Appendix K – Noise Report

407 TRANSITWAY – WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400

MINISTRY OF TRANSPORTATION - CENTRAL REGION

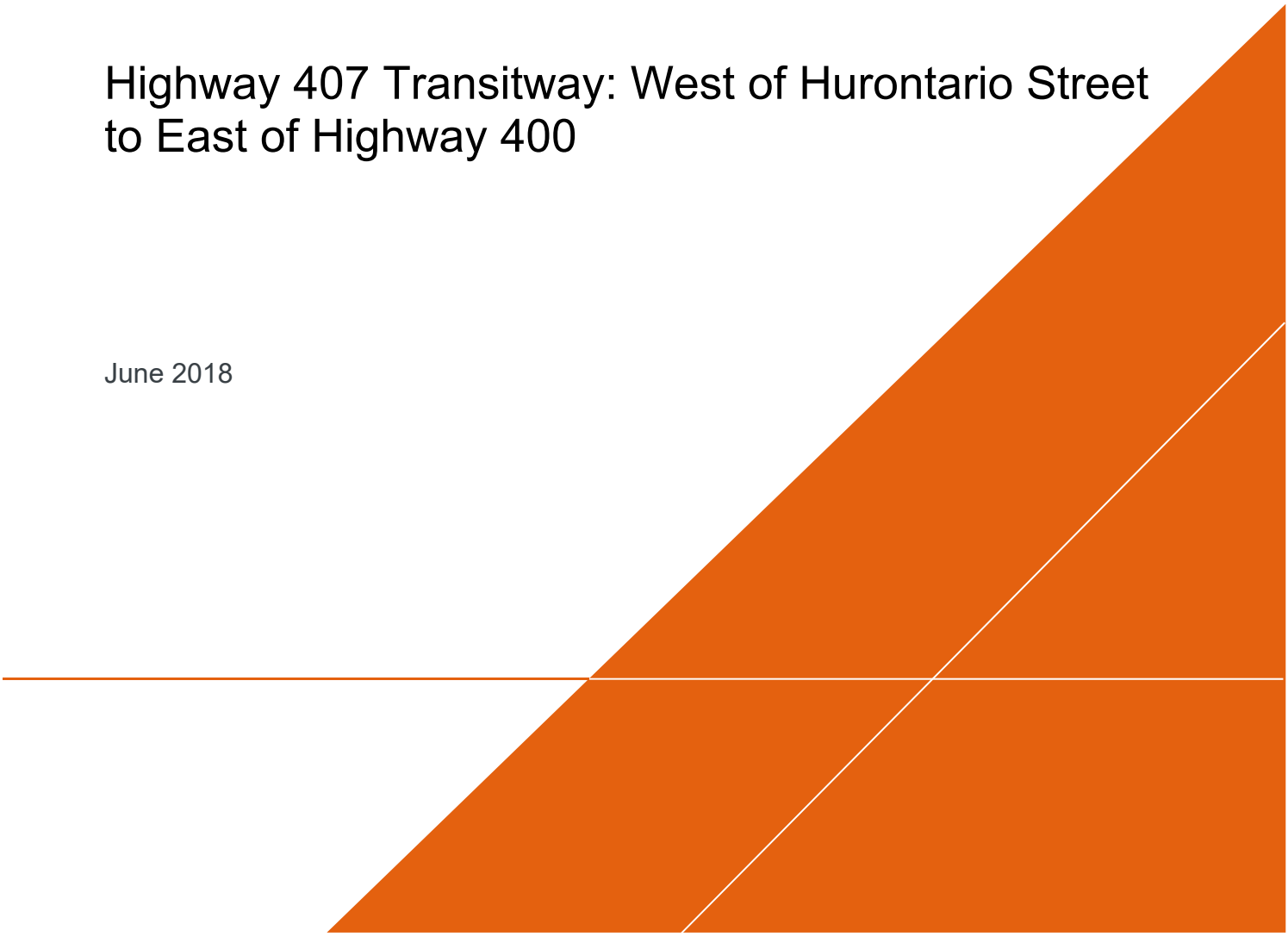
ARCADIS Design & Consultancy for natural and built assets

Ontario Ministry of Transportation

NOISE AND VIBRATION IMPACT ASSESSMENT

Highway 407 Transitway: West of Hurontario Street to East of Highway 400

June 2018



NOISE AND VIBRATION IMPACT ASSESSMENT

407 Transitway: West of Hurontario Street to East of Highway 400

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ACRONYMS AND ABBREVIATIONS

dBA	A-weighted decibels
ETR	Express Toll Route
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
km/hr	kilometers per hour
L_{eq}	energy equivalent sound level
LRT	Light Rail Transit
mm/s	millimetres per second
MOECC	Ontario Ministry of the Environment and Climate Change
MTO	Ontario Ministry of Transportation
NSA	Noise Sensitive Area
NVIA	Noise and Vibration Impact Assessment
OLA	Outdoor Living Area
POR	point of reception
PPV	peak particle velocity
TNM	Traffic Noise Model
TTC	Toronto Transit Commission
RMS	root mean square

EXECUTIVE SUMMARY

The Ontario Ministry of Transportation (MTO) is proposing a 23.7 km segment of a transitway facility along the Highway 407 ETR corridor through Peel Region and York Region, from west of Hurontario Street at the boundary of the Cities of Brampton and Mississauga to east of Highway 400 in the City of Vaughan (407 Transitway). The 407 Transitway will include a runningway and several stations that will include parking facilities, transit integration and other amenities. Subject to the outcome of the study, the 407 Transitway will be implemented initially as bus rapid transit (BRT) facility with the opportunity to convert to light rail transit (LRT) in the future, however this assessment only focuses on BRT. The transitway will be a high-speed fully grade separated facility on a separate right-of-way running parallel, and crossing over or under Highway 407 ETR.

Arcadis Canada Inc. (formerly SENES Consultants Limited) was retained by LGL Limited (LGL), on behalf of the MTO, to complete a Noise and Vibration Impact Assessment (NVIA) in support of the Transit Project Assessment Process (TPAP) for the 407 Transitway project (the “Project”). The following potential impacts have been assessed in this study:

- Noise impacts at existing and proposed sensitive locations from buses operating on the proposed 407 Transitway, inclusive of changes to local topography;
- Ground-borne vibration impacts associated with buses operating on the 407 Transitway;
- Airborne vibration of house structure elements induced by sound levels from bus engines; and
- Noise and vibration considerations during construction of the Transitway.

As the Project is under the jurisdiction of the MTO, guidelines developed by the MTO, as part of the *Environmental Guide for Noise* document, were the primary reference for the assessment methodology and impact assessment criteria. Where no assessment guidance had been developed by the MTO for a potential project effects, relevant guidelines from the Ontario Ministry of the Environment and Climate Change (MOECC) and published literature were applied as appropriate.

The assessment methodology involved identifying the locations of Noise Sensitive Areas (NSAs) along the route, and selecting points of reception (POR) that are representative of each of these locations. Assessment scenarios were developed to estimate future sound levels associated with the Project. The difference in noise and vibration levels predicted between the future scenario that assumes the Project does not proceed (i.e., the future no-build, where no changes are assumed to current configurations and only traffic volumes are projected) and the future scenario where the Project does proceed (i.e., future build) is an indication of the impact of the Project. Traffic noise modelling of these scenarios was completed using methodology prescribed by the MTO (ORNAMENT or STAMINA), and compared to the adopted assessment criteria. In addition, potential noise and vibration impacts from construction were considered.

With regard to construction, the NVIA outlines the requirements of the municipal noise by-laws that would be applicable (Brampton, Mississauga, Toronto and Vaughan), and sets out setback distances that would be required in order to avoid vibration impacts from construction. A number of best practices are also provided for consideration in construction planning from a noise and vibration control perspective.

1.0 INTRODUCTION

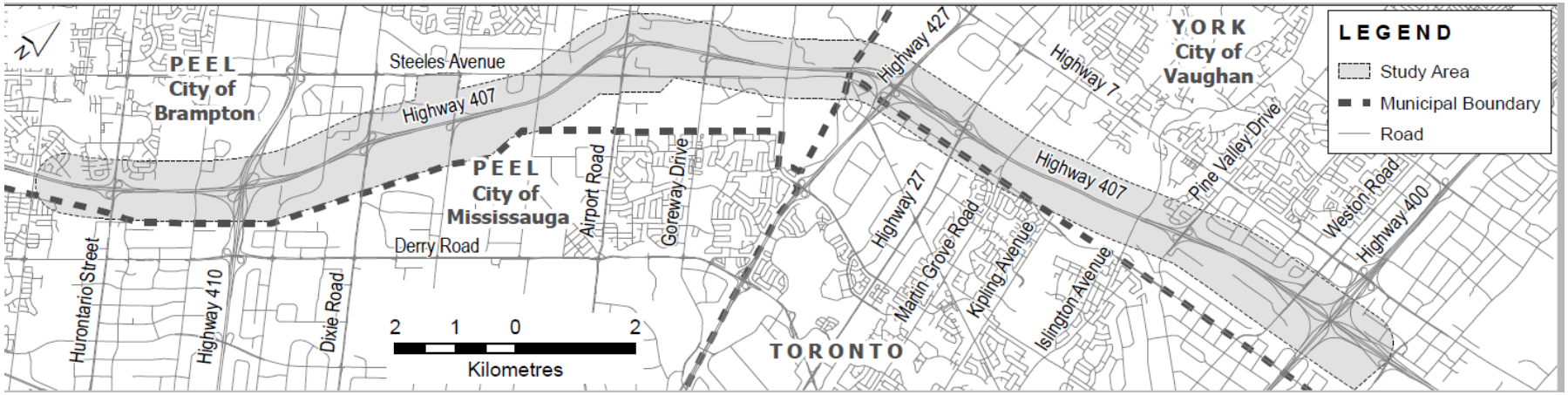
1.1 Project Description

The Ministry of Transportation (MTO) is proposing a 23.7 km segment of a transitway facility along the Highway 407 ETR corridor through Peel Region and York Region, from west of Hurontario Street, at the boundary of the Cities of Brampton and Mississauga, to east of Highway 400 in the City of Vaughan (407 Transitway). The 407 Transitway will include a runningway and several stations that will include parking facilities, transit integration and other amenities. Subject to the outcome of the study, the 407 Transitway will be implemented initially as bus rapid transit (BRT) with the opportunity to convert to light rail transit (LRT) in the future.

This 23.7 km segment forms part of the 150 km long high-speed interregional facility planned to be ultimately constructed on a separate right-of-way that parallels Highway 407 ETR from Burlington to Highway 35/115, with stations, parking and access connections. This transitway is a component of the official plans of the stakeholder municipalities and of the Province's commitment to support transit initiatives in the Greater Golden Horseshoe through the Metrolinx Regional Transportation Plan.

The transitway will be a high-speed fully grade separated facility on a separate right-of-way running parallel, and crossing over or under Highway 407 ETR. The transitway, and the stations will initially be designed to support the busway service with provisions for future conversion to light-rail transit technology. The project limits are presented in Figure 1.1.

Figure 1.1 Key Map of the Study Area



The environmental impact of this transit project will be assessed according to the transit project assessment process (TPAP) as prescribed in Ontario Regulation 213/08, Transit Projects and Metrolinx Undertakings.

Arcadis Canada Inc. (formerly SENES Consultants Limited) was retained by LGL Limited (LGL), on behalf of the MTO, to complete a Noise and Vibration Impact Assessment (NVIA) in support of the Transit Project Assessment Process (TPAP) for the 407 Transitway project (the "Project"). The design of the 407 Transitway, developed by Parsons Corporation, was used for this NVIA. This NVIA focuses on the potential BRT impacts.

1.2 Potential Noise and Vibration Impacts

Transportation projects in high density areas have the potential to impact the existing sound environment, and also introduce a potential source of vibration particularly when rail infrastructure is proposed. This NVIA assesses not only the noise and vibration impact associated with the use of the new transit alignment, but also the impact of the proposed changes to the local topography required to accommodate the new infrastructure, and secondary effects such as noise-induced vibration of house structure elements. The following potential impacts are addressed in this study:

- noise impacts at existing and proposed sensitive locations from buses operating on the proposed 407 Transitway, inclusive of changes to local topography;
- ground-borne vibration impacts associated with buses operating on the 407 Transitway;
- airborne vibration of house structure elements induced by sound levels from bus engines; and
- noise and vibration considerations during construction of the Transitway.

1.3 Report Organization

In addition to this introductory chapter, this report includes the following information:

- Chapter 2 – Describes the study area.
- Chapter 3 – Discusses the assessment criteria that has been applied to identify noise and vibration impacts, inclusive of a summary of the local noise ordinances.
- Chapter 4 – Discusses the approaches to assessing the sound levels associated with the Project.
- Chapter 5 – Outlines the results of the noise impact assessment.
- Chapter 6 – Outlines the results of the and vibration impact assessment.

2.0 STUDY AREA DESCRIPTION

In the first segment of the study area, eastward from west of Hurontario Street to Dixie Road overhead aircraft travelling to and from Lester B. Pearson International Airport (LBPIA) is a significant contributor to the existing background noise environment. Road traffic is the other major contributor of noise as several heavily travelled roadways, such as Hurontario Street and Highway 410, intersect the 407 ETR right-of-way (407 ROW). Land uses include residential subdivisions between McLaughlin Road and Kennedy Road on the north side of the 407 ETR, the Brampton Golf Club to the immediate north of the 407 ETR near Kennedy Road, and a mix of industrial establishments, and vacant undeveloped lands. Overall, this area can be considered as having a high ambient noise environment.

Moving eastward, large industrial and commercial land uses occupy most of the study area between Dixie Road and Airport Road, and these occupy the intervening space between the 407 ETR ROW and any residential developments. The CNR/GO rail line crosses the 407 ETR east of Bramalea Road in this segment. In addition to road and rail traffic noise, this segment is also in the immediate vicinity of LBPIA and, as a result frequent aircraft flyovers, is a significant noise source. Similar to the previous segment, this area can be considered as having a high ambient noise environment.

Eastward from Airport Road to Highway 427, the study area is characterized by a mix of industrial establishments and vacant undeveloped lands. There are no existing residential subdivisions in close proximity to the study area in this segment; however, there are scattered single residences along less travelled municipal roads 407 ETR crosses. There are a number of single dwellings bound by Albion Road/Highway 50 and Highway 427, however, these residences are expected to be replaced by one of the 407 Transitway stations. Aircraft flyover noise is one of the dominant noise sources in this segment of the study area, due to the relatively close proximity to LBPIA. Road traffic noise from the existing 407 ETR, Highway 427, and many heavily travelled streets such as Airport Road, Goreway Drive, Steeles Avenue East and Finch Avenue, is also dominant in this segment. A CN freight rail line also overpasses the 407 ETR ROW, east of Airport Road. This segment also includes certain recreational facilities such as Wild Water Kingdom to the south of the 407 ETR.

Eastward from Highway 427 to Islington Avenue, the key land use features include a cemetery (Queen of Heaven Catholic Cemetery) close to Highway 27, commercial and industrial establishments, vacant undeveloped lands, a CPR freight rail line which crosses over the 407 ETR in a north-south direction, and a second rail line that runs parallel and south of the 407 ETR and crosses the CPR line just west of Islington. This segment includes a residential subdivision along the south perimeter of the study area within the City of Toronto, in particular homes on Provence Trail/Minglehaze Drive, Ghion Spring, Kay Drive, etc.

The land uses adjacent to the proposed 407 Transitway within the City of Vaughan (and a small portion in the City of Toronto) consist mainly of a mixture of commercial, industrial, residential and transportation network (both road and rail) uses. Eastward from Islington Avenue to east of Highway 400, are several commercial and industrial establishments on both the north and south sides of the 407 ETR ROW. There is a residential subdivision in close proximity to the study area between Islington Avenue and Pine Valley Drive, with homes fronting onto Terra Road and Timber Lane, with some backyards adjacent to the 407 ETR ROW. Further north of the study area, along Highway 7, are other residential subdivisions, but these are well removed from the proposed 407 Transitway.

3.0 ASSESSMENT CRITERIA

The following sections summarize the assessment criteria that have been applied in the evaluation of potential noise and vibration impacts related to the Project. As the Project is under the jurisdiction of the Ontario Ministry of Transportation (MTO), guidelines developed by the MTO, as part of the *Environmental Guide for Noise* document, were the primary reference for the assessment methodology and impact assessment criteria. Where no assessment guidance had been developed by the MTO for a potential project effect, relevant guidelines from the Ontario Ministry of the Environment and Climate Change (MOECC) and published literature were applied as appropriate. Relevant information from the municipal noise by-laws are also summarized with regard to construction activities herein.

3.1 Noise from Transportation Sources

The MTO has summarized its requirements for the assessment of noise impacts from projects under its jurisdiction in the *Environmental Guide for Noise* [1] and the *Environmental Reference for Highway Design* [2]. In addition to outlining requirements for the assessment documentation and qualifications of the assessors, these documents present the accepted procedures for identifying and inventorying noise sensitive points of reception, assessing and determining the significance of potential noise impacts at these locations, and evaluating the need for noise control measures where necessary.

The criteria for the assessment of noise impacts are applied at Noise Sensitive Areas (NSAs), which are to be identified at the outset of the assessment. NSAs generally include residential land uses, educational facilities, hospitals and commercial properties with overnight accommodations (i.e., hotels, motels, campgrounds). Refer to Appendix A for the full definition of an NSA. NSAs must have an associated Outdoor Living Area (OLA) to qualify for inclusion in the noise assessment by MTO standards. An OLA is a ground-level space adjacent to the building on an NSA that accommodates outdoor living activities (refer to Appendix A for the full definition). The impact assessment is completed at the most-exposed side of the unit with respect to the project, regardless of where the OLA is located. If an assessment of mitigation is required, then the point of reception is to be moved to the OLA if these locations differ.

The MTO procedures require that future sound levels (10 years after construction) at the identified NSAs be predicted both with and without the Project on a 24-hour energy equivalent basis. The difference between these sound levels provides an estimation of the degree to which the Project would be expected to increase sound levels at the NSAs compared to the case in which the Project does not proceed. These increments, as well as the predicted future sound levels at the NSAs, are used to assess whether there are likely to be any adverse noise effects associated with the Project using the assessment criteria summarized in Table 3.1.

Table 3.1 MTO Noise Assessment Criteria

Change in Noise Level Above Ambient / Projected Noise Levels with Proposed Improvements	Mitigation Effort Required
< 5 dBA change; AND < 65 dBA	None
≥ 5 dBA change; OR ≥ 65 dBA	• Investigate noise control measures on right-of-way; • Introduce noise control measures within right-of-way and mitigate to ambient if technically, economically and administratively feasible; • Noise control measures, where introduced, should achieve a minimum of 5 dBA attenuation over first row receivers.

The mitigation effort described in Table 3.1 identifies that noise control measures must be "technically, economically and administratively feasible". The different aspects of feasibility are detailed in Table 3.2 (from [1]).

Table 3.2 MTO Feasibility Description

Feasibility Aspect	Descriptions
Technical Feasibility	Review the constructability of the noise mitigation (i.e., design of wall, roadside safety, shadow effect, topography, achieve a 5 dBA reduction, ability to provide a continuous barrier, etc.).
Economic Feasibility	Carry out a cost/benefit assessment of the noise mitigation (i.e., determine cost per benefited receiver).
Administrative Feasibility	Determine ability to locate the noise mitigation on lands within public ownership (i.e., provincial or municipal right-of-way).

To comply with MTO assessment procedures, all predictions must be completed using calculation methods that are approved by the MTO and MOECC. These include the MOECC traffic noise prediction method ORNAMENT for simple geographical settings, and the United States Federal Highway Administration (FHWA) STAMINA 2.0 model for more complex scenarios where changes in topography and grade separated roads are involved.

3.2 Noise from Stationary Sources

The MTO *Environmental Guide for Noise* does not include a procedure for the assessment of noise impacts from stationary sources, instead outlining that the assessment of stationary sources is to follow the procedures developed by the MOECC in its Publication NPC-205. MOECC Publication NPC-205 has been superseded by Publication NPC-300: *Environmental Noise Guideline* [3]. It should be noted, however, that there are no stationary sources associated with the project design at this time. While the bus/LRT stations are stationary facilities, they are not

considered to be stationary sources of noise according to MOECC definitions. The rationale for excluding the stations as stationary sources is discussed in the following paragraphs.

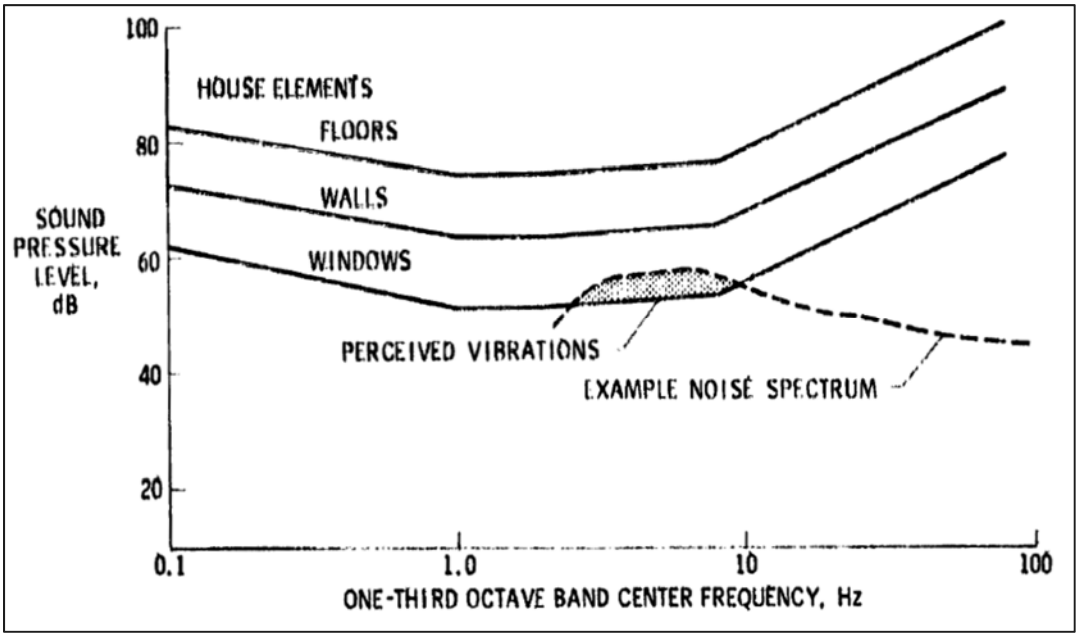
The planned stations will consist of a canopied platform with staircases and elevators to provide pedestrian access from street level, bus/LRT access to and from the platform, car parking facilities and designated passenger pick-up and drop off (PPUDO) sites. Based on these open concept design plans, the stations are not anticipated to have any significant stationary noise sources associated with them (e.g., building ventilation, heating ventilation and air conditioning (HVAC) sources, etc.). The dominant sources of noise at the stations are anticipated to be associated with the transitway vehicles entering and exiting the station, and the vehicular activity in the parking/PPUDO areas, which are not considered stationary sources by the MOECC. The definition of a "stationary source" is provided in Part A of NPC-300. Section 5 of this definition outlines sources that are not considered as "stationary sources", including *transportation corridors (i.e., railways and roadways)*, and *commuter parking lots* [3]. The access/egress of vehicles from the stations and vehicular activity in the parking lot area have each been included in the assessment of noise from transportation sources as outlined in Section 3.1 for comparison to the criteria outlined in Table 3.1.

3.3 Vibration from Transportation Sources

The focus of this NVIA is the assessment of the BRT, and not the LRT, as ground-borne vibrations are not anticipated to be significant at NSAs from rubber-tired vehicles operating on a smooth surface (i.e., buses). However, there is potential for airborne vibration due to bus engine noise in the low frequency range. Such vibrations may result in rattling of windows or other structural elements, depending on the magnitude of the sound produced.

NASA conducted research in the 1980s to assist in the siting of large wind turbines, which included the investigation of source characteristics, sound propagation characteristics and the effect of exposure at the receiver location. The research was summarized in a technical memorandum titled *Guide to the evaluation of human exposure to noise from large wind turbines* [6]. In the evaluation of noise effects at the receiver location, this technical memorandum summarized research into the magnitude of sound pressure required to excite building components such as windows, walls and floors. The results are presented in Figure 3.1. These frequency-based thresholds have been applied to predictions of maximum expected sound levels of bus pass-by events, to evaluate the potential for noise-induced vibrations due to operations on the 407 Transitway.

Figure 3.1 Thresholds for Perceptible Vibration of House Structure Elements (from [6])



Ground-borne vibration due to the LRT has not been assessed as part of this NVIA.

3.4 Noise from Construction

The MTO *Environmental Guide for Noise* outlines that construction must be conducted in a manner that minimizes noise and abides by the municipal by-laws. A procedure by which to address noise complaints must be in place as part of the contract documents. Such procedures involve responding to persistent complaints by completing sound testing of the construction equipment to ensure operating sound levels are within those recommended by the MOECC. The following sections summarize MOECC construction equipment guideline limits, and relevant requirements of the applicable municipalities with regard to construction noise.

3.4.1 MOECC NPC Guidelines

Construction activities are not considered to be “stationary sources” by the MOECC (per the definition of Stationary Source in Part A of Publication NPC-300), and are therefore not required to meet the sound level limits outlined in Publication NPC-300. The MOECC does not currently prescribe sound level limits for the cumulative impact of construction operations. In Publication NPC-115, the MOECC has instead outlined a series of equipment-specific sound level limits that must be met by individual pieces of construction equipment, depending on the location of use and date of manufacture [7]. The sound level limits for construction equipment manufactured after January 1st, 1981 are summarized in Table 3.3.

In addition, any heavy vehicle (motorized conveyance with a gross weight >4,500 kg) with a diesel engine that is associated with a construction activity would be subject to the sound level limits prescribed in MOECC Publication NPC-118 [8]. For vehicles manufactured after 1979, the maximum allowable sound level is 95 dBA at a distance of 15 m.

Table 3.3 MOECC NPC-115 Construction Equipment Sound Level Limits

Equipment	Standard	Measurement Distance (m)	Maximum Sound Level (dBA)
Excavator, Dozer, Loader, Backhoe, Other	Quiet Zone	15	Power Rating <75 kW: 83 dBA Power Rating >75 kW: 85 dBA
	Residential Zone		Power Rating <75 kW: 83 dBA Power Rating >75 kW: 85 dBA
Pneumatic Pavement Breaker	Quiet Zone	7	85 dBA
	Residential Zone		85 dBA
Portable Air Compressor	Quiet Zone	7	70 dBA
	Residential Zone		76 dBA
Tracked Drills	Quiet Zone	15	100 dBA
	Residential Zone		100 dBA

3.4.2 City of Brampton – Noise By-Law 93-84

The City of Brampton Noise By-Law 93-84 is intended to prohibit and regulate noise in the City of Brampton. Section 4 of the By-Law identifies certain sounds and noises that are specifically permitted by this By-Law, and are not to be considered a contravention of the By-Law. Of relevance to the current project, Section 4 (10) permits any sound arising from road work and road improvements undertaken by or on behalf of the MTO or the Region of Peel.

With regard to stationary sounds which may be associated with the current project, the By-Law permits noise or vibration for which:

a) *an Environmental Compliance Approval, Amended Environmental Compliance Approval, Certificate of Approval or Amended Certificate of Approval has been obtained from the Province of Ontario's Ministry of the Environment (now MOECC) that specifically applies to the plant, structure, equipment, apparatus, mechanism or thing that is emitting the noise or vibration; and,*
b) *the plant, structure, equipment, apparatus, mechanism or thing that is emitting the noise or vibration is being operated in compliance with the Environmental Compliance Approval, Amended Environmental Compliance Approval, Certificate of Approval or Amended Certificate of Approval.*

Notwithstanding the general prohibitions outlined in Sections 1, 2 and 3 of this By-Law, Section 4.2 (1) allows the Chief of Planning and Infrastructure Services, or a designate, the authority to grant an exemption, on receipt of a written application, subject to specific conditions being met, as outlined in the By-Law.

3.4.3 City of Mississauga – Noise Control By-Law 79-360

The City of Mississauga Noise Control By-Law 79-360 contains both "General Prohibition" and "Prohibition by Time and Place". The General Prohibition states that "*no person shall emit or cause or permit the emission of sound resulting from an act listed in Schedule 1 to this By-law and which sound is clearly audible at a point of reception*." Item 7, under Schedule 1 prohibits *"the operation of any item of construction equipment in a Quiet Zone or Residential Area without effective muffling devices in good working order and in constant operation"*.

Schedule 2 of the By-Law specifies prohibitions by time and place. With regard to construction, it prohibits the operation of any construction equipment in connection with construction in a Quiet Zone between 17:00 hours of one day to 07:00 hours the next day and all day Sundays and Statutory Holidays. The Schedule also restricts construction activities in a Residential Area between 1900 hours of one day and 0700 hours of the next day and all day Sundays and Statutory Holidays.

Section 7 of the By-Law allows for Council to issue a Grant of Exemption from the provisions of Sections 3 (General Prohibitions) and 4 (Prohibitions by Time and Place) of this By-Law, with respect to any source of sound or vibration. It stipulates that an application for exemption has to be submitted in writing and outlines what the application should contain.

However, MTO has an understanding with the City of Mississauga that formal requests for noise by-law exemption is not required for work within MTO's right-of-way. MTO is required to issue public notices to all affected local residents within a 500 m radius, approximately 3 to 4 weeks prior to overnight construction activities. Active area Councillors must also be notified prior to overnight construction activities. The active MTO planner should be consulted regarding any overnight construction activities.

3.4.4 City of Toronto – Toronto Municipal Code Chapter 591-Noise

The Toronto Municipal Code Chapter 591-Noise outlines a number of requirements pertaining to the operation of construction activities and stationary sources.

With regard to construction, Section 591-2.1 subsection B outlines the following specific prohibitions:

a) *No person shall emit or cause or permit the emission of sound resulting from any operation of construction equipment or any construction, if it is clearly audible at a point of reception:*

1. *In a quiet zone or residential area within the prohibited period of 7:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. on Saturdays, and all day Sunday and statutory holidays; or,*
2. *In any other area within the prohibited period of all day Sunday and statutory holidays.*

b) *Subsection B(1) does not apply to the continuous pouring of concrete, large crane work, necessary municipal work and emergency work that cannot be performed during regular business hours.*

Extended construction hours are provided for "civil construction projects" and "major transit projects" in Section 591-2.3 subsection C. Note that a "major transit project" is project-specific, and only applies to the noted projects (includes specific subway extension and LRT projects), and would therefore not apply to the 407 Transitway project at this time.

The Code grants extended hours to "civil construction activities". These extended hours are defined as follows [Section 591-2.1 subsection C (3)]:

> *All civil construction activities shall occur between 7:00 a.m. to 11:00 p.m., except in the case of an emergency as described in § 591-9.*

There is a process by which an exemption from any of the prohibitions in the By-Law may be applied for, outlined in Section 591-10. Upon application for an exemption, the Councillor of the applicable ward will be notified and a permit will be issued if the Councillor approves of the application, or does not reply within 14 days of being notified. Several limitations still apply if exemption is permitted, including sound level restrictions for approved equipment. Each piece of equipment must meet a sound level of 85 dBA measured at a distance of 20 m (L_{eq}, 5 min), and only equipment approved for use under the permit may be used at the site.

It should be noted that the Municipal Code does include prohibitions with regard to stationary sources. The requirement is that the limits in MOE publication NPC-205 be observed (NPC-205 was the stationary source noise assessment guidance document in place prior to the release of NPC-300. It is assumed that the City would accept compliance with NPC-300).

However, MTO has a similar understanding with the City of Toronto as it does with the City of Mississauga regarding overnight construction activities. MTO is required to advise the regional manager, who will notify affected residents on behalf of the City of Toronto. The active MTO planner should be consulted regarding any overnight construction activities.

3.4.5 City of Toronto: By-Law No. 514-2008 – Construction Vibrations

In 2008, the City of Toronto enacted a By-Law that addresses vibration from construction activities. In general, the By-Law provides a stepped approach to identifying whether vibration is a potential concern for the proposed construction activity, and how the potential vibration

concerns are to be addressed. The By-Law provides vibration limits that are not to be exceeded by any construction activity. These limits are summarized in Table 3.4.

Table 3.4 City of Toronto Prohibited Construction Vibrations (By-Law 514-2008)

Frequency of Vibration (Hz)	Vibration Peak Particle Velocity (mm/sec)
Less than 4	8
4 to 10	15
More than 10	25

This By-Law requires an applicant for a construction permit to complete a Vibration Control Form, on which the nature of the construction activity is identified. The form identifies specific construction activities for which vibration would be anticipated to be an issue (e.g., blasting), but also includes a general entry: "*any other construction activity or method that has the potential to cause vibrations which may impact on buildings or structures outside of the construction site that is the subject of the permit application*". If any of the noted activities on the Vibration Control Form are identified as applicable to the permit application, then a Professional Engineer must be engaged to prepare supporting documentation outlining a zone of influence for the source(s) of vibration, and specifically identify whether the zone of influence extends beyond the property boundaries of the construction site.

If a *zone of influence* is found to extend beyond the construction site boundary, a pre-construction consultation and monitoring program is required. This involves consultation with the public, including all property owners and occupants within the *zone of influence*, to advise on the possibility of construction vibrations, and also involves the preparation of a detailed vibration report from a Professional Engineer. This report must summarize the consultation process, as well as detail the results of pre-construction measurements and pre-construction building inspections, identify mitigation measures, and outline a construction monitoring program.

Where a pre-construction plan is required, there is also a requirement to complete a public communications and complaints protocol. This is intended to inform the public of the construction schedule in advance, provide means by which to contact the applicant (i.e., to lodge a complaint), and outline a procedure by which to address complaints.

3.4.6 City of Vaughan – The Noise Control By-Law (96-2006)

Section 4 (Prohibitions) of the City of Vaughan Noise Control By-Law 96-2006 specifies that no person shall emit or cause to permit the emission of sound resulting:

a) *From a stationary source such that the level of resultant sound at a point of reception located in a residential area, or quiet zone which exceeds the applicable sound level limit prescribed in Schedule 3, Publication NPC-205 - Stationary Sources.*

NPC-205 was replaced with NPC 300 as of 2013, so it is assumed that limits in NPC-300 would apply here. This portion of the By-Law has implications for any stationary noise sources associated with the project such as bus stations, bus garages, etc.

With regard to construction activities, Section 10 of the By-Law states the following:

a) *No person shall, between 1900 hours of one day and 0700 hours of the next day operate or cause to be operated, any construction vehicle or construction equipment in connection with the construction of any building or structure, highway, motor car, steam boiler or other engine or machine; and,*
b) *Despite subsection (1), no person shall operate or cause to be operated any construction vehicle or construction equipment before 0700 hours and no later than 1900 hours on any Saturday and not at all on Sunday or statutory holidays.*

Section 19 of the By-Law stipulates how exemptions can be obtained for construction equipment noise. It states that:

a) *The Department Head of Enforcement Services is delegated the authority to grant an exemption to subsection 7(1) for construction equipment utilized during prohibited hours subject to the following conditions:*
    1. *the use of construction equipment shall not exceed the established noise levels of NPC-115, Construction Equipment; and,*
    2. *the duration of the exemption requested shall not exceed eleven (11) calendar days in length.*
b) *An application for exemption from the provisions of the noise By-law for construction equipment shall be made in writing to the Department Head of Enforcement Services at least sixty (60) days prior to the commencement of the use of the construction equipment for which the exemption is sought.*

The section further states that where the Department Head of Enforcement Services requires monitoring of sound levels resulting from the construction, the monitoring shall be conducted at the applicant's expense as outlined in the City of Vaughan Fee By-Law.

Schedule 2, item 4 of the By-Law stipulates time and place restrictions for operating construction equipment. The Schedule prohibits construction activities in a Quiet Zone between 17:00 hours of one day to 07:00 hours the next day and all day Sundays and Statutory Holidays. The Schedule also restricts construction activities in a Residential Area between 1900 hours of one day and 0700 hours of the next day and all day Sundays and Statutory Holidays.

3.5 Vibration from Construction

In Section NPC-207 of the Ontario Model Municipal By-law [11], the MOECC recommends limits for impulse vibration, which may be applicable to some construction activities such as pile driving. Other types of construction equipment have potential to be sources of non-impulsive vibration, such as vibratory compaction. Construction vibration limits from the U.S. FTA have therefore also been considered [5].

Construction vibrations are generally assessed in terms of peak particle velocities (PPV) rather than root mean square (RMS) levels, since public concerns are generally related more to the potential for building damage than perceptibility during construction [5]. The MOECC outlines the limits presented in Table 3.5 for impulse vibration, which vary depending on the frequency of occurrence [11].

Table 3.5 MOECC NPC-207 Impulse Vibration Limits

Time Required to Observe 20 Impulses (minutes)	Limit on the Average Peak Vibration Velocity (mm/s)	
	Daytime (07:00-23:00)	Night-time (23:00-07:00)
20 minutes or less	0.30	0.30
Less or equal to 60 minutes but more than 20 minutes	0.60	0.30
Less or equal to 120 minutes but more than 60 minutes	1.00	0.30
120 minutes	10.00	0.30

The U.S. Federal Transit Administration (FTA) provides a series of criteria that vary depending on details of the building that is receiving the vibration, and are set to protect against building damage [5]. These criteria are summarized in Table 3.6. As a conservative measure, the vibration analysis in this assessment utilizes the Category III criteria of 5.1 mm/s.

Table 3.6 Construction Vibration Damage Criteria

Building Category	PPV (mm/s)
I. Reinforced concrete, steel, or timber (no plaster)	12.7
II. Engineered concrete and masonry (no plaster)	7.6
III. Non-engineered timber and masonry buildings	5.1
IV. Buildings extremely susceptible to vibration damage	3.0

3.6 Summary of Assessment Criteria

The assessment criteria that has been adopted for each aspect of the Project is summarized in Table 3.7.

Table 3.7 Summary of Assessment Criteria

Component	Protocol	Criteria	Mitigation
Existing/ Future Noise	MTO	Future ambient noise levels without the influence of the proposed improvement	To be considered when criteria is exceeded by more than 5 dB, or when sound levels increase are equal or greater to than 65 dBA
Construction and Operation Noise	NPC-115	See Table 3.3	
	City of Brampton Noise By-Law	• Permits sound from road work and road improvements undertaken by or on behalf of the MTO. • Permits sound sources approved by Environmental Compliance Approval or Certificate of Approval. • Exemptions permitted.	Adhere to By-Law requirements
	City of Mississauga Noise By-Law	• Quiet Zone Prohibition: between 17:00 and 07:00 hours, except all day Sundays and Statutory Holidays. • Residential Area Prohibition: between 1900 and 0700 hours weekdays and Saturday, and all day Sundays and Statutory Holidays. • Exemptions permitted.	Adhere to By-Law requirements
	City of Toronto Municipal Code and Noise By-Law	• Quiet zone or Residential Area Prohibitions: between 19:00 and 07:00 hours on weekday, or 09:00 hours on Saturdays, and all day Sunday and Statutory Holidays. • Compliance with NPC-205 (now NPC-300). • Requirements for Construction Vibrations. • Exemptions permitted.	Adhere to By-Law requirements
	City of Vaughan– Noise Control By-Law	• Quiet Zone Prohibition: between 17:00 and 07:00 hours weekdays and Saturday, and all day Sundays and Statutory Holidays. • Residential Area Prohibition: between 1900 and 0700 hours weekdays and Saturday, and all day Sundays and Statutory Holidays. • Compliance with NPC-205 (now NPC-300), NPC-115, NPC-118. • Exemptions permitted.	Adhere to By-Law requirements

4.0 IMPACT ASSESSMENT METHODOLOGY

4.1 Identification of NSAs

Existing NSAs were identified using recent aerial photography, and by field reconnaissance. Key points of reception (POR) were identified to represent groups of NSAs with similar exposure to the 407 Transitway. The receptors and number of dwellings represented are summarized in Table 4.1 and illustrated in figures 4.1 through 4.5. For each NSA, the side of the building that is most exposed to the transitway was assessed, per MTO guidelines. In cases where the most exposed side is on the same side as the Outdoor Living Area (OLA), the OLA was selected as the POR of choice.

