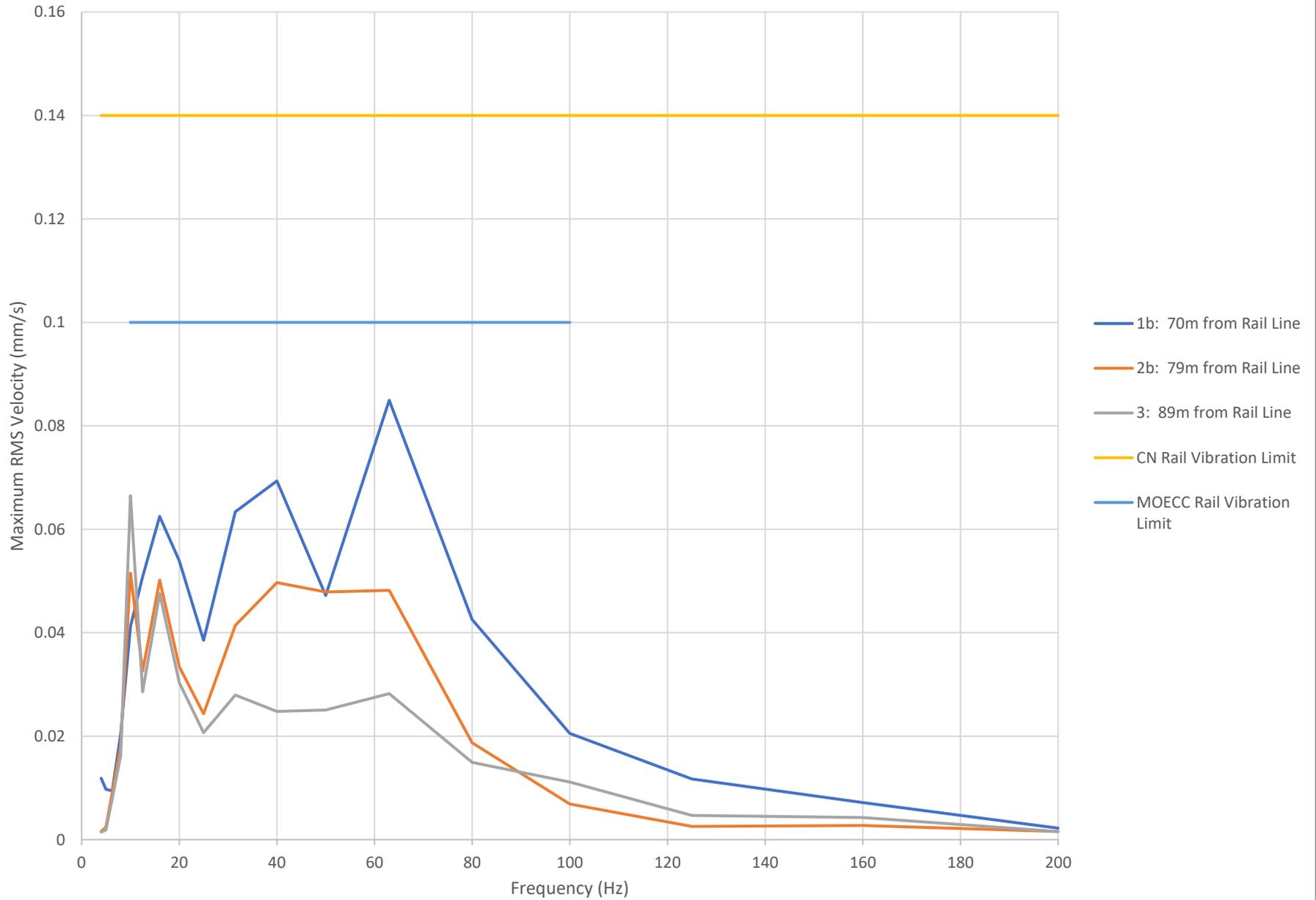
GO train 5 arrival, eastbound



GO train 5 departure, eastbound



CN train 3, eastbound



Appendix E – Transportation Data

Fuller, Robert

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: Friday, January 31, 2025 3:17 PM
To: Fuller, Robert
Subject: RE: Rail Data Request for Georgetown GO

You don't often get email from raildatarequests@metrolinx.com. [Learn why this is important](#)

[External Sender]

Hi Robert,

Further to your request dated January 30, 2025, the subject lands (Georgetown GO Station, Georgetown) are located within 300 metres of the Canadian National (CN) Halton Subdivision (which carries Kitchener GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel trains only. The GO rail fleet combination on this Subdivision will consist of up to 2 locomotives and 8 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 76 trains. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive	2 Diesel Locomotives		1 Diesel Locomotive	2 Diesel Locomotives
Day (0700-2300)	56	8	Night (2300-0700)	12	0

The current track design speed near the subject lands is 50 mph (81 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.