It should be noted that the proposed Highway 50 station, shown in Figure 4.3, is also included in the 427 Transitway. However, noise has not yet been assessed as part of the 427 Transitway and thus no results or recommendations from that transitway have been included in this report.

There are a number of hotels within the study area, however, they were not included in this assessment as they do not meet MTO's definition of NSAs as per Appendix A of MTO's Noise Guide, as there are no associated OLAs.

It should be noted that several of the receptors at the east end of the study area are representative of future receptors associated with the proposed Woodbridge Park community in the City of Vaughan. Representative locations for residential properties were based on approved developer plans.

Land-use zoning was reviewed for the study area and it was concluded that at the time of this report, there were no other future proposed residential developments, or any vacant lands committed for residential development, or with the allowance for residential buildings.

Noise mitigation measures were assessed as per MTO's Noise Guide by assessing the most exposed sides for each POR. PORs where the most exposed side was the same as the OLA, were re-assessed at the OLA location if MTO's threshold for mitigation assessment was met.

4.2 Description of Assessment Scenarios

The potential noise and vibration impacts associated with the Project were assessed by predicting noise and vibration conditions at the nearest NSAs under two operating scenarios: future conditions (2031) assuming that the project *does not* proceed (future no-build), and future conditions (2031) assuming that the project *does* proceed (future build). Each of these scenarios are described in more detail in the following sections. Existing conditions scenario was not assessed due to MTO's policies requiring comparison between "future no-build" and "future build" scenarios for assessment for mitigation requirements.

4.2.1 Future No-Build (2031)

In order to assess the impacts associated with full operations on the Transitway at the future horizon year of 2031, conditions must first be established for the same year in the absence of the Transitway. This scenario, termed the future no-build or future ambient scenario, provides a baseline condition for assessing the potential impacts associated with the Project.

In the future no-build scenario, it has been assumed that existing traffic volumes on the Highway 407 ETR will increase with population growth in the area. Projected traffic volumes were calculated based on annual growth rates provided by IBI Group, and modelled in the same manner as the existing traffic scenario (discussed in Section 4.3.1) to describe a future ambient condition at the NSAs. This represents the future condition that the NSAs would otherwise be exposed to if the Project were not to proceed, accounting only for traffic increases associated with population growth and no changes to existing transportation infrastructure.

Table 4.1 provides a summary of the NSAs within the study area. Sixty-four PORs were identified, with each representing multiple receptors.

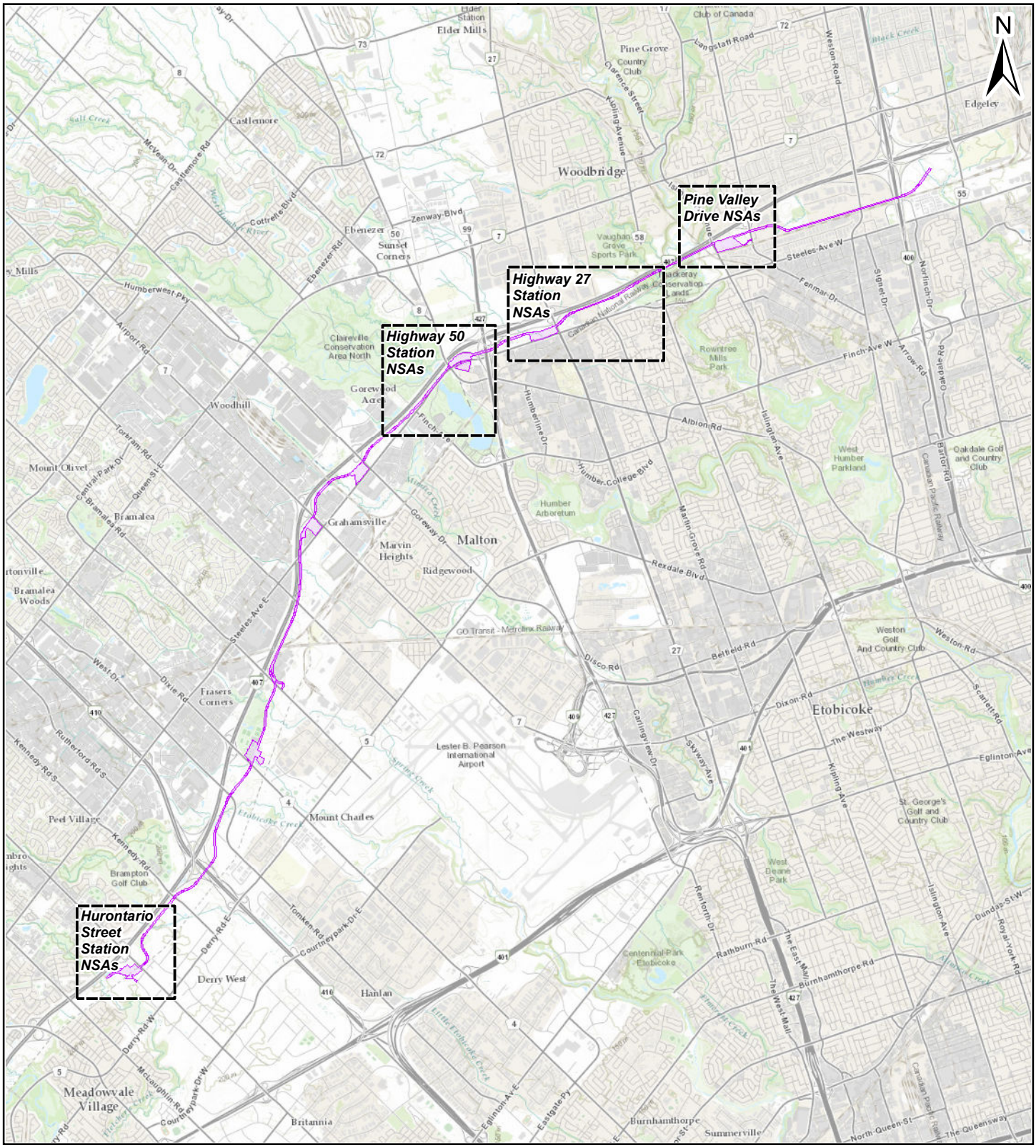
Table 4.1 Summary of NSAs

ID	No. of Units Represented	Type of Unit	Segment
POR1	3	Residential	West of Hurontario to Highway 410
POR2	3	Residential	West of Hurontario to Highway 410
POR3	3	Residential	West of Hurontario to Highway 410
POR4	3	Residential	West of Hurontario to Highway 410
POR5	3	Residential	West of Hurontario to Highway 410
POR6	3	Residential	West of Hurontario to Highway 410
POR7	3	Residential	West of Hurontario to Highway 410
POR8	3	Residential	West of Hurontario to Highway 410
POR9	3	Residential	West of Hurontario to Highway 410
POR10	3	Residential	West of Hurontario to Highway 410
POR11	3	Residential	West of Hurontario to Highway 410
POR12	3	Residential	West of Hurontario to Highway 410
POR13	3	Residential	West of Hurontario to Highway 410
POR14	3	Residential	West of Hurontario to Highway 410
POR15	3	Residential	West of Hurontario to Highway 410
POR16	3	Residential	West of Hurontario to Highway 410
POR17	3	Residential	West of Hurontario to Highway 410
POR18	3	Residential	West of Hurontario to Highway 410
POR19	3	Residential	West of Hurontario to Highway 410
POR20	3	Residential	West of Hurontario to Highway 410
POR21	3	Residential	West of Hurontario to Highway 410
POR22	3	Residential	West of Hurontario to Highway 410
POR23	3	Residential	West of Hurontario to Highway 410
POR24	3	Residential	West of Hurontario to Highway 410
POR25	3	Residential	West of Hurontario to Highway 410

Table 4.1 Summary of NSAs (Cont'd)

ID	No. of Units Represented	Type of Unit	Segment
POR26	3	Residential	West of Hurontario to Highway 410
POR27	3	Residential	West of Hurontario to Highway 410
POR28	3	Residential	West of Hurontario to Highway 410
POR29	3	Residential	West of Hurontario to Highway 410
POR30	3	Residential	West of Hurontario to Highway 410
POR31	3	Residential	West of Hurontario to Highway 410
POR32	1	Residential	West of Hurontario to Highway 410
POR33	1	Residential	Goreway to Highway 427
POR34	1	Residential	Goreway to Highway 427
POR35	1	Residential	Goreway to Highway 427
POR36	1	Residential	Goreway to Highway 427
POR37	3	Residential	Highway 27 to Pine Valley
POR38	3	Residential	Highway 27 to Pine Valley
POR39	3	Residential	Highway 27 to Pine Valley
POR40	3	Residential	Highway 27 to Pine Valley
POR41	3	Residential	Highway 27 to Pine Valley
POR42	3	Residential	Highway 27 to Pine Valley
POR43	3	Residential	Highway 27 to Pine Valley
POR44	3	Residential	Highway 27 to Pine Valley
POR45	3	Residential	Highway 27 to Pine Valley
POR46	3	Residential	Highway 27 to Pine Valley
POR47	3	Residential	Highway 27 to Pine Valley
POR48	112	Nursing Home	Highway 27 to Pine Valley
POR49	6	Residential (F)	Highway 27 to Pine Valley
POR50	6	Residential (F)	Highway 27 to Pine Valley
POR51	6	Residential (F)	Highway 27 to Pine Valley
POR52	6	Residential (F)	Highway 27 to Pine Valley
POR53	6	Residential (F)	Highway 27 to Pine Valley
POR54	1	Residential	Highway 27 to Pine Valley
POR55	1	Residential	Highway 27 to Pine Valley
POR56	3	Residential	Highway 27 to Pine Valley
POR57	3	Residential	Highway 27 to Pine Valley
POR58	3	Residential	Highway 27 to Pine Valley
POR59	3	Residential	Highway 27 to Pine Valley
POR60	3	Residential	Highway 27 to Pine Valley
POR61	3	Residential	Highway 27 to Pine Valley
POR62	3	Residential	Highway 27 to Pine Valley
POR63	3	Residential	Highway 27 to Pine Valley
POR64	3	Residential	Highway 27 to Pine Valley

Notes: (F) denotes a future planned receptor.



Legend

- Impact Assessment Corridor (Proposed Transitway)
- NSA Location

1:100,000

1 0.5 0 1 2 3 4

Kilometers

Title: **NSAs WITHIN STUDY AREA**

Project: **NOISE AND VIBRATION IMPACT ASSESSMENT, HIGHWAY 407 TRANSITWAY: WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400**

Client: **MINISTRY OF TRANSPORTATION OF ONTARIO**

ARCADIS

Date: **Nov 2017**

Updated: **Jun 25, 2018**

FIGURE 4.1

Layout: 8.5" x 11" (Author: mzarei)

Background Reference: ESRI ArcGIS Online Base Maps

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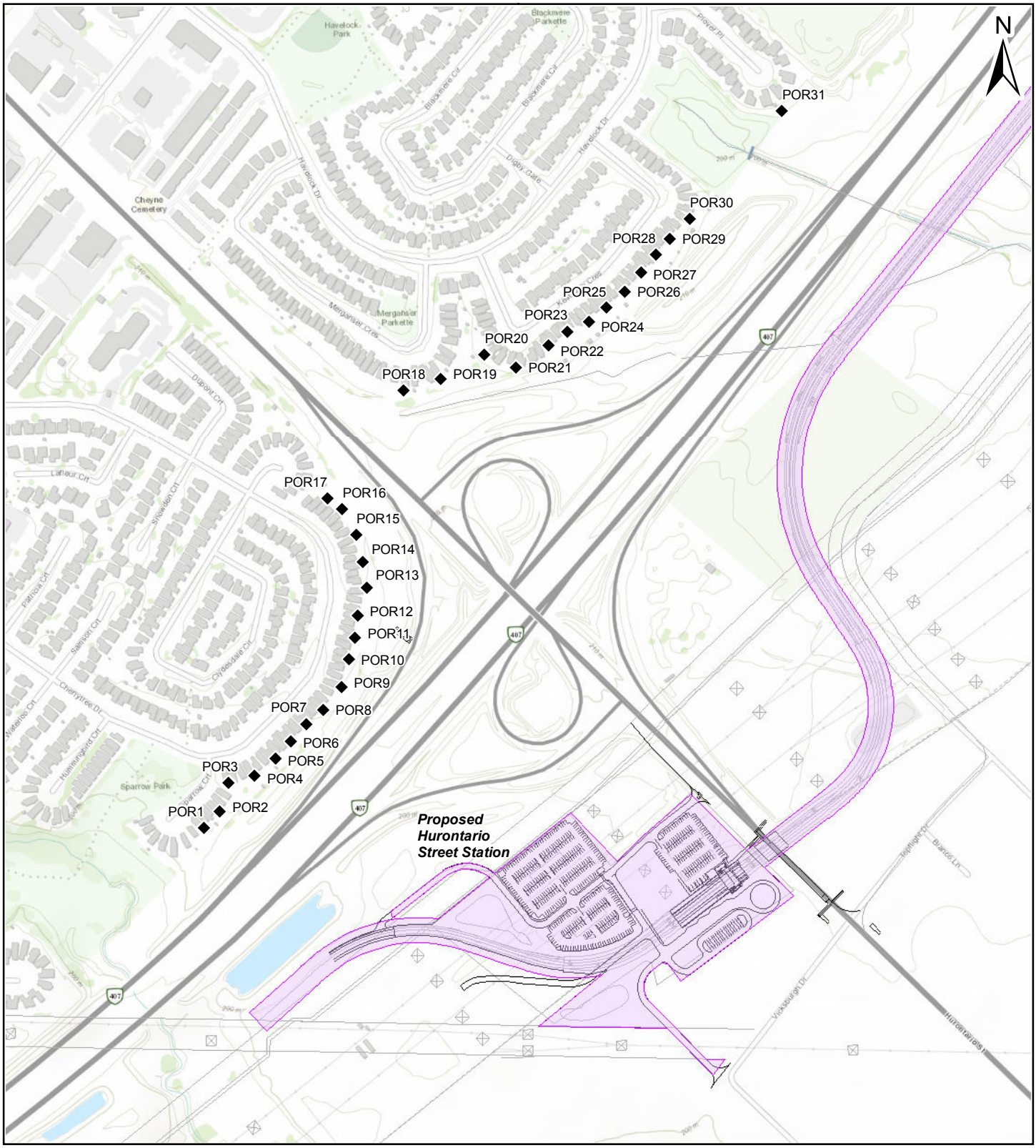

Legend

- Impact Assessment Corridor (Proposed Transitway)
- Noise Receptor Location

1:6,500

100 50 0 100 200

Meters

Title: **RECEPTOR LOCATIONS WEST OF HURONTARIO TO HIGHWAY 410**

Project: **NOISE AND VIBRATION IMPACT ASSESSMENT, HIGHWAY 407 TRANSITWAY: WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400**

Client: **MINISTRY OF TRANSPORTATION OF ONTARIO**

ARCADIS

Date: **Nov 2017**

Updated: **Jun 25, 2018**

FIGURE 4.2

Layout: 8.5" x 11" (Author: mzarei)

Background Reference: ESRI ArcGIS Online Base Maps

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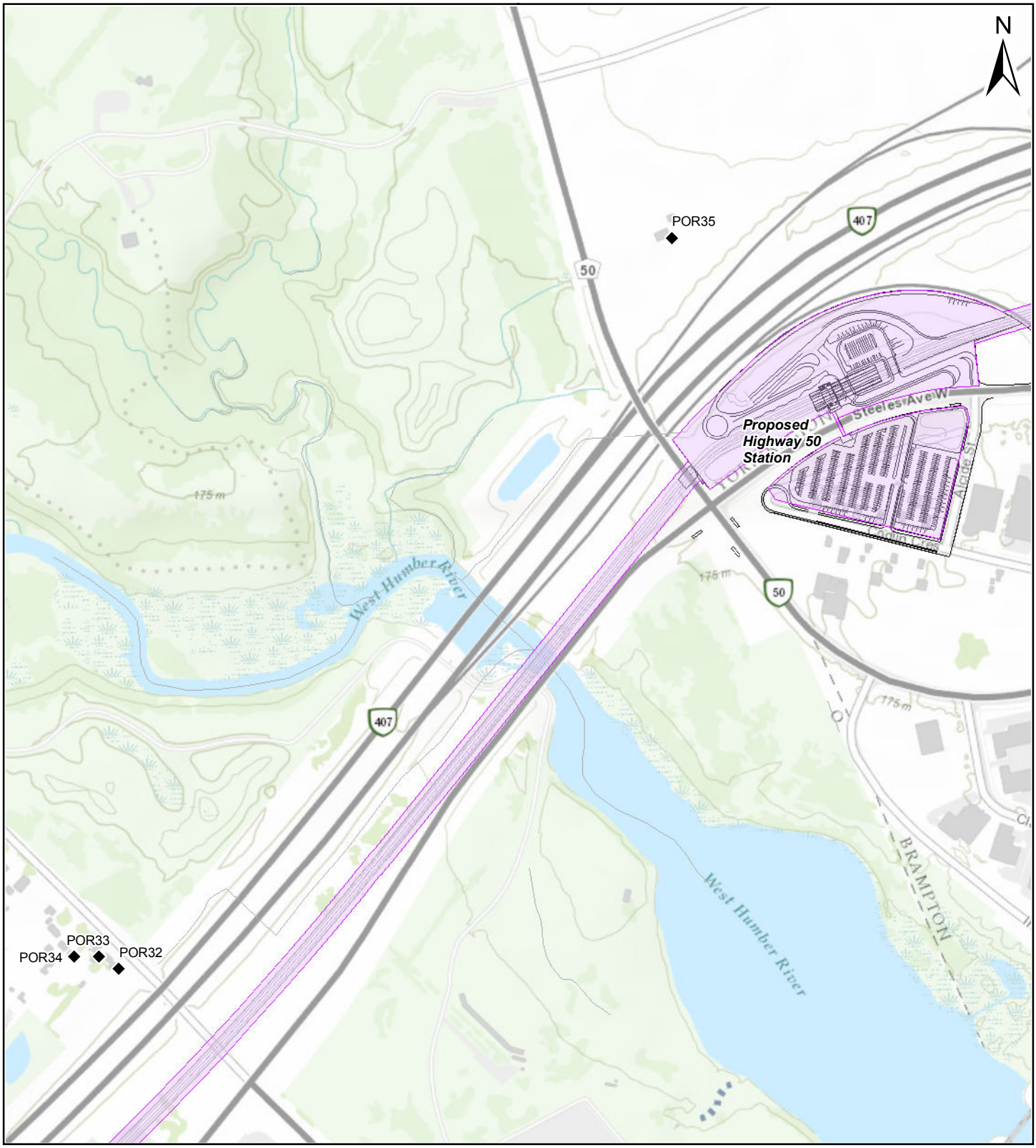

Legend

- Impact Assessment Corridor (Proposed Transitway)
- Noise Receptor Location

1:7,500

100 50 0 100 200 300

Meters

Title:	**RECEPTOR LOCATIONS GOREWAY TO HIGHWAY 427**
Project:	**NOISE AND VIBRATION IMPACT ASSESSMENT, HIGHWAY 407 TRANSITWAY: WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400**
Client:	**MINISTRY OF TRANSPORTATION OF ONTARIO**
	ARCADIS
Date:	**Nov 2017**
Updated:	**Jun 25, 2018**
	FIGURE 4.3

Layout: 8.5" x 11" (Author: mzarei)

Background Reference: ESRI ArcGIS Online Base Maps

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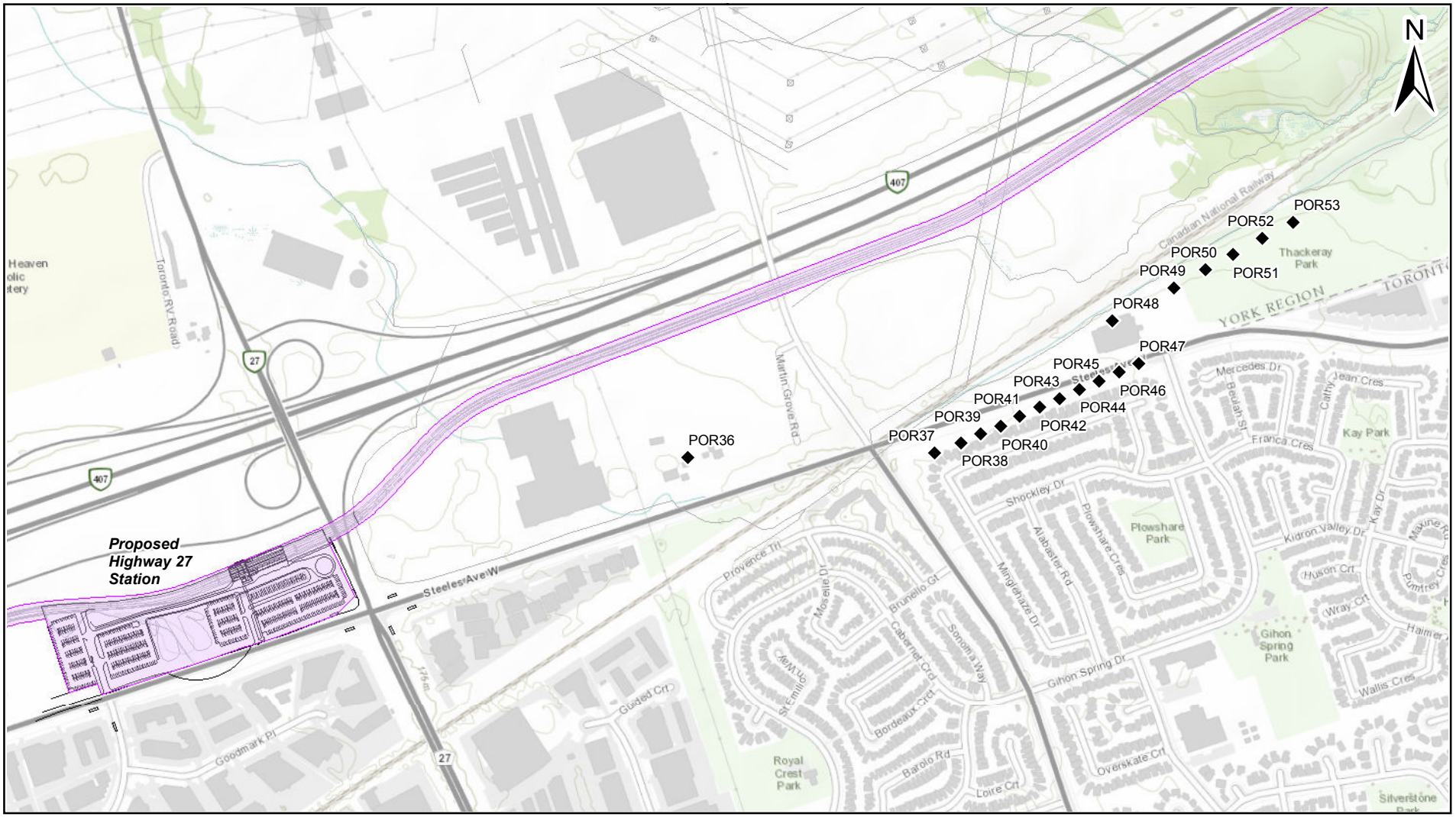
Layout: 8.5" x 11" (Author: mzarei)



Legend

- Impact Assessment Corridor (Proposed Transitway)
- Noise Receptor Location

Title:	**RECEPTOR LOCATIONS HIGHWAY 27 TO PINE VALLEY**
ARCADIS	Project: **NOISE AND VIBRATION IMPACT ASSESSMENT, HIGHWAY 407 TRANSITWAY: WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400**
Date: **Nov. 2017**	Client: **MINISTRY OF TRANSPORTATION OF ONTARIO**
Updated: **Jun 25, 2018**	
1:10,000 (100 50 0 100 200 300 400 500 600 700 Meters)	**FIGURE 4.4**

Background Reference: ESRI ArcGIS Online Base Maps

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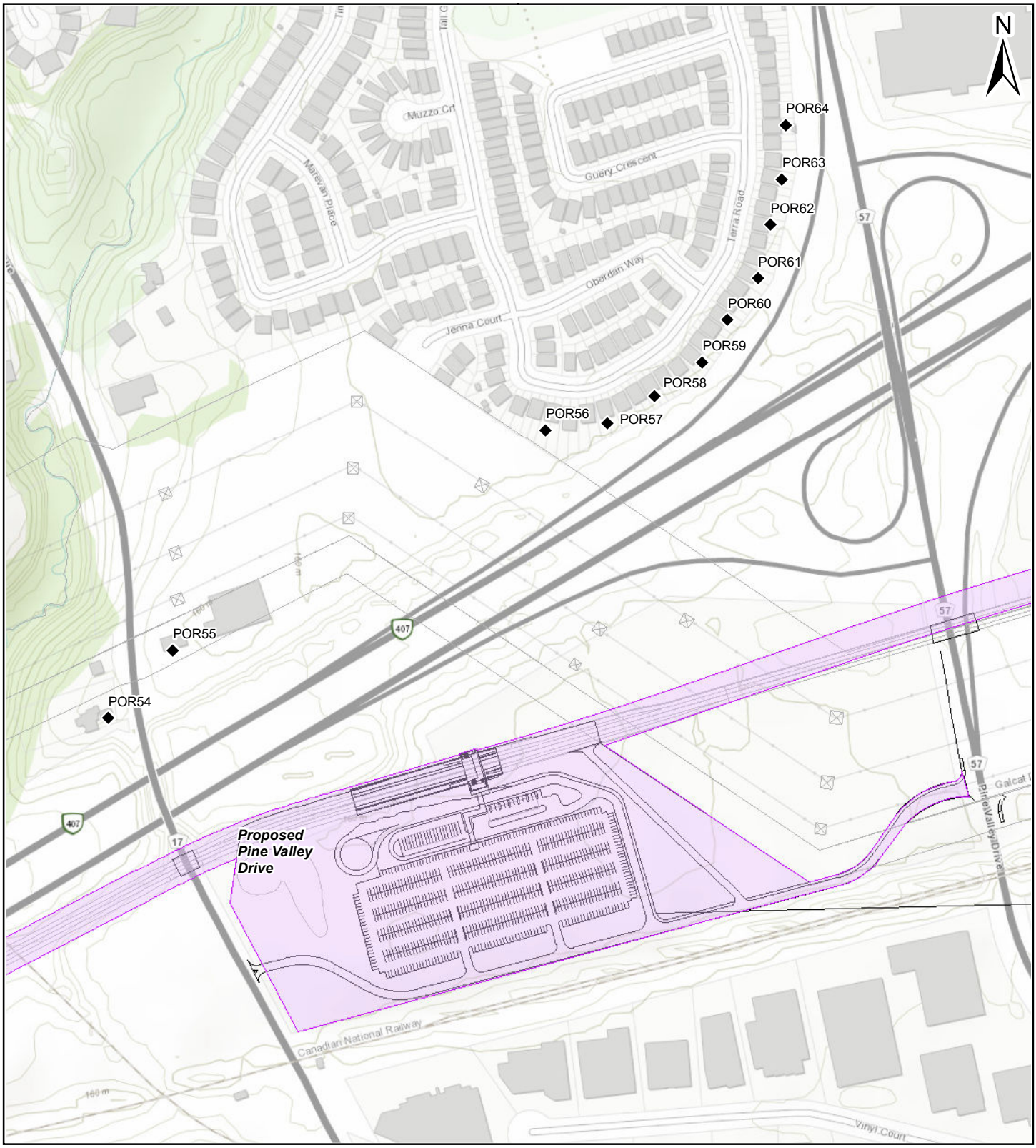

Legend

- Impact Assessment Corridor (Proposed Transitway)
- Noise Receptor Location

1:5,000

50 25 0 50 100 150 200

Meters

Title: **RECEPTOR LOCATIONS HIGHWAY 27 TO PINE VALLEY (CONT'D)**

Project: **NOISE AND VIBRATION IMPACT ASSESSMENT, HIGHWAY 407 TRANSITWAY: WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400**

Client: **MINISTRY OF TRANSPORTATION OF ONTARIO**

ARCADIS

Date: **Nov 2017**

Updated: **Jun 25, 2018**

FIGURE 4.5

Layout: 8.5" x 11" (Author: mzarei)

Background Reference: ESRI ArcGIS Online Base Maps

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4.2.2 Future Build (2031)

The future-build scenario represents future conditions in the same year as the future no-build year, but inclusive of the 407 Transitway. For traffic on the 407 ETR, the assessment of this scenario utilizes the same projected traffic data as was used in the assessment of future no-build conditions with the exception that public transit vehicles are utilizing the 407 Transitway, resulting in less cars utilizing the 407 ETR. IBI Group estimated that there would be an approximate 3% reduction in cars utilizing the 407 ETR as a result of the implementation of the Transitway.

Projected noise levels at the NSAs in the future-build scenario were estimated through predictive modelling (discussed in Section 4.3.1), in the same manner as for the future no-build scenario. Modelling of the future build scenario accounts for any changes to local topography that will be required to accommodate the 407 Transitway, and also accounts for the planned vertical profile of the 407 Transitway (i.e., at-grade sections and overpasses). To account for the effects of surface construction materials, the transitway was modelled with an asphalt and a concrete surface.

As future plans for the 407 Transitway involve operations using BRT, the analysis also includes an assessment of ground-borne vibration from buses to confirm that levels would not be perceptible at the NSAs.

Potential vibration effects associated with bus pass-by events are more likely to be associated with airborne vibration caused by engine noise rather than ground-borne vibration. The potential for airborne (noise-induced) vibration from bus pass-by events was estimated using algorithms from the U.S. Federal Highway Administration (FHWA) Traffic Noise Model (TNM) version 2.5 [14], discussed further in Section 4.4.1.2.

4.3 Noise Modelling

4.3.1 Noise from Transportation Sources

The MTO requires that sound level predictions completed in support of transportation noise assessments be completed using either the MOECC ORNAMENT calculation method, or the STAMINA 2.0 model [14]. The ORNAMENT calculation method serves as the basis for the MOECC-developed STAMSON computer program, and is a modification of the FHWA-RD-77-108 algorithm to simplify calculations and to account for Ontario's then-current vehicle fleet. As such, ORNAMENT, through the use of STAMSON (ORNAMENT/STAMSON) is to be applied in situations with relatively straight roads, where the surrounding topography and vertical road profile are relatively flat. For scenarios with complex geometry, such as roads featuring grade separations or below grade sections, irregular topography or complex horizontal alignments, the more rigorous STAMINA model may be used. The STAMINA model is based on algorithms from the U.S. FHWA. The most recent version of STAMINA is implemented in the FHWA TNM

program. As per MTO requirements, all sound levels were assessed as 24-hour L_{eq}'s at a height of 1.5 m from the ground at the most exposed side, or OLA of each identified NSA [1].

The study area is located within a complex geographic terrain with a number of large, "spaghetti" interchanges, parallel rail corridors below grade, overpasses and a number of rivers/streams. As such, ORNAMENT is too simplistic for this stretch of the transitway to account for terrain changes. STAMINA is the preferred model, however, it is no longer available, nor supported. TNM is its replacement and was used with the agreement of MTO. Table 4.2 was prepared to show a comparison between STAMSON and TNM.

4.3.1.1 ORNAMENT/STAMSON

Sound levels in ORNAMENT are calculated based on the specific exposure of a given point of reception to the road(s) under assessment. As the road source geometry is considered from the specific point of view of the receptor, only one receptor may be modelled at a time and the results are applicable only to that receptor and those with a reasonably similar exposure to the road.

The ORNAMENT method is summarized in a Technical Document prepared in 1989 [15], and is based on reference sound level data for three classes of vehicles: cars, medium trucks (inclusive of buses) and heavy trucks. A series of adjustments are then applied to the reference data based on site-specific variables, including the actual volume of each vehicle type, the speed of travel, distance between the road and receptor, road length and pavement type, road gradient, intervening ground surface, and obstacles to noise propagation (i.e., barriers, houses, dense foliage). Accuracy decreases significantly beyond 200 m of the noise source, and the method does not work for distances greater than 500 m. Prediction accuracy is further reduced in cases with highly irregular terrain, such as this study area.

As noted earlier, the ORNAMENT method is the basis for the STAMSON computer program, which was used for calculations for a representative receptor for each NSA for comparison with TNM results. NSAs are located within complex terrains with a combination of natural, or engineered safety and acoustic controls, such as berms and acoustic fences. The receptors selected below have relatively simple terrain geometry, considering the overall complexity of the study area, and can be modelled through STAMSON with the least amount of adjustments made by the software. This also allows for a relatively direct comparison. Other receptors are either well beyond the confidence range of STAMSON, or are subject to a number of terrain changes between the source and receiver, which cannot be easily modelled using STAMSON. Furthermore, the selected receptors are considered representative for a good number of the PORs within the NSAs as they share similar exposures to all road segments in terms of angle and distance. Table 4.2 documents this. Based on aerial photography and site observations, the surrounding ground surface was set to absorptive. Vehicles were assumed to be operating at the posted speed limit, per MOECC procedures outlined in the ORNAMENT Technical Document [15].

Table 4.2 TNM vs STAMSON Sample Comparison

ID	Sound Level Prediction (dBA)		Difference
	TNM	STAMSON	
POR1	64.5	63.3	+1.2
POR33	73.0	71.7	+1.3
POR36	61.6	61.3	+0.3
POR58	69.0	66.4	+2.6

TNM results are higher than STAMSON results for all PORs shown in Table 4.2. However, this difference is likely to be imperceptible to humans. In these cases, TNM can handle the complex terrain, the benefits from interfering structures, such as berms and residential acoustical fences, varying ground absorptions, and number of reflections, better than STAMSON. In all cases, the differences in sound levels is below the 3 dBA threshold of perception.

4.3.1.2 FHWA STAMINA/TNM

TNM version 2.5 was developed by the FHWA for the assessment and analysis of highway traffic noise, and to assist in the design of noise barriers for highway projects [14] and is the successor to MTO's approved model for complex terrain, STAMINA. The model utilizes 1/3-octave band reference sound level data for several vehicle types operating on a variety of pavement surfaces. Test cases are checked against real-world noise measurements to ensure the accuracy of the model. The vehicle types that may be modelled include: automobiles, medium trucks, heavy trucks, buses and motorcycles. In this program, the user plots the road alignment and sensitive receptor locations of interest, and assigns the traffic mix to each plotted road segment as appropriate. The model accounts for the speed of each vehicle type, the pavement surface type, the separation distance between the road and receptor, as well as the effect of intervening distance, ground type, topography and absorption of sound by the atmosphere. TNM allows for the simultaneous calculation of multiple receptor points in a single run, as opposed to ORNAMENT, for which each run is receptor-specific.

TNM version 2.5 was applied in the assessment of traffic noise impacts for the receptors in this assessment, as the 407 Transitway involves many above grade sections in order to pass over the interchanges that connect with the 407 ETR. Furthermore, the horizontal alignment of some existing and proposed road infrastructure is curved (e.g., on/off ramps, flyovers), which does not lend well to the use of ORNAMENT. However, the results of select receptors within each NSA have been compared to results obtained using ORNAMENT in Table 4.2.

The existing road infrastructure was input to TNM based on plan drawings and topographical plots provided by Parsons. The volumes of the various vehicle types were input based on the existing and projected future traffic data, and speeds were assigned based on the posted speed limits of the associated roads. The selected representative receptors discussed in Section 4.1 were

plotted and assigned a height of 1.5 m per MTO requirements. It was assumed that the vehicles travel on an average pavement type, except for Highway 407 ETR, which was modelled as concrete, and that the surrounding area is grassed (based on observations and aerial photography). The 407 Transitway infrastructure was input based on plan and profile drawings, and typical cross-sectional drawings provided by Parsons, and was modelled to have an asphalt and a concrete surface for comparison purposes.

4.3.2 Noise from Construction

As noted in Section 3.4.1, the sound level limits recommended by the MOECC for construction noise have been developed on a per-unit basis rather than a cumulative basis. As such, there are no applicable criteria values for the simultaneous operation of multiple pieces of construction equipment. Noise modelling of individual pieces of construction equipment to confirm compliance with the NPC-115 limits has therefore not been undertaken for this assessment, as it is assumed that the equipment supplier will ensure that all equipment meets the applicable NPC-115 limits.

4.4 Vibration Assessment

4.4.1 Vibration from Transportation Sources

Rail infrastructure is a known source of ground-borne vibration, caused by the transfer of energy along the vertical axis from the rolling vehicle to the track system, and subsequently from the track system to the ground where it may propagate towards nearby structures. However, the focus of this Report is the BRT and as such the LRT impacts were not evaluated. Ground-borne vibration impacts are less common from rubber-tired vehicles when operating on a smooth surface. The U.S. FTA has developed a procedure for the prediction of ground-borne vibration (RMS velocity) with distance from the centerline of a transit alignment, based on the type of vehicle [5]. This procedure was applied in reverse for buses, using the vibration criteria discussed in Section 3.3 to determine the separation distances beyond which no vibration impacts would be predicted for each receptor type.

The assessment procedures for evaluating potential ground-borne and airborne vibration levels are discussed in the following sections.

4.4.1.1 Ground-borne Vibration

Approximate ground-borne vibration levels from rubber-tired vehicles travelling at 100 km/hr were estimated at various distances using the methodology developed by the U.S. FTA [5]. The FTA provides reference curves that are used to predict vibration levels at a given distance, based on a reference speed of travel. A series of adjustments are then applied to tailor the prediction to the site-specific conditions, including:

- actual travel speed;

- vehicle condition (e.g., stiff suspension, resilient wheels, worn wheels);
- road condition (e.g., uneven roads);
- ground type between transit alignment and receptor.

The U.S. FTA procedure outlines additional variables for inclusion in the calculations, such as to account for the building foundation material, and transfer of vibration between floors; however, since the adopted criteria applies at an outdoor location, these factors were not considered in the calculations. The following key assumptions were applied in the predictions completed for this assessment:

- buses are operating at 40 km/hr in the vicinity of stations, and 100 km/hr between stations;
- the pavement surface will be regularly maintained such that buses are operating on a smooth surface;
- separate runs were completed for at-grade segments and elevated segments (i.e., overpasses).

The above assumptions were applied to develop adjusted curves depicting vibration velocity with distance for the 407 Transitway. The curves were then applied in reverse, using the vibration criteria from Section 3.3 to determine a setback distance beyond which the criteria would not be exceeded. Separation distances were calculated for an at-grade configuration, elevated configuration and in the vicinity of a station. The results of the ground-borne vibration assessment are discussed in Section 6.1.1.

4.4.1.2 Airborne Vibration

Noise from heavy vehicles operating in close vicinity to receptors has the potential to induce vibration in building components such as windows, walls and floors. To evaluate whether the buses operating on the 407 Transitway would be expected to cause airborne vibration of building components, it was necessary to derive octave band sound level data for a bus pass-by event for comparison to the frequency-dependent criteria summarized in Section 3.3. As described in Section 4.3.1.2, the FHWA TNM 2.5 is based on 1/3-octave band reference data for various types of vehicle, including buses. The reference data for each vehicle type is descriptive of a single vehicle pass-by at a known distance and speed.

The TNM 2.5 model outputs overall A-weighted receptor sound levels based on all user inputs; however, it is possible to calculate the reference sound levels based on information provided in the Technical Manual for the model [14]. The calculation is based on the vehicle type, pavement type, throttle setting, travel speed and 17 constants provided in the manual. The calculation results in a maximum pass-by sound level for the associated vehicle at 15 m from the road.

For purposes of this calculation, it was assumed that the bus is travelling on average pavement, at 100 km/hr and full throttle. The closest receptor to the 407 Transitway is located at 45 m from the centerline, and so the reference sound level was projected to this distance using line source attenuation and assuming full 180^{o} exposure to the road. The resulting octave band sound level due to a bus pass-by is discussed in Section 3.3 to determine whether any of the thresholds are exceeded. The results of the assessment are discussed in Section 6.1.2.

4.4.2 Vibration from Construction

The operation of construction equipment may result in perceptible ground vibrations in the vicinity of the construction site. As detailed construction plans are not available at this time, the potential for vibration impacts has been assessed on a setback basis by typical equipment type. Measurement data from literature have been used in conjunction with the construction vibration criteria in Section 3.5 to define the minimum separation distance required for each type of construction equipment that may be used in construction.

The U.S. FTA has compiled vibration measurement data for various sources from literature, and summarized each source in terms of a reference PPV vibration level (in/sec) at a distance of 25 ft [5]. The following equation is provided to extrapolate the reference level to further distances.

$$PPV_{equip} = PPV_{ref}\left(\frac{25}{D}\right)^{1.5}$$

Where:

PPV_{equip} = peak particle velocity of the equipment in in/sec of the equipment, adjusted for distance;

PPV_{ref} = reference vibration level in in/sec at 25 ft from the equipment; and

D = the distance from the equipment to the receiver (ft).

The above equation was rearranged to solve for D with the PPV_{equip} variable being set to the applicable criteria value from Section 3.5. The solution to the resulting equation provides the minimum distance required between each type of equipment and the receiver to achieve the applicable criteria. The results of the construction vibration impact assessment are discussed in Section 6.2.

5.0 NOISE IMPACT ASSESSMENT

5.1 Noise from Transportation Sources

5.1.1 Impact Assessment

The noise modelling of the transportation sources was completed using TNM version 2.5 and the full results are summarized in Table 5.1 and Table 5.2. This assessment includes all existing acoustic barriers (berms and fences) constructed as part of subdivision plan approvals, as well as any naturally occurring berms. The predictions indicate that the majority of the future build sound levels are projected to be below the MTO absolute sound level threshold of 65 dBA at the representative receptor locations for operations as a busway system. For each NSA, there are a number of PORs that are expected to experience sound levels of over 65 dBA. The incremental impacts are less than the MTO threshold of +5 dBA at all locations due to the already high ambient levels in the study area.

Very little variability in impact differences is expected between the receptors due to the similarities in exposure conditions. For a number of receptors, the noise impacts are predicted to marginally decrease as buses that are currently travelling along 407 ETR are expected to shift operations to the transitway, thus moving farther away and resulting in less audible operations. At the receptors nearest to the transitway (POR36, POR42, POR45-POR47, POR50), asphalt is expected to result in a reduction of 0.1 dBA. However, the type of surface will be at the contractors discretion. Based on the modelled results shown in Tables 5.1 and 5.2, the acoustical difference between the surface types can be considered insignificant and the overall noise impacts at the NSAs within this study area should be similar regardless of the surface type. Any differences will be well below the threshold of human perception. Overall, the operation of the transitway is not expected to have a significant overall impact due to the already elevated sound levels due to the high traffic volumes along all 400-series highways and major interchanges.

Bus stations are not expected to have associated garages, or layover, or overnight stationary activities and as such were not treated as stationary sources. Idling buses were included in the assessment to account for the boarding of passengers.

Where the ambient conditions are above the MTO's threshold of 65 dBA for some PORs, an assessment of noise mitigation was completed. Stations were not assessed against NPC-300 as significant stationary sources are not expected to be present at the stations within this study area. Furthermore, the stations are located in areas with significantly elevated background sound levels which increase the applicable sound level limits. However, as a conservative approach, a noise barrier wall was investigated for the Hurontario Station as outlined in the following section.

5.1.2 Assessment of Noise Controls

The primary noise driver in the study area is the existing Highway 407 ETR. Furthermore, there are three other major 400-series highways, and major arterial roads with some of the highest traffic volumes in the province. By comparison, the transitway will represent only a fraction of the total road traffic and not be a significant contributor.

A partial level analysis was completed, which shows that the transitway contributions are anywhere from 13 dBA to 40 dBA lower than the highest noise contributor for the same receptor. Due to the logarithmic nature of sound, a source that is 10 dB, or more, lower than the highest source within the group, will not have a significant influence on the overall sound levels.

However, to illustrate this, a 5 m high noise barrier wall was modelled along the northern end of the Hurontario Station, as well as one along the northern end of the transitway leaving the station as shown in Figure 5.1. This location was selected as there are a number of receptors to the north (POR1 to POR31), and the wall could be constructed within the MTO's right-of-way. As seen in Table 5.3, such a barrier will not provide any noise mitigation reduction due to how significant traffic along Highway 407 ETR is compared to the transitway, and any associated station activities. Similar walls were assessed for POR33 to POR35, and POR54 to POR61 within the study areas and the results are provided in Table 5.3. As such, MTO's technical feasibility requirement is not met and this wall can be deemed not feasible.

The same holds true for all other NSAs within the study area as they are located north of Highway 407 ETR, except for POR36 to POR53, which are well below the 65 dBA threshold for noise mitigation.

To successfully mitigate the relevant NSAs within this study area, MTO would have to construct noise barrier walls on private properties, along the fenceline of residences, or enter into an agreement with Highway 407 ETR to construct noise barrier walls on the 407 ETR right-of-way. Such barrier walls are deemed to not be administratively feasible. MTO requires that there be public lands available for the construction of noise barrier walls. Therefore, it has been concluded that the construction of noise barrier walls within this study area will either be not technically feasible or not administratively feasible.

Table 5.1 Noise Impacts (First Row Receptors), Asphalt Surface

POR ID	Segment	No. of Units Represented	Sound Level Predictions (dBA)		Change due to Undertaking (dBA)	Mitigation Required (Y/N)?
			Future No-Build (2031)	Future Build (2031)		
POR1	West of Hurontario to Highway 410	3	64.5	64.4	-0.1	N
POR2	West of Hurontario to Highway 410	3	63.6	63.5	-0.1	N
POR3	West of Hurontario to Highway 410	3	63.6	63.5	-0.1	N
POR4	West of Hurontario to Highway 410	3	63.9	63.9	0.0	N
POR5	West of Hurontario to Highway 410	3	65.0	64.9	-0.1	N
POR6	West of Hurontario to Highway 410	3	64.8	64.8	0.0	N
POR7	West of Hurontario to Highway 410	3	65.4	65.3	-0.1	Y
POR8	West of Hurontario to Highway 410	3	66.3	66.2	-0.1	Y
POR9	West of Hurontario to Highway 410	3	65.5	65.4	-0.1	Y
POR10	West of Hurontario to Highway 410	3	65.5	65.4	-0.1	Y
POR11	West of Hurontario to Highway 410	3	64.3	64.3	0.0	N
POR12	West of Hurontario to Highway 410	3	64.7	64.7	0.0	N
POR13	West of Hurontario to Highway 410	3	63.1	63.1	0.0	N
POR14	West of Hurontario to Highway 410	3	62.4	62.4	0.0	N
POR15	West of Hurontario to Highway 410	3	63.5	63.5	0.0	N
POR16	West of Hurontario to Highway 410	3	62.7	62.8	0.1	N
POR17	West of Hurontario to Highway 410	3	63.9	63.9	0.0	N
POR18	West of Hurontario to Highway 410	3	61.4	61.4	0.0	N
POR19	West of Hurontario to Highway 410	3	65.4	65.4	0.0	Y
POR20	West of Hurontario to Highway 410	3	63.4	63.4	0.0	N
POR21	West of Hurontario to Highway 410	3	63.3	63.3	0.0	N
POR22	West of Hurontario to Highway 410	3	64.0	63.9	-0.1	N
POR23	West of Hurontario to Highway 410	3	64.4	64.3	-0.1	N

Table 5.1 Noise Impacts (First Row Receptors), Asphalt Surface (Cont'd)

POR ID	Segment	No. of Units Represented	Sound Level Predictions (dBA)		Change due to Undertaking (dBA)	Mitigation Required (Y/N)?
			Future No-Build (2031)	Future Build (2031)		
POR24	West of Hurontario to Highway 410	3	64.9	64.9	0.0	N
POR25	West of Hurontario to Highway 410	3	64.7	64.6	-0.1	N
POR26	West of Hurontario to Highway 410	3	64.8	64.8	0.0	N
POR27	West of Hurontario to Highway 410	3	66.0	65.9	-0.1	Y
POR28	West of Hurontario to Highway 410	3	69.7	69.6	-0.1	Y
POR29	West of Hurontario to Highway 410	3	72.0	71.9	-0.1	Y
POR30	West of Hurontario to Highway 410	3	64.9	64.8	-0.1	N
POR31	West of Hurontario to Highway 410	3	70.7	70.6	-0.1	Y
POR32	West of Hurontario to Highway 410	1	73.9	73.7	-0.2	Y
POR33	Goreway to Highway 427	1	73.0	72.9	-0.1	Y
POR34	Goreway to Highway 427	1	72.7	72.5	-0.2	Y
POR35	Goreway to Highway 427	1	67.7	67.6	-0.1	Y
POR36	Goreway to Highway 427	1	61.6	61.6	0.0	N
POR37	Highway 27 to Pine Valley	3	50.3	50.3	0.0	N
POR38	Highway 27 to Pine Valley	3	48.2	48.2	0.0	N
POR39	Highway 27 to Pine Valley	3	49.7	49.7	0.0	N
POR40	Highway 27 to Pine Valley	3	50.0	50.0	0.0	N
POR41	Highway 27 to Pine Valley	3	51.0	51.1	0.1	N
POR42	Highway 27 to Pine Valley	3	51.0	51.0	0.0	N
POR43	Highway 27 to Pine Valley	3	49.0	49.1	0.1	N
POR44	Highway 27 to Pine Valley	3	50.3	50.4	0.1	N
POR45	Highway 27 to Pine Valley	3	49.9	49.9	0.0	N
POR46	Highway 27 to Pine Valley	3	50.2	50.2	0.0	N

Table 5.1 Noise Impacts (First Row Receptors), Asphalt Surface (Cont'd)

POR ID	Segment	No. of Units Represented	Sound Level Predictions (dBA)		Change due to Undertaking (dBA)	Mitigation Required (Y/N)?
			Future No-Build (2031)	Future Build (2031)		
POR47	Highway 27 to Pine Valley	3	50.1	50.1	0.0	N
POR48	Highway 27 to Pine Valley	112	53.3	53.4	0.1	N
POR49	Highway 27 to Pine Valley	6	53.9	54.0	0.1	N
POR50	Highway 27 to Pine Valley	6	53.1	53.3	0.2	N
POR51	Highway 27 to Pine Valley	6	53.2	53.3	0.1	N
POR52	Highway 27 to Pine Valley	6	52.8	52.9	0.1	N
POR53	Highway 27 to Pine Valley	6	55.0	55.0	0.0	N
POR54	Highway 27 to Pine Valley	1	75.1	75.0	-0.1	Y
POR55	Highway 27 to Pine Valley	1	67.0	66.9	-0.1	Y
POR56	Highway 27 to Pine Valley	3	68.6	68.5	-0.1	Y
POR57	Highway 27 to Pine Valley	3	68.4	68.3	-0.1	Y
POR58	Highway 27 to Pine Valley	3	69.0	68.9	-0.1	Y
POR59	Highway 27 to Pine Valley	3	68.2	68.0	-0.2	Y
POR60	Highway 27 to Pine Valley	3	69.1	69.0	-0.1	Y
POR61	Highway 27 to Pine Valley	3	67.9	67.8	-0.1	Y
POR62	Highway 27 to Pine Valley	3	63.8	63.7	-0.1	N
POR63	Highway 27 to Pine Valley	3	64.0	63.9	-0.1	N
POR64	Highway 27 to Pine Valley	3	63.5	63.5	0.0	N

Table 5.2 Noise Impacts (First Row Receptors), Concrete Surface

POR ID	Segment	No. of Units Represented	Sound Level Predictions (dBA)		Change due to Undertaking (dBA)	Mitigation Required (Y/N)?
			Future No-Build (2031)	Future Build (2031)		
POR1	West of Hurontario to Highway 410	3	64.5	64.4	-0.1	N
POR2	West of Hurontario to Highway 410	3	63.6	63.5	-0.1	N
POR3	West of Hurontario to Highway 410	3	63.6	63.5	-0.1	N
POR4	West of Hurontario to Highway 410	3	63.9	63.9	0.0	N
POR5	West of Hurontario to Highway 410	3	65.0	64.9	-0.1	N
POR6	West of Hurontario to Highway 410	3	64.8	64.8	0.0	N
POR7	West of Hurontario to Highway 410	3	65.4	65.3	-0.1	Y
POR8	West of Hurontario to Highway 410	3	66.3	66.2	-0.1	Y
POR9	West of Hurontario to Highway 410	3	65.5	65.4	-0.1	Y
POR10	West of Hurontario to Highway 410	3	65.5	65.4	-0.1	Y
POR11	West of Hurontario to Highway 410	3	64.3	64.3	0.0	N
POR12	West of Hurontario to Highway 410	3	64.7	64.7	0.0	N
POR13	West of Hurontario to Highway 410	3	63.1	63.1	0.0	N
POR14	West of Hurontario to Highway 410	3	62.4	62.4	0.0	N
POR15	West of Hurontario to Highway 410	3	63.5	63.5	0.0	N
POR16	West of Hurontario to Highway 410	3	62.7	62.8	0.1	N
POR17	West of Hurontario to Highway 410	3	63.9	63.9	0.0	N
POR18	West of Hurontario to Highway 410	3	61.4	61.4	0.0	N
POR19	West of Hurontario to Highway 410	3	65.4	65.4	0.0	Y
POR20	West of Hurontario to Highway 410	3	63.4	63.4	0.0	N
POR21	West of Hurontario to Highway 410	3	63.3	63.3	0.0	N
POR22	West of Hurontario to Highway 410	3	64.0	63.9	-0.1	N
POR23	West of Hurontario to Highway 410	3	64.4	64.3	-0.1	N
POR24	West of Hurontario to Highway 410	3	64.9	64.9	0.0	N

Table 5.2 Noise Impacts (First Row Receptors), Concrete Surface (Cont'd)

POR ID	Segment	No. of Units Represented	Sound Level Predictions (dBA)		Change due to Undertaking (dBA)	Mitigation Required (Y/N)?
			Future No-Build (2031)	Future Build (2031)		
POR25	West of Hurontario to Highway 410	3	64.7	64.6	-0.1	N
POR26	West of Hurontario to Highway 410	3	64.8	64.8	0.0	N
POR27	West of Hurontario to Highway 410	3	66.0	65.9	-0.1	Y
POR28	West of Hurontario to Highway 410	3	69.7	69.6	-0.1	Y
POR29	West of Hurontario to Highway 410	3	72.0	71.9	-0.1	Y
POR30	West of Hurontario to Highway 410	3	64.9	64.8	-0.1	N
POR31	West of Hurontario to Highway 410	3	70.7	70.6	-0.1	Y
POR32	West of Hurontario to Highway 410	1	73.9	73.7	-0.2	Y
POR33	Goreway to Highway 427	1	73.0	72.9	-0.1	Y
POR34	Goreway to Highway 427	1	72.7	72.5	-0.2	Y
POR35	Goreway to Highway 427	1	67.7	67.6	-0.1	Y
POR36	Goreway to Highway 427	1	61.6	61.7	0.1	N
POR37	Highway 27 to Pine Valley	3	50.3	50.3	0.0	N
POR38	Highway 27 to Pine Valley	3	48.2	48.2	0.0	N
POR39	Highway 27 to Pine Valley	3	49.7	49.7	0.0	N
POR40	Highway 27 to Pine Valley	3	50.0	50.0	0.0	N
POR41	Highway 27 to Pine Valley	3	51.0	51.1	0.1	N
POR42	Highway 27 to Pine Valley	3	51.0	51.1	0.1	N
POR43	Highway 27 to Pine Valley	3	49.0	49.1	0.1	N
POR44	Highway 27 to Pine Valley	3	50.3	50.4	0.1	N
POR45	Highway 27 to Pine Valley	3	49.9	50.0	0.1	N
POR46	Highway 27 to Pine Valley	3	50.2	50.3	0.1	N
POR47	Highway 27 to Pine Valley	3	50.1	50.2	0.1	N

Table 5.2 Noise Impacts (First Row Receptors), Concrete Surface (Cont'd)

POR ID	Segment	No. of Units Represented	Sound Level Predictions (dBA)		Change due to Undertaking (dBA)	Mitigation Required (Y/N)?
			Future No-Build (2031)	Future Build (2031)		
POR48	Highway 27 to Pine Valley	112	53.3	53.4	0.1	N
POR49	Highway 27 to Pine Valley	6	53.9	54.0	0.1	N
POR50	Highway 27 to Pine Valley	6	53.1	53.4	0.3	N
POR51	Highway 27 to Pine Valley	6	53.2	53.3	0.1	N
POR52	Highway 27 to Pine Valley	6	52.8	52.9	0.1	N
POR53	Highway 27 to Pine Valley	6	55.0	55.0	0.0	N
POR54	Highway 27 to Pine Valley	1	75.1	75.0	-0.1	Y
POR55	Highway 27 to Pine Valley	1	67.0	66.9	-0.1	Y
POR56	Highway 27 to Pine Valley	3	68.6	68.5	-0.1	Y
POR57	Highway 27 to Pine Valley	3	68.4	68.3	-0.1	Y
POR58	Highway 27 to Pine Valley	3	69.0	68.9	-0.1	Y
POR59	Highway 27 to Pine Valley	3	68.2	68.0	-0.2	Y
POR60	Highway 27 to Pine Valley	3	69.1	69.0	-0.1	Y
POR61	Highway 27 to Pine Valley	3	67.9	67.8	-0.1	Y
POR62	Highway 27 to Pine Valley	3	63.8	63.7	-0.1	N
POR63	Highway 27 to Pine Valley	3	64.0	63.9	-0.1	N
POR64	Highway 27 to Pine Valley	3	63.5	63.5	0.0	N

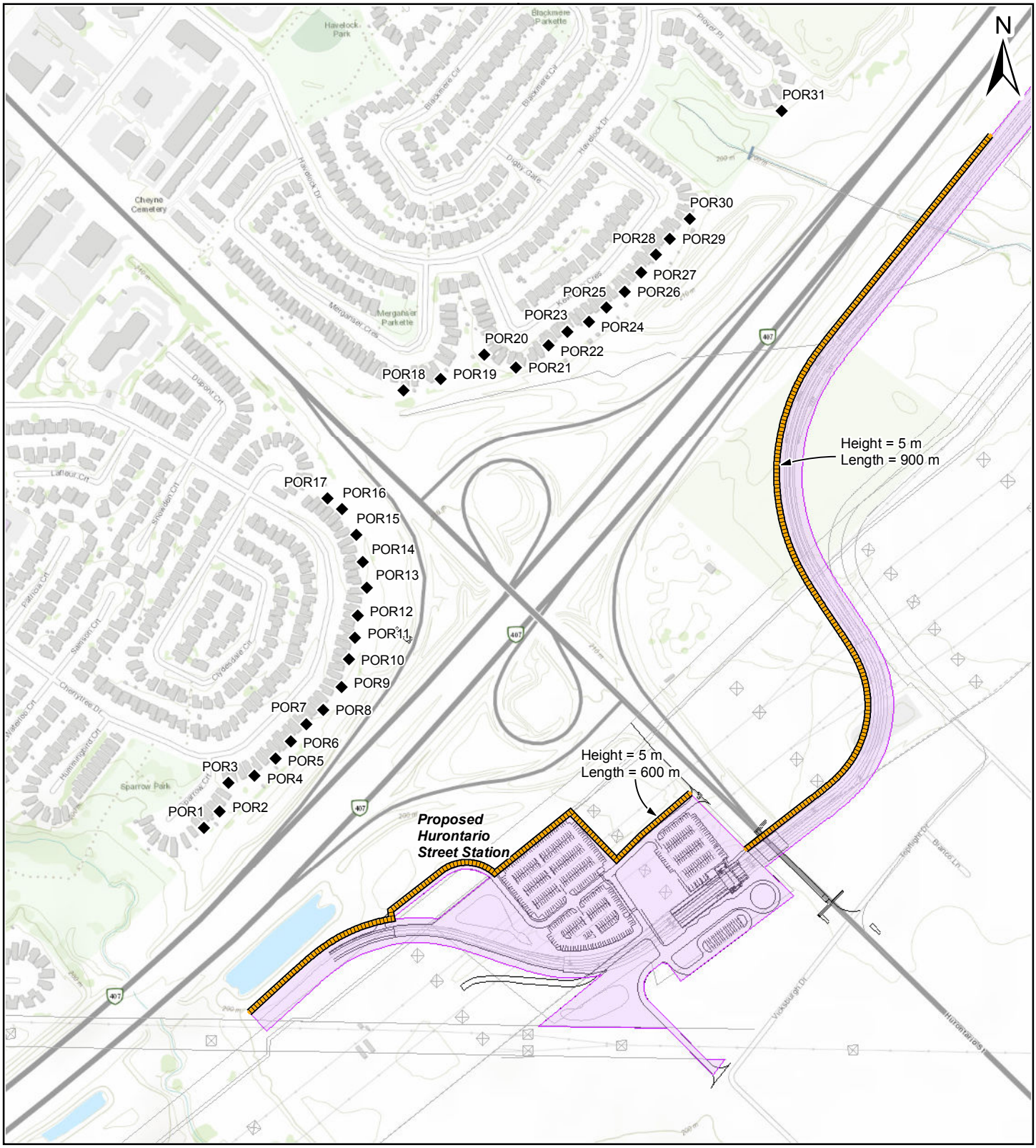
Table 5.3 Noise Impacts (First Row Receptors) with Noise Mitigation

POR ID	Segment	No. of Units Represented	Future Build Sound Level Predictions (dBA)		Noise Mitigation Reduction (dBA)	Technically Feasible (Y/N)?
			Without Noise Mitigation	With Noise Mitigation		
POR1	West of Hurontario to Highway 410	3	64.4	64.4	0	N
POR2	West of Hurontario to Highway 410	3	63.5	63.5	0	N
POR3	West of Hurontario to Highway 410	3	63.5	63.5	0	N
POR4	West of Hurontario to Highway 410	3	63.9	63.9	0	N
POR5	West of Hurontario to Highway 410	3	64.9	64.9	0	N
POR6	West of Hurontario to Highway 410	3	64.8	64.8	0	N
POR7	West of Hurontario to Highway 410	3	65.3	65.3	0	N
POR8	West of Hurontario to Highway 410	3	66.2	66.2	0	N
POR9	West of Hurontario to Highway 410	3	65.4	65.4	0	N
POR10	West of Hurontario to Highway 410	3	65.4	65.4	0	N
POR11	West of Hurontario to Highway 410	3	64.3	64.3	0	N
POR12	West of Hurontario to Highway 410	3	64.7	64.7	0	N
POR13	West of Hurontario to Highway 410	3	63.1	63.1	0	N
POR14	West of Hurontario to Highway 410	3	62.4	62.4	0	N
POR15	West of Hurontario to Highway 410	3	63.5	63.5	0	N
POR16	West of Hurontario to Highway 410	3	62.8	62.8	0	N
POR17	West of Hurontario to Highway 410	3	63.9	63.9	0	N
POR18	West of Hurontario to Highway 410	3	61.4	61.4	0	N
POR19	West of Hurontario to Highway 410	3	65.4	65.4	0	N
POR20	West of Hurontario to Highway 410	3	63.4	63.4	0	N
POR21	West of Hurontario to Highway 410	3	63.3	63.3	0	N
POR22	West of Hurontario to Highway 410	3	63.9	63.9	0	N
POR23	West of Hurontario to Highway 410	3	64.3	64.3	0	N

Table 5.3 Noise Impacts (First Row Receptors) with Noise Mitigation (Cont'd)

POR ID	Segment	No. of Units Represented	Future Build Sound Level Predictions (dBA)		Noise Mitigation Reduction (dBA)	Technically Feasible (Y/N)?
			Without Noise Mitigation	With Noise Mitigation		
POR24	West of Hurontario to Highway 410	3	64.9	64.9	0	N
POR25	West of Hurontario to Highway 410	3	64.6	64.6	0	N
POR26	West of Hurontario to Highway 410	3	64.8	64.7	0	N
POR27	West of Hurontario to Highway 410	3	65.9	65.9	0	N
POR28	West of Hurontario to Highway 410	3	69.6	69.6	0	N
POR29	West of Hurontario to Highway 410	3	71.9	71.9	0	N
POR30	West of Hurontario to Highway 410	3	64.8	64.8	0	N
POR31	West of Hurontario to Highway 410	3	70.6	70.6	0	N
POR32	West of Hurontario to Highway 410	1	73.7	73.7	0	N
POR33	Goreway to Highway 427	1	72.9	72.9	0	N
POR34	Goreway to Highway 427	1	72.5	72.5	0	N
POR35	Goreway to Highway 427	1	67.6	67.6	0	N
POR54	Highway 27 to Pine Valley	1	75.0	75.0	0	N
POR55	Highway 27 to Pine Valley	1	66.9	66.9	0	N
POR56	Highway 27 to Pine Valley	3	68.5	68.5	0	N
POR57	Highway 27 to Pine Valley	3	68.3	68.3	0	N
POR58	Highway 27 to Pine Valley	3	68.9	68.9	0	N
POR59	Highway 27 to Pine Valley	3	68.0	68.0	0	N
POR60	Highway 27 to Pine Valley	3	69.0	69.0	0	N
POR61	Highway 27 to Pine Valley	3	67.8	67.9	0.1	N

Notes: - Assumed 407 Transitway is concrete.
- Noise mitigation is a 5 m tall absorptive noise barrier wall located on MTO right-of-way as per Figure 5.1.



Legend

- Impact Assessment Corridor (Proposed Transitway)
- Noise Receptor Location
- Noise Barrier Wall (investigated but not recommended)

1:6,500

100 50 0 100 200

Meters

Title: **INVESTIGATED NOISE BARRIER WALL FOR HURONTARIO STATION**

Project: **NOISE AND VIBRATION IMPACT ASSESSMENT, HIGHWAY 407 TRANSITWAY: WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400**

Client: **MINISTRY OF TRANSPORTATION OF ONTARIO**

ARCADIS

Date: **Nov 2017**

Updated: **Jun 25, 2018**

FIGURE 5.1

Layout: 8.5" x 11" (Author: mzarei)

Background Reference: ESRI ArcGIS Online Base Maps

[SG\mzarei] V:\ESRI\351194_407TransitWay_MOE\000_NoiseAssessment\Station_Hurontario_NoiseBarier.mxd

5.2 Noise from Construction

5.2.1 Impact Assessment

As noted in Section 3.4.1, the sound level limits recommended by the MOECC for construction noise have been developed on a per-unit basis rather than a cumulative basis. As such, there are no applicable criteria values for the simultaneous operation of multiple pieces of construction equipment. Noise modelling of individual pieces of construction equipment to confirm compliance with the NPC-115 limits has therefore not been undertaken for this assessment, as it is assumed that the equipment supplier will ensure that all equipment meets the applicable NPC-115 limits.

5.2.2 Noise Control Recommendations

The implementation of the following measures will help to mitigate potential noise impacts during construction:

- Limit construction to the time periods allowed by the Cities' noise by-laws, as summarized in Section 3.4.2 and Table 3.7.
- Should there be a need to complete work outside of the hours allowed in the applicable noise by-laws, the Contractor is to seek any required exemptions and permits directly from the applicable jurisdiction, in advance of any work performed outside of the allowable time periods. If an exemption cannot be obtained, then construction will proceed in accordance with the requirements of the noise by-laws.
- The Contractor is expected to comply with all applicable requirements of the contract and local noise by-laws. Enforcement of noise control by-laws is the responsibility of the Municipality for all work.
- Contracts shall include explicit indication that all construction equipment used on the project is to meet the sound level criteria from NPC-115 and NPC-118, and be well maintained and operating with effective muffling devices that are in good working order. Note that demonstrated compliance with NPC-115 is a requirement of the City of Vaughan noise by-law.
- The separation distance between construction staging areas and nearby sensitive receptors is to be maximized to the extent possible to reduce noise impacts.
- Any temporary roads for construction vehicle access are to be well maintained and free of pot-holes and ruts to avoid excessive noise from heavy vehicles travelling on uneven surfaces.
- A complaints protocol is to be established for receiving, investigating and addressing construction noise complaints from the public, including a plan for how the public is to be notified of their options for lodging a complaint.

- A noise complaint will trigger an investigation to verify whether the noise mitigation has been implemented, including verification of construction equipment sound levels per NPC-115 and NPC-118.
- In the presence of persistent complaints and subject to the results of a field investigation, alternative noise control measures may be required, where reasonably available. In selecting appropriate noise control and mitigation measures, consideration will be given to the technical, administrative and economic feasibility of the various alternatives.

6.0 VIBRATION IMPACT ASSESSMENT

6.1 Vibration from Transportation Sources

6.1.1 Ground-borne Vibration

As noted in Section 4.4.1, the potential for ground-borne vibration impacts was assessed using an evaluation approach developed by the FTA [5]. The FTA provides a reference curve depicting how vibration velocity levels (RMS) typically change with distance for various vehicle types. A series of adjustment factors are provided to tailor the assessment approach to the specific scenario being modelled. To complete this assessment, the total adjustment for each vehicle type was added to the reference values from the original curve, resulting in site specific curve for the three modelling scenarios: at-grade alignment, elevated alignment and in the vicinity of stations.

The minimum separation distance for each scenario are presented in Table 6.1. The largest setbacks (i.e., the most likely to encompass an NSA) are associated with the at-grade scenario. Category 1 receptors are classified as commercial or industrial properties that house equipment that may be sensitive to vibrations. The nearest receptor that may house such equipment was identified as Emerald Energy from Waste, along Bramalea Road, which is 55 m from the proposed alignment of the 407 Transitway, and therefore well outside of the Category 1 setbacks identified in Table 6.1.

Category 2 receptors are residential locations, or any locations where people may be sleeping. The closest such receptor was identified to be a hotel along Hurontario Street, located 45 m from the proposed 407 Transitway alignment. As ground-borne vibrations are predicted to be negligible beyond 10 m from the Transitway when operating buses, no vibration impacts are expected at residential locations.

Category 3 receptors are institutional lands with primarily daytime use. The nearest such receptor was identified as the Woodbridge Vista Care Community (POR49), at 300 m from the proposed 407 Transitway alignment. This location is well outside of the Category 3 setbacks identified in Table 6.1.

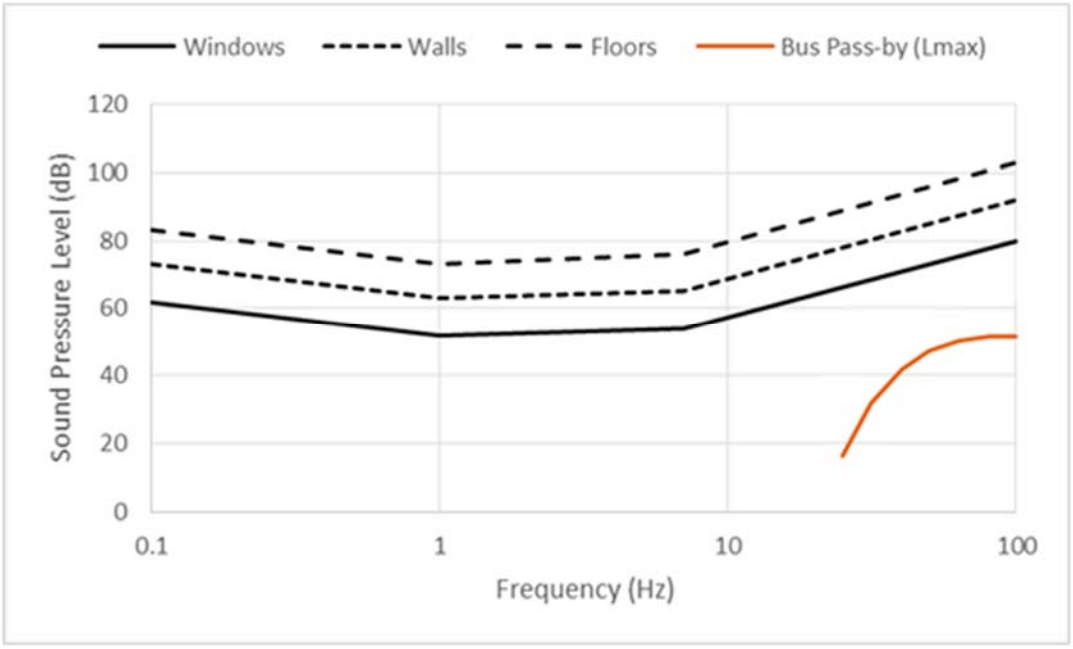
Table 6.1 Minimum Setback Distances for Ground-Borne Vibration Impacts

Category	Criteria (mm/s)	Minimum Setback Distance Required for Buses (m)		
		At-Grade	Elevated	Station
Category 1 [sensitive equipment]	0.05	24	8	9
Category 2 [residential]	0.10	10	4	5
Category 3 [institutional]	0.14	8	3	3

6.1.2 Airborne Vibration

As noted in Section 4.4.1.2, FHWA algorithms were used to develop an estimate of the maximum bus pass-by noise in 1/3 octave bands. This sound level spectrum was then projected to the receptor location nearest to the 407 Transitway (POR54) in order to estimate whether the low frequency noise levels have potential to cause vibration of building components based on sound pressure thresholds developed by NASA [6]. The results of the assessment are depicted in Figure 6.1, which shows that the anticipated maximum bus pass-by levels are not expected to be of sufficient magnitude to cause excitation of building components.

Figure 6.1 Assessment of Peak Bus Pass-by Noise at Nearest Receptor



6.2 Vibration from Construction

6.2.1 Impact Assessment

As noted in Section 4.4.2, detailed construction plans are not available at this stage of the project. As such, it is not known which types of construction equipment are likely to be operated, and where they may be situated in relation to receptors. As such, the potential vibration impacts from individual common types of construction equipment were assessed on a setback basis, using the construction vibration criteria presented in Section 3.5. Reference curves from literature that depict vibration level with distance were used in conjunction with the identified criteria to identify the appropriate setback distance to consider when planning construction activities. The results of the assessment are provided in Table 6.2.

Table 6.2 Minimum Setback Distances for Construction Equipment

Equipment Type	PPV_{ref}		Criteria	Setback
	(in/s)	(mm/s)	(mm/s)	(m)
Pile Driver (impact)	1.52 / 0.64	38.6 / 16.4	0.3	194 / 110
Pile Driver (sonic)	0.73 / 0.17	18.6 / 4.3	0.3	120 / 45
Vibratory Roller	0.210	5.3	5.1	8
Small Bulldozer	0.003	0.1	5.1	1
Large Bulldozer	0.089	2.3	5.1	4
Loaded Trucks	0.076	1.9	5.1	4
Jackhammer	0.035	0.9	5.1	2

As noted, the type of construction equipment is unknown at this point, however, the majority of the receptors within the study area are located well beyond the setbacks outlined in the table above. If equipment that is prone to have high vibration impacts needs to be used, its impacts must be evaluated in greater detail, especially for the nearest receptors.

6.2.2 Vibration Control Recommendations

The implementation of the following measures will help to mitigate potential vibration impacts during construction:

- For work that is to occur outside of regular hours, the Contractor will be responsible for identifying the implications of the vibration generated, and to make construction work plans available for review.
- For work that has a high potential for vibration impacts (e.g., pile driving), the Contractor will be responsible for identifying the implications of the vibration generated, and to make construction work plans available for review.

- Construction equipment with potential to cause off-site vibrations should be operated as far away from vibration-sensitive sites as possible.
- Where possible, activities that have potential to cause off-site vibrations should be phased such that as few as possible are occurring simultaneously.
- Construction activities that have potential to cause off-site vibration during the night-time hours should be avoided.
- A complaints protocol is to be established for this project for receiving, investigating and addressing construction vibration complaints received from the public.
- The Contract documents shall contain a provision that any initial vibration complaint will trigger verification that any general vibration control measures agreed to are in effect.
- In the presence of persistent vibration complaints, the MTO and its Contractor shall consider implementing a measurement program to evaluate the vibration impacts.
- In the presence of persistent complaints and subject to the results of a field investigation, alternative vibration control measures may be required, where reasonably available. In selecting appropriate vibration control measures, consideration will be given to the technical, administrative and economic feasibility of the various alternatives.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

The NVIA for the 407 Transitway extension from west of Hurontario Street to East of Highway 400 included an assessment of the following potential impacts at existing and proposed future sensitive locations:

- noise impacts at existing and proposed sensitive locations from buses operating on the proposed 407 Transitway, inclusive of changes to local topography;
- ground-borne vibration impacts associated with buses operating on the 407 Transitway;
- airborne vibration of house structure elements induced by sound levels from bus engines; and
- noise and vibration considerations during construction of the Transitway.

The following key conclusions may be drawn from the assessment:

- no significant increases of 5 dBA, or more, were predicted for any of the NSAs, however, many have background sound levels of 65 dBA, or more;
- noise barrier walls were concluded to not be technically feasible when construction on MTO ROW as they do not provide sufficient noise reduction. Noise barrier walls are also not administratively feasible as they would need to be constructed on private residential properties, or Highway 407 ETR right-of-way, which is not MTO's property to provide sufficient noise reduction;
- no ground-borne vibration impacts were predicted for operations on the 407 Transitway; and
- no airborne vibration effects (i.e., rattling of house structure elements) due to bus engine pass-by noise were predicted.

The noise by-laws for the associated jurisdictions include time and place prohibitions on construction activities, and the Vaughan noise by-law specifically requires all construction equipment to comply with NPC-115 and NPC-118.