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

Best Regards,

Jenna Auger (She/Her)

Third Party Projects Review (TPPR)

Development & Real Estate Management

T: (416)-881-0579

10 Bay Street | Toronto | Ontario | M5J 2N8



From: Fuller, Robert <RFuller@ThorntonTomasetti.com>

Sent: Thursday, January 30, 2025 12:01 PM

To: Rail Data Requests <RailDataRequests@metrolinx.com>

Subject: Rail Data Request for Georgetown GO

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.

EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

Good afternoon,

We're working on an update to a noise study for a proposed development near the Georgetown GO Station, and I'd like to request updated rail traffic data (number of trains, train composition, speed, etc.)?

Sincerely,

Robert Fuller, P.Eng. | Project Engineer

Thornton Tomasetti | 23-366 Revus Avenue, Mississauga, ON L5G 4S5, Canada

Direct +1.905.629.3583 | **Main** +1.905.271.7888 | **Cell** +1.647.769.7161

RFuller@ThorntonTomasetti.com | www.ThorntonTomasetti.com

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For more information please visit <http://www.symanteccloud.com>

Date: 2018/10/04

Project Number: HAL-23.11-23.54-Mountainview Road N-McNabb St, Halton Hills

Re: Train Traffic Data – CN Halton Subdivision Between Mountainview Road N and McNabb St in Halton Hills, ON

Dear Galen Wong:

The following is provided in response to Galen 2018/09/25 request for information regarding rail traffic in the vicinity of Mountainview Road N and McNabb St, Halton Hills, ON at approximately Mile 23.11-23.54 on CN's Halton Subdivision.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

***Maximum train speed is given in Miles per Hour**

	0700-2300			4
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	11	140	60	2
Way Freight	0	25	40	4
Passenger	.	10	60	2

	2300-0700			4
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	60	2
Way Freight	0	25	60	2
Passenger	0	10	60	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Halton Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There are two (2) at-grade crossing in the immediate vicinity of the study area at Mile 23.01 (Trafalgar Rd) and 25.30 (Maple Ave). Anti-whistling bylaws are not in effect at these crossing's. Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 286,000 lbs.

The double mainline track is considered to be continuously welded rail throughout the study area. The presence of five (5) switches located at Mile 23.01, 23.10, 23.13, 23.86 and 23.88 may exacerbate the noise and vibration caused by train movements.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Adjacent Development, Canadian National Railway Properties at Proximity@cn.ca should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,



Michael Vallins P.Eng
Manager of Public Works
public_works_gld@cn.ca

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 6:00:00

To: 9:00:00

One Hour Peak

From: 6:15:00

To: 7:15:00

Municipality: Halton Hills
Site #: 1838000007
Intersection: Queen St-Georgetown GO & King St
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Queen St-Georgetown GO runs N/S

North Leg Total: 258
 North Entering: 54
 North Peds: 9
 Peds Cross: 8

Cyclists	0	0	0	0
Trucks	2	2	0	4
Cars	1	20	29	50
Totals	3	22	29	



Cyclists 0
 Trucks 1
 Cars 203
 Totals 204

East Leg Total: 95
 East Entering: 47
 East Peds: 1
 Peds Cross: 8

Cyclists	Trucks	Cars	Totals
0	2	7	9

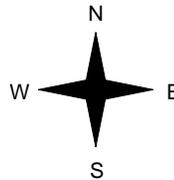


Georgetown GO

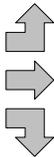
Cars	Trucks	Cyclists	Totals
35	1	0	36
6	0	0	6
5	0	0	5
46	1	0	



King St



Cyclists	Trucks	Cars	Totals
0	0	5	5
0	0	10	10
0	0	1	1
0	0	16	



King St



Peds Cross: 8
 West Peds: 4
 West Entering: 16
 West Leg Total: 25

Cars	26	Cars	0	163	9	172
Trucks	2	Trucks	0	0	0	0
Cyclists	0	Cyclists	0	0	0	0
Totals	28	Totals	0	163	9	