7.2 Recommendations

Construction noise and vibration recommendations have been provided in sections 5.2.2 and 6.2.2, respectively.

The proposed undertaking does not include bus garages; if in the future any plans are considered, an addendum to the Environmental Project Report (EPR) may be required.

8.0 REFERENCES

[1] Ontario Ministry of Transportation, "Environmental Guide for Noise (version 1.1)," Provincial and Environmental Planning Office, Ministry of Transportation, St. Catharines, Ontario, 2006.

[2] Ontario Ministry of Transportation, "Environmental Reference for Highway Design, Section 3.4: Noise," Provincial and Environmental Planning Office, St. Catharines, Ontario, 2006.

[3] Ontario Ministry of the Environment, "Environmental Noise Guideline: Stationary and Transportation Sources - Approval and Planning Publication NPC-300," Queen's Printer for Ontario, 2013.

[4] Ontario Ministry of the Environment, "MOEE/TTC Draft Protocol for Noise and Vibration Assessment for the Proposed Scarborough Rapid Transit Extension," 1993.

[5] Federal Transit Administration, "Transit Noise and Vibration Impact Assessment," U.S. Department of Transportation, Washington, D.C., 2006.

[6] D.G. Stephens, K.P. Shepherd, H.H. Hubbard and F.W. Gosveld, "NASA Technical Memorandum 83288 Guide to the Evaluation of Human Exposure to Noise from Large Wind Turbines," NASA Langley Research Center, Hampton, Virginia, 1982.

[7] Ontario Ministry of the Environment, "Model Municipal Noise Control By-law, Publication NPC-115: Construction," 1977.

[8] Ontario Ministry of the Environment, "Model Municipal Noise Control By-law, Publication NPC-118: Motorized Conveyances," 1977.

[9] City of Brampton, “Noise By-Law 93-84: To prohibit and regulate noise”, The Corporation of the City of Brampton, City of Brampton, 2014.

[10] City of Mississauga, “Noise Control By-Law 360-79”, The Corporation of the City of Mississauga, City of Mississauga, 2008.

[11] Ontario Ministry of the Environment, "Model Municipal Noise Control By-Law; Publication NPC-207: Impulse Vibration in Residential Buildings," 1983.

[12] City of Toronto, “Toronto Municipal Code, Chapter 591, Noise”, City of Toronto, 2009.

[13] City of Toronto, “By-Law No. 514-2008 To amend City of Toronto Municipal Code Chapter 363, Building Construction and Demolition, with respect to regulation of vibrations from construction activity.”, City of Toronto, 2008.

[14] Federal Highway Administration, "FHWA Traffic Noise Model Technical Manual," U.S. Department of Transportation, Washington, D.C., 1998.

[15] Ontario Ministry of the Environment, "Ontario Road Noise Analysis Method for Environment and Transportation: Technical Document," 1989.

APPENDIX A: GLOSSARY OF TERMS

Table A-1: Glossary of Terms

Term	Definition
A-weighting	A frequency-based adjustment applied to measured or modelled sound levels that de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear, and correlates well with subjective reactions to noise.
dBA	A-weighted decibels (see *A-weighting* and *Decibel*)
Decibel (dB)	When applied to sound pressure levels (SPL), the decibel (dB) is a logarithmic ratio of a given sound pressure level (p) in Pascals (Pa) to a reference quantity of 20 µPa (p_{ref}, the threshold of hearing). Expressing sound levels in dB rather than Pa allows the full range of audible sound, which spans six orders of magnitude when expressed in Pa, to be expressed within a much smaller range of 0 to 120 dB (the threshold of pain).
Energy Equivalent Sound Level (L_{eq})	The value of the constant sound level which would result in the exposure to the same total A-weighted energy as would the specified time-varying sound, if the constant sound persisted over an equal time interval
Noise Sensitive Area (NSA)	means the following land uses with an OLA associated with them: • Private homes such as single family residences (owned or rental); • Townhouses (owned or rental); • Multiple unit buildings, such as apartments with OLAs for use by all occupants; • Hospitals, nursing homes for the aged, where there are OLAs for all patients. There is no minimum number of land uses that defines a NSA. Therefore, all noise sensitive land uses, regardless of size or location (urban or rural), will be assessed for application of noise control measures. Where a new freeway/highway corridor or route is planned, the following land uses would qualify as NSAs in addition to the land uses noted above: • Educational facilities and day care centres, where there are OLAs for students; • Campgrounds that provide overnight accommodation; and • Hotels/motels where there are OLAs (i.e., swimming pool area, etc.) for visitors. Land uses listed below, by themselves do not qualify as NSAs: • Apartment balconies above ground floor; • Churches; • Cemeteries; • Parks and picnic areas which are not inherently part of an NSA; • All commercial; and • All industrial.

Octave band	A frequency band whose upper limit is twice the lower limit, and is identified by a geometric mean frequency, called the centre frequency.
Outdoor Living Area (OLA) [*MTO definition*]	means an area at ground level, adjacent to a NSA and accommodating outdoor living activities. This area may be situated on any side of the NSA. The usual distance from the dwelling unit wall is 3 m. The vertical height is 1.2 m above the existing ground surface. Where unknown, the side closest to the highway should be assumed. Paved areas for multiple dwelling residential units may not be defined as an OLA.
Peak particle velocity (PPV)	The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration signal.
Point of Reception (POR)	The point at which a noise level has been calculated.
Root-mean-square (RMS) vibration velocity	The root mean square of a signal is the square root of the average of the squared amplitude of the signal and is calculated over a one-second period.

APPENDIX B: CITY OF BRAMPTON NOISE BY-LAW

Office Consolidation

Noise By-law 93-84

(as amended by By-laws 225-84, 41-95, 253-98, 202-2006, 188-2014)

To prohibit and regulate noise and to repeal By-law 15-75

WHEREAS the Municipal Act (R.S.O. 1980, c.320, as amended) provides that by-laws may be passed by the councils of local municipalities for prohibiting or regulating, within the municipality or within any defined area or areas thereof, the ringing of bells, the blowing of horns, shouting and unusual noises, or noises likely to disturb inhabitants;

NOW THEREFORE the Council of The Corporation of the City of Brampton ENACTS as follows:

1. Except as permitted by section 4, a person shall not, within the City of Brampton, make, create, cause, or cause or permit to be made, noises likely to disturb the inhabitants.

2. Except as permitted by section 4, a person shall not, within the City of Brampton, make, create, cause, or cause or permit to be made, unusual noises.

3. Except as permitted by section 4, a person shall not, within the City of Brampton, shout, ring any bell, blow or sound any horn, or cause or permit the ringing of bells or the blowing of horns.

4. The following sounds and noises are specifically permitted by this by-law, and the presence of these sounds and noises is not to be considered a contravention of this by-law:

   (1) the sounding or ringing of church bells and chimes,

(2) the sound of any bell, horn, siren or other signal device from a vehicle when required or permitted by law,

(3) in the areas which are designated for primarily agricultural uses by the Official Plan or by a zoning by-law (but not within any hamlets and villages which may be so designated), the sound of any animal or bird **(225-84)**,

(4) the blowing of any steam or air whistle attached to or used in connection with any stationery boiler or other machine or mechanism, when giving notice to workers of the time to commence or cease work, or warning of danger,

(5) the sound from any apparatus or mechanism used in a reasonable manner for the amplification of the human voice, music, or the sound from any other sound-producing or sound-reproducing instrument or apparatus, by a local organization where funds are being raised for charitable purposes, or in connection with any public election meeting, or for any public celebration or other gathering for which written permission has been obtained from the City,

(6) the sound of any military or other band, or of any parade, for which written permission has been obtained from the City,

(7) the sound of any newsboy, pedlar, hawker or tradesman plying his calling legitimately and moderately,

(8) any sound arising from the operation of any railway or from any plant or work in connection with any such railway,

(9) any sound from the operation of the Salvation Army as heretofore carried on,

(10) any sound arising from road work and road improvements undertaken by or on behalf of the Ministry of Transportation (Ontario) or the Region of Peel **(202-2006)**.

4.1 Sections 1, 2 and 3 of this By-law shall not apply to a person who emits or causes or permits to be emitted any noise or vibration for which:

(a) an Environmental Compliance Approval, Amended Environmental Compliance Approval, Certificate of Approval or Amended Certificate of Approval has been obtained from the Province of Ontario's Ministry of the

Environment that specifically applies to the plant, structure, equipment, apparatus, mechanism or thing that is emitting the noise or vibration; and,

(b) the plant, structure, equipment, apparatus, mechanism or thing that is emitting the noise or vibration is being operated in compliance with the Environmental Compliance Approval, Amended Environmental Compliance Approval, Certificate of Approval or Amended Certificate of Approval.

(By-law 188-2014)

4.2 (1) The Chief of Planning and Infrastructure Services, or designate is delegated the authority to grant an exemption to sections 1, 2 and 3 of this By-law subject to the following conditions:

(a) a complete application in writing has been received for the exemption;

(b) receipt of written confirmation that all property owners within a 500 metre radius of the point from which the noise or vibration will be emitted have been notified in a form and manner satisfactory to the Chief of Planning and Infrastructure Services, or designate;

(c) receipt of the name and contact information for a contact person(s) that will be available during all normal business hours and at all times while the noise and vibration is being emitted to address any concerns raised by persons within the area where the noise or vibration is heard or felt; and,

(d) any other condition, including daily hours of operation and duration of the exemption, that the Chief of Planning and Infrastructure Services, or designate believes is reasonable given the location of the point from which the noise or vibration will be emitted and the surrounding land uses.

(2) In addition to subsection (1), the Chief of Planning and Infrastructure Services, or designate may refuse an application for an exemption that does not meet the conditions and may reconsider a refusal if further information is provided by the applicant that would meet the conditions.

(3) Council is of the opinion that the delegation under subsections (1) and (2) are minor in nature.

(4) An application for an exemption shall be made in writing and contain the following information:

(a) the name and address of the applicant;

(b) a description of the source of the source of the noise or vibration in respect of which an exemption is being sought;

(c) the daily hours of operation and the duration of time for which the exemption is being sought;

(d) a copy of the public notice or notification plan required under subsection 4.2 (1) (b);

(e) the information regarding the contact person required under subsection 4.2 (1) (c); and,

(f) any other reasonable information that the Chief of Planning and Infrastructure Services, or designate may consider appropriate.

(5) The Chief of Planning and Infrastructure Services, or designate shall prescribe all forms and notices necessary to implement exemptions under this by-law and may amend such forms and notices from time to time as he or she deems necessary.

(By-law 188-2014)

5. Every person who contravenes any provision of this by-law is guilty of an offence and upon conviction is liable to a fine as provided for in the Provincial Offences Act **(253-98)**.

6. By-law 15-75 is hereby repealed.

Read a First, Second and Third Time and Passed in Open Council this 25th day of April, 1984.

THE CORPORATION OF THE CITY OF BRAMPTON
Original Signed by: Kenneth G. Whillans, Mayor
Original Signed by: Ralph A. Everett, Clerk

APPENDIX C: CITY OF MISSISSAUGA NOISE BY-LAW

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79

(Amended by 77-85, 1298-86, 755-87, 62-92, 230-94, 303-00, 495-03, 124-05, 110-06, 92-07, 120-07, 127-07, 248-07, 73-08, 99-08, 299-08)

WHEREAS the Council of a local municipality is empowered under The Environmental Protection Act, 1971, as amended, to pass by-laws, subject to the approval of the Minister of the Environment, for regulating or prohibiting the emission of sounds or vibrations;

AND WHEREAS it is the policy of the Council to reduce and control unusual or unnecessary sounds or vibrations which may degrade the quality and tranquillity of the lives of the inhabitants of the City of Mississauga or cause nuisance.

NOW THEREFORE the Council of the Corporation of the City of Mississauga ENACTS as follows:

INTERPRETATION

1. In this by-law,

***"City"* means the City of Mississauga in the Regional Municipality of Peel**

***"Commissioner"* means the Commissioner of Transportation and Works for the City or his or her designate; (299-08)**

***"construction"* includes erection, alteration, repair, dismantling, demolition, structural maintenance, painting, moving, land clearing, earth moving, grading, excavating, the laying of pipe and conduit whether above or below ground level, street and highway building, concreting, equipment installation and alteration and the structural installation of construction components and materials in any form or for any purpose, and includes any work in connection therewith;**

***"construction equipment"* means any equipment or device designed and intended for use in construction or material handling, including but not limited to, air compressors, pile drivers, pneumatic or hydraulic tools, bulldozers, tractors, excavators, trenchers, cranes, derricks, loaders, scrapers, pavers, generators, off-highway haulers or trucks, ditchers, compactors and rollers, pumps, concrete mixers, graders or other material handling equipment;**

"*Council*" means the Council of the Corporation of the City of Mississauga;

***"Minister"* means the Minister of the Environment;**

***"Ministry"* means the Ministry of the Environment;**

***"motor vehicle"* includes an automobile, motorcycle, motor assisted bicycle unless otherwise indicated in The Highway Traffic Act, and any other vehicle propelled or driven otherwise than by muscular power, but does not include the cars of electric or steam railways, or other motor vehicles running only upon rails, or a motorized snow vehicle, traction engine, farm tractor, self-propelled implement of husbandry or road-building machine within the meaning of The Highway Traffic Act.**

***"motorized conveyance"* includes a vehicle and any other device employed to transport a person or persons or goods from place to place, but does not include any such device or vehicle if operated only within the premises of a person or if propelled or driven only by muscular, gravitational or wind power;**

***"noise"* means unwanted sound;**

***"Noise Control Officer"* means a person designated by the Commissioner for the City as a noise control officer; (By-law 755-87, 299-08)**

"*point of reception*" means any point on the premises of a person where sound or vibration originating from other than those premises is received;

***"Quiet Zone"* means those areas of the City where quiet is of particular importance and as more particularly designated in Schedule 4 to this By-law.**

***"Residential Area"* means any area containing dwellings which are normally used for human habitation.**

ADMINISTRATION

2. The Commissioner shall be responsible for the administration and enforcement of this by-law. (By-law 755-87, 495-03, 299-08)

GENERAL PROHIBITION

3. No person shall emit or cause or permit the emission of sound resulting from an act listed in Schedule 1 to this by-law and which sound is clearly audible at a point of reception.

PROHIBITION BY TIME AND PLACE

4. No person shall emit or cause or permit the emission of sound resulting from any act listed in Column 1 to Schedule 2 to this by-law if clearly audible at a point of reception located in a residential area or quiet zone within a prohibited period of time for such an area as set out in Column 2 to Schedule 2 to this By-law.

PUBLIC SAFETY EXEMPTION

5. The provisions of Section 3 and 4 do not apply to the emission of a sound or vibration in connection with emergency measures undertaken:

(a) for the immediate health, safety or welfare of the inhabitants of the City or any of them; or

(b) for the preservation or restoration of property.

EXEMPTION OF TRADITIONAL FESTIVE OR RELIGIOUS ACTIVITIES

6. The provisions of Section 3 and 4 do not apply to the emission of sounds or vibrations made by persons in connection with any of the traditional, festive, religious or other activities set out in Schedule 3 to this by-law.

GRANT OF EXEMPTION BY COUNCIL

7. (1) Any person may apply for an exemption from the provisions of Sections 3 and 4 of this By-law, with respect to any source of sound or vibration. (299-08)

(2) An application for exemption under Subsection (1) shall be in writing and shall contain:

(a) the name and address of the applicant,

(b) a description of the source of sound or vibration in respect of which exemption is being sought,

(c) a statement of the section of the by-law from which exemption is sought,

(d) the period of time (not in excess of six (6) months) for which the exemption is sought,

(e) the reasons why the exemption is being sought,

(f) proof of publication for two consecutive days within the preceding ten (10) days in a newspaper of general circulation within the City, of a notice of intention to apply for any exemption to this by-law, received or by the distribution of a flyer as prescribed by the City to all residences within a 500 meter radius of the subject property containing the information required by Clauses (a) through (e) hereof, stating the date upon which objections may be submitted to City staff. (299-08)

(g) the application fee. (299-08)

(3) An application for an exemption completed in accordance with section 7(2) shall be delivered to the Commissioner. (299-08)

(4) The Commissioner may grant an exemption, in whole or in part, with terms and conditions, subject to the provisions of this By-law. (299-08)

(5) In considering the completed application for any exemption, the Commissioner shall take into account the following: (299-08)

(a) If an exemption is granted, a time limit shall be specified, and an exemption shall not exceed six months.

(b) The Commissioner shall consult with the affected Ward Councillor on an application for an exemption and the consultation shall include any terms and conditions that may be attached to an exemption.

(c) Any correspondence received regarding the application as a result of the distribution of the Notice or newspaper advertisement referred to in Section 7(2)(f).

(d) The proximity of the sound to a Residential Area and the likelihood that the sound for which an exemption is requested may negatively affect persons in a Residential Area.

(e) Whether any negative impacts under clauses (c) or (d) can be reduced with the use of mitigation measures including limiting the sound to certain days or times of the day.

(6) A breach by the applicant of any of the terms or conditions imposed by the Commissioner in granting an exemption shall immediately render the exemption null and void. (299-08)

(7) Notwithstanding that the authority to grant an exemption is delegated to the Commissioner, and that he or she may have already exercised the delegated power, Council shall retain the right to exercise the authority to grant or deny an exemption in accordance with the conditions set out in section 7 (5) of this By-law. (299-08)

SEVERABILITY

8. If a court of competent jurisdiction declares any section or part of a section of this by-law invalid, such section or part of a section shall not be construed as having persuaded or influenced Council to pass the reminder of the by-law and it is hereby declared that the remainder of the by-law shall be valid and shall remain in force.

PENALTY

9. (1) Every person who contravenes any provision of this by-law is guilty of an offence. Pursuant to the provisions of the Provincial Offences Act, R. S. O. 1990, c.P. 33 upon conviction a person is liable to a fine of not more than $5,000, exclusive of costs. (by-law 63-92)

(2) In addition to the provisions of Subsection (1), the Court in which the information is first laid and any court of competent jurisdiction thereafter, may issue an order prohibiting the contravention and repetition of the offence by the person convicted, and such order shall be in addition to any penalty imposed on the person convicted.

10. (1) By-law Number 7364 enacted by the former Town of Mississauga and any other by-law passed by the former Town of Mississauga to control noise is hereby repealed.

(2) By-law Number 957, enacted by the former Village of Port Credit and any other by-law passed by the former Village of Port Credit to control noise is hereby repealed.

(3) By-law Number 66-36, enacted by the former Town of Streetsville and any other by-law passed by the former Town of Streetsville to control noise is hereby repealed.

(4) By-law 2370 enacted by the former Township of Toronto and any other by-law passed by the former Township of Toronto to control noise is hereby repealed.

(5) Any Noise Control By-law, enacted by the Town of Oakville in that part of Oakville which was annexed by the City of Mississauga, and more particularly described in Section 2(1)(a) of The Regional Municipality of Peel Act, 1973, S.O. 1973, c. 60, is hereby repealed.

READ A FIRST AND SECOND TIME THIS 28TH DAY OF MAY, 1979.
READ A THIRD TIME AND FINALLY PASSED THIS 28TH DAY OF JANUARY 1980.
Signed by: "Hazel McCallion", Mayor "Terence L. Julian", Clerk
This by-law is approved pursuant to the provisions of The Environmental Protection Act, 1971, as amended, at Toronto, this 9th day of April, 1980.
Signed by: "Harry Parrott", Minister of the Environment

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79

SCHEDULE 1 TO BY-LAW NUMBER 360-79
GENERAL PROHIBITIONS

1. **The racing of any motorized conveyance other than in a racing event regulated by law.**

2. **The operation of a motor vehicle at a speed and in a manner which causes its tires to squeal.**

3. **The operation of any combustion engine or pneumatic device without an effective exhaust or intake muffling device in good working order and in constant operation.**

4. **The operation of a vehicle or a vehicle with a trailer resulting in banging, clanking, squealing or other like sounds due to improperly secured load or equipment, or inadequate maintenance.**

5. **The operation of an engine or motor in, or on, any motor vehicle or item of attached auxiliary equipment for a continuous period exceeding five minutes, while such vehicle is stationary in a Residential Area or a Quiet Zone unless:**

   (a) the original equipment manufacturer specifically recommends a longer idling period for normal and efficient operation of the motor vehicle in which case such recommended period shall not be exceeded; or,

   (b) operation of such engine or motor is essential to a basic function of the vehicle or equipment, including but not limited to, operation of ready-mixed concrete trucks, lift platforms and refuse compactors; or,

   (c) weather conditions justify the use of heating or refrigerating systems powered by the motor or engine for the safety and welfare of the operator, passengers or animals, or the preservation of perishable cargo, and the vehicle is stationary for purposes of delivery or loading; or,

   (d) prevailing low temperatures make longer idling periods necessary immediately after starting the motor or engine; or,

   (e) the idling is for the purpose of cleaning and flushing the radiator and associated circulation system for seasonal change of antifreeze, cleaning of the fuel system, carburettor or the like, when such work is performed other than for profit.

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79

SCHEDULE 1 TO BY-LAW NUMBER 360-79
GENERAL PROHIBITIONS

6. **The operation of a motor vehicle horn or other warning device except when required or authorized by law or in accordance with good safety practices.**

7. **The operation of any item of construction equipment in a Quiet Zone or Residential Area without effective muffling devices in good working order and in constant operation.**

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79

SCHEDULE 2 TO BY-LAW NUMBER 360-79
PROHIBITED PERIODS OF TIME:

A - 23:00 hrs. of one day to 07:00 hrs. next day (09:00 hrs. Sundays)

B - 19:00 hrs. of one day to 07:00 hrs. next day (09:00 hrs. Sundays)

C - 17:00 hrs. of one day to 07:00 hrs. next day (09:00 hrs. Sundays)

D - All Day Sundays and Statutory Holidays

E - 17:00 hrs. of one day to 07:00 hrs. next day

F - 19:00 hrs. of one day to 07:00 hrs. next day

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79

SCHEDULE 2 TO BY-LAW NUMBER 360-79
PROHIBITED PERIODS OF TIME:

COLUMN 1		COLUMN 2 PROHIBITED PERIOD OF TIME	
		QUIET ZONE	RESIDENTIAL AREA
1.	The operation of any auditory signalling device, including but not limited to the ringing of bells or gongs and the blowing of horns or sirens or whistles, or the production, reproduction or amplification of any similar sounds by electronic means except where required or authorized by law or in accordance with good safety practices.	At Any Time	B & D
2.	The operation of any electronic device or group of connected devices incorporating one or more loudspeakers or other electro-mechanical transducers, and intended for the production, reproduction or amplification of sound.	At Any Time	C
3.	All selling or advertising by shouting or outcry or amplified sound.	At Any Time	B & D
4.	Loading, unloading, delivering, packing, unpacking, or otherwise handling any containers, products, materials, or refuse, whatsoever, unless necessary for the maintenance of essential services or the moving of private household effects.	B	B & D
5.	The operation of any construction equipment in connection with construction.	E & D	F & D

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79

SCHEDULE 2 TO BY-LAW NUMBER 360-79
PROHIBITED PERIODS OF TIME:

	COLUMN 1	COLUMN 2 PROHIBITED PERIOD OF TIME QUIET ZONE	 RESIDENTIAL AREA
6.	The detonation of fireworks or explosive devices not used in construction.	At Any Time	A - unless otherwise permitted in accordance with the provisions of By-law 160-74 or its successors
7.	The discharge of firearms.	At Any Time	At Any time- unless in accordance with the provisions of By-law 331-77 or its successors.
8.	The operation of a combustion engine which (i) is, or (ii) is used in, or (iii) is intended to be used in, a toy, or a model or replica of any device, which model or replica has no function other than amusement and which is not a conveyance.	At Any Time	A
9.	The operation of any powered rail car including but not limited to refrigeration cars, locomotives or self-propelled passenger cars, while stationary on property not owned or controlled by a railway governed by The Canada Railway Act	At Any Time	A

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79

SCHEDULE 2 TO BY-LAW NUMBER 360-79
PROHIBITED PERIODS OF TIME:

	COLUMN 1	**COLUMN 2** PROHIBITED PERIOD OF TIME	
		QUIET ZONE	**RESIDENTIAL AREA**
10.	**The operation of any motorized conveyance other than on a highway or other place intended for its operation.**	**At Any Time**	**B**
11.	**The venting, release or pressure relief of air, steam or other gaseous material, product or compound from any autoclave, boiler, pressure vessel, pipe, valve, machine, device or system.**	**At Any Time**	**A**
12.	**Persistent barking, calling or whining or other persistent noise making by any domestic pet.**	**At Any Time**	**At Any Time**
13.	**The operation of any powered or nonpowered tool for domestic purposes other than snow removal.**	**A**	**A**
14.	**The operation of solid waste bulk lift or refuse compacting equipment.**	**B**	**A**
15.	**The operation of a commercial car wash with air drying equipment.**	**B**	**B**
16.	**Yelling, shouting, hooting, whistling or singing.**	**At Any Time**	**A**

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79

SCHEDULE 3 TO BY-LAW 360-79
ACTIVITIES TO WHICH THE BY-LAW DOES NOT APPLY

(amended by By-law 495-03, 124-05, 110-06, 92-07, 120-07, 127-07, 248-07, 73-08, 99-08)

ACTIVITIES TO WHICH THE BY-LAW DOES NOT APPLY	LOCATION
Airport Taxi Limousine Sports Tournament & Picnic	Wildwood Park 3430 Derry Road West
Ashworth Square Co-operative Multicultural Day	Ashworth Square Co-operative Complex 3180 Kirwin Avenue
BOT Construction Group construction of Mclaughlin Road at Highway 401 between March 1, 2008 and December 31, 2008	Mclaughlin Road at Highway 401
Can-Sikh Festival	Wildwood Park 3430 Derry Road West
Canadian Cancer Society – Relay for Life	John Fraser Secondary School 2665 Erin Centre Boulevard
Carolling in the Park	Port Credit Memorial Park 22 Stavebank Road North
Celebrate the Season	Civic Square 300 City Centre Drive
Desh Bhagat	Wildwood Park 3430 Derry Road West
Fall Fair and Folk Festival	Bradley Museum 1620 Orr Road
Graham Bros. Construction of Confederation Parkway from Rathburn Road West to the Hydro Corridor north of Highway 403 between July 5, 2007 and September 30, 2008	Confederation Parkway from Rathburn Road West to Hydro Corridor
Historic Halloween Fun	Benares Museum 1507 Clarkson Road North
Kalayaan Festival	Mississauga Valley Park 1275 Mississauga Valley Boulevard
Meadow-Wood Rattray Ratepayers Picnic	Bradley Museum 1620 Orr Road
Ministry of Transportation of Ontario reconstruction of the median, a median barrier, and the installation of a high mast lighting system on the Queen Elizabeth Way (QEW) between September 1, 2007 to August 31, 2010	Queen Elizabeth Way (QEW) between Mississauga Road and Winston Churchill Boulevard
Ministry of Transportation of Ontario construction related to the Queen Elizabeth Way (QEW)/Hurontario Street Interchange Improvements project between August 1, 2007 to November 30, 2009.	Queen Elizabeth Way (QEW) and Hurontario Street Interchange
Mississauga Canada Day Celebration	300 City Centre Drive
Mississauga Corporate Challenge	J.C. Saddington Park 53 Lake Street

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79

SCHEDULE 3 TO BY-LAW 360-79
ACTIVITIES TO WHICH THE BY-LAW DOES NOT APPLY

Mississauga Marathon	**Civic Square** **300 City Centre Drive,** **Lakefront Promenade Park** **800 Lakefront Promenade**
Mississauga Rotary Ribfest	**Civic Square** **300 City Centre Drive**
Mississauga Waterfront Festival	**Port Credit Memorial Park** **22 Stavebank Road North**
Mount Zion Apostolic Church Picnic	**Wildwood Park** **3430 Derry Road West**
My Mississauga	**Civic Square** **300 City Centre Drive**
On the Verandah Concert Series	**Benares Museum** **1507 Clarkson Road North**
Port Credit Paint the Town Red	**Port Credit Memorial Park** **22 Stavebank Road North**
Salmon Derby	**J.C. Saddington Park** **53 Lake Street**
San Salvidor Del Mundo Festival	**Fred Halliday Park** **2187 Stir Crescent**
Shakespeare Under the Stars	**Bradley Museum** **1620 Orr Road**
Sherwood Forrest Family Fun Day	**Sherwood Green Park** **1864 Deer's Wold**
Streetsville Canada Celebration	**Streetsville Memorial Park** **335 Church Street**
Streetsville Founders Bread & Honey Festival	**Streetsville Memorial Park** **335 Church Street**
Sunset Concert Series	**Civic Square** **300 City Centre Drive,** **St. Lawrence Park** **141 Lakeshore Road East**
Southside Shuffle	**Port Credit Memorial Park** **22 Stavebank Road North**
Teddy Bears' Picnic	**Benares Museum** **1507 Clarkson Road North**
University of Santos Thomas Alumni Annual Picnic	**Mississauga Valley Park** **1275 Mississauga Valley Boulevard**

THE CORPORATION OF THE CITY OF MISSISSAUGA
NOISE CONTROL BY-LAW 360-79
SCHEDULE 4 TO BY-LAW NUMBER 360-79
QUIET ZONES

The Quiet Zones are those areas contained within the dotted lines on Maps A, B, C and D which are attached to By-law 360-79

THE CORPORATION OF THE CITY OF MISSISSAUGA
THE NOISE CONTROL BY–LAW 360–79

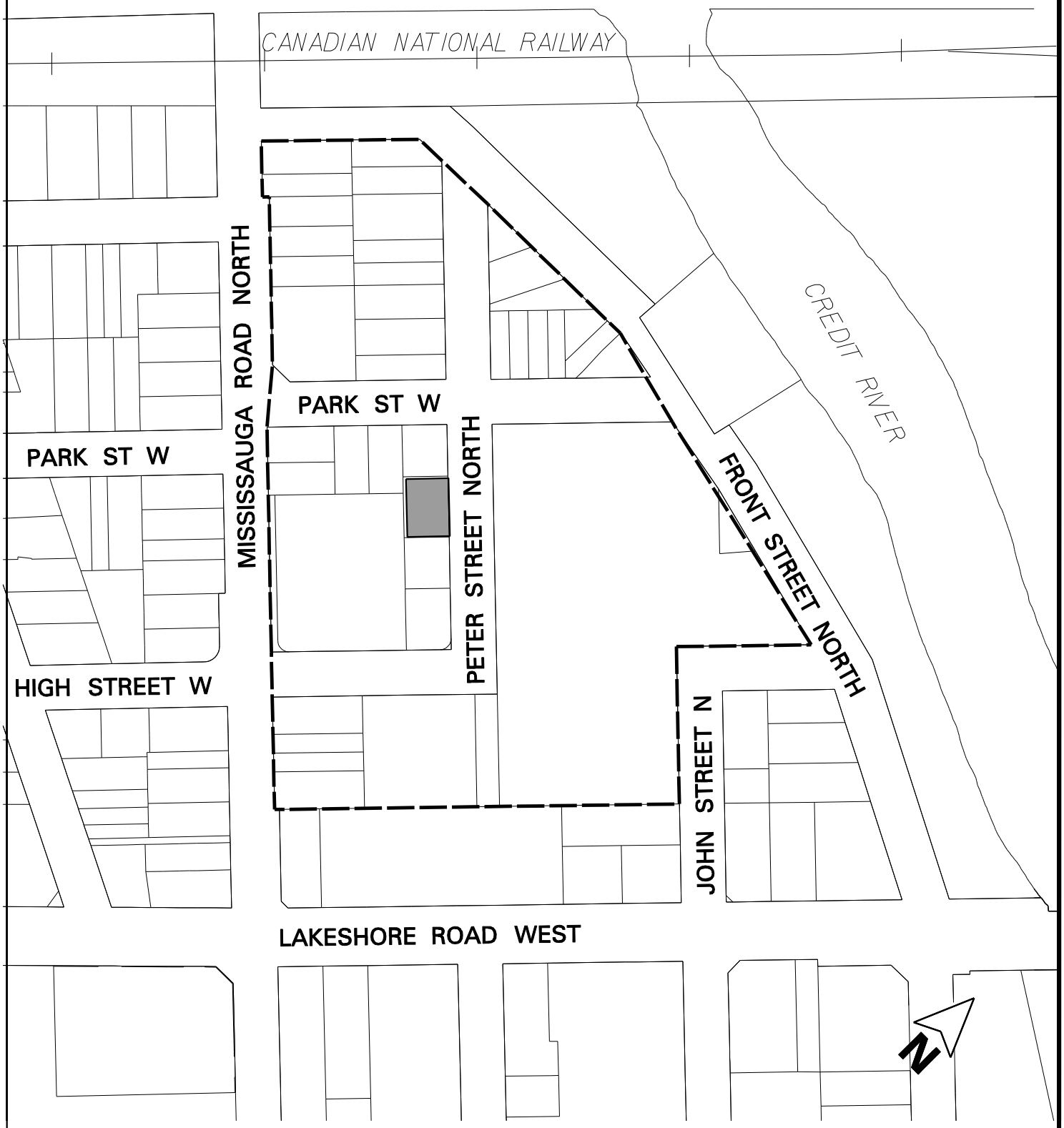
① TRILLIUM HEALTH CARE
100 THE QUEENSWAY WEST

② CHELSEY PARK NURSING HOME
2250 HURONTARIO STREET

③ EXTENDICARE NURSING HOME
55 THE QUEENSWAY WEST

MAP A– BY–LAW 360–79

THE CORPORATION OF THE CITYOF MISSISSAUGA
THE NOISE CONTROL BY–LAW 360–79

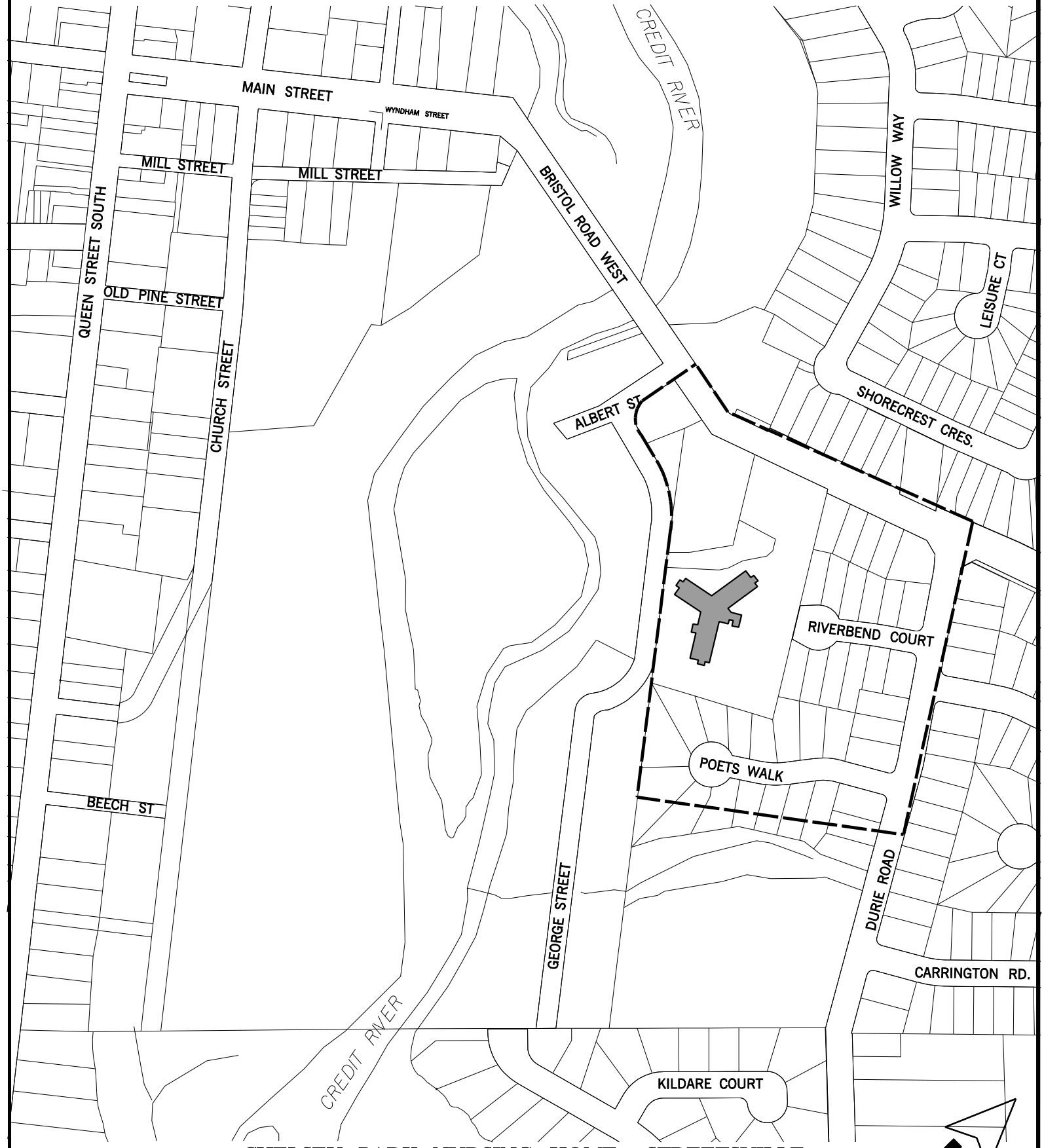


TAARA NURSING HOME
26 PETER STREET NORTH

MAP B– BY–LAW 360–79

THE CORPORATION OF THE CITY OF MISSISSAUGA

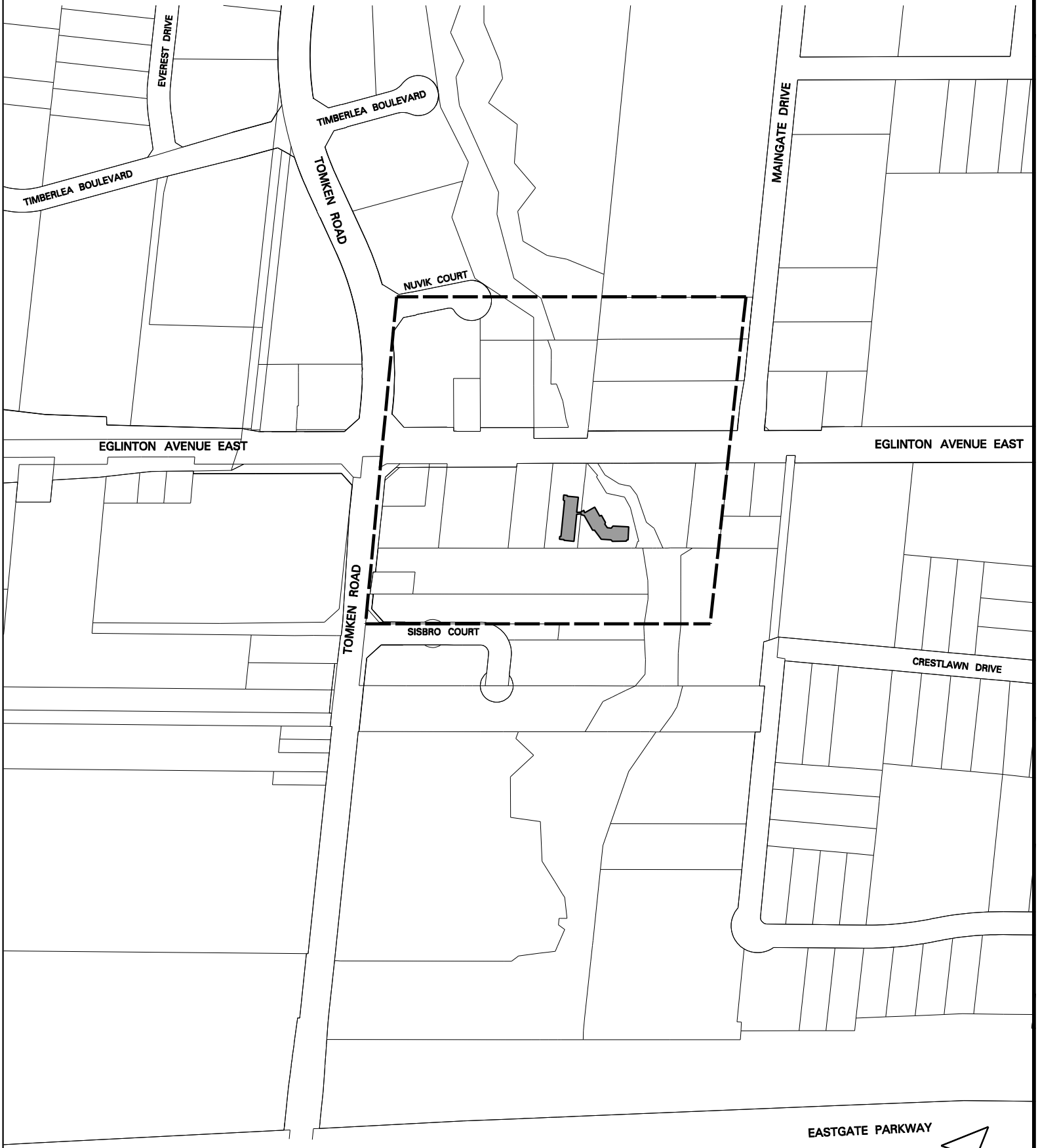
THE NOISE CONTROL BY–LAW 360–79



CHELSEY PARK NURSING HOME STREETSVILLE
87 MAIN STREET

MAP C– BY–LAW 360–79

THE CORPORATION OF THE CITY OF MISSISSAUGA
THE NOISE CONTROL BY-LAW 360-79



TYDALL NURSING HOME
1060 EGLINTON AVENUE EAST

MAP D- BY LAW 360-79

APPENDIX D: CITY OF TORONTO MUNICIPAL CODE CHAPTER 591

Chapter 591

NOISE

ARTICLE I
Interpretation

§ 591-1. Interpretation.