Peds Cross: 8
 South Peds: 1
 South Entering: 172
 South Leg Total: 200

Comments

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period

From: 11:00:00
To: 13:00:00

One Hour Peak

From: 12:00:00
To: 13:00:00

Municipality: Halton Hills
Site #: 1838000007
Intersection: Queen St-Georgetown GO & King St
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Queen St-Georgetown GO runs N/S

North Leg Total: 11
North Entering: 5
North Peds: 0
Peds Cross: 0

Cyclists	0	0	0	0
Trucks	0	0	1	1
Cars	1	0	3	4
Totals	1	0	4	



Cyclists	0
Trucks	0
Cars	6
Totals	6

East Leg Total: 86
East Entering: 44
East Peds: 2
Peds Cross: 2

Cyclists	0
Trucks	0
Cars	25
Totals	25

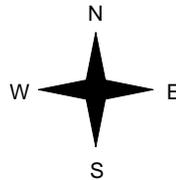


Georgetown GO

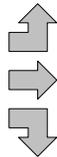
Cars	2	0	0	2
Trucks	23	0	0	23
Cyclists	18	1	0	19
Totals	43	1	0	



King St



Cyclists	0
Trucks	0
Cars	1
Totals	1
Cyclists	0
Trucks	0
Cars	19
Totals	19
Cyclists	0
Trucks	1
Cars	1
Totals	2
Cyclists	0
Trucks	1
Cars	21
Totals	22



King St



Peds Cross: 2
West Peds: 4
West Entering: 22
West Leg Total: 47

Cars	19
Trucks	2
Cyclists	0
Totals	21



Queen St

Cars	1	3	18	22
Trucks	0	0	1	1
Cyclists	0	0	0	0
Totals	1	3	19	

Peds Cross: 2
South Peds: 2
South Entering: 23
South Leg Total: 44

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:00:00
To: 18:00:00

One Hour Peak

From: 17:00:00
To: 18:00:00

Municipality: Halton Hills
Site #: 1838000007
Intersection: Queen St-Georgetown GO & King St
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Queen St-Georgetown GO runs N/S

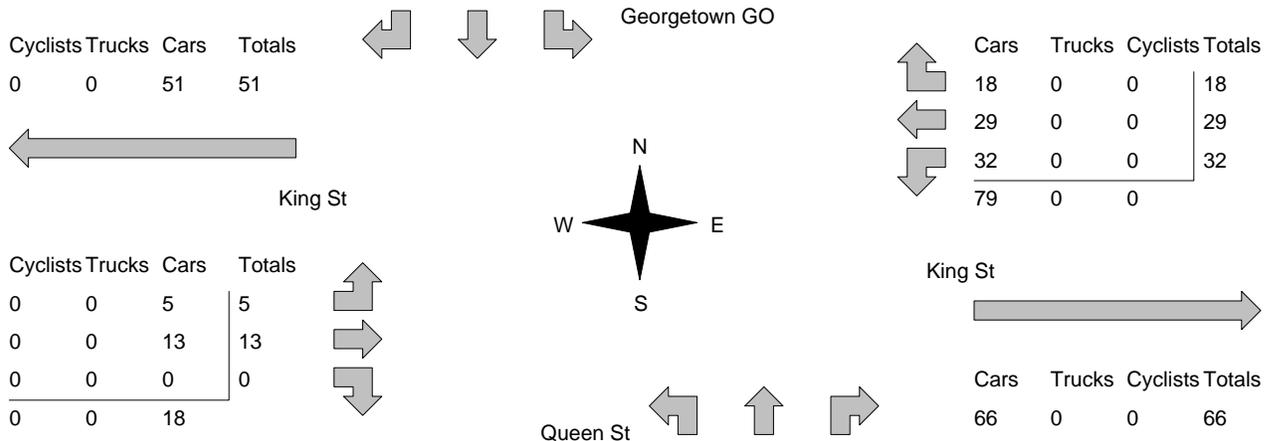
North Leg Total: 177
North Entering: 131
North Peds: 3
Peds Cross: 2

Cyclists	0	0	0	0
Trucks	0	0	0	0
Cars	20	73	38	131
Totals	20	73	38	



Cyclists	0
Trucks	0
Cars	46
Totals	46

East Leg Total: 145
East Entering: 79
East Peds: 0
Peds Cross: 8



Peds Cross: 8
West Peds: 0
West Entering: 18
West Leg Total: 69

Cars	105	Cars	2	23	15	40
Trucks	0	Trucks	0	0	0	0
Cyclists	0	Cyclists	0	0	0	0
Totals	105	Totals	2	23	15	