ARTICLE II
General Provisions

§ 591-2. General prohibition.

§ 591-2.1. Specific prohibitions.

§ 591-3. Specific prohibitions (point of reception).

§ 591-4. Prohibitions by time and place.

§ 591-5. General limitations on sound levels due to stationary sources.

§ 591-6. Limitation on sound levels for residential air conditioners.

§ 591-7. Disturbing religious ceremony in a place of worship.

§ 591-8. Most restrictive provision applies.

§ 591-9. Exemption; public safety and highways.

§ 591-10. Exemptions.

§ 591-11. Offences.

ARTICLE III
Railway Whistles

§ 591-12. Definitions.

§ 591-13. Prohibited locations.

Schedule A, Publications

[HISTORY: Adopted by the Council of the City of Toronto 2003-02-07 by By-law No. 111-2003.[1] Amendments noted where applicable.]

General References

False alarms - See Ch. 433.
Fees and charges - See Ch. 441.
Idling of vehicles and boats - See Ch. 517.
Noise in parks - See Ch. 608.
***Highway Traffic Act* - See R.S.O. 1990, c. H.8.**

ARTICLE I
Interpretation

§ 591-1. Interpretation.

A. In this chapter, all the words which are of a technical nature shall have the meanings specified for them in Publication NPC-101 - "Technical Definitions."

B. Definitions.

As used in this chapter, the following terms shall have the meanings indicated:

COMMISSIONER - The Commissioner of Urban Development Services or his or her designate.

CONSTRUCTION - Includes erection, alteration, repair, dismantling, demolition, structural maintenance, land clearing, earth-moving, grading, excavating, the laying of pipe and conduit whether above or below ground level, street and highway building, application of concrete, equipment installation and alteration and the structural installation of construction components and materials in any form or for any purpose, and includes any work in connection therewith.

CONSTRUCTION EQUIPMENT - Any equipment or device designed and intended for use in construction, or material handling, including but not limited to hand tools, power tools, air compressors, pile drivers, pneumatic or hydraulic tools, bulldozers, tractors, excavators, trenchers, cranes, derricks, loaders, scrapers, pavers, generators, off-highway haulers or trucks, ditchers, compactors and rollers, pumps, concrete mixers, graders, or other material-handling equipment.

[1] **Editor's Note: This by-law was passed under the authority of section 129 of the *Municipal Act, 2001,* S.O. 2001, c. 25. Section 2 of this by-law provided that, except for the purposes set out in Section 3 of this by-law, the following by-laws are repealed: By-law No. 71-89 of the former Borough of East York, as amended; Chapter 174, Noise, of the Municipal Code of the former City of Etobicoke; By-law Nos. 31857 and 31317 of the former City of North York, as amended; By-law Nos. 16575 and 24389 of the former City of Scarborough, as amended; Article I, Noise Restrictions Generally, of Chapter 241, Noise, of the Municipal Code of the former City of Toronto; and Chapter 895, Noise, and Chapter 896, Noise - Unusual - Likely to Disturb, of the Municipal Code of the former City of York. Section 3 of this by-law (as amended May 23, 2003 by By-law No. 458-2003, which came into force February 7, 2003) provided that, where a person is alleged to have contravened a by-law listed in Section 2 before the date this by-law comes into force, the by-law listed in Section 2 continues to apply for the purposes of any enforcement proceedings brought against the person until the proceedings have been concluded.**

CONTINUOUS POURING OF CONCRETE - Slip-forming, deck pour or pre-pour operations that cannot be interrupted once the operations have commenced. **[Added 2007-12-13 by By-law No. 1400-2007[2]]**

CONVEYANCE - Includes a vehicle and any other device employed to transport a person or persons or goods from place to place, but does not include any such device or vehicle if operated within the premises of a person.

HIGHWAY - Includes a common and public highway, street, avenue, parkway, driveway, square, place, bridge, viaduct or trestle designed and intended for, or used by, the general public for the passage of conveyances.

INHABITANTS - One or more persons who reside in the City.

LARGE CRANE WORK - The erection and dismantling of a crane or any other crane work that requires a road closure in order for the work to be started and finished. **[Added 2007-12-13 by By-law No. 1400-2007[3]]**

MOTOR VEHICLE - Includes an automobile, motorcycle, and any other vehicle propelled or driven other than by muscular power; but does not include the cars of electric or steam railways, or other motor vehicles running only upon rails, or a motorized snow vehicle, traction engine, farm tractor, self-propelled implement of husbandry or road-building machine within the meaning of the *Highway Traffic Act*.

NECESSARY MUNICIPAL WORK - City rehabilitation or maintenance processes using construction equipment that must be performed at times that minimize lane closures or lane reductions, or both, of City streets, or minimize use of the Toronto Transit Commission's subway or street car rights-of-way or any ancillary facilities associated with the transit system, including, but not limited to, the following: **[Added 2007-12-13 by By-law No. 1400-2007[4]]**

A. Deck removal over an expressway or arterial roadway;

B. Major intersection rehabilitation; and

C. All Toronto Transit Commission work respecting the transit system, including any ancillary facilities.

NOISE - Unwanted sound.

PLACE OF WORSHIP - A building dedicated to religious worship and includes a church, synagogue, temple, mosque, monastery or convent.

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[2] Editor's Note: This by-law came into force January 1, 2008.

[3] Editor's Note: This by-law came into force January 1, 2008.

[4] Editor's Note: This by-law came into force January 1, 2008.

POINT OF RECEPTION - Any point on the premises of a person where noise originating from other than those premises is received.

POWER DEVICE - Any powered device used in the servicing, maintenance or repair of property except devices driven by muscular power only and snow blowers.

PROPERTY - A building or structure or part of a building or structure, and includes the lands appurtenant thereto and all mobile homes, mobile buildings or mobile structures and vacant land.

PUBLICATION - A specified publication of the Ministry of the Environment which is listed in Schedule A at the end of this chapter.

REGULAR BUSINESS HOURS - 7:00 a.m. to 7:00 p.m. Monday to Friday, 9:00 a.m. to 7:00 p.m. Saturday, and excluding statutory holidays. **[Added 2007-12-13 by By-law No. 1400-2007[5]]**

STATIONARY SOURCE - A source of sound which does not normally move from place to place and includes the premises of a person as one stationary source, unless the dominant source of sound on those premises is construction or a conveyance.

C. Zones.

In this chapter, the following terms shall have the meanings indicated:

QUIET ZONE - Any property within the municipality used as a hospital, retirement home, nursing home, senior citizens residence, or other similar use.

RESIDENTIAL AREA - Any property within the municipality which is zoned for residential uses by an applicable zoning by-law or which is used in whole or in part for human habitation.[6]

D. A copy of every publication listed in Schedule A at the end of this chapter is attached to and forms part of this chapter.

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[5] Editor's Note: This by-law came into force January 1, 2008.

[6] Editor's Note: The definition of "residential low-rise area," added June 29, 2006 by By-law No. 505-2006, which previously followed this definition, was repealed December 13, 2007 by By-law No. 1400-2007; said By-law No. 1400-2007 came into force January 1, 2008.

ARTICLE II
General Provisions

§ 591-2. General prohibition.

No person shall make, cause or permit noise or vibration, at any time, which is likely to disturb the quiet, peace, rest, enjoyment, comfort or convenience of the inhabitants of the City.

§ 591-2.1. Specific prohibitions.

[Added 2006-09-27 by By-law No. 964-2006]

A. Loudspeakers and other amplified sound projected on streets or public places.

(1) No person shall emit or cause or permit the emission of sound resulting from the operation of any electronic device or a group of connected electronic devices incorporating one or more loudspeakers or other electro mechanical transducers, and intended for the production, reproduction or amplification of sound, that projects noise beyond the lot line of the property from which the noise emanates and into any street or public place.

(2) Subsection A(1) does not apply to a security alarm, if the activation of the security alarm results in sound for a duration of not more than five minutes.

B. Construction. **[Added 2007-12-13 by By-law No. 1400-2007[7]]**

(1) No person shall emit or cause or permit the emission of sound resulting from any operation of construction equipment or any construction, if it is clearly audible at a point of reception:

(a) In a quiet zone or residential area within the prohibited period of 7:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. on Saturdays, and all day Sunday and statutory holidays; or

(b) In any other area within the prohibited period of all day Sunday and statutory holidays.

(2) Subsection B(1) does not apply to the continuous pouring of concrete, large crane work, necessary municipal work and emergency work that cannot be performed during regular business hours.

C. Major transit projects. **[Added 2010-08-27 by By-law No. 973-2010]**

(1) As used in Subsection C, the following terms shall have the meanings indicated:

[7] **Editor's Note: This by-law came into force January 1, 2008.**

CIVIL CONSTRUCTION ACTIVITIES:

(a) Includes all construction activities as described in the definition of "construction" in § 591-1B.

(b) Includes utility relocations by third parties.

(c) Does not include the welding or installation of rail, tunneling by tunnel boring machines ("TBM") and other related rail and tunnel activities.

MAJOR TRANSIT PROJECT:

(a) Toronto-York Spadina Subway Extension.

(b) Toronto Transit City - Light Rail Plan that includes:

[1] Eglinton Crosstown LRT.

[2] Finch West LRT.

[3] Scarborough RT.

[4] Sheppard East LRT.

(2) With the exception of Subsection C(3), no other provision of this chapter shall apply to the emission of sound or vibrations resulting from construction work required to be performed for the purposes of a major transit project in order to expedite the completion of the major transit project and minimize lane closures or lane reductions, or both, of City streets, and disruption of the Toronto Transit Commission's subway or street car service or any ancillary facilities associated with the transit system.

(3) All civil construction activities shall occur between 7:00 a.m. to 11:00 p.m., except in the case of an emergency as described in § 591-9.

§ 591-3. Specific prohibitions (point of reception).

[Amended 2006-09-27 by By-law No. 964-2006]

No person shall emit or cause or permit the emission of sound resulting from an act listed below if the sound is clearly audible at a point of reception:

A. Racing of any motor vehicle other than in a racing event regulated by law.

B. The operation of a motor vehicle in such a way that the tires squeal.

C. The operation of a vehicle, engine, motor, construction equipment, or pneumatic device without an effective exhaust, intake-muffling device or other sound attenuation device of a type specified by the manufacturer, which is in good working order, and in constant operation.

D. The operation of a vehicle or a vehicle with a trailer resulting in banging, clanking, squealing or other like sounds due to improperly secured load or equipment, or inadequate maintenance.

E. The operation of a vehicle horn or other warning device except where required or authorized by law or in accordance with good safety practices.

§ 591-4. Prohibitions by time and place.

A. No person shall emit or cause or permit the emission of sound resulting from any act listed in the table below if clearly audible at a point of reception located in a prescribed area of the municipality within a prohibited time shown for such an area.

B. Prohibited periods of time.

The prohibited periods of time as described in the table below shall be as follows:

(1) 7:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. Sundays and statutory holidays.

(2) 9:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. Sundays and statutory holidays.

(3) 11:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. Sundays and statutory holidays.

(4) 7:00 p.m. one day to 7:00 a.m. the next day, and all day Sunday and statutory holidays.

(5) 9:00 p.m. one day to 7:00 a.m. the next day, and all day Sunday and statutory holidays.

(6) 7:00 p.m. one day to 9:00 a.m. the next day; and all day Sunday and statutory holidays.

(7) 7:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. on Saturdays, Sundays, and statutory holidays.

TABLE - PROHIBITIONS BY TIME AND PLACE

Type of Act	Prohibited Period of Time[8]	
	Quiet Zone	Residential Area
1. The operation of an engine or motor which is, is used in, or is intended for use in a toy or a model or replica of any device, which model or replica has no function other than amusement and which is not a conveyance.	At all times	B(2)
2. The operation of any electronic device or a group of connected electronic devices incorporating one or more loudspeakers or other electro-mechanical transducers, and intended for the production, reproduction or amplification of sound, other than a security alarm.	At all times	B(3)
3. The venting, release or pressure relief of air, steam or other gaseous material, products or compound from any autoclave, boiler pressure vessel, pipe, valve, machine, device or system, other than furnace vents.	At all times	B(3)
4. Loading, unloading, delivering, packing, unpacking, or otherwise handling any containers, products or materials.	B(4)	B(3)
5. (Reserved)[9]		
6. The operation of any power device.	B(1)	B(2)
7. Operation or use of any tool or device for domestic purposes, except power devices and snow blowers.	B(6)	B(2)
8. Activation of a security alarm resulting in sound for a duration in excess of 5 minutes.	At all times	At all times
9. Vehicle repairs.	At all times	B(5)
10. Playing of music.	At all times	B(3)

[8] **Editor's Note: The subsection designations in this column refer to the time periods set out in § 591-4B.**

[9] **Editor's Note: Former No. 5, Operation of construction equipment, was repealed December 13, 2007 by By-law No. 1400-2007; said By-law No. 1400-2007 came into force January 1, 2008.**

11. Persistent barking, calling or whining or other similar persistent noise-making by any animal kept or used for any purpose. **[Added 2003-07-24 by By-law No. 693-2003]**	At all times	At all times
12. Loading, unloading, delivering, packing, unpacking, or otherwise handling any animals, containers, products or materials at any abattoir. **[Added 2003-09-25 by By-law No. 1008-2003]**	B(2)	B(2)

C. (Reserved)[10]

§ 591-5. General limitations on sound levels due to stationary sources.

A. No person shall emit or cause or permit the emission of sound from a stationary source such that the level of sound from that source at a point of reception located in a quiet zone or residential area exceeds the applicable sound level limit prescribed in Publication NPC-205 - "Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (Urban)".

B. Subsection A shall not apply to residential air-conditioning devices regulated under § 591-6. **[Amended 2003-05-23 by By-law No. 458-2003[11]]**

§ 591-6. Limitation on sound levels for residential air conditioners.

A. No person shall emit or cause or permit the emission of sound from the operation of a residential air-conditioning device of a type referred to in Publication NPC-216 - "Residential Air Conditioning Devices" resulting in a sound level at a point of reception located in a quiet zone or residential area in excess of the applicable sound level limit set out in Publication NPC-216 - "Residential Air Conditioning Devices."

B. No person shall emit or cause or permit the emission of any sound from any air-conditioning device of a type referred to in Publication NPC-216 - "Residential Air Conditioning Devices" unless one of the following applies:

(1) The device was manufactured prior to January 1, 1979.

(2) The device bears a label affixed by the manufacturer or distributor which states the year of manufacture and that the device when new complied with the sound emission standard set out in Publication NPC-216 - "Residential Air Conditioning Devices," as applicable to that type of device and date of manufacture.

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[10] **Editor's Note: Former § 591-4C, Residential low-rise area construction noise, added June 29, 2006 by By-law No. 505-2006, amended September 27, 2006 by By-law No. 964-2006, was repealed December 13, 2007 by By-law No. 1400-2007; said By-law No. 1400-2007 came into force January 1, 2008.**

[11] **Editor's Note: This by-law came into force February 7, 2003.**

(3) The owner, operator, manufacturer or distributor provides proof that the device when new complied with the sound emission standard set out in Publication NPC-216 - "Residential Air Conditioning Devices," as applicable to that type of air conditioner and date of manufacture.

§ 591-7. Disturbing religious ceremony in a place of worship.

No person shall make, cause or permit the emission of sound that disturbs a religious ceremony in a place of worship.

§ 591-8. Most restrictive provision applies.

Where a source of sound is subject to more than one provision of this article, the most restrictive provision shall apply.

§ 591-9. Exemption; public safety and highways.

Despite any other provision of this chapter, it shall be lawful to emit or cause or permit the emission of sound in connection with measures undertaken for:

A. The immediate health, safety or welfare of the inhabitants of the City under emergency circumstances.

B. Any emergency requiring immediate action for the construction, preservation, restoration or demolition of any highway.

§ 591-10. Exemptions.

[Amended 2003-07-24 by By-law No. 693-2003]

A. Any person may apply for a permit for an exemption from a noise prohibition or noise limitation provision in this chapter, in connection with an event or activity, by filing with the Commissioner the following:

(1) An application in the form prescribed by the Commissioner; and

(2) The non-refundable application fee set out in Chapter 441, Fees and Charges. **[Amended 2006-12-06 by By-law No. 12-2007[12]]**

B. Upon receipt of an application under Subsection A, the Commissioner shall give written notice to the Councillor of any ward where the event or activity is to be held and, where the event or activity is to be held on a boundary street between wards, to the Councillors of the adjoining wards.

[12] **Editor's Note: This by-law came into force September 27, 2006.**

C. The Commissioner shall issue a permit if all of the following conditions have been met:

(1) All of the Councillors notified under Subsection B have either:

(a) Not responded within 14 days of the notice; or

(b) Responded indicating that they have no objection to the application being approved.

(2) The applicant has complied with all terms and conditions of approval of the last permit issued to them under this section, if any.

(3) The applicant has provided the following:

(a) The applicant's name, address, and telephone number;

(b) The date, time and location of the event or activity for which the permit is sought and, where applicable, the number of people expected to attend;

(c) The purpose for which the permit is required;

(d) The description of any sound or construction equipment to be used;

(e) The name, address and telephone number of at least one contact person who will supervise the event or activity; and

(f) A written undertaking that one or more contact persons responsible for supervising the event or activity will be on-site during the entire event or activity to ensure compliance with the terms and conditions of the permit.

(4) The applicant enters into a written agreement satisfactory to the Commissioner concerning compliance with the terms and conditions of the permit.

(5) The applicant has paid all required fees.

D. A permit issued under Subsection C shall be subject to the following terms and conditions:

(1) The sound emitted from any equipment shall not exceed an equivalent sound level (Leq) of 85 dBA when measured 20 metres from the source over a five-minute period;

(2) Where the sound level exceeds 85 dBA, the applicant shall comply with any request made by an officer of the Toronto Police Service or a municipal standards officer of the Municipal Licensing and Standards Division with respect to the volume of sound from the equipment to ensure compliance with Subsection D(1);

(3) No sound or construction equipment other than the equipment approved under the permit shall be used by the applicant;

(4) The event or activity shall be restricted to the approved location; and

(5) The permission granted is for the date and times for the event or activity as set out in the permit.

E. Where the Commissioner refuses to grant a permit under this section, the applicant shall be notified in writing and advised that they may appeal the Commissioner's decision to the community council which has jurisdiction for the location of the proposed event or activity by filing an appeal within 21 days of the date of the notice, along with the applicable fee as set out in Chapter 441, Fees and Charges, with the City Clerk at the address shown on the notice. **[Amended 2006-12-06 by By-law No. 12-2007[13]]**

F. Notice of hearing shall be sent to all residents within 100 metres of the location where the event or activity is proposed to be held as shown on the last revised assessment rolls and at the applicant's expense.

G. Where the location of the proposed event or activity under appeal falls on the boundary street of more than one community council, each affected community council shall provide its recommendations to Council for its consideration of the appeal under Subsection E. **[Amended 2007-03-06 by By-law No. 176-2007]**

H. Council, or the community council under delegated authority, may issue or refuse a permit. **[Amended 2007-03-06 by By-law No. 176-2007]**

I. If the community council under delegated authority or Council issues a permit, the permit is subject to the conditions set out in Subsection D, unless the community council under delegated authority or Council provides otherwise, and to any other conditions respecting health, safety and nuisance as the community council under delegated authority or Council considers advisable. **[Amended 2007-03-06 by By-law No. 176-2007]**

J. A community council under delegated authority or Council may require, as a condition of approval, that City staff monitor the sound levels resulting from the event or activity at the expense of the applicant. The charges payable to the City for this monitoring are set out in Chapter 441, Fees and Charges. **[Amended 2006-12-06 by By-law No. 12-2007[14]; 2007-03-06 by By-law No. 176-2007]**

K. Despite anything contained in this section, where an application for a permit is made by the City or any of its agencies, boards or commissions:

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[13] **Editor's Note: This by-law came into force September 27, 2006.**

[14] **Editor's Note: This by-law came into force September 27, 2006.**

(1) The application shall be submitted directly to the Commissioner by the City department, agency, board or commission seeking the permit.

(2) The fees in Chapter 441, Fees and Charges, do not apply. **[Amended 2006-12-06 by By-law No. 12-2007[15]]**

(3) Subsections C(3)(e) and (f) do not apply.

§ 591-11. Offences.

Any person who contravenes any provision of this article is guilty of an offence.[16]

ARTICLE III
Railway Whistles
[Added 2004-09-30 by By-law No. 795-2004]

§ 591-12. Definitions.

As used in this article, the following abbreviations and terms shall have the meanings indicated:

CN - Canadian National Railway.

CP - Canadian Pacific Railway.

GO - Go Transit.

§ 591-13. Prohibited locations.

The use of the whistle on any railway equipment in respect of the highway crossings described in the following table is prohibited, except as otherwise provided in section 23.1 of the Railway Safety Act, R.S. 1985, c. 32 (4th Supp.):

No.	Railway	Subdivision, Branch or other Trackage	Mileage	Street Name
A.	Go	Uxbridge Subdivision	55.73	Sheppard Avenue East in the vicinity of the Agincourt Go Station

[15] **Editor's Note: This by-law came into force September 27, 2006.**

[16] **Editor's Note: This section was passed under the authority of section 425 of the *Municipal Act*, *2001,* S.O. 2001, c. 25, and, under section 61 of the *Provincial Offences Act*, R.S.O. 1990, c. P.33, a person convicted of an offence under this section is liable to a fine of not more than $5,000.**

B. **[Added 2004-10-28 by By-law No. 960-2004]**	Go	Uxbridge Subdivision	55.44	Marilyn Avenue in the vicinity of the Agincourt Go Station
C. **[Added 2007-02-06 by By-law No. 36-2007]**	Go	Uxbridge Subdivision	60.19	Danforth Road west of Midland Avenue
D. **[Added 2007-05-25 by By-law No. 532-2007; amended 2007-06-22 by By-law No. 664-2007]**	Go	Uxbridge Subdivision	59.96	Corvette Avenue pedestrian crossing mile 59.96 Uxbridge Subdivision

SCHEDULE A, PUBLICATIONS
Publications Forming Part of this Chapter

Publication Number	Name
Publication NPC-101	Technical Definitions
Publication NPC-102	Instrumentation
Publication NPC-103	Procedures
Publication NPC-104	Sound Level Adjustments
Publication NPC-205	Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (Urban)
Publication NPC-206	Sound Levels Due to Road Traffic
Publication NPC-216	Residential Air Conditioning Devices

Authority: Licensing and Standards Committee Item 9.8, adopted as amended, by City of Toronto Council on December 11, 12 and 13, 2007
Enacted by Council: December 13, 2007

CITY OF TORONTO

BY-LAW No. 1400-2007

To amend City of Toronto Municipal Code Chapter 591, Noise, respecting construction noise.

The Council of the City of Toronto HEREBY ENACTS as follows:

1. Chapter 591, Noise, of The City of Toronto Municipal Code is amended as follows:

A. Section 591-1 is amended as follows:

(1) By adding the following definitions in alphabetical order to Subsection B:

CONTINUOUS POURING OF CONCRETE — Slip-forming, deck pour or pre-pour operations that cannot be interrupted once the operations have commenced.

LARGE CRANE WORK — The erection and dismantling of a crane or any other crane work that requires a road closure in order for the work to be started and finished.

NECESSARY MUNICIPAL WORK — City rehabilitation or maintenance processes using construction equipment that must be performed at times that minimize lane closures or lane reductions, or both, of City streets, or minimize use of the Toronto Transit Commission's subway or street car rights-of-ways or any ancillary facilities associated with the transit system, including, but not limited to the following:

A. Deck removal over an expressway or arterial roadway;

B. Major intersection rehabilitation; and

C. All Toronto Transit Commission work respecting the transit system, including any ancillary facilities.

REGULAR BUSINESS HOURS — 7:00 a.m. to 7:00 p.m. Monday to Friday, 9:00 a.m. to 7:00 p.m. Saturday, and excluding statutory holidays.

(2) By deleting the following definition from Subsection C:

RESIDENTIAL LOW-RISE AREA — Any property within the municipality that is zoned for residential uses by the applicable zoning by-law and the permitted residential uses include one or more of the following uses: detached and other single family dwellings; semi-detached, duplex and other two family dwellings; and town houses and other row housing.

B. Section 591-2.1 is amended by adding the following:

B. Construction.

(1) No person shall emit or cause or permit the emission of sound resulting from any operation of construction equipment or any construction, if it is clearly audible at a point of reception:

(a) In a quiet zone or residential area within the prohibited period of 7:00 p.m. one day to 7:00 a.m. the next day, 9:00 a.m. on Saturdays, and all day Sunday and statutory holidays; or

(b) In any other area within the prohibited period of all day Sunday and statutory holidays.

(2) Subsection B(1) does not apply to the continuous pouring of concrete, large crane work, necessary municipal work and emergency work that cannot be performed during regular business hours.

C. Section 591-4 is amended as follows:

(1) By amending the table in Subsection B by deleting the following:

(From column 1)	(From column 2)	(From column 3)	(From column 4)
5.	The operation of construction equipment	B(7)	B(7)

(2) By deleting Subsection C.

2. This by-law comes into force on January 1, 2008.

ENACTED AND PASSED this 13th day of December, A.D. 2007.

GLORIA LINDSAY LUBY, Deputy Speaker

ULLI S. WATKISS City Clerk

(Corporate Seal)

APPENDIX E: CITY OF TORONTO BY-LAW 514-2008

Authority: Planning and Growth Committee Item 15.6,
adopted as amended, by City of Toronto Council on May 26 and 27, 2008
Enacted by Council: May 27, 2008

CITY OF TORONTO

BY-LAW No. 514-2008

To amend City of Toronto Municipal Code Chapter 363, Building Construction and Demolition, with respect to regulation of vibrations from construction activity.

The Council of the City of Toronto HEREBY ENACTS as follows:

1. Chapter 363, Building Construction and Demolition, of The City of Toronto Municipal Code, is amended as follows:

A. By adding the following:

§ 363-3.6. Construction vibrations.

A. Definitions.

As used in this section, the following terms shall have the meanings indicated:

CONSTRUCTION EQUIPMENT — Any equipment or device designed for use in construction, or material handling including, but not limited to, air compressors, pile drivers, pneumatic or hydraulic tools, bulldozers or trucks, tractors, excavators, trenchers, cranes, derricks, loaders, scrapers, pavers, generators, ditchers, compactors and rollers, pumps, concrete mixers, graders, or other material handling equipment.

CONSTRUCTION VIBRATION — Vibration occurring as a result of the operation of construction equipment during construction.

FREQUENCY OF VIBRATION — The rate of oscillation that occurs in one second, measured in hertz where 1 hertz equals 1 cycle per second;

PEAK PARTICLE VELOCITY — The maximum rate of change with respect to time of the particle displacement, measured on the ground, and velocity amplitudes are given in units of millimeters per second from zero to peak amplitude;

VIBRATION CONTROL FORM — The form prescribed by the Chief Building Official to provide information regarding construction vibration to accompany an application for a permit;

ZONE OF INFLUENCE — The area of land within or adjacent to a construction site, including any buildings or structures, that potentially may be impacted by vibrations emanating from a construction activity where the peak particle velocity measured at the point of reception is equal to or greater than 5 mm/sec at any frequency or such greater area where specific site conditions are identified by the professional engineer in a study contemplated in Subsection C3(a).

B. Table 1.0 "Prohibited Construction Vibrations".

(1) No person shall carry on a construction activity resulting in construction vibrations that exceed the levels set out in Table 1.0 "Prohibited Construction Vibrations:

Table 1.0 "Prohibited Construction Vibrations"	
Frequency of Vibration (hertz)	Vibration Peak Particle Velocity (mm/sec)
Less than 4	8
4 to 10	15
More than 10	25

(2) Where the professional engineer has submitted a report under Subsection D and identified lower levels than set out in Table 1.0 above, then levels exceeding those in the report shall be the prohibited construction vibrations.

C. Vibration control form.

(1) In addition to the other requirements of this article, an applicant for a permit for construction, including demolition, shall submit as part of the permit application a vibration control form that provides the following information and is accompanied by plans and other documents set out below.

(2) The vibration control form shall identify whether the construction activity will include blasting, deep foundations, drilled caisson, large scale soil compaction or construction within the water table, or any other construction activity or method that has the potential to cause vibrations which may impact on buildings or structures outside of the construction site that is the subject of the permit application.

(3) If construction activities as described in Subsection B(1) are identified, the vibration control form shall also include the following:

(a) A preliminary study, including a plan showing the construction site and adjacent land and buildings, prepared by a professional engineer that identifies the zone of influence of vibrations and whether the zone of influence will extend beyond the legal boundaries of the construction site that is the subject of the permit application.

(b) The existence within the zone of influence of any buildings that have been designated under the *Ontario Heritage Act*; and

(c) A general review commitment certificate and letter of undertaking in a form acceptable to the Chief Building Official.

(4) In determining the zone of influence for the construction the professional engineer shall consider the following:

(a) Soil conditions of the construction site and adjacent land;

(b) Weather conditions that will exist at the time of construction that may result in construction vibrations;

(c) Whether the proposed construction will be above or below the water table;

(d) The presence of heritage designated or listed properties and sensitive structures or buildings or infrastructure;

(e) The precise location of the source of vibration;

(f) Any unique site conditions;

(g) Whether it would be prudent, in the circumstances, to have a zone of influence that is larger than would result if the analysis had only been restricted to the predicted peak particle velocity values set out in Column 1 of the Table in Subsection B; and

(h) Such further matters identified by the professional engineer which may be relevant to identifying the zone of influence in a specific situation.

(5) After the issuance of a building permit, if a construction activity that was not identified in a vibration control form is proposed or commenced, the applicant shall comply with the requirements the Section, where in the opinion of the Chief Building Official the construction activity may contribute to vibrations.

D. Pre-construction consultation and monitoring program.

If a zone of influence will extend beyond the legal boundaries of the construction site that is the subject of the permit application, the applicant shall:

(1) Carry out a public pre-construction consultation with all property owners and occupants within the zone of influence advising of the possibility of construction vibrations and the provisions of this section;

(2) As part of an application for a permit provide a report from a professional engineer addressing the following matters:

(a) A summary of the pre-construction consultations between the applicant and the owners and occupants of properties within the zone of influence, including comments provided to the applicant by the owners and occupants during the consultations;

(b) Pre-construction measurements of background vibrations within the zone of influence;

(c) Pre-construction inspection of adjacent buildings and structures within the zone of influence to identify existing cracks in walls, floors and exterior cladding of the first two storeys above grade and interior finishes of all storeys below grade in sufficient detail to facilitate comparison of pre-construction and post-construction condition;

(d) Where it is not possible to gain access for a pre-construction inspection, statements of the efforts made to gain access;

(e) Identification of mitigation measures to reduce the impacts of construction related vibrations within the zone of influence; and

(f) A monitoring program to measure variances in the vibration levels before and during construction activities which shall be verified by a professional engineer, and shall include:

[1] The number and location of seismographs to be used;

[2] The sampling frequency;

[3] The result transmittal protocol;

[4] Ambient vibration levels;

[5] A public communications protocol;

[6] A complaints protocol during construction; and

[7] Procedures for construction method alteration to address the occurrence of excessive vibrations.

(3) The mitigation measures and monitoring program required under Subsection D(2)(e) and (f) shall be implemented so that construction activities do not exceed maximum frequency based limits for peak particle velocity as set out in Subsection B or such lower levels as may be identified by the professional engineer as being prudent taking into consideration site specific conditions.

(4) The monitoring program shall include no less than one on-site seismograph that is to be operated continuously to record the vibration frequency and peak particle velocity for construction vibrations at all times construction activities identified in subsection C(2).

E. Monitoring of vibrations during construction.

The applicant shall monitor the vibration levels and report on the monitoring as follows:

(1) The applicant shall monitor vibration levels during construction in accordance with the monitoring program submitted with the application for a permit under Subsection D(2)(f).

(2) Where in the opinion of the professional engineer it is prudent to do so monitoring shall be based to detect levels below those set out in the Table in Subsection B.

(3) The applicant shall submit a copy in writing of all vibration measurements recorded as part of the monitoring program to the building inspector assigned to the project at the end of each work day, or as requested by the building inspector.

(4) Construction activity shall not be carried on when it will result in vibration measurements that exceed the prohibited construction vibration levels set out in Subsection B.

F. Public communications and complaint protocol.

The applicant shall, in addition to the preconstruction survey required in Subsection C provide for the following public communications and complaints protocols:

(1) At least one week before the commencement of construction activity that may cause vibrations the applicant shall notify the ward Councillor and owners and occupants of properties within the zone of influence of the scheduled construction activity.

(2) The notice required under Subsection F(1), shall include the following:

(a) An explanation of the proposed construction activity and its potential to produce vibrations;

(b) A statement of the levels of construction vibration that are prohibited in this Section;

(c) The address of the construction site where the construction activity will occur;

(d) The date and time that the work will occur;

(e) The name, address, telephone number, and other contact information through which a person affected by vibrations may contact the applicant and the person carrying out the construction activity for the applicant; and

(f) Contact information for Toronto Building staff assigned to the project.

(3) In the event that the applicant receives a complaint or is otherwise notified of a complaint about vibrations from the construction activity, the applicant shall cause the professional engineer monitoring the project to immediately perform vibration measurement at the complainant's location during activities representative of the offending operation and to provide to the complainant and to the building inspector assigned to the project a copy of the measurement results including an interpretation by the professional engineer of the possible impacts such construction vibrations might have on the building or structure of the complainant; and

(4) In the event that the measurements at the complainant's location exceed the limits set out in Subsection B, all construction activity generating the vibrations shall immediately cease and not resume until mitigation measures are implemented to reduce the vibration levels so that they are below the limits set out Subsection B.

2. This by-law comes into force on the day that is 60 days after it is passed.

ENACTED AND PASSED this 27th day of May, A.D. 2008.

GLORIA LINDSAY LUBY,
Deputy Speaker

ULLI S. WATKISS
City Clerk

(Corporate Seal)

APPENDIX F: CITY OF VAUGHAN NOISE BY-LAW

THE CITY OF VAUGHAN

BY-LAW

BY-LAW NUMBER 96-2006

A By-law to regulate noise.

WHEREAS the Municipal Act, R.S.O. 2001, Section 129. (1) Paragraphs 1, 2 and 3 authorize municipalities to pass by-laws to prohibit and regulate noise;

AND WHEREAS a recognized body of scientific and technological knowledge exists by which sound and vibration may be substantially reduced;

AND WHEREAS it is in the public interest to reduce the noise level in the City of Vaughan, so as to preserve, protect, and promote public health, safety, welfare, and the peace and quiet of the inhabitants of the City;

AND WHEREAS it is the policy of the Council of The Corporation of City of Vaughan to regulate such sound or vibration, or nuisance;

NOW THEREFORE the Council of The Corporation of City of Vaughan enacts as follows:

1. TITLE

   This By-law shall be referred to as "The Noise Control By-Law".

2. TECHNICAL TERMS

   In this By-Law all words and definitions that are of technical nature and are related to sound and vibration shall have the meanings specified for them in Schedule 3 - Publication NPC-101.

3. DEFINITIONS

   In this By-Law,

   "APPLICABLE PUBLICATION" means any Publication referred to in the Provisions of this By-Law including a Schedule hereto;

   “APPLICANT” includes any person or persons seeking in writing from the Department Head of Enforcement Services, an exemption of either a temporary or permanent nature from the provisions and requirements of this By-law;

   "CERTIFICATE" means a certificate of Competency in Environmental Acoustics, Technology of a specified class issued by an accredited program of an Ontario Community College or other approved consulting agency;

   "CITY" means the municipal corporation of the City of Vaughan or the geographic area of the City of Vaughan as the context requires;

   "CONSTRUCTION" includes erection, alteration, repair, dismantling, demolition, structural maintenance, painting, moving, land clearing, earth moving, grading, excavating, the laying of

pipe and conduit whether above or below ground level, street and highway building, concreting, equipment installation and alteration and the structural installation of construction components and materials in any form or for any purpose, and includes any work in connection therewith;

"CONSTRUCTION EQUIPMENT" means any equipment or device designed and intended for use in construction, or material handling, including but not limited to, air compressors, pile drivers, pneumatic or hydraulic tools, bulldozers, tractors, excavators, trenchers, cranes, derricks, loaders, scrapers, pavers, generators, off highway haulers or trucks, ditchers, compactors and rollers, pumps, concrete mixers, graders, or other material handling equipment;

"CONSTRUCTION SITE" means the area or portion of land used for construction or any other area used for any purpose related to the construction or for any related purpose;

"CONVEYANCE" includes a vehicle and any other device used to transport a person or persons or goods from place to place but does not include any vehicle or device operated only within the premises of a person;

"COUNCIL" means the council of City of Vaughan;

"dBA" means the sound level in decibels obtained when using a sound level meter with the A-weighting;

"DEPARTMENT HEAD OF ENFORCEMENT SERVICES" means the person occupying the position of the Department Head of Enforcement Services of the City of Vaughan or authorized representative.

“EFFECTIVE MUFFLER” means a muffler in good working order and in constant operation to prevent excessive or unusual noise or excessive smoke but it does not a cut-out muffler, straight exhaust gutted muffler, Hollywood mffler, by-pass or similar device.

"ENFORCEMENT OFFICER" means a person appointed by the Council of he City of Vaughan as a Municipal Law Enforcement Officer to enforce the provisions of this By-law or a sworn member of York Regional Police, Ontario Provincial Police, Royal Canadian Mounted Police, or any other person so authorized;

"HIGHWAY" includes a common and public highway, as defined under the Highway Traffic Act R.S.O. 1990 and includes any bridge, trestle, viaduct, or other structure forming part of the highway designed and intended for or used by, the general public for the passage of vehicles.

"MINISTRY" means the Ministry of the Environment;

"MOTOR VEHICLE" means any motorized conveyance and includes any automobile, motorcycle and any other vehicle propelled or driven otherwise than by muscular power, but does not include the cars of electric or steam railways, or other motor vehicle running only upon rails, or a motorized snow vehicle, traction engine, farm tractor, self-propelled implement of husbandry or road building machine;

"MOTORIZED CONVEYANCE" means a conveyance propelled or driven otherwise than by muscular, gravitational or wind power;

"MUNICIPALITY" means the land within the geographic limit of City of Vaughan;

"NOISE" means unwanted sound;

“PERMIT” means and includes any permit or written authorization of a temporary or permanent nature, issued by the Department Head of Enforcement Services of City of Vaughan, which provides an exemption(s) to the terms and conditions of this By-law;

"POINT OF RECEPTION" means any point on a premises or a location of an equivalent distance where sound or vibration originating from other than those locations are received;

"NPC PUBLICATION" means a specified publication of the Noise Pollution Control Section of the Pollution Control Branch of the Ministry of the Environment named in Schedule 4 of this By-Law;

"QUIET ZONE" means all lands located within a distance of 250 meters of all exterior walls of a hospital, nursing home, or seniors retirement facility;

"REFUSE COMPACTING EQUIPMENT" means a vehicle fitted in order to compact and transport refuse;

"RESIDENTIAL AREA" means an area of the municipality designated as residential area in City of Vaughan Zoning By-Laws;

"RESIDENTIAL RENOVATIONS" means construction that does not require any building permits and such renovations are constructed without the operation of any heavy equipment;

"SOUND AMPLIFYING SYSTEM" means any system of loudspeakers, amplifiers, microphones or reproducers or any combination of such equipment, including electronic devices or electro-mechanical transducers, used in the reproduction or amplification of music, speech or other sounds;

"SOUND REPRODUCTION DEVICE" means a device intended primarily for the production or reproduction of sound, including, but not limited to, any musical instrument, radio receiver, television receiver, tape recorder, phonograph or sound amplifying system;

"SOURCE" or "SOURCE OF SOUND OR VIBRATION" means an activity, matter, thing, or tangible personal property or real property, from which sound or vibration is emitted;

"SOUND" is an oscillation in pressure, stress, particle displacement or particle velocity, in a medium with internal forces (e.g. elastic, viscous), or the superposition of such propagated oscillations, which may cause an auditory sensation;

"SPECIAL EVENT" includes but not limited to demonstrations, parades, sports events, festivals, carnivals, street dances, residential block parties, and any other functioned deemed to be a “Special Event” by the Department Head of Enforcement Services of City of Vaughan;

"STATIONARY SOURCE" means a source of sound, which does not normally move from place to place and includes the premises of a person as one stationary source unless the dominant source on the premises is construction equipment or a conveyance;

"VEHICLE" includes a motor vehicle, trailer, traction engine, farm tractor, road-building machine, motorcycle, bicycle and any vehicle drawn, propelled or driven by any kind of power, including muscular power, but does not include a motorized snow vehicle or the cars of electric or steam railways running only upon rails.

4. PROHIBITIONS

No person shall emit or cause to permit the emission of sound resulting:

(1) From a stationary source such that the level of resultant sound at a point of reception located in a residential area, or quiet zone which exceeds the applicable sound level limit prescribed in Schedule 3, Publication NPC-205 - Stationary Sources;

(2) From an act listed in Schedule 1 - General Prohibitions, and which sound is clearly audible at a point of reception;

(3) From any act listed in Schedule 2 - Prohibitions by Time and Place, if clearly audible at a point of reception.

5. PRE-EMPTION

Where section 1 (1) or (2) applies to a source of sound, the less restrictive provision shall prevail.

6. UNUSUAL NOISE, NOISE LIKELY TO DISTURB

No person in a residential area shall make any unusual noise or noise likely to disturb the inhabitants of the City.

7. BELLS, HORNS, SHOUTING

No person shall ring any bell, sound any horn, or shout in a manner likely to disturb the inhabitants of the City provided that nothing herein contained shall prevent,

a. the ringing of bells, or electronic reproduction of the sound of bells, in connection with any church, chapel, meeting house or religious service;

b. the ringing of fire bells or fire alarms or the making of any other noise for the purpose of giving notice of fire or any other danger or any unlawful act for a continuous period of time of twenty (20) minutes or less.

8. AIR CONDITIONERS, HEAT PUMPS, AND SIMILAR DEVICES

No person shall use or operate or cause to be used or operated any residential air conditioner, heat pump, or similar device, the noise from which has a level greater than 61 dBA when measured at the point of reception.

9. PUMP OR FILTRATION SYSTEMS

No person shall use or operate or cause to be used or operated any pump, filtration system or similar device for an outdoor swimming pool, hot tub, spa fountain or water feature, the noise from which has a level greater than 55 dBA when measured at the point of reception or in compliance with NPC-205, Stationary Sources.

10. CONSTRUCTION

(1) No person shall, between 1900 hours of one day and 0700 hours of the next day operate or cause to be operated, any construction vehicle or construction equipment in connection with the construction of any building or structure, highway, motor car, steam boiler or other engine or machine;

(2) Despite subsection (1), no person shall operate or cause to be operated any construction vehicle or construction equipment before 0700 hours and no later than 1900 hours on any Saturday and not at all on Sunday or statutory holidays.

11. LOADING AND UNLOADING

No person shall load or unload any transport truck, commercial vehicle, or any other vehicle used to transport goods between 2300 hours of one day and 0700 hours of the next day so as to make or cause noises that disturb, or tend to disturb the quiet, peace, rest, enjoyment, comfort or convenience of the neighbourhood in a residential area.

12. MUFFLERS

No person shall discharge into the open air, on any property other than a highway, the exhaust of any motor vehicle except through a muffler or other device, which effectively prevents loud or explosive noises.

13. MOTOR SPORTS

(1) No person shall operate or permit the operation of racing competitions between motor vehicles on a property other than a highway within the City, whether or not an admission fee is charged, unless,

a. the competitions are held at a permanent facility;

b. all motor vehicles are properly equipped with effective mufflers, and

c. such competitions are not carried out between 2300 hours of one day and 1000 hours of the next day.

(2) Subsection (1) shall not apply to permanent go-kart operations on a property other than a highway.

14. GO-KART ACTIVITIES

No person shall operate or permit the operation of go-kart activities on a property other than a highway within the City, whether or not an admission fee is charged, unless,

(1) the activities are held at a permanent go-kart facility;

(2) all go-karts are equipped with effective mufflers, and

(3) such activities are not carried out between 2300 hours of one day and 0700 hours of the next day.

15. UNNECESSARY MOTOR VEHICLE NOISE

No person shall cause or permit unnecessary motor vehicle noise such as the sounding of the horn, or revving of engine, or the squealing of tires of any motor vehicle on any property other than a highway.

16. SOUND REPRODUCTION OR AMPLIFICATION DEVICES

(1) No person in a residential area shall operate or use or cause to be operated or use any sound reproduction device during any time of day so as to disturb the peace and comfort of,

a. any person in any dwelling house, or other type of residence.

(2) Assessment of noise complaints may be undertaken at the point of reception of the noise for the purposes of confirming a violation. Assessment may be conducted by noise monitoring as required pursuant to NPC-205, Stationary Sources.

. (3) No person shall operate or use or cause to be operated or used any sound reproduction device on any highway or other public place.

(4) No person shall operate or use or cause to be operated or used any sound reproduction device originating from or in connection with the operation of any commercial establishment at any time. The noise from which sound reproduction device when measured in any dwelling house, apartment house, or any other type of residence in a residential area has an equivalent sound level (Leq) the noise criteria established in NPC-205, Stationary Source.

(5) Subsections (1) and (2) do not apply to prevent,

a. the use of sound reproduction devices in the City's parks provided that the user has a permit from or the written permission of the City to do so and the user otherwise complies with the provisions of this By-law, including the noise level maximum herein provided,

b. the amplification of the sound of the ringing of bells or the playing of chimes in connection with,

i. any church, chapel, meeting house or religious service, or

ii. the City Hall between 0900 hours and 2100 hours of the same day,

c. the use of musical instruments by street musicians on the highway or other public place, provided that the use is not liable to disturb the peace, enjoyment and comfort or convenience of individuals or the public.

17. EXEMPTIONS

(1) The provisions of this By-law shall not apply to the City of Vaughan or Regional Municipality of York, the Province of Ontario, the Government of Canada or any of their agents when the emission of sound is in connection with work undertaken for the immediate health, safety or welfare of the inhabitants of the City.

(2) The provisions of this By-law shall not apply to preclude musicians or performers providing outdoor entertainment involving sound reproduction devices during special events sanctioned by the City.

(3) The provisions of this By-law shall not apply to agricultural operations and agricultural processing activities.

(4) The provisions of this By-law shall not apply to snow removal activities conducted by the City, Region of York, or the Province of Ontario.

(5) Nothing in this By-law shall prevent the clearing of snow from designated fire routes.

18. SOUND REPRODUCTION DEVICES USED IN A SPECIAL EVENT AND OUTDOOR EXHIBITIONS

(1) The Department Head of Enforcement Services is delegated the authority to grant an exemption for an event subject to the following conditions:

a. The event relates to live or recorded music or involves the use of a sound amplifying system or sound reproduction device operated in a reasonable manner in the context of the special event;

b. The event shall not create noise to exceed 55 dBA when measured at the point of reception;

c. Any activity that is lawfully carried out pursuant to a Special Event Permit issued by the City is subject to any conditions imposed on the Special Event Permit. Where there is a conflict between a condition imposed on the Special Event Permit and this By-law, the requirements of this By-law shall prevail;

d. The breach of any conditions imposed by this Section shall nullify the Special Event Permit and enforcement procedures could be considered;

e. An Enforcement Officer may monitor the activity at the special event, the cost of which will be born by the Special Event Permit holder at a rate of remuneration established under the City of Vaughan Fee By-law.

19. EXEMPTION - CONSTRUCTION EQUIPMENT

(1) The Department Head of Enforcement Services is delegated the authority to grant an exemption to subsection 7(1) for construction equipment utilized during prohibited hours subject to the following conditions:

a. the use of construction equipment shall not exceed the established noise levels of NPC-115, Construction Equipment;

b. the duration of the exemption requested shall not exceed eleven (11) calendar days in length.

(2) An application for exemption from the provisions of the noise by-law for construction equipment shall be made in writing to the Department Head of Enforcement Services at least sixty (60) days prior to the commencement of the use of the construction equipment for which the exemption is sought and shall include the following:

a. the name and address of the applicant;

b. the name and address of the business represented by the applicant, if applicable;

c. the source of the sound or vibration in respect of which the exemption is sought;

d. the provision of this By-law from which the exemption is sought;

e. the date and time of commencement of the construction, for which the exemption is sought;

f. the time of conclusion for each day for the use of the construction equipment for which the exemption is sought;

g. the duration of the use of the construction equipment, for which the exemption is sought;

h. the location of the construction for which the exemption is sought;

i. rationale for granting an exemption;

j. the name of the contact person or persons who will be supervising the use of the construction equipment, and

k. payment of the application fee as described in the City of Vaughan Fee By-law.

(3) The Department Head of Enforcement Services may require the applicant to provide documentation confirming that notification of the use of construction equipment has been given to the affected parties including but not limited to community associations, business improvement areas and adjacent residents and businesses.

(4) Where the Department Head of Enforcement Services requires monitoring of sound levels resulting from the construction, the monitoring shall be conducted at the applicant's expense as outlined in the City of Vaughan Fee By-law.

20. EXEMPTION - TEMPORARY MOTOR RACING COMPETITIONS

(1) The Department Head of Enforcement Services is delegated the authority to grant an exemption for motor racing competitions at temporary venues subject to the following conditions:

a. the competition does not exceed three (3) days in length;

b. the event shall not create noise to exceed 65 dBA at any point of reception.

(2) An application for exemption from the provisions of the Noise By-law for motor racing competitions at temporary venues shall be made in writing to the Department Head of Enforcement Services at least sixty (60) days prior to the commencement of the temporary motor competition for which the exemption is sought and shall include the following:

a. the name and address of the applicant;

b. the name and address of the business represented by the applicant, if applicable;

c. the provision of this By-law from which the exemption is sought;

d. the date and time of commencement of the competition for which the exemption is sought;

e. the time of conclusion for each day of the competition;

f. the duration of the competition for which the exemption is sought;

g. the location of the competition for which the exemption is sought;

h. rationale for granting an exemption;

i. the name of the contact person or persons who will be supervising the competition, and

j. payment of the application fee as described in the City of Vaughan Fee By-law.

(3) The Department Head of Enforcement Services may require the applicant to provide documentation confirming that notification of the motor racing competition at a temporary venue has been given to the affected parties including but not limited to community associations, business improvement areas and adjacent residents and businesses.

(4) Where the Department Head of Enforcement Services requires monitoring of sound levels resulting from the event or activity, the monitoring shall be conducted at the applicant's expense as outlined in the City's Fee By-law.

21. ENFORCEMENT

This By-law shall be enforced by any Enforcement Officer or person duly authorized by the City.

22. OFFENCE AND PENALTIES

(1) Every person who contravenes any of the provisions of this By-law is guilty of an offence.

(2) Every person who is convicted of an offence under this By-law is liable to a fine as provided for in the Provincial Offences Act, RS.O. 1990, Chap. P.33

(3) When a person has been convicted of an offence under this by-law,

a. the Ontario Court (Provincial Division) of the City of Vaughan, or

b. any court of competent jurisdiction thereafter may, in addition to any other penalty imposed on the person convicted, issue an order prohibiting the continuation or repetition of the offence or the doing of any act or thing by the person convicted directed toward the continuation or repetition of the offence.

23. INTERPRETATION

(1) It is declared that if any section, subsection or part or parts thereof be declared by any Court of Law to be bad, illegal or ultra vires, such section, subsection or part or parts shall be deemed to be severable and all parts hereof are declared to be separate and independent and enacted as such.

(2) In this by-law, a word interpreted in the singular number has a corresponding meaning when used in the plural.

(3) Schedules "1", "2", "A" and "B" and any Publications NPC annexed hereto are hereby

declared to form part of this By-law.

24. REPEAL

a. By-law 158-73, By-law 270-81 and amending By-laws 253-85 and 244-99 are hereby repealed.

25. EFFECTIVE DATE

This By-law shall come into effect on the 10th day of April, 2006.

READ a FIRST, SECOND and THIRD time and finally passed this 10th day of April, 2006.

_____
Michael Di Biase, Mayor

_____
J. D. Leach, City Clerk

Schedule 1

GENERAL PROHIBITIONS

1. Racing of any motorized conveyance other than in a racing event regulated by law.
2. The operation of a motor vehicle in such a way that the tires squeal.
3. The operation of any combustion engine shall not discharge into the open air, on any property other than a highway, the exhaust of any motor vehicle except through a proper muffler or legal device which effectively prevents loud or explosive noises.
4. The operation of a vehicle or a vehicle with a trailer resulting in banging, clanking, squealing or other like sounds due to improperly secured load or equipment;
5. The operation of an engine or motor in, or on, any motor vehicle or item of attached auxiliary equipment for a continuous period exceeding five minutes, while such vehicle is stationary in a Residential Area or, unless,
   (a) The vehicle is in an enclosed structure constructed so as to effectively prevent excessive noise emission; or,
   (b) The original equipment manufacturer specifically recommends a longer idling period for normal and efficient operation of the motor vehicle in which case such recommended period shall not be exceeded;
   (c) Operation of such engine or motor is essential to a basic function of the vehicle or equipment, including but not limited to, operation of ready mixed concrete trucks, lift platforms or refuse compactors and heat exchange systems; or,
   (d) Weather conditions justify the use of heating or refrigerating systems powered by the motor or engine for the safety and welfare of the operator, passengers or animals, or preservation of perishable cargo; or,
   (e) Prevailing low temperatures make longer idling periods necessary, immediately after starting the motor or engine; or,
   (f) The idling is for the purpose of cleaning and flushing the radiator and associated circulation system for seasonal change or antifreeze, cleaning of the fuel system, carburetor or the like, when such work is performed other than for profit.
6. The operation of a motor vehicle horn or other warning device except where required or authorized by law in accordance with good safety practices.
7. The operation of any item of construction equipment shall not discharge into the open air, on any property other than a highway the exhaust except through a proper muffler or legal device, which effectively prevents loud or explosive noises.

Schedule 2

TIME AND PLACE PROHIBITED PERIODS

1. The operation of any auditory signaling device, including but not limited to the ringing of bells or gongs and the blowing of horns or sirens or whistles, or the production, reproduction or amplification of any similar sounds by-law or in accordance with good safety practices.

Quiet Zone	Residential Area
At Any Time	B

2. The operation of any electronic device or group of connected electronic devices incorporating one or more loudspeakers or other electro mechanical transducers, and intended for the production, reproduction or amplification of sound.

Quiet Zone	Residential Area
At Any Time	A

3. Loading, unloading, delivering, packing, unpacking, or otherwise handling any containers, produce, materials, or refuse whatsoever, unless necessary for the maintenance of essential services.

Quiet Zone	Residential Area
B	B & D

4. The operation of any construction equipment in connection with construction.

Quiet Zone	Residential Area
E & D	F & D

5. The detonation of fireworks or explosive devices

Quiet Zone	Residential Area
At Any Time	A

6. The operation of a combustion engine which,

(i) is, or

(ii) is used in, or

(iii) is intended for use in,

A toy or a model or replica of a larger device, which model or replica has no function other than amusement and which is not a conveyance.

Quiet Zone	Residential Area
At Any Time	B

7. The operation of any powered rail car including but not limited to refrigeration cars, locomotives or self-propelled passenger cars, while stationary on property not owned or controlled by a railway governed by The Canada Railway Act.

Quiet Zone	Residential Area
At Any Time	A

8. The operation of any motorized conveyance other than on a highway or other place intended for its operation.

Quiet Zone	Residential Area
At Any Time	B

9. The venting, release or pressure relief of air, steam or other gaseous material, product or compound from any autoclave, boiler, pressure vessel, pipe, valve, machine, device or system.

Quiet Zone	Residential Area
At Any Time	A

10. Persistent barking, calling or whining or other similar persistent noise making by any domestic pet.

Quiet Zone	Residential Area
At Any Time	At Any Time

11. The operation of any powered or non-powered tool for domestic purposes other than snow removal.

Quiet Zone	Residential Area
C	G

12. The operation of solid waste bulk lifts or refuse compacting equipment.

Quiet Zone	Residential Area
C	B

13. The operation of commercial car wash with air-drying equipment.

Quiet Zone	Residential Area
C	H

14. The operation of a power assisted hang glider or Para foil.

Quiet Zone	Residential Area
At Any Time	At Any Time

15. The operation of any item of snow making equipment.

Quiet Zone	Residential Area
At Any Time	At Any Time

16. The operation of a sound emitting pest control device

Quiet Zone	Residential Area
At Any Time	At Any Time

17. The discharge of firearms

Quiet Zone	Residential Area
At Any Time	At Any Time

Note: For the purpose of this Schedule, "motorized conveyance" includes, but is not limited to;

(a) Snowmobiles;

(b) Mopeds;

(c) Go-carts;

(d) Track bikes;

(e) Trail bikes

Restricted Times:

a) 23:00 hrs. of one day to 07:00 hrs. next day (09:00 hrs. Sundays)

b) 19:00 hrs. of one day to 07:00 hrs. next day (09:00 hrs. Sundays)

c) 17:00 hrs. of one day to 07:00 hrs. next day (09:00 hrs. Sundays)

d) All day Sundays and Statutory Holidays

e) 17:00 hrs. of one day to 07:00 hrs. next day

f) 19:00 hrs. of one day to 07:00 hrs. next day

g) 21:00 hrs. of one day to 07:00 hrs. next day (09:00 hrs. Sundays)

h) 22:00 hrs of one day to 07:00 hrs. next day (09:00 hrs. Sundays)

Index of Publications NPC

Publication NPC-101	Technical Definitions Publication
Publication NPC-102	Instrumentation
Publication NPC-103	Procedures
Publication NPC-104	Sound Level Adjustments
Publication NPC-205	***Stationary Source***

Publication NPC-206	***Road Traffic***
Publication NPC-115	Construction Equipment
Publication NPC-117	Domestic Outdoor Power Tools
Publication NPC-118	Motorized Conveyances
Publication NPC-119	Blasting

APPENDIX G: SAMPLE CALCULATION

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (m)	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (m)	1000.00
Min. Length of Section (m)	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°C)	10
rel. Humidity (%)	70
Ground Absorption G	0.70
Wind Speed for Dir. (m/s)	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver
Name: POR54 - Most Exposed side
ID: POR54
X: 614315.82
Y: 4847432.60
Z: 160.50

Point Source, ISO 9613, Name: "Bus Idling at Pine Valley", ID: "Bus_Idle_PineValley"																				
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	I/a	Optime	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	dB	dB	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4166	614661.36	4847323.63	161.50	0	N	A	113.8	0.0	-18.2	0.0	0.0	62.2	6.6	-5.3	0.0	0.0	7.8	0.0	0.0	-145.5

Road, TNM, Name: "Hwy 407 - Weston to Pine Valley WB2", ID: "407_Weston_to_PV_WB2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4337	615191.14	4847859.69	164.41	0	N	A	-77.2	-27.9	0.0	-1.0	0.0	0.0	-104.1
4339	615180.16	4847878.79	164.41	0	N	A	-77.2	-27.9	0.0	-2.7	0.0	0.0	-102.4
4364	615191.14	4847859.69	165.83	0	N	A	-77.2	-27.9	0.0	0.6	0.0	0.0	-105.7
4375	615180.16	4847878.79	165.83	0	N	A	-77.2	-27.9	0.0	-3.1	0.0	0.0	-102.0
4978	615191.14	4847859.69	167.97	0	N	A	-77.2	-27.9	0.0	-1.8	0.0	0.0	-103.2
4980	615180.16	4847878.79	167.97	0	N	A	-77.2	-27.9	0.0	-2.0	0.0	0.0	-103.1

Road, TNM, Name: "Hwy 407 - Hwy 27 to Pine Valley EB2", ID: "407_Hwy27_to_P_EB2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4304	614758.68	4847590.91	156.60	0	N	A	-77.2	-25.2	0.0	-3.1	0.0	0.0	-99.3
4306	614769.93	4847571.95	156.60	0	N	A	-77.2	-25.2	0.0	-3.0	0.0	0.0	-99.4
4316	614882.92	4847664.86	157.60	0	N	A	-77.2	-27.0	0.0	-2.8	0.0	0.0	-101.4
4317	614894.21	4847645.94	157.60	0	N	A	-77.2	-27.0	0.0	-2.8	0.0	0.0	-101.4
4332	614758.68	4847590.91	158.03	0	N	A	-77.2	-25.2	0.0	-2.6	0.0	0.0	-99.7
4333	614769.93	4847571.95	158.03	0	N	A	-77.2	-25.2	0.0	-2.5	0.0	0.0	-99.9
4351	614882.92	4847664.86	159.03	0	N	A	-77.2	-27.0	0.0	-2.4	0.0	0.0	-101.7
4352	614894.21	4847645.94	159.03	0	N	A	-77.2	-27.0	0.0	-2.4	0.0	0.0	-101.8
4411	614987.20	4847725.40	160.64	0	N	A	-77.2	-31.0	0.0	-2.6	0.0	0.0	-105.6
4412	614997.86	4847706.11	160.64	0	N	A	-77.2	-31.0	0.0	-2.6	0.0	0.0	-105.6
4527	614987.20	4847725.40	162.06	0	N	A	-77.2	-31.0	0.0	-2.2	0.0	0.0	-106.0
4528	614997.86	4847706.11	162.06	0	N	A	-77.2	-31.0	0.0	-2.1	0.0	0.0	-106.1
4858	614758.68	4847590.91	160.16	0	N	A	-77.2	-25.2	0.0	-2.4	0.0	0.0	-99.9
4859	614769.93	4847571.95	160.16	0	N	A	-77.2	-25.2	0.0	-2.3	0.0	0.0	-100.2
4948	614882.92	4847664.86	161.16	0	N	A	-77.2	-27.0	0.0	-2.3	0.0	0.0	-101.9
4949	614894.21	4847645.94	161.16	0	N	A	-77.2	-27.0	0.0	-2.2	0.0	0.0	-102.0
5165	614987.20	4847725.40	164.20	0	N	A	-77.2	-31.0	0.0	-2.1	0.0	0.0	-106.1
5166	614997.86	4847706.11	164.20	0	N	A	-77.2	-31.0	0.0	-2.0	0.0	0.0	-106.3

Road, TNM, Name: "PineValley_Station48", ID: "PineValley_Stn48"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5137	614815.02	4847332.88	159.50	0	N	A	-74.2	-23.5	0.0	23.4	0.0	0.0	-121.1
5173	614815.02	4847332.88	160.93	0	N	A	-74.2	-23.5	0.0	22.1	0.0	0.0	-119.8

Road, TNM, Name: "PineValley_Station46", ID: "PineValley_Stn46"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5294	614814.47	4847232.54	159.52	0	N	A	-74.2	-25.3	0.0	2.7	0.0	0.0	-102.2
5329	614814.47	4847232.54	160.95	0	N	A	-74.2	-25.3	0.0	-2.8	0.0	0.0	-96.7

Road, TNM, Name: "Hwy 407 - Hwy 27 to Pine Valley EB1", ID: "407_Hwy27_to_P_EB1"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4177	614217.98	4847269.18	146.05	0	N	A	-77.2	-19.0	0.0	-3.8	0.0	0.0	-92.3
4178	614276.68	4847304.47	147.62	0	N	A	-77.2	-19.0	0.0	-4.1	0.0	0.0	-92.1
4179	614315.82	4847327.99	148.67	0	N	A	-77.2	-16.9	0.0	-4.3	0.0	0.0	-89.8
4180	614229.33	4847250.29	146.05	0	N	A	-77.2	-19.5	0.0	-3.8	0.0	0.0	-92.9
4181	614288.04	4847285.58	147.62	0	N	A	-77.2	-20.0	0.0	-4.1	0.0	0.0	-93.2
4182	614327.17	4847309.10	148.67	0	N	A	-77.2	-18.4	0.0	-4.2	0.0	0.0	-91.4
4200	614393.27	4847373.73	151.40	0	N	A	-77.2	-17.7	0.0	1.6	0.0	0.0	-96.5

Road, TNM, Name: "Hwy 407 - Hwy 27 to Pine Valley EB1", ID: "407_Hwy27_to_P_EB1"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4201	614421.85	4847391.38	152.01	0	N	A	-77.2	-19.0	0.0	-4.2	0.0	0.0	-92.0
4203	614464.72	4847417.86	152.93	0	N	A	-77.2	-18.3	0.0	0.8	0.0	0.0	-96.3
4205	614404.85	4847354.98	151.40	0	N	A	-77.2	-19.3	0.0	3.2	0.0	0.0	-99.7
4207	614433.44	4847372.63	152.01	0	N	A	-77.2	-20.3	0.0	-4.1	0.0	0.0	-93.4
4208	614476.31	4847399.11	152.93	0	N	A	-77.2	-19.1	0.0	-4.0	0.0	0.0	-92.3
4214	614217.98	4847269.18	147.47	0	N	A	-77.2	-19.0	0.0	-2.7	0.0	0.0	-93.4
4215	614276.68	4847304.47	149.04	0	N	A	-77.2	-19.0	0.0	-2.9	0.0	0.0	-93.3
4216	614315.82	4847327.99	150.09	0	N	A	-77.2	-16.9	0.0	-3.0	0.0	0.0	-91.1
4217	614229.33	4847250.29	147.47	0	N	A	-77.2	-19.5	0.0	-2.6	0.0	0.0	-94.1
4218	614288.04	4847285.58	149.04	0	N	A	-77.2	-20.0	0.0	-2.6	0.0	0.0	-94.6
4219	614327.17	4847309.10	150.09	0	N	A	-77.2	-18.4	0.0	-2.6	0.0	0.0	-93.1
4226	614393.27	4847373.73	152.83	0	N	A	-77.2	-17.7	0.0	3.2	0.0	0.0	-98.1
4227	614421.85	4847391.38	153.44	0	N	A	-77.2	-19.0	0.0	-3.3	0.0	0.0	-92.9
4228	614464.72	4847417.86	154.35	0	N	A	-77.2	-18.3	0.0	-2.8	0.0	0.0	-92.6
4229	614404.85	4847354.98	152.83	0	N	A	-77.2	-19.3	0.0	4.1	0.0	0.0	-100.7
4230	614433.44	4847372.63	153.44	0	N	A	-77.2	-20.3	0.0	-3.0	0.0	0.0	-94.5
4231	614476.31	4847399.11	154.35	0	N	A	-77.2	-19.1	0.0	-2.7	0.0	0.0	-93.6
4237	614346.48	4847346.16	149.67	0	N	A	-77.2	-18.4	0.0	-4.4	0.0	0.0	-91.2
4238	614368.34	4847358.77	150.62	0	N	A	-77.2	-18.3	0.0	0.5	0.0	0.0	-96.0
4240	614368.43	4847333.37	150.15	0	N	A	-77.2	-17.2	0.0	0.7	0.0	0.0	-95.1
4247	614533.13	4847458.68	154.32	0	N	A	-77.2	-20.2	0.0	-3.7	0.0	0.0	-93.7
4248	614544.21	4847439.63	154.32	0	N	A	-77.2	-20.6	0.0	-3.7	0.0	0.0	-94.1
4249	614346.48	4847346.16	151.09	0	N	A	-77.2	-18.4	0.0	-3.2	0.0	0.0	-92.4
4250	614368.34	4847358.77	152.05	0	N	A	-77.2	-18.3	0.0	1.5	0.0	0.0	-97.0
4251	614368.43	4847333.37	151.57	0	N	A	-77.2	-17.2	0.0	2.6	0.0	0.0	-96.9
4252	614115.20	4847208.73	144.05	0	N	A	-77.2	-20.8	0.0	3.7	0.0	0.0	-101.7
4253	614126.26	4847189.67	144.05	0	N	A	-77.2	-21.0	0.0	-1.1	0.0	0.0	-97.1
4254	614635.85	4847518.81	155.60	0	N	A	-77.2	-21.7	0.0	-3.4	0.0	0.0	-95.5
4256	614647.02	4847499.81	155.60	0	N	A	-77.2	-21.9	0.0	-3.4	0.0	0.0	-95.7
4264	614533.13	4847458.68	155.74	0	N	A	-77.2	-20.2	0.0	-2.8	0.0	0.0	-94.6
4265	614544.21	4847439.63	155.74	0	N	A	-77.2	-20.6	0.0	-2.6	0.0	0.0	-95.2
4266	614115.20	4847208.73	145.47	0	N	A	-77.2	-20.8	0.0	6.3	0.0	0.0	-104.3
4267	614126.26	4847189.67	145.47	0	N	A	-77.2	-21.0	0.0	-0.3	0.0	0.0	-98.0
4278	614635.85	4847518.81	157.03	0	N	A	-77.2	-21.7	0.0	-2.8	0.0	0.0	-96.1
4279	614647.02	4847499.81	157.03	0	N	A	-77.2	-21.9	0.0	-2.6	0.0	0.0	-96.5
4293	613986.27	4847135.93	142.60	0	N	A	-77.2	-24.2	0.0	2.5	0.0	0.0	-103.9
4294	613996.89	4847116.61	142.60	0	N	A	-77.2	-24.3	0.0	5.6	0.0	0.0	-107.2
4310	613986.27	4847135.93	144.03	0	N	A	-77.2	-24.2	0.0	4.7	0.0	0.0	-106.1
4311	613996.89	4847116.61	144.03	0	N	A	-77.2	-24.3	0.0	-2.0	0.0	0.0	-99.5
4312	613852.84	4847064.59	142.10	0	N	A	-77.2	-26.6	0.0	-2.9	0.0	0.0	-100.9
4313	613863.01	4847045.04	142.10	0	N	A	-77.2	-26.7	0.0	-2.9	0.0	0.0	-101.0
4347	613852.84	4847064.59	143.53	0	N	A	-77.2	-26.6	0.0	-1.5	0.0	0.0	-102.3
4348	613863.01	4847045.04	143.53	0	N	A	-77.2	-26.7	0.0	-1.8	0.0	0.0	-102.1
4349	613721.63	4846997.87	141.60	0	N	A	-77.2	-29.0	0.0	7.3	0.0	0.0	-113.5
4350	613731.42	4846978.13	141.60	0	N	A	-77.2	-29.0	0.0	16.5	0.0	0.0	-122.8
4379	613589.05	4846934.10	141.10	0	N	A	-77.2	-30.1	0.0	-2.5	0.0	0.0	-104.9
4381	613598.38	4846914.13	141.10	0	N	A	-77.2	-30.2	0.0	-2.5	0.0	0.0	-104.9
4415	613444.08	4846866.07	141.60	0	N	A	-77.2	-31.2	0.0	-2.3	0.0	0.0	-106.2
4417	613453.47	4846846.13	141.60	0	N	A	-77.2	-31.3	0.0	-2.3	0.0	0.0	-106.2
4421	613002.48	4846633.81	152.01	0	N	A	-77.2	-31.6	0.0	-3.3	0.0	0.0	-105.5
4424	613013.38	4846614.65	152.01	0	N	A	-77.2	-31.6	0.0	-1.7	0.0	0.0	-107.0
4429	613721.63	4846997.87	143.03	0	N	A	-77.2	-29.0	0.0	-1.5	0.0	0.0	-104.6
4430	613731.42	4846978.13	143.03	0	N	A	-77.2	-29.0	0.0	-1.6	0.0	0.0	-104.6
4436	614217.98	4847269.18	149.61	0	N	A	-77.2	-19.0	0.0	-2.6	0.0	0.0	-93.6
4437	614276.68	4847304.47	151.18	0	N	A	-77.2	-19.0	0.0	-2.7	0.0	0.0	-93.5
4438	614315.82	4847327.99	152.23	0	N	A	-77.2	-16.9	0.0	-2.8	0.0	0.0	-91.3
4439	614229.33	4847250.29	149.61	0	N	A	-77.2	-19.5	0.0	-2.3	0.0	0.0	-94.4
4440	614288.04	4847285.58	151.18	0	N	A	-77.2	-20.0	0.0	-2.4	0.0	0.0	-94.8
4441	614327.17	4847309.10	152.23	0	N	A	-77.2	-18.4	0.0	-2.6	0.0	0.0	-93.1
4443	613589.05	4846934.10	142.53	0	N	A	-77.2	-30.1	0.0	-1.4	0.0	0.0	-106.0
4444	613598.38	4846914.13	142.53	0	N	A	-77.2	-30.2	0.0	-1.5	0.0	0.0	-105.8
4470	612703.94	4846473.61	158.60	0	N	A	-77.2	-33.2	0.0	-2.9	0.0	0.0	-107.5
4472	612713.90	4846453.94	158.60	0	N	A	-77.2	-33.2	0.0	2.6	0.0	0.0	-113.0
4520	614393.27	4847373.73	154.96	0	N	A	-77.2	-17.7	0.0	5.1	0.0	0.0	-99.9
4521	614421.85	4847391.38	155.57	0	N	A	-77.2	-19.0	0.0	-3.0	0.0	0.0	-93.1
4522	614464.72	4847417.86	156.49	0	N	A	-77.2	-18.3	0.0	-2.4	0.0	0.0	-93.0