Peds Cross: 2
South Peds: 3
South Entering: 40
South Leg Total: 145

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Halton Hills
Site #: 1838000007
Intersection: Queen St-Georgetown GO & King St
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Queen St-Georgetown GO runs N/S

North Leg Total: 699
 North Entering: 288
 North Peds: 37
 Peds Cross: \times

Cyclists	0	0	0	0
Trucks	2	2	9	13
Cars	39	132	104	275
Totals	41	134	113	



Cyclists 0
 Trucks 5
 Cars 406
 Totals 411

East Leg Total: 826
 East Entering: 414
 East Peds: 21
 Peds Cross: \times

Cyclists	0	Trucks	5	Cars	230	Totals	235
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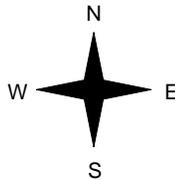


Georgetown GO

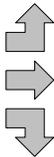
Cars	83	Trucks	5	Cyclists	0	Totals	88
Cars	180	Trucks	3	Cyclists	0	Totals	183
Cars	130	Trucks	13	Cyclists	0	Totals	143
Totals	393	21	0				



King St



Cyclists	0	Trucks	0	Cars	26	Totals	26
Cyclists	0	Trucks	2	Cars	141	Totals	143
Cyclists	0	Trucks	1	Cars	7	Totals	8
Totals	0	3	174				



Queen St

King St



Cars	394	Trucks	18	Cyclists	0	Totals	412
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Peds Cross: \times
 West Peds: 15
 West Entering: 177
 West Leg Total: 412

Cars	269	Cars	11	297	149	457
Trucks	16	Trucks	0	0	7	7
Cyclists	0	Cyclists	0	0	0	0
Totals	285	Totals	11	297	156	



Peds Cross: \times
 South Peds: 30
 South Entering: 464
 South Leg Total: 749

Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: Queen St-Georgetown GO & King													Count Date: 6-Nov-18		Municipality: Halton Hills	
North Approach Totals						North/South Total Approaches	South Approach Totals									
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds				
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total					
6:00:00	0	0	0	0	0	0	6:00:00	0	0	0	0	0				
7:00:00	21	12	3	36	14	198	7:00:00	0	149	13	162	0				
8:00:00	18	14	3	35	4	148	8:00:00	1	89	23	113	2				
9:00:00	9	5	2	16	10	68	9:00:00	1	17	34	52	5				
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0				
12:00:00	4	2	0	6	5	20	12:00:00	1	5	8	14	2				
13:00:00	4	0	1	5	0	28	13:00:00	1	3	19	23	2				
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0				
16:00:00	4	7	3	14	0	45	16:00:00	3	4	24	31	15				
17:00:00	15	21	9	45	1	74	17:00:00	2	7	20	29	1				
18:00:00	38	73	20	131	3	171	18:00:00	2	23	15	40	3				
Totals:	113	134	41	288	37	752		11	297	156	464	30				
East Approach Totals						East/West Total Approaches	West Approach Totals									
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds				
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total					
6:00:00	0	0	0	0	0	0	6:00:00	0	0	0	0	0				
7:00:00	3	6	35	44	2	61	7:00:00	5	11	1	17	2				
8:00:00	6	12	20	38	1	63	8:00:00	2	23	0	25	2				
9:00:00	16	20	2	38	14	69	9:00:00	2	29	0	31	4				
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0				
12:00:00	9	22	1	32	1	51	12:00:00	0	17	2	19	2				
13:00:00	19	23	2	44	2	66	13:00:00	1	19	2	22	4				
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0				
16:00:00	22	31	4	57	0	78	16:00:00	7	13	1	21	0				
17:00:00	36	40	6	82	1	106	17:00:00	4	18	2	24	1				
18:00:00	32	29	18	79	0	97	18:00:00	5	13	0	18	0				
Totals:	143	183	88	414	21	591		26	143	8	177	15				
Calculated Values for Traffic Crossing Major Street																
Hours Ending:	7:00	8:00	9:00	12:00				13:00	16:00	17:00	18:00					
Crossing Values:	33	37	62	38				45	75	82	72					