Road, TNM, Name: "Hwy 407 - Hwy 27 to Pine Valley EB1", ID: "407_Hwy27_to_P_EB1"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4523	614404.85	4847354.98	154.96	0	N	A	-77.2	-19.3	0.0	-4.0	0.0	0.0	-92.6
4524	614433.44	4847372.63	155.57	0	N	A	-77.2	-20.3	0.0	-3.0	0.0	0.0	-94.5
4525	614476.31	4847399.11	156.49	0	N	A	-77.2	-19.1	0.0	-2.4	0.0	0.0	-93.9
4530	613444.08	4846866.07	143.03	0	N	A	-77.2	-31.2	0.0	-1.2	0.0	0.0	-107.3
4531	613453.47	4846846.13	143.03	0	N	A	-77.2	-31.3	0.0	-1.3	0.0	0.0	-107.2
4532	613002.48	4846633.81	153.43	0	N	A	-77.2	-31.6	0.0	-0.6	0.0	0.0	-108.2
4534	613013.38	4846614.65	153.43	0	N	A	-77.2	-31.6	0.0	-0.6	0.0	0.0	-108.2
4548	613315.37	4846803.96	143.10	0	N	A	-77.2	-33.8	0.0	-2.1	0.0	0.0	-108.9
4549	613325.22	4846784.24	143.10	0	N	A	-77.2	-33.8	0.0	-2.1	0.0	0.0	-109.0
4564	613205.06	4846746.97	146.01	0	N	A	-77.2	-34.3	0.0	-2.0	0.0	0.0	-109.6
4566	613215.42	4846727.52	146.01	0	N	A	-77.2	-34.4	0.0	-2.0	0.0	0.0	-109.6
4620	612703.94	4846473.61	160.03	0	N	A	-77.2	-33.2	0.0	-0.7	0.0	0.0	-109.7
4623	612713.90	4846453.94	160.03	0	N	A	-77.2	-33.2	0.0	-0.5	0.0	0.0	-109.9
4667	613315.37	4846803.96	144.53	0	N	A	-77.2	-33.8	0.0	-1.0	0.0	0.0	-110.0
4668	613325.22	4846784.24	144.53	0	N	A	-77.2	-33.8	0.0	-1.1	0.0	0.0	-110.0
4706	613205.06	4846746.97	147.43	0	N	A	-77.2	-34.3	0.0	-0.8	0.0	0.0	-110.7
4707	613215.42	4846727.52	147.43	0	N	A	-77.2	-34.4	0.0	-0.9	0.0	0.0	-110.7
4727	614346.48	4847346.16	153.23	0	N	A	-77.2	-18.4	0.0	-2.8	0.0	0.0	-92.8
4728	614368.34	4847358.77	154.18	0	N	A	-77.2	-18.3	0.0	1.0	0.0	0.0	-96.5
4729	614368.43	4847333.37	153.71	0	N	A	-77.2	-17.2	0.0	2.5	0.0	0.0	-96.9
4800	614533.13	4847458.68	157.88	0	N	A	-77.2	-20.2	0.0	-2.6	0.0	0.0	-94.8
4801	614544.21	4847439.63	157.88	0	N	A	-77.2	-20.6	0.0	-2.2	0.0	0.0	-95.6
4802	614115.20	4847208.73	147.61	0	N	A	-77.2	-20.8	0.0	5.1	0.0	0.0	-103.1
4803	614126.26	4847189.67	147.61	0	N	A	-77.2	-21.0	0.0	-0.4	0.0	0.0	-97.8
4820	614635.85	4847518.81	159.16	0	N	A	-77.2	-21.7	0.0	-2.5	0.0	0.0	-96.4
4821	614647.02	4847499.81	159.16	0	N	A	-77.2	-21.9	0.0	-2.3	0.0	0.0	-96.8
4851	613986.27	4847135.93	146.16	0	N	A	-77.2	-24.2	0.0	-1.8	0.0	0.0	-99.6
4852	613996.89	4847116.61	146.16	0	N	A	-77.2	-24.3	0.0	-1.8	0.0	0.0	-99.7
4876	613852.84	4847064.59	145.66	0	N	A	-77.2	-26.6	0.0	-1.3	0.0	0.0	-102.5
4877	613863.01	4847045.04	145.66	0	N	A	-77.2	-26.7	0.0	-1.5	0.0	0.0	-102.4
5010	613721.63	4846997.87	145.16	0	N	A	-77.2	-29.0	0.0	-1.3	0.0	0.0	-104.9
5011	613731.42	4846978.13	145.16	0	N	A	-77.2	-29.0	0.0	-1.3	0.0	0.0	-104.9
5044	613589.05	4846934.10	144.66	0	N	A	-77.2	-30.1	0.0	-1.1	0.0	0.0	-106.3
5045	613598.38	4846914.13	144.66	0	N	A	-77.2	-30.2	0.0	-1.2	0.0	0.0	-106.2
5169	613444.08	4846866.07	145.16	0	N	A	-77.2	-31.2	0.0	-0.9	0.0	0.0	-107.5
5170	613453.47	4846846.13	145.16	0	N	A	-77.2	-31.3	0.0	-1.0	0.0	0.0	-107.5
5176	613002.48	4846633.81	155.57	0	N	A	-77.2	-31.6	0.0	-0.4	0.0	0.0	-108.3
5177	613013.38	4846614.65	155.57	0	N	A	-77.2	-31.6	0.0	-0.4	0.0	0.0	-108.4
5320	612703.94	4846473.61	162.16	0	N	A	-77.2	-33.2	0.0	-0.5	0.0	0.0	-109.9
5324	612713.90	4846453.94	162.16	0	N	A	-77.2	-33.2	0.0	-0.4	0.0	0.0	-110.1
5413	613315.37	4846803.96	146.66	0	N	A	-77.2	-33.8	0.0	-0.8	0.0	0.0	-110.2
5414	613325.22	4846784.24	146.66	0	N	A	-77.2	-33.8	0.0	-0.8	0.0	0.0	-110.2
5468	613205.06	4846746.97	149.57	0	N	A	-77.2	-34.3	0.0	-0.6	0.0	0.0	-110.9
5470	613215.42	4846727.52	149.57	0	N	A	-77.2	-34.4	0.0	-0.7	0.0	0.0	-110.9

Road, TNM, Name: "Hwy 407 - Hwy 27 to Pine Valley EB3", ID: "407_Hwy27_to_P_EB3"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4404	615080.75	4847779.55	163.18	0	N	A	-77.2	-30.7	0.0	-0.6	0.0	0.0	-107.2
4405	615091.97	4847760.58	163.18	0	N	A	-77.2	-30.7	0.0	0.1	0.0	0.0	-108.1
4408	615204.94	4847853.14	161.69	0	N	A	-77.2	-30.8	0.0	-0.9	0.0	0.0	-107.1
4410	615216.18	4847834.19	161.69	0	N	A	-77.2	-30.8	0.0	4.6	0.0	0.0	-112.6
4477	615080.75	4847779.55	164.61	0	N	A	-77.2	-30.7	0.0	2.8	0.0	0.0	-110.6
4479	615091.97	4847760.58	164.61	0	N	A	-77.2	-30.7	0.0	0.5	0.0	0.0	-108.4
4480	615204.94	4847853.14	163.12	0	N	A	-77.2	-30.8	0.0	0.7	0.0	0.0	-108.7
4483	615216.18	4847834.19	163.12	0	N	A	-77.2	-30.8	0.0	2.7	0.0	0.0	-110.7
4551	615319.91	4847920.96	164.11	0	N	A	-77.2	-34.0	0.0	-0.4	0.0	0.0	-110.8
4552	615331.03	4847901.93	164.11	0	N	A	-77.2	-34.0	0.0	6.8	0.0	0.0	-118.1
4568	615409.45	4847973.42	165.60	0	N	A	-77.2	-34.6	0.0	6.8	0.0	0.0	-118.6
4570	615420.61	4847954.41	165.60	0	N	A	-77.2	-34.6	0.0	5.3	0.0	0.0	-117.1
4680	615319.91	4847920.96	165.54	0	N	A	-77.2	-34.0	0.0	-1.2	0.0	0.0	-110.0
4681	615331.03	4847901.93	165.54	0	N	A	-77.2	-34.0	0.0	4.0	0.0	0.0	-115.2
4710	615409.45	4847973.42	167.03	0	N	A	-77.2	-34.6	0.0	-1.4	0.0	0.0	-110.4
4712	615420.61	4847954.41	167.03	0	N	A	-77.2	-34.6	0.0	-1.6	0.0	0.0	-110.2
5119	615080.75	4847779.55	166.74	0	N	A	-77.2	-30.7	0.0	-1.9	0.0	0.0	-106.0
5121	615091.97	4847760.58	166.74	0	N	A	-77.2	-30.7	0.0	-1.8	0.0	0.0	-106.1

Road, TNM, Name: "Hwy 407 - Hwy 27 to Pine Valley EB3", ID: "407_Hwy27_to_P_EB3"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5124	615204.94	4847853.14	165.25	0	N	A	-77.2	-30.8	0.0	3.9	0.0	0.0	-111.9
5125	615216.18	4847834.19	165.25	0	N	A	-77.2	-30.8	0.0	3.4	0.0	0.0	-111.4
5460	615319.91	4847920.96	167.67	0	N	A	-77.2	-34.0	0.0	-2.6	0.0	0.0	-108.6
5461	615331.03	4847901.93	167.67	0	N	A	-77.2	-34.0	0.0	-1.7	0.0	0.0	-109.5
5490	615409.45	4847973.42	169.16	0	N	A	-77.2	-34.6	0.0	-1.7	0.0	0.0	-110.2
5491	615420.61	4847954.41	169.16	0	N	A	-77.2	-34.6	0.0	-1.7	0.0	0.0	-110.2

Road, TNM, Name: "Hwy 407 - Pine Valley to Hwy 27 WB1", ID: "407_PV_to_Hwy27_WB1"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4167	614405.10	4847391.31	151.60	0	N	A	-77.2	-17.4	0.0	5.3	0.0	0.0	-99.9
4168	614373.69	4847372.61	150.59	0	N	A	-77.2	-16.0	0.0	9.9	0.0	0.0	-103.1
4169	614342.28	4847353.90	149.59	0	N	A	-77.2	-16.0	0.0	-4.4	0.0	0.0	-88.7
4170	614310.87	4847335.19	148.58	0	N	A	-77.2	-17.3	0.0	-4.3	0.0	0.0	-90.2
4171	614393.82	4847410.25	151.60	0	N	A	-77.2	-15.6	0.0	41.1	0.0	0.0	-133.9
4172	614370.27	4847396.22	150.84	0	N	A	-77.2	-16.9	0.0	5.8	0.0	0.0	-99.9
4173	614354.56	4847386.86	150.34	0	N	A	-77.2	-16.1	0.0	2.0	0.0	0.0	-95.3
4174	614338.86	4847377.51	149.84	0	N	A	-77.2	-16.1	0.0	-4.5	0.0	0.0	-88.8
4175	614323.15	4847368.16	149.34	0	N	A	-77.2	-16.8	0.0	-4.5	0.0	0.0	-89.5
4176	614299.60	4847354.13	148.58	0	N	A	-77.2	-15.5	0.0	-4.4	0.0	0.0	-88.4
4183	614405.10	4847391.31	153.02	0	N	A	-77.2	-17.4	0.0	0.9	0.0	0.0	-95.4
4184	614373.69	4847372.61	152.02	0	N	A	-77.2	-16.0	0.0	15.0	0.0	0.0	-108.2
4185	614342.28	4847353.90	151.01	0	N	A	-77.2	-16.0	0.0	-3.3	0.0	0.0	-89.9
4186	614310.87	4847335.19	150.01	0	N	A	-77.2	-17.3	0.0	-3.2	0.0	0.0	-91.3
4188	614393.82	4847410.25	153.02	0	N	A	-77.2	-15.6	0.0	44.4	0.0	0.0	-137.2
4189	614370.27	4847396.22	152.27	0	N	A	-77.2	-16.9	0.0	10.9	0.0	0.0	-104.9
4190	614354.56	4847386.86	151.77	0	N	A	-77.2	-16.1	0.0	3.2	0.0	0.0	-96.6
4191	614338.86	4847377.51	151.26	0	N	A	-77.2	-16.1	0.0	-3.9	0.0	0.0	-89.4
4192	614323.15	4847368.16	150.76	0	N	A	-77.2	-16.8	0.0	-3.9	0.0	0.0	-90.1
4193	614299.60	4847354.13	150.01	0	N	A	-77.2	-15.5	0.0	-3.9	0.0	0.0	-88.8
4194	614514.62	4847459.08	154.02	0	N	A	-77.2	-20.4	0.0	-3.8	0.0	0.0	-93.8
4195	614467.81	4847429.93	153.06	0	N	A	-77.2	-21.1	0.0	-4.0	0.0	0.0	-94.3
4196	614436.60	4847410.50	152.42	0	N	A	-77.2	-19.2	0.0	-4.2	0.0	0.0	-92.3
4197	614502.97	4847477.79	154.02	0	N	A	-77.2	-20.0	0.0	0.2	0.0	0.0	-97.4
4198	614456.16	4847448.64	153.06	0	N	A	-77.2	-20.4	0.0	-0.8	0.0	0.0	-96.8
4199	614424.95	4847429.21	152.42	0	N	A	-77.2	-18.2	0.0	-4.2	0.0	0.0	-91.2
4209	614267.65	4847309.90	148.18	0	N	A	-77.2	-17.4	0.0	-4.1	0.0	0.0	-90.5
4210	614212.85	4847278.15	148.37	0	N	A	-77.2	-20.4	0.0	-3.9	0.0	0.0	-93.7
4211	614270.31	4847336.91	148.13	0	N	A	-77.2	-18.6	0.0	-4.2	0.0	0.0	-91.6
4212	614242.90	4847321.03	148.23	0	N	A	-77.2	-20.6	0.0	-4.1	0.0	0.0	-93.7
4213	614201.80	4847297.22	148.37	0	N	A	-77.2	-20.0	0.0	-3.9	0.0	0.0	-93.3
4220	614514.62	4847459.08	155.45	0	N	A	-77.2	-20.4	0.0	-3.0	0.0	0.0	-94.6
4221	614467.81	4847429.93	154.49	0	N	A	-77.2	-21.1	0.0	-2.9	0.0	0.0	-95.4
4222	614436.60	4847410.50	153.85	0	N	A	-77.2	-19.2	0.0	-3.1	0.0	0.0	-93.4
4223	614502.97	4847477.79	155.45	0	N	A	-77.2	-20.0	0.0	6.3	0.0	0.0	-103.5
4224	614456.16	4847448.64	154.49	0	N	A	-77.2	-20.4	0.0	-4.0	0.0	0.0	-93.7
4225	614424.95	4847429.21	153.85	0	N	A	-77.2	-18.2	0.0	-4.0	0.0	0.0	-91.4
4232	614267.65	4847309.90	149.60	0	N	A	-77.2	-17.4	0.0	-3.0	0.0	0.0	-91.6
4233	614212.85	4847278.15	149.80	0	N	A	-77.2	-20.4	0.0	-2.8	0.0	0.0	-94.9
4234	614270.31	4847336.91	149.55	0	N	A	-77.2	-18.6	0.0	-3.7	0.0	0.0	-92.1
4235	614242.90	4847321.03	149.65	0	N	A	-77.2	-20.6	0.0	-3.6	0.0	0.0	-94.2
4236	614201.80	4847297.22	149.80	0	N	A	-77.2	-20.0	0.0	-3.4	0.0	0.0	-93.8
4242	614118.17	4847223.67	144.50	0	N	A	-77.2	-21.9	0.0	4.0	0.0	0.0	-103.1
4243	614025.92	4847169.72	143.57	0	N	A	-77.2	-24.6	0.0	3.1	0.0	0.0	-104.9
4245	614107.05	4847242.70	144.50	0	N	A	-77.2	-21.7	0.0	5.6	0.0	0.0	-104.5
4246	614014.79	4847188.74	143.57	0	N	A	-77.2	-24.5	0.0	2.1	0.0	0.0	-103.8
4257	614118.17	4847223.67	145.92	0	N	A	-77.2	-21.9	0.0	6.6	0.0	0.0	-105.7
4258	614025.92	4847169.72	144.99	0	N	A	-77.2	-24.6	0.0	4.8	0.0	0.0	-106.7
4259	614107.05	4847242.70	145.92	0	N	A	-77.2	-21.7	0.0	9.1	0.0	0.0	-108.0
4260	614014.79	4847188.74	144.99	0	N	A	-77.2	-24.5	0.0	5.3	0.0	0.0	-107.1
4261	614583.32	4847501.21	154.88	0	N	A	-77.2	-22.4	0.0	1.3	0.0	0.0	-100.9
4262	614571.90	4847520.07	154.88	0	N	A	-77.2	-22.2	0.0	-0.3	0.0	0.0	-99.2
4295	613893.83	4847097.10	142.60	0	N	A	-77.2	-24.8	0.0	-3.0	0.0	0.0	-99.0
4296	613883.50	4847116.57	142.60	0	N	A	-77.2	-24.7	0.0	-3.0	0.0	0.0	-98.9
4298	614661.64	4847549.16	155.60	0	N	A	-77.2	-24.5	0.0	1.4	0.0	0.0	-103.1
4300	614650.05	4847567.90	155.60	0	N	A	-77.2	-24.4	0.0	-3.5	0.0	0.0	-98.1

Road, TNM, Name: "Hwy 407 - Pine Valley to Hwy 27 WB1", ID: "407_PV_to_Hwy27_WB1"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4301	614583.32	4847501.21	156.31	0	N	A	-77.2	-22.4	0.0	-3.0	0.0	0.0	-96.6
4302	614571.90	4847520.07	156.31	0	N	A	-77.2	-22.2	0.0	-3.4	0.0	0.0	-96.0
4318	613482.66	4846895.33	142.10	0	N	A	-77.2	-27.3	0.0	-2.3	0.0	0.0	-102.2
4321	613473.31	4846915.29	142.10	0	N	A	-77.2	-27.3	0.0	-2.3	0.0	0.0	-102.2
4324	614174.64	4847256.33	146.72	0	N	A	-77.2	-26.3	0.0	4.1	0.0	0.0	-107.6
4325	614164.02	4847275.64	146.72	0	N	A	-77.2	-26.0	0.0	0.5	0.0	0.0	-103.8
4327	613893.83	4847097.10	144.02	0	N	A	-77.2	-24.8	0.0	-1.5	0.0	0.0	-100.5
4328	613883.50	4847116.57	144.02	0	N	A	-77.2	-24.7	0.0	-1.4	0.0	0.0	-100.5
4329	614661.64	4847549.16	157.03	0	N	A	-77.2	-24.5	0.0	-2.9	0.0	0.0	-98.9
4331	614650.05	4847567.90	157.03	0	N	A	-77.2	-24.4	0.0	-3.3	0.0	0.0	-98.3
4340	613727.53	4847011.94	141.60	0	N	A	-77.2	-27.7	0.0	1.4	0.0	0.0	-106.3
4342	613717.80	4847031.72	141.60	0	N	A	-77.2	-27.7	0.0	-2.7	0.0	0.0	-102.2
4355	613482.66	4846895.33	143.53	0	N	A	-77.2	-27.3	0.0	-1.1	0.0	0.0	-103.5
4357	613473.31	4846915.29	143.53	0	N	A	-77.2	-27.3	0.0	-1.1	0.0	0.0	-103.4
4361	614174.64	4847256.33	148.14	0	N	A	-77.2	-26.3	0.0	6.3	0.0	0.0	-109.8
4362	614164.02	4847275.64	148.14	0	N	A	-77.2	-26.0	0.0	8.0	0.0	0.0	-111.2
4383	614405.10	4847391.31	155.16	0	N	A	-77.2	-17.4	0.0	0.8	0.0	0.0	-95.4
4384	614373.69	4847372.61	154.15	0	N	A	-77.2	-16.0	0.0	9.1	0.0	0.0	-102.3
4385	614342.28	4847353.90	153.15	0	N	A	-77.2	-16.0	0.0	-2.9	0.0	0.0	-90.3
4386	614310.87	4847335.19	152.14	0	N	A	-77.2	-17.3	0.0	-3.0	0.0	0.0	-91.5
4387	614393.82	4847410.25	155.16	0	N	A	-77.2	-15.6	0.0	0.7	0.0	0.0	-93.6
4388	614370.27	4847396.22	154.40	0	N	A	-77.2	-16.9	0.0	9.2	0.0	0.0	-103.2
4389	614354.56	4847386.86	153.90	0	N	A	-77.2	-16.1	0.0	2.1	0.0	0.0	-95.4
4390	614338.86	4847377.51	153.40	0	N	A	-77.2	-16.1	0.0	-3.6	0.0	0.0	-89.7
4391	614323.15	4847368.16	152.90	0	N	A	-77.2	-16.8	0.0	-3.9	0.0	0.0	-90.1
4392	614299.60	4847354.13	152.14	0	N	A	-77.2	-15.5	0.0	-3.8	0.0	0.0	-88.9
4393	613727.53	4847011.94	143.02	0	N	A	-77.2	-27.7	0.0	-1.5	0.0	0.0	-103.4
4397	613717.80	4847031.72	143.02	0	N	A	-77.2	-27.7	0.0	-1.2	0.0	0.0	-103.7
4506	614514.62	4847459.08	157.58	0	N	A	-77.2	-20.4	0.0	-2.7	0.0	0.0	-94.9
4508	614467.81	4847429.93	156.62	0	N	A	-77.2	-21.1	0.0	-2.8	0.0	0.0	-95.5
4509	614436.60	4847410.50	155.98	0	N	A	-77.2	-19.2	0.0	-2.8	0.0	0.0	-93.6
4510	614502.97	4847477.79	157.58	0	N	A	-77.2	-20.0	0.0	-3.6	0.0	0.0	-93.6
4512	614456.16	4847448.64	156.62	0	N	A	-77.2	-20.4	0.0	-4.0	0.0	0.0	-93.6
4513	614424.95	4847429.21	155.98	0	N	A	-77.2	-18.2	0.0	-3.9	0.0	0.0	-91.5
4515	612995.41	4846642.33	152.48	0	N	A	-77.2	-33.1	0.0	-1.7	0.0	0.0	-108.6
4518	612984.62	4846661.54	152.48	0	N	A	-77.2	-33.1	0.0	-1.7	0.0	0.0	-108.6
4535	614267.65	4847309.90	151.74	0	N	A	-77.2	-17.4	0.0	-2.9	0.0	0.0	-91.7
4536	614212.85	4847278.15	151.93	0	N	A	-77.2	-20.4	0.0	-2.7	0.0	0.0	-94.9
4537	614270.31	4847336.91	151.69	0	N	A	-77.2	-18.6	0.0	-3.6	0.0	0.0	-92.2
4538	614242.90	4847321.03	151.79	0	N	A	-77.2	-20.6	0.0	-3.5	0.0	0.0	-94.3
4539	614201.80	4847297.22	151.93	0	N	A	-77.2	-20.0	0.0	-3.3	0.0	0.0	-93.8
4555	613259.08	4846787.93	144.60	0	N	A	-77.2	-33.7	0.0	-2.0	0.0	0.0	-108.9
4557	613249.01	4846807.54	144.60	0	N	A	-77.2	-33.7	0.0	-2.0	0.0	0.0	-108.9
4559	612773.58	4846521.47	157.98	0	N	A	-77.2	-33.9	0.0	8.4	0.0	0.0	-119.5
4563	612763.26	4846540.94	157.98	0	N	A	-77.2	-33.9	0.0	-1.5	0.0	0.0	-109.6
4629	613149.20	4846728.90	147.60	0	N	A	-77.2	-35.2	0.0	-1.9	0.0	0.0	-110.5
4631	613138.35	4846748.09	147.60	0	N	A	-77.2	-35.2	0.0	-1.9	0.0	0.0	-110.5
4654	612995.41	4846642.33	153.90	0	N	A	-77.2	-33.1	0.0	-0.6	0.0	0.0	-109.7
4658	612984.62	4846661.54	153.90	0	N	A	-77.2	-33.1	0.0	-0.8	0.0	0.0	-109.5
4671	612563.18	4846415.55	161.10	0	N	A	-77.2	-36.2	0.0	-1.3	0.0	0.0	-112.1
4676	612553.82	4846435.50	161.10	0	N	A	-77.2	-36.2	0.0	-1.3	0.0	0.0	-112.1
4683	613259.08	4846787.93	146.02	0	N	A	-77.2	-33.7	0.0	-1.0	0.0	0.0	-109.9
4685	613249.01	4846807.54	146.02	0	N	A	-77.2	-33.7	0.0	-1.3	0.0	0.0	-109.6
4690	612773.58	4846521.47	159.40	0	N	A	-77.2	-33.9	0.0	-0.5	0.0	0.0	-110.6
4694	612763.26	4846540.94	159.40	0	N	A	-77.2	-33.9	0.0	-0.6	0.0	0.0	-110.5
4743	613149.20	4846728.90	149.02	0	N	A	-77.2	-35.2	0.0	-0.8	0.0	0.0	-111.6
4744	613138.35	4846748.09	149.02	0	N	A	-77.2	-35.2	0.0	-1.0	0.0	0.0	-111.3
4760	614118.17	4847223.67	148.06	0	N	A	-77.2	-21.9	0.0	6.3	0.0	0.0	-105.4
4761	614025.92	4847169.72	147.13	0	N	A	-77.2	-24.6	0.0	-2.0	0.0	0.0	-99.9
4762	614107.05	4847242.70	148.06	0	N	A	-77.2	-21.7	0.0	6.4	0.0	0.0	-105.3
4763	614014.79	4847188.74	147.13	0	N	A	-77.2	-24.5	0.0	-1.6	0.0	0.0	-100.1
4777	612563.18	4846415.55	162.53	0	N	A	-77.2	-36.2	0.0	-0.6	0.0	0.0	-112.8
4783	612553.82	4846435.50	162.53	0	N	A	-77.2	-36.2	0.0	-0.6	0.0	0.0	-112.8
4846	614583.32	4847501.21	158.44	0	N	A	-77.2	-22.4	0.0	-2.7	0.0	0.0	-96.9
4847	614571.90	4847520.07	158.44	0	N	A	-77.2	-22.2	0.0	-3.4	0.0	0.0	-96.0
4853	613893.83	4847097.10	146.16	0	N	A	-77.2	-24.8	0.0	-1.3	0.0	0.0	-100.7

Road, TNM, Name: "Hwy 407 - Pine Valley to Hwy 27 WB1", ID: "407_PV_to_Hwy27_WB1"														
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4854	613883.50	4847116.57	146.16	0	N	A	-77.2	-24.7	0.0	-1.2	0.0	0.0	-100.7
4855	614661.64	4847549.16	159.16	0	N	A	-77.2	-24.5	0.0	-2.7	0.0	0.0	-99.0
4857	614650.05	4847567.90	159.16	0	N	A	-77.2	-24.4	0.0	-3.4	0.0	0.0	-98.3
4963	613482.66	4846895.33	145.66	0	N	A	-77.2	-27.3	0.0	-0.9	0.0	0.0	-103.7
4964	613473.31	4846915.29	145.66	0	N	A	-77.2	-27.3	0.0	-0.9	0.0	0.0	-103.6
4965	614174.64	4847256.33	150.28	0	N	A	-77.2	-26.3	0.0	4.6	0.0	0.0	-108.1
4966	614164.02	4847275.64	150.28	0	N	A	-77.2	-26.0	0.0	5.5	0.0	0.0	-108.8
4987	613727.53	4847011.94	145.16	0	N	A	-77.2	-27.7	0.0	-1.2	0.0	0.0	-103.7
4988	613717.80	4847031.72	145.16	0	N	A	-77.2	-27.7	0.0	-1.0	0.0	0.0	-103.9
5353	612995.41	4846642.33	156.04	0	N	A	-77.2	-33.1	0.0	-0.4	0.0	0.0	-109.9
5355	612984.62	4846661.54	156.04	0	N	A	-77.2	-33.1	0.0	-0.6	0.0	0.0	-109.7
5417	613259.08	4846787.93	148.16	0	N	A	-77.2	-33.7	0.0	-0.8	0.0	0.0	-110.1
5420	613249.01	4846807.54	148.16	0	N	A	-77.2	-33.7	0.0	-1.0	0.0	0.0	-109.9
5422	612773.58	4846521.47	161.54	0	N	A	-77.2	-33.9	0.0	-0.4	0.0	0.0	-110.7
5425	612763.26	4846540.94	161.54	0	N	A	-77.2	-33.9	0.0	-0.5	0.0	0.0	-110.6
5522	613149.20	4846728.90	151.16	0	N	A	-77.2	-35.2	0.0	-0.6	0.0	0.0	-111.7
5523	613138.35	4846748.09	151.16	0	N	A	-77.2	-35.2	0.0	-0.8	0.0	0.0	-111.5
5661	612563.18	4846415.55	164.66	0	N	A	-77.2	-36.2	0.0	-0.5	0.0	0.0	-113.0
5668	612553.82	4846435.50	164.66	0	N	A	-77.2	-36.2	0.0	-0.4	0.0	0.0	-113.0

Road, TNM, Name: "Hwy 407 - Weston to Pine Valley WB1", ID: "407_Weston_to_PV_WB1"														
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4400	615450.76	4848009.24	167.12	0	N	A	-77.2	-30.6	0.0	-3.2	0.0	0.0	-104.6
4402	615439.74	4848028.33	167.12	0	N	A	-77.2	-30.6	0.0	-3.2	0.0	0.0	-104.6
4474	615450.76	4848009.24	168.55	0	N	A	-77.2	-30.6	0.0	-1.6	0.0	0.0	-106.2
4476	615439.74	4848028.33	168.55	0	N	A	-77.2	-30.6	0.0	-2.1	0.0	0.0	-105.7
4635	615632.82	4848113.19	170.95	0	N	A	-77.2	-35.4	0.0	-1.8	0.0	0.0	-110.8
4640	615622.09	4848132.44	170.95	0	N	A	-77.2	-35.4	0.0	-3.3	0.0	0.0	-109.3
4645	615883.40	4848236.46	173.88	0	N	A	-77.2	-35.5	0.0	-1.6	0.0	0.0	-111.1
4650	615874.12	4848256.45	173.88	0	N	A	-77.2	-35.5	0.0	-3.3	0.0	0.0	-109.4
4701	615745.64	4848171.69	172.45	0	N	A	-77.2	-36.3	0.0	-1.7	0.0	0.0	-111.8
4705	615736.11	4848191.56	172.45	0	N	A	-77.2	-36.3	0.0	-3.1	0.0	0.0	-110.4
4721	616035.65	4848301.71	175.38	0	N	A	-77.2	-37.0	0.0	-1.4	0.0	0.0	-112.7
4726	616027.67	4848322.26	175.38	0	N	A	-77.2	-37.0	0.0	-1.5	0.0	0.0	-112.7
4751	615632.82	4848113.19	172.37	0	N	A	-77.2	-35.4	0.0	-1.5	0.0	0.0	-111.1
4753	615622.09	4848132.44	172.37	0	N	A	-77.2	-35.4	0.0	-1.6	0.0	0.0	-111.0
4757	615883.40	4848236.46	175.30	0	N	A	-77.2	-35.5	0.0	-1.4	0.0	0.0	-111.4
4759	615874.12	4848256.45	175.30	0	N	A	-77.2	-35.5	0.0	-1.4	0.0	0.0	-111.3
4786	615745.64	4848171.69	173.87	0	N	A	-77.2	-36.3	0.0	-1.4	0.0	0.0	-112.1
4788	615736.11	4848191.56	173.87	0	N	A	-77.2	-36.3	0.0	-1.5	0.0	0.0	-112.0
4794	616035.65	4848301.71	176.80	0	N	A	-77.2	-37.0	0.0	-1.3	0.0	0.0	-112.9
4799	616027.67	4848322.26	176.80	0	N	A	-77.2	-37.0	0.0	-1.3	0.0	0.0	-112.9
5108	615450.76	4848009.24	170.68	0	N	A	-77.2	-30.6	0.0	-1.6	0.0	0.0	-106.2
5109	615439.74	4848028.33	170.68	0	N	A	-77.2	-30.6	0.0	-1.7	0.0	0.0	-106.1
5581	615632.82	4848113.19	174.51	0	N	A	-77.2	-35.4	0.0	-1.4	0.0	0.0	-111.2
5586	615622.09	4848132.44	174.51	0	N	A	-77.2	-35.4	0.0	-1.5	0.0	0.0	-111.1
5591	615883.40	4848236.46	177.44	0	N	A	-77.2	-35.5	0.0	-1.3	0.0	0.0	-111.5
5597	615874.12	4848256.45	177.44	0	N	A	-77.2	-35.5	0.0	-1.3	0.0	0.0	-111.4
5721	615745.64	4848171.69	176.01	0	N	A	-77.2	-36.3	0.0	-1.3	0.0	0.0	-112.2
5727	615736.11	4848191.56	176.01	0	N	A	-77.2	-36.3	0.0	-1.4	0.0	0.0	-112.1
5812	616035.65	4848301.71	178.94	0	N	A	-77.2	-37.0	0.0	-1.2	0.0	0.0	-113.0
5822	616027.67	4848322.26	178.94	0	N	A	-77.2	-37.0	0.0	-1.2	0.0	0.0	-113.0

Road, TNM, Name: "Hwy 407 - Weston to Pine Valley WB3", ID: "407_Weston_to_PV_WB3"														
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4268	614799.12	4847632.46	156.60	0	N	A	-77.2	-23.8	0.0	1.4	0.0	0.0	-102.4
4277	614788.05	4847651.52	156.60	0	N	A	-77.2	-23.7	0.0	-3.5	0.0	0.0	-97.4
4307	614799.12	4847632.46	158.02	0	N	A	-77.2	-23.8	0.0	-2.7	0.0	0.0	-98.3
4309	614788.05	4847651.52	158.02	0	N	A	-77.2	-23.7	0.0	2.4	0.0	0.0	-103.4
4343	614958.19	4847724.08	157.97	0	N	A	-77.2	-28.6	0.0	-3.3	0.0	0.0	-102.4
4344	614947.29	4847743.23	157.97	0	N	A	-77.2	-28.5	0.0	-2.9	0.0	0.0	-102.9
4418	614958.19	4847724.08	159.40	0	N	A	-77.2	-28.6	0.0	-2.4	0.0	0.0	-103.4
4420	614947.29	4847743.23	159.40	0	N	A	-77.2	-28.5	0.0	-2.2	0.0	0.0	-103.6
4426	615130.09	4847824.91	160.80	0	N	A	-77.2	-31.0	0.0	-1.5	0.0	0.0	-106.7

Road, TNM, Name: "Hwy 407 - Weston to Pine Valley WB3", ID: "407_Weston_to_PV_WB3"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4428	615119.11	4847844.02	160.80	0	N	A	-77.2	-31.0	0.0	-0.2	0.0	0.0	-108.0
4541	615130.09	4847824.91	162.22	0	N	A	-77.2	-31.0	0.0	-1.6	0.0	0.0	-106.7
4543	615119.11	4847844.02	162.22	0	N	A	-77.2	-31.0	0.0	0.1	0.0	0.0	-108.3
4624	615037.62	4847770.04	162.39	0	N	A	-77.2	-34.9	0.0	-2.5	0.0	0.0	-109.6
4627	615026.11	4847788.83	162.39	0	N	A	-77.2	-34.9	0.0	-2.2	0.0	0.0	-109.9
4739	615037.62	4847770.04	163.81	0	N	A	-77.2	-34.9	0.0	-1.7	0.0	0.0	-110.4
4740	615026.11	4847788.83	163.81	0	N	A	-77.2	-34.9	0.0	-2.6	0.0	0.0	-109.5
4765	615064.25	4847786.55	163.02	0	N	A	-77.2	-38.2	0.0	0.8	0.0	0.0	-116.1
4767	615052.43	4847805.15	163.02	0	N	A	-77.2	-38.1	0.0	0.8	0.0	0.0	-116.1
4823	615064.25	4847786.55	164.44	0	N	A	-77.2	-38.2	0.0	6.0	0.0	0.0	-121.4
4824	615052.43	4847805.15	164.44	0	N	A	-77.2	-38.1	0.0	0.5	0.0	0.0	-115.9
4849	614799.12	4847632.46	160.16	0	N	A	-77.2	-23.8	0.0	-2.6	0.0	0.0	-98.4
4850	614788.05	4847651.52	160.16	0	N	A	-77.2	-23.7	0.0	-3.0	0.0	0.0	-98.0
5008	614958.19	4847724.08	161.53	0	N	A	-77.2	-28.6	0.0	-2.3	0.0	0.0	-103.5
5009	614947.29	4847743.23	161.53	0	N	A	-77.2	-28.5	0.0	-2.2	0.0	0.0	-103.5
5178	615130.09	4847824.91	164.36	0	N	A	-77.2	-31.0	0.0	-2.4	0.0	0.0	-105.8
5180	615119.11	4847844.02	164.36	0	N	A	-77.2	-31.0	0.0	-2.4	0.0	0.0	-105.8
5509	615037.62	4847770.04	165.95	0	N	A	-77.2	-34.9	0.0	-2.3	0.0	0.0	-109.8
5511	615026.11	4847788.83	165.95	0	N	A	-77.2	-34.9	0.0	-0.2	0.0	0.0	-111.9
6018	615064.25	4847786.55	166.58	0	N	A	-77.2	-38.2	0.0	-2.0	0.0	0.0	-113.4
6019	615052.43	4847805.15	166.58	0	N	A	-77.2	-38.1	0.0	-2.2	0.0	0.0	-113.2

Road, TNM, Name: "Hwy 407 - Pine Valley to Weston EB1", ID: "407_P_to_Weston_EB1"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4432	615551.33	4848053.83	168.10	0	N	A	-77.2	-32.5	0.0	-3.2	0.0	0.0	-106.5
4435	615562.09	4848034.60	168.10	0	N	A	-77.2	-32.5	0.0	-3.8	0.0	0.0	-106.0
4544	615890.10	4848225.01	173.44	0	N	A	-77.2	-34.0	0.0	-1.6	0.0	0.0	-109.7
4546	615899.20	4848204.93	173.44	0	N	A	-77.2	-34.0	0.0	-1.6	0.0	0.0	-109.7
4608	615551.33	4848053.83	169.52	0	N	A	-77.2	-32.5	0.0	-1.5	0.0	0.0	-108.3
4609	615562.09	4848034.60	169.52	0	N	A	-77.2	-32.5	0.0	-2.6	0.0	0.0	-107.1
4614	616115.29	4848318.75	175.94	0	N	A	-77.2	-35.5	0.0	-1.4	0.0	0.0	-111.3
4616	616123.06	4848298.12	175.94	0	N	A	-77.2	-35.5	0.0	-1.4	0.0	0.0	-111.3
4661	615890.10	4848225.01	174.86	0	N	A	-77.2	-34.0	0.0	-1.4	0.0	0.0	-109.9
4665	615899.20	4848204.93	174.86	0	N	A	-77.2	-34.0	0.0	-1.4	0.0	0.0	-109.9
4732	616115.29	4848318.75	177.36	0	N	A	-77.2	-35.5	0.0	-1.2	0.0	0.0	-111.5
4737	616123.06	4848298.12	177.36	0	N	A	-77.2	-35.5	0.0	-1.2	0.0	0.0	-111.5
4746	615679.90	4848124.88	170.83	0	N	A	-77.2	-38.1	0.0	-3.0	0.0	0.0	-112.3
4749	615690.27	4848105.43	170.83	0	N	A	-77.2	-38.1	0.0	-3.8	0.0	0.0	-111.5
4769	615743.88	4848157.61	171.83	0	N	A	-77.2	-38.9	0.0	-1.7	0.0	0.0	-114.4
4772	615753.56	4848137.81	171.83	0	N	A	-77.2	-38.9	0.0	-1.7	0.0	0.0	-114.4
4806	615679.90	4848124.88	172.26	0	N	A	-77.2	-38.1	0.0	-1.5	0.0	0.0	-113.8
4807	615690.27	4848105.43	172.26	0	N	A	-77.2	-38.1	0.0	-1.5	0.0	0.0	-113.8
4842	615743.88	4848157.61	173.26	0	N	A	-77.2	-38.9	0.0	-1.4	0.0	0.0	-114.7
4845	615753.56	4848137.81	173.26	0	N	A	-77.2	-38.9	0.0	-1.4	0.0	0.0	-114.7
5291	615551.33	4848053.83	171.66	0	N	A	-77.2	-32.5	0.0	-1.5	0.0	0.0	-108.2
5293	615562.09	4848034.60	171.66	0	N	A	-77.2	-32.5	0.0	-1.5	0.0	0.0	-108.2
5426	615890.10	4848225.01	177.00	0	N	A	-77.2	-34.0	0.0	-1.3	0.0	0.0	-110.0
5428	615899.20	4848204.93	177.00	0	N	A	-77.2	-34.0	0.0	-1.3	0.0	0.0	-110.0
5550	616115.29	4848318.75	179.50	0	N	A	-77.2	-35.5	0.0	-1.1	0.0	0.0	-111.6
5555	616123.06	4848298.12	179.50	0	N	A	-77.2	-35.5	0.0	-1.1	0.0	0.0	-111.6
5947	615679.90	4848124.88	174.39	0	N	A	-77.2	-38.1	0.0	-1.4	0.0	0.0	-113.9
5951	615690.27	4848105.43	174.39	0	N	A	-77.2	-38.1	0.0	-1.4	0.0	0.0	-113.9
6064	615743.88	4848157.61	175.39	0	N	A	-77.2	-38.9	0.0	-1.3	0.0	0.0	-114.8
6067	615753.56	4848137.81	175.39	0	N	A	-77.2	-38.9	0.0	-1.3	0.0	0.0	-114.8

Road, TNM, Name: "PineValley_Station50", ID: "PineValley_Stn50"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5308	614675.45	4847319.00	160.10	0	N	A	-74.2	-24.7	0.0	-3.3	0.0	0.0	-95.6
5327	614675.45	4847319.00	161.53	0	N	A	-74.2	-24.7	0.0	-2.2	0.0	0.0	-96.7
6544	614732.18	4847343.19	160.10	0	N	A	-74.2	-31.4	0.0	-3.2	0.0	0.0	-102.4
6603	614732.18	4847343.19	161.53	0	N	A	-74.2	-31.4	0.0	-2.2	0.0	0.0	-103.4

Road, TNM, Name: "PineValley_Station49", ID: "PineValley_Stn49"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5473	614778.63	4847283.76	160.01	0	N	A	-74.2	-26.5	0.0	-3.0	0.0	0.0	-97.6
5488	614778.63	4847283.76	161.44	0	N	A	-74.2	-26.5	0.0	-2.6	0.0	0.0	-98.0
6660	614752.59	4847344.03	160.33	0	N	A	-74.2	-32.3	0.0	-3.2	0.0	0.0	-103.3
6783	614752.59	4847344.03	161.75	0	N	A	-74.2	-32.3	0.0	-2.2	0.0	0.0	-104.2

Road, TNM, Name: "PineValley_Station45", ID: "PineValley_Stn45"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
6043	614644.30	4847188.66	159.62	0	N	A	-74.2	-22.9	0.0	6.6	0.0	0.0	-103.7
6765	614644.30	4847188.66	161.04	0	N	A	-74.2	-22.9	0.0	-2.9	0.0	0.0	-94.2
6969	614491.14	4847185.83	159.27	0	N	A	-74.2	-25.7	0.0	-3.5	0.0	0.0	-96.4
7190	614491.14	4847185.83	160.69	0	N	A	-74.2	-25.7	0.0	-2.6	0.0	0.0	-97.3
7418	614529.44	4847183.43	159.38	0	N	A	-74.2	-28.9	0.0	-3.4	0.0	0.0	-99.7
8344	614529.44	4847183.43	160.81	0	N	A	-74.2	-28.9	0.0	-2.8	0.0	0.0	-100.4
8350	614550.46	4847172.42	159.23	0	N	A	-74.2	-31.2	0.0	4.2	0.0	0.0	-109.5
9036	614550.46	4847172.42	160.66	0	N	A	-74.2	-31.2	0.0	-2.8	0.0	0.0	-102.5

Road, TNM, Name: "Pine Valley SB3", ID: "PineV_SB3"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5116	615111.15	4847411.96	160.60	0	N	A	-77.2	-32.1	0.0	-1.7	0.0	0.0	-107.7
5118	615105.38	4847410.73	160.60	0	N	A	-77.2	-32.1	0.0	-1.6	0.0	0.0	-107.7
5158	615095.31	4847487.17	162.03	0	N	A	-77.2	-32.3	0.0	13.0	0.0	0.0	-122.5
5159	615089.53	4847485.97	162.03	0	N	A	-77.2	-32.3	0.0	2.7	0.0	0.0	-112.1
5162	615127.77	4847334.38	162.38	0	N	A	-77.2	-32.4	0.0	-2.5	0.0	0.0	-107.2
5163	615122.00	4847333.14	162.38	0	N	A	-77.2	-32.4	0.0	-2.5	0.0	0.0	-107.1
5245	615111.15	4847411.96	162.03	0	N	A	-77.2	-32.1	0.0	2.9	0.0	0.0	-112.2
5246	615105.38	4847410.73	162.03	0	N	A	-77.2	-32.1	0.0	2.8	0.0	0.0	-112.1
5280	615095.31	4847487.17	163.46	0	N	A	-77.2	-32.3	0.0	2.8	0.0	0.0	-112.4
5281	615089.53	4847485.97	163.46	0	N	A	-77.2	-32.3	0.0	-2.6	0.0	0.0	-106.9
5285	615127.77	4847334.38	163.80	0	N	A	-77.2	-32.4	0.0	-2.3	0.0	0.0	-107.3
5286	615122.00	4847333.14	163.80	0	N	A	-77.2	-32.4	0.0	-2.3	0.0	0.0	-107.3
5358	615083.49	4847544.29	163.20	0	N	A	-77.2	-34.6	0.0	-2.5	0.0	0.0	-109.3
5360	615077.71	4847543.10	163.20	0	N	A	-77.2	-34.5	0.0	-3.2	0.0	0.0	-108.6
5483	615083.49	4847544.29	164.62	0	N	A	-77.2	-34.6	0.0	-2.3	0.0	0.0	-109.5
5484	615077.71	4847543.10	164.62	0	N	A	-77.2	-34.5	0.0	-2.3	0.0	0.0	-109.4
9050	615111.15	4847411.96	164.16	0	N	A	-77.2	-32.1	0.0	-2.2	0.0	0.0	-107.1
9051	615105.38	4847410.73	164.16	0	N	A	-77.2	-32.1	0.0	-2.2	0.0	0.0	-107.0
9213	615095.31	4847487.17	165.59	0	N	A	-77.2	-32.3	0.0	-2.2	0.0	0.0	-107.3
9215	615089.53	4847485.97	165.59	0	N	A	-77.2	-32.3	0.0	-2.2	0.0	0.0	-107.3
9227	615127.77	4847334.38	165.94	0	N	A	-77.2	-32.4	0.0	-2.0	0.0	0.0	-107.6
9228	615122.00	4847333.14	165.94	0	N	A	-77.2	-32.4	0.0	-2.0	0.0	0.0	-107.6
1690	615083.49	4847544.29	166.76	0	N	A	-77.2	-34.6	0.0	-2.0	0.0	0.0	-109.8
1694	615077.71	4847543.10	166.76	0	N	A	-77.2	-34.5	0.0	-2.0	0.0	0.0	-109.7

Road, TNM, Name: "Pine Valley NB3", ID: "PineV_NB3"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4967	614976.34	4848095.82	164.84	0	N	A	-77.2	-31.2	0.0	-1.8	0.0	0.0	-106.5
4968	614955.93	4848192.64	164.96	0	N	A	-77.2	-35.4	0.0	11.8	0.0	0.0	-124.4
4969	614981.66	4848099.19	164.84	0	N	A	-77.2	-31.1	0.0	-1.9	0.0	0.0	-106.4
4971	614961.25	4848196.00	164.96	0	N	A	-77.2	-35.7	0.0	0.1	0.0	0.0	-113.0
5001	614979.59	4848080.38	166.25	0	N	A	-77.2	-32.2	0.0	-2.5	0.0	0.0	-106.9
5003	614965.31	4848148.16	166.33	0	N	A	-77.2	-37.9	0.0	-1.8	0.0	0.0	-113.3
5004	614955.93	4848192.64	166.38	0	N	A	-77.2	-35.4	0.0	-2.4	0.0	0.0	-110.1
5005	614985.46	4848081.17	166.24	0	N	A	-77.2	-32.3	0.0	-0.7	0.0	0.0	-108.8
5006	614970.72	4848151.09	166.33	0	N	A	-77.2	-37.2	0.0	-2.7	0.0	0.0	-111.7
5007	614961.25	4848196.00	166.39	0	N	A	-77.2	-35.7	0.0	1.0	0.0	0.0	-114.0
5070	614998.79	4847989.67	164.43	0	N	A	-77.2	-33.1	0.0	-5.1	0.0	0.0	-105.2
5072	615004.56	4847990.90	164.43	0	N	A	-77.2	-33.2	0.0	-3.5	0.0	0.0	-106.8
5150	614940.00	4848267.01	165.05	0	N	A	-77.2	-33.8	0.0	-2.2	0.0	0.0	-108.8
5151	614945.76	4848268.26	165.05	0	N	A	-77.2	-33.9	0.0	-2.5	0.0	0.0	-108.5
5241	614998.79	4847989.67	165.85	0	N	A	-77.2	-33.1	0.0	-6.0	0.0	0.0	-104.3
5242	615004.56	4847990.90	165.85	0	N	A	-77.2	-33.2	0.0	-6.0	0.0	0.0	-104.3
5299	614940.00	4848267.01	166.47	0	N	A	-77.2	-33.8	0.0	-1.9	0.0	0.0	-109.1
5302	614945.76	4848268.26	166.47	0	N	A	-77.2	-33.9	0.0	-2.2	0.0	0.0	-108.9

Road, TNM, Name: "Pine Valley NB3", ID: "PineV_NB3"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
8522	614976.34	4848095.82	168.40	0	N	A	-77.2	-31.2	0.0	-3.0	0.0	0.0	-105.3
8523	614955.93	4848192.64	168.52	0	N	A	-77.2	-35.4	0.0	-2.1	0.0	0.0	-110.5
8524	614981.66	4848099.19	168.40	0	N	A	-77.2	-31.1	0.0	-3.0	0.0	0.0	-105.2
8526	614961.25	4848196.00	168.52	0	N	A	-77.2	-35.7	0.0	-2.1	0.0	0.0	-110.8
1392	614998.79	4847989.67	167.99	0	N	A	-77.2	-33.1	0.0	-6.0	0.0	0.0	-104.3
1393	615004.56	4847990.90	167.99	0	N	A	-77.2	-33.2	0.0	-6.0	0.0	0.0	-104.3
2060	614940.00	4848267.01	168.61	0	N	A	-77.2	-33.8	0.0	-1.7	0.0	0.0	-109.4
2061	614945.76	4848268.26	168.61	0	N	A	-77.2	-33.9	0.0	-2.0	0.0	0.0	-109.0

Road, TNM, Name: "Hwy407 EB - Off-Ramp to Pine Valley", ID: "Hwy407EB_Off_Pine"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4870	614626.07	4847484.15	155.10	0	N	A	-77.2	-27.4	0.0	-3.4	0.0	0.0	-101.2
4871	614629.39	4847478.10	155.10	0	N	A	-77.2	-27.5	0.0	-3.4	0.0	0.0	-101.3
4872	614661.41	4847503.39	155.10	0	N	A	-77.2	-27.7	0.0	-3.3	0.0	0.0	-101.6
4873	614664.70	4847497.32	155.10	0	N	A	-77.2	-27.7	0.0	-3.3	0.0	0.0	-101.6
4976	614626.07	4847484.15	156.53	0	N	A	-77.2	-27.4	0.0	-2.6	0.0	0.0	-102.0
4977	614629.39	4847478.10	156.53	0	N	A	-77.2	-27.5	0.0	-2.6	0.0	0.0	-102.1
4981	614661.41	4847503.39	156.53	0	N	A	-77.2	-27.7	0.0	-2.7	0.0	0.0	-102.2
4982	614664.70	4847497.32	156.53	0	N	A	-77.2	-27.7	0.0	-2.6	0.0	0.0	-102.3
4997	614694.89	4847521.75	155.60	0	N	A	-77.2	-29.8	0.0	-3.2	0.0	0.0	-103.8
4998	614698.26	4847515.73	155.60	0	N	A	-77.2	-29.8	0.0	-3.2	0.0	0.0	-103.8
5012	614723.19	4847537.56	156.10	0	N	A	-77.2	-30.5	0.0	-3.2	0.0	0.0	-104.6
5013	614726.56	4847531.54	156.10	0	N	A	-77.2	-30.6	0.0	-3.2	0.0	0.0	-104.6
5027	614694.89	4847521.75	157.03	0	N	A	-77.2	-29.8	0.0	-2.6	0.0	0.0	-104.4
5028	614698.26	4847515.73	157.03	0	N	A	-77.2	-29.8	0.0	-2.6	0.0	0.0	-104.4
5077	614723.19	4847537.56	157.53	0	N	A	-77.2	-30.5	0.0	-2.6	0.0	0.0	-105.2
5078	614726.56	4847531.54	157.53	0	N	A	-77.2	-30.6	0.0	-2.6	0.0	0.0	-105.2
5142	614793.34	4847567.85	156.60	0	N	A	-77.2	-32.4	0.0	-3.0	0.0	0.0	-106.6
5143	614795.41	4847561.27	156.60	0	N	A	-77.2	-32.4	0.0	-3.0	0.0	0.0	-106.6
5187	614768.11	4847559.05	156.10	0	N	A	-77.2	-32.8	0.0	-3.1	0.0	0.0	-107.0
5188	614770.63	4847552.63	156.10	0	N	A	-77.2	-32.8	0.0	-3.1	0.0	0.0	-107.0
5189	614747.15	4847550.07	156.10	0	N	A	-77.2	-32.8	0.0	-3.1	0.0	0.0	-106.9
5191	614750.09	4847543.82	156.10	0	N	A	-77.2	-32.8	0.0	-3.1	0.0	0.0	-107.0
5247	614793.34	4847567.85	158.03	0	N	A	-77.2	-32.4	0.0	-2.5	0.0	0.0	-107.1
5248	614795.41	4847561.27	158.03	0	N	A	-77.2	-32.4	0.0	-2.5	0.0	0.0	-107.1
5268	614893.78	4847583.01	159.41	0	N	A	-77.2	-33.8	0.0	-3.4	0.0	0.0	-107.6
5269	614893.45	4847576.11	159.41	0	N	A	-77.2	-33.8	0.0	-2.8	0.0	0.0	-108.2
5283	615045.12	4847579.26	163.37	0	N	A	-77.2	-34.0	0.0	-2.6	0.0	0.0	-108.6
5284	615046.35	4847572.47	163.37	0	N	A	-77.2	-34.0	0.0	-2.6	0.0	0.0	-108.6
5303	614768.11	4847559.05	157.53	0	N	A	-77.2	-32.8	0.0	-2.6	0.0	0.0	-107.5
5304	614770.63	4847552.63	157.53	0	N	A	-77.2	-32.8	0.0	-2.6	0.0	0.0	-107.5
5305	614747.15	4847550.07	157.53	0	N	A	-77.2	-32.8	0.0	-2.6	0.0	0.0	-107.4
5306	614750.09	4847543.82	157.53	0	N	A	-77.2	-32.8	0.0	-2.6	0.0	0.0	-107.5
5343	614845.27	4847580.12	158.07	0	N	A	-77.2	-34.6	0.0	-2.9	0.0	0.0	-108.9
5344	614846.23	4847573.28	158.07	0	N	A	-77.2	-34.6	0.0	-2.9	0.0	0.0	-108.9
5368	614948.11	4847577.60	160.77	0	N	A	-77.2	-34.8	0.0	-3.8	0.0	0.0	-108.2
5369	614947.12	4847570.77	160.77	0	N	A	-77.2	-34.8	0.0	-3.7	0.0	0.0	-108.2
5370	614977.53	4847574.34	161.76	0	N	A	-77.2	-34.8	0.0	-2.7	0.0	0.0	-109.3
5371	614976.99	4847567.46	161.76	0	N	A	-77.2	-34.8	0.0	-3.5	0.0	0.0	-108.5
5372	614867.13	4847582.68	158.72	0	N	A	-77.2	-34.9	0.0	-2.9	0.0	0.0	-109.2
5373	614867.77	4847575.81	158.72	0	N	A	-77.2	-34.8	0.0	-2.9	0.0	0.0	-109.2
5394	614921.50	4847580.97	160.03	0	N	A	-77.2	-35.1	0.0	-2.8	0.0	0.0	-109.5
5395	614920.78	4847574.11	160.03	0	N	A	-77.2	-35.1	0.0	-2.8	0.0	0.0	-109.5
5400	614893.78	4847583.01	160.83	0	N	A	-77.2	-33.8	0.0	-2.2	0.0	0.0	-108.8
5401	614893.45	4847576.11	160.83	0	N	A	-77.2	-33.8	0.0	-2.2	0.0	0.0	-108.8
5411	615045.12	4847579.26	164.79	0	N	A	-77.2	-34.0	0.0	-2.2	0.0	0.0	-109.0
5412	615046.35	4847572.47	164.79	0	N	A	-77.2	-34.0	0.0	-2.2	0.0	0.0	-109.0
5471	614845.27	4847580.12	159.50	0	N	A	-77.2	-34.6	0.0	-2.3	0.0	0.0	-109.4
5472	614846.23	4847573.28	159.50	0	N	A	-77.2	-34.6	0.0	-2.3	0.0	0.0	-109.4
5474	614814.26	4847573.99	157.24	0	N	A	-77.2	-36.0	0.0	-3.0	0.0	0.0	-110.3
5475	614815.93	4847567.30	157.24	0	N	A	-77.2	-36.0	0.0	-3.0	0.0	0.0	-110.3
5477	614948.11	4847577.60	162.20	0	N	A	-77.2	-34.8	0.0	-2.3	0.0	0.0	-109.7
5478	614947.12	4847570.77	162.20	0	N	A	-77.2	-34.8	0.0	-2.3	0.0	0.0	-109.7
5479	614977.53	4847574.34	163.18	0	N	A	-77.2	-34.8	0.0	-2.2	0.0	0.0	-109.8
5480	614976.99	4847567.46	163.18	0	N	A	-77.2	-34.8	0.0	-2.3	0.0	0.0	-109.7

Road, TNM, Name: "Hwy407 EB - Off-Ramp to Pine Valley", ID: "Hwy407EB_Off_Pine"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5485	614867.13	4847582.68	160.14	0	N	A	-77.2	-34.9	0.0	-2.3	0.0	0.0	-109.8
5487	614867.77	4847575.81	160.14	0	N	A	-77.2	-34.8	0.0	-2.3	0.0	0.0	-109.8
5493	614827.68	4847577.13	157.54	0	N	A	-77.2	-36.4	0.0	-2.9	0.0	0.0	-110.6
5494	614829.14	4847570.39	157.54	0	N	A	-77.2	-36.3	0.0	-2.9	0.0	0.0	-110.6
5495	614921.50	4847580.97	161.45	0	N	A	-77.2	-35.1	0.0	-2.2	0.0	0.0	-110.1
5496	614920.78	4847574.11	161.45	0	N	A	-77.2	-35.1	0.0	-2.3	0.0	0.0	-110.0
5576	614814.26	4847573.99	158.66	0	N	A	-77.2	-36.0	0.0	-2.4	0.0	0.0	-110.8
5577	614815.93	4847567.30	158.66	0	N	A	-77.2	-36.0	0.0	-2.4	0.0	0.0	-110.8
5628	614827.68	4847577.13	158.96	0	N	A	-77.2	-36.4	0.0	-2.4	0.0	0.0	-111.2
5629	614829.14	4847570.39	158.96	0	N	A	-77.2	-36.3	0.0	-2.4	0.0	0.0	-111.2
5670	615000.68	4847573.41	162.42	0	N	A	-77.2	-38.0	0.0	-2.7	0.0	0.0	-112.5
5671	615000.91	4847566.51	162.42	0	N	A	-77.2	-37.9	0.0	1.9	0.0	0.0	-117.0
5733	615015.77	4847574.45	162.79	0	N	A	-77.2	-38.6	0.0	-2.6	0.0	0.0	-113.1
5734	615016.51	4847567.59	162.79	0	N	A	-77.2	-38.5	0.0	7.2	0.0	0.0	-122.9
5833	615000.68	4847573.41	163.84	0	N	A	-77.2	-38.0	0.0	-2.2	0.0	0.0	-112.9
5835	615000.91	4847566.51	163.84	0	N	A	-77.2	-37.9	0.0	-2.2	0.0	0.0	-112.9
5940	615015.77	4847574.45	164.22	0	N	A	-77.2	-38.6	0.0	-2.2	0.0	0.0	-113.6
5942	615016.51	4847567.59	164.22	0	N	A	-77.2	-38.5	0.0	-2.2	0.0	0.0	-113.5
6912	614626.07	4847484.15	158.66	0	N	A	-77.2	-27.4	0.0	-2.3	0.0	0.0	-102.3
6913	614629.39	4847478.10	158.66	0	N	A	-77.2	-27.5	0.0	-2.3	0.0	0.0	-102.4
6936	614661.41	4847503.39	158.66	0	N	A	-77.2	-27.7	0.0	-2.4	0.0	0.0	-102.5
6937	614664.70	4847497.32	158.66	0	N	A	-77.2	-27.7	0.0	-2.3	0.0	0.0	-102.6
7057	614694.89	4847521.75	159.16	0	N	A	-77.2	-29.8	0.0	-2.3	0.0	0.0	-104.7
7058	614698.26	4847515.73	159.16	0	N	A	-77.2	-29.8	0.0	-2.3	0.0	0.0	-104.7
7253	614723.19	4847537.56	159.66	0	N	A	-77.2	-30.5	0.0	-2.3	0.0	0.0	-105.4
7254	614726.56	4847531.54	159.66	0	N	A	-77.2	-30.6	0.0	-2.3	0.0	0.0	-105.5
8220	614793.34	4847567.85	160.16	0	N	A	-77.2	-32.4	0.0	-2.3	0.0	0.0	-107.3
8221	614795.41	4847561.27	160.16	0	N	A	-77.2	-32.4	0.0	-2.2	0.0	0.0	-107.3
8340	614768.11	4847559.05	159.66	0	N	A	-77.2	-32.8	0.0	-2.3	0.0	0.0	-107.7
8341	614770.63	4847552.63	159.66	0	N	A	-77.2	-32.8	0.0	-2.3	0.0	0.0	-107.8
8342	614747.15	4847550.07	159.66	0	N	A	-77.2	-32.8	0.0	-2.3	0.0	0.0	-107.7
8343	614750.09	4847543.82	159.66	0	N	A	-77.2	-32.8	0.0	-2.3	0.0	0.0	-107.7
8379	614893.78	4847583.01	162.97	0	N	A	-77.2	-33.8	0.0	-2.0	0.0	0.0	-109.1
8382	614893.45	4847576.11	162.97	0	N	A	-77.2	-33.8	0.0	-2.0	0.0	0.0	-109.0
8475	615045.12	4847579.26	166.93	0	N	A	-77.2	-34.0	0.0	-1.9	0.0	0.0	-109.3
8476	615046.35	4847572.47	166.93	0	N	A	-77.2	-34.0	0.0	-1.9	0.0	0.0	-109.3
8630	614845.27	4847580.12	161.63	0	N	A	-77.2	-34.6	0.0	-2.1	0.0	0.0	-109.7
8638	614846.23	4847573.28	161.63	0	N	A	-77.2	-34.6	0.0	-2.1	0.0	0.0	-109.7
8858	614948.11	4847577.60	164.33	0	N	A	-77.2	-34.8	0.0	-2.0	0.0	0.0	-110.0
8862	614947.12	4847570.77	164.33	0	N	A	-77.2	-34.8	0.0	-2.0	0.0	0.0	-110.0
8864	614977.53	4847574.34	165.32	0	N	A	-77.2	-34.8	0.0	-2.0	0.0	0.0	-110.1
8867	614976.99	4847567.46	165.32	0	N	A	-77.2	-34.8	0.0	-2.0	0.0	0.0	-110.0
8882	614867.13	4847582.68	162.28	0	N	A	-77.2	-34.9	0.0	-2.1	0.0	0.0	-110.0
8883	614867.77	4847575.81	162.28	0	N	A	-77.2	-34.8	0.0	-2.0	0.0	0.0	-110.0
8931	614921.50	4847580.97	163.59	0	N	A	-77.2	-35.1	0.0	-2.0	0.0	0.0	-110.4
8934	614920.78	4847574.11	163.59	0	N	A	-77.2	-35.1	0.0	-2.0	0.0	0.0	-110.2
9300	614814.26	4847573.99	160.80	0	N	A	-77.2	-36.0	0.0	-2.2	0.0	0.0	-111.0
9301	614815.93	4847567.30	160.80	0	N	A	-77.2	-36.0	0.0	-2.2	0.0	0.0	-111.0
9420	614827.68	4847577.13	161.10	0	N	A	-77.2	-36.4	0.0	-2.2	0.0	0.0	-111.4
9422	614829.14	4847570.39	161.10	0	N	A	-77.2	-36.3	0.0	-2.1	0.0	0.0	-111.4
1681	615000.68	4847573.41	165.98	0	N	A	-77.2	-38.0	0.0	-1.9	0.0	0.0	-113.2
1682	615000.91	4847566.51	165.98	0	N	A	-77.2	-37.9	0.0	-2.0	0.0	0.0	-113.2
2384	615015.77	4847574.45	166.35	0	N	A	-77.2	-38.6	0.0	-1.9	0.0	0.0	-113.8
2385	615016.51	4847567.59	166.35	0	N	A	-77.2	-38.5	0.0	-1.9	0.0	0.0	-113.8

Road, TNM, Name: "PineValley_Station47", ID: "PineValley_Stn47"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
7271	614959.65	4847270.87	159.39	0	N	A	-74.2	-28.7	0.0	-2.5	0.0	0.0	-100.4
8268	614959.65	4847270.87	160.81	0	N	A	-74.2	-28.7	0.0	-3.4	0.0	0.0	-99.5
9408	615050.62	4847338.63	159.96	0	N	A	-74.2	-33.9	0.0	0.3	0.0	0.0	-108.4
9507	615087.59	4847361.98	160.10	0	N	A	-74.2	-34.2	0.0	11.7	0.0	0.0	-120.1
9785	615027.30	4847304.04	159.81	0	N	A	-74.2	-34.5	0.0	9.4	0.0	0.0	-118.1
2054	615050.62	4847338.63	161.38	0	N	A	-74.2	-33.9	0.0	4.1	0.0	0.0	-112.2
2242	615087.59	4847361.98	161.53	0	N	A	-74.2	-34.2	0.0	-3.9	0.0	0.0	-104.5
2756	615027.30	4847304.04	161.23	0	N	A	-74.2	-34.5	0.0	-0.7	0.0	0.0	-108.0

Road, TNM, Name: "PineValley_Station51", ID: "PineValley_Stn51"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
8543	614607.38	4847317.00	160.10	0	N	A	-74.2	-28.0	0.0	-3.5	0.0	0.0	-98.7
8821	614613.22	4847298.15	160.10	0	N	A	-74.2	-28.4	0.0	-3.5	0.0	0.0	-99.2
9319	614607.38	4847317.00	161.53	0	N	A	-74.2	-28.0	0.0	-2.1	0.0	0.0	-100.1
9329	614595.03	4847302.98	160.10	0	N	A	-74.2	-29.8	0.0	-3.5	0.0	0.0	-100.5
9535	614613.22	4847298.15	161.52	0	N	A	-74.2	-28.4	0.0	-2.2	0.0	0.0	-100.4
0218	614625.57	4847312.66	160.10	0	N	A	-74.2	-31.0	0.0	-3.5	0.0	0.0	-101.7
2004	614595.03	4847302.98	161.52	0	N	A	-74.2	-29.8	0.0	-2.2	0.0	0.0	-101.8
3076	614625.57	4847312.66	161.52	0	N	A	-74.2	-31.0	0.0	-2.1	0.0	0.0	-103.0

Road, TNM, Name: "PineValley_Station452", ID: "PineValley_Stn452"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5556	614692.35	4847313.96	160.06	0	N	A	-74.2	-24.5	0.0	-3.3	0.0	0.0	-95.4
5557	614584.91	4847281.92	159.99	0	N	A	-74.2	-22.4	0.0	0.4	0.0	0.0	-97.0
5801	614692.35	4847313.96	161.49	0	N	A	-74.2	-24.5	0.0	-2.2	0.0	0.0	-96.5
5802	614584.91	4847281.92	161.42	0	N	A	-74.2	-22.4	0.0	-2.3	0.0	0.0	-94.3
6009	614640.63	4847202.51	159.77	0	N	A	-74.2	-22.6	0.0	0.7	0.0	0.0	-97.5
6254	614542.53	4847223.20	159.70	0	N	A	-74.2	-23.4	0.0	-3.5	0.0	0.0	-94.2
6642	614640.63	4847202.51	161.20	0	N	A	-74.2	-22.6	0.0	-2.8	0.0	0.0	-94.0
6877	614542.53	4847223.20	161.13	0	N	A	-74.2	-23.4	0.0	-2.6	0.0	0.0	-95.0
7033	614762.08	4847285.59	160.10	0	N	A	-74.2	-26.8	0.0	-3.1	0.0	0.0	-97.9
7272	614762.08	4847285.59	161.53	0	N	A	-74.2	-26.8	0.0	-2.5	0.0	0.0	-98.5
8207	614755.41	4847233.88	160.10	0	N	A	-74.2	-30.0	0.0	-3.0	0.0	0.0	-101.2
8533	614755.41	4847233.88	161.52	0	N	A	-74.2	-30.0	0.0	-2.8	0.0	0.0	-101.4
3057	614733.72	4847221.86	160.10	0	N	A	-74.2	-36.7	0.0	-3.1	0.0	0.0	-107.9
4387	614733.72	4847221.86	161.53	0	N	A	-74.2	-36.7	0.0	-3.0	0.0	0.0	-108.0

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4484	613886.20	4847041.32	141.69	0	N	A	-77.2	-26.7	0.0	-2.9	0.0	0.0	-101.0
4485	614017.20	4847109.02	145.18	0	N	A	-77.2	-24.2	0.0	-3.2	0.0	0.0	-98.3
4486	614148.21	4847176.72	148.66	0	N	A	-77.2	-21.0	0.0	2.1	0.0	0.0	-100.3
4487	614246.47	4847227.49	151.28	0	N	A	-77.2	-21.1	0.0	-3.9	0.0	0.0	-94.5
4488	614311.97	4847261.34	153.02	0	N	A	-77.2	-19.1	0.0	-4.1	0.0	0.0	-92.3
4490	613886.31	4847041.10	141.69	0	N	A	-77.2	-26.7	0.0	-2.9	0.0	0.0	-101.0
4491	614017.32	4847108.80	145.18	0	N	A	-77.2	-24.2	0.0	-3.2	0.0	0.0	-98.3
4492	614148.33	4847176.50	148.66	0	N	A	-77.2	-21.0	0.0	1.9	0.0	0.0	-100.1
4493	614246.58	4847227.27	151.28	0	N	A	-77.2	-21.1	0.0	-3.9	0.0	0.0	-94.5
4494	614312.09	4847261.12	153.02	0	N	A	-77.2	-19.2	0.0	-4.1	0.0	0.0	-92.3
4495	613886.20	4847041.32	143.12	0	N	A	-77.2	-26.7	0.0	-1.7	0.0	0.0	-102.2
4496	614017.20	4847109.02	146.60	0	N	A	-77.2	-24.2	0.0	-1.8	0.0	0.0	-99.6
4497	614148.21	4847176.72	150.09	0	N	A	-77.2	-21.0	0.0	5.8	0.0	0.0	-104.0
4499	614246.47	4847227.49	152.70	0	N	A	-77.2	-21.1	0.0	-1.9	0.0	0.0	-96.5
4500	614311.97	4847261.34	154.44	0	N	A	-77.2	-19.1	0.0	-1.7	0.0	0.0	-94.6
4501	613886.31	4847041.10	143.12	0	N	A	-77.2	-26.7	0.0	-1.7	0.0	0.0	-102.2
4502	614017.32	4847108.80	146.60	0	N	A	-77.2	-24.2	0.0	-1.8	0.0	0.0	-99.6
4503	614148.33	4847176.50	150.09	0	N	A	-77.2	-21.0	0.0	5.6	0.0	0.0	-103.8
4504	614246.58	4847227.27	152.70	0	N	A	-77.2	-21.1	0.0	-1.9	0.0	0.0	-96.5
4505	614312.09	4847261.12	154.44	0	N	A	-77.2	-19.2	0.0	-1.7	0.0	0.0	-94.6
4809	614595.21	4847374.06	157.07	0	N	A	-77.2	-21.6	0.0	-2.5	0.0	0.0	-96.3
4810	614703.54	4847405.15	159.09	0	N	A	-77.2	-24.3	0.0	5.7	0.0	0.0	-107.3
4811	614595.28	4847373.82	157.07	0	N	A	-77.2	-21.6	0.0	-2.6	0.0	0.0	-96.2
4813	614703.61	4847404.91	159.09	0	N	A	-77.2	-24.3	0.0	8.7	0.0	0.0	-110.2
4815	614595.21	4847374.06	158.49	0	N	A	-77.2	-21.6	0.0	-2.8	0.0	0.0	-96.0
4817	614703.54	4847405.15	160.51	0	N	A	-77.2	-24.3	0.0	16.9	0.0	0.0	-118.5
4818	614595.28	4847373.82	158.49	0	N	A	-77.2	-21.6	0.0	-2.3	0.0	0.0	-96.5
4819	614703.61	4847404.91	160.51	0	N	A	-77.2	-24.3	0.0	19.1	0.0	0.0	-120.6
4825	614838.84	4847444.26	160.66	0	N	A	-77.2	-25.1	0.0	-1.1	0.0	0.0	-101.2
4827	615001.10	4847491.36	161.77	0	N	A	-77.2	-27.6	0.0	7.1	0.0	0.0	-111.9
4828	615244.48	4847562.03	163.44	0	N	A	-77.2	-27.2	0.0	-2.4	0.0	0.0	-101.9
4829	614838.91	4847444.02	160.66	0	N	A	-77.2	-25.1	0.0	-2.4	0.0	0.0	-99.9
4830	615001.17	4847491.12	161.77	0	N	A	-77.2	-27.6	0.0	1.5	0.0	0.0	-106.3
4831	615244.55	4847561.79	163.44	0	N	A	-77.2	-27.2	0.0	-1.0	0.0	0.0	-103.4
4832	614838.84	4847444.26	162.08	0	N	A	-77.2	-25.1	0.0	-2.9	0.0	0.0	-99.5
4833	615001.10	4847491.36	163.20	0	N	A	-77.2	-27.6	0.0	-2.6	0.0	0.0	-102.1

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4835	615244.48	4847562.03	164.87	0	N	A	-77.2	-27.2	0.0	-2.3	0.0	0.0	-102.1
4836	614838.91	4847444.02	162.08	0	N	A	-77.2	-25.1	0.0	-2.8	0.0	0.0	-99.5
4837	615001.17	4847491.12	163.20	0	N	A	-77.2	-27.6	0.0	-2.6	0.0	0.0	-102.1
4838	615244.55	4847561.79	164.87	0	N	A	-77.2	-27.2	0.0	-2.3	0.0	0.0	-102.1
4860	614428.86	4847319.31	157.05	0	N	A	-77.2	-22.8	0.0	-3.7	0.0	0.0	-96.3
4862	614428.97	4847319.08	157.05	0	N	A	-77.2	-22.8	0.0	-3.7	0.0	0.0	-96.4
4863	614428.86	4847319.31	158.48	0	N	A	-77.2	-22.8	0.0	-2.7	0.0	0.0	-97.3
4864	614428.97	4847319.08	158.48	0	N	A	-77.2	-22.8	0.0	-2.7	0.0	0.0	-97.3
4865	614404.77	4847308.43	157.60	0	N	A	-77.2	-22.8	0.0	-4.1	0.0	0.0	-95.9
4866	614404.88	4847308.21	157.60	0	N	A	-77.2	-22.8	0.0	-4.1	0.0	0.0	-96.0
4867	614404.77	4847308.43	159.03	0	N	A	-77.2	-22.8	0.0	-2.8	0.0	0.0	-97.2
4868	614404.88	4847308.21	159.03	0	N	A	-77.2	-22.8	0.0	-2.8	0.0	0.0	-97.2
4881	616075.53	4847636.51	168.79	0	N	A	-77.2	-30.7	0.0	-2.7	0.0	0.0	-105.2
4886	616596.36	4847793.58	177.02	0	N	A	-77.2	-33.0	0.0	2.9	0.0	0.0	-113.1
4892	617117.19	4847950.66	185.24	0	N	A	-77.2	-34.8	0.0	-0.9	0.0	0.0	-111.2
4895	617638.02	4848107.73	193.46	0	N	A	-77.2	-36.4	0.0	-0.6	0.0	0.0	-113.0
4897	616075.60	4847636.27	168.79	0	N	A	-77.2	-30.7	0.0	-2.9	0.0	0.0	-105.0
4901	616596.43	4847793.34	177.02	0	N	A	-77.2	-33.0	0.0	3.1	0.0	0.0	-113.3
4909	617117.26	4847950.42	185.24	0	N	A	-77.2	-34.8	0.0	-0.9	0.0	0.0	-111.2
4913	617638.09	4848107.49	193.46	0	N	A	-77.2	-36.4	0.0	-0.6	0.0	0.0	-113.0
4914	616075.53	4847636.51	170.22	0	N	A	-77.2	-30.7	0.0	-1.4	0.0	0.0	-106.4
4919	616596.36	4847793.58	178.44	0	N	A	-77.2	-33.0	0.0	4.3	0.0	0.0	-114.5
4921	617117.19	4847950.66	186.66	0	N	A	-77.2	-34.8	0.0	-0.7	0.0	0.0	-111.4
4924	617638.02	4848107.73	194.89	0	N	A	-77.2	-36.4	0.0	-0.4	0.0	0.0	-113.2
4926	616075.60	4847636.27	170.22	0	N	A	-77.2	-30.7	0.0	-1.4	0.0	0.0	-106.4
4928	616596.43	4847793.34	178.44	0	N	A	-77.2	-33.0	0.0	2.9	0.0	0.0	-113.1
4931	617117.26	4847950.42	186.66	0	N	A	-77.2	-34.8	0.0	-0.7	0.0	0.0	-111.4
4934	617638.09	4848107.49	194.89	0	N	A	-77.2	-36.4	0.0	-0.4	0.0	0.0	-113.2
4972	614452.87	4847329.40	155.98	0	N	A	-77.2	-23.9	0.0	-4.0	0.0	0.0	-97.2
4973	614452.96	4847329.17	155.98	0	N	A	-77.2	-23.9	0.0	-4.0	0.0	0.0	-97.2
4974	614452.87	4847329.40	157.40	0	N	A	-77.2	-23.9	0.0	-2.4	0.0	0.0	-98.8
4975	614452.96	4847329.17	157.40	0	N	A	-77.2	-23.9	0.0	-2.4	0.0	0.0	-98.8
5014	614471.64	4847336.54	154.88	0	N	A	-77.2	-26.4	0.0	-3.9	0.0	0.0	-99.7
5015	614471.72	4847336.30	154.88	0	N	A	-77.2	-26.5	0.0	-3.9	0.0	0.0	-99.7
5019	614471.64	4847336.54	156.31	0	N	A	-77.2	-26.4	0.0	-2.4	0.0	0.0	-101.2
5020	614471.72	4847336.30	156.31	0	N	A	-77.2	-26.5	0.0	-2.4	0.0	0.0	-101.2
5029	614530.95	4847355.36	155.84	0	N	A	-77.2	-27.1	0.0	-3.8	0.0	0.0	-100.5
5030	614531.02	4847355.12	155.84	0	N	A	-77.2	-27.1	0.0	-3.8	0.0	0.0	-100.5
5031	614530.95	4847355.36	157.26	0	N	A	-77.2	-27.1	0.0	-2.2	0.0	0.0	-102.1
5032	614531.02	4847355.12	157.26	0	N	A	-77.2	-27.1	0.0	-2.2	0.0	0.0	-102.1
5046	614349.16	4847280.56	154.00	0	N	A	-77.2	-27.0	0.0	-4.2	0.0	0.0	-100.0
5047	614349.28	4847280.34	154.00	0	N	A	-77.2	-27.0	0.0	-4.2	0.0	0.0	-100.0
5048	614349.16	4847280.56	155.43	0	N	A	-77.2	-27.0	0.0	-2.2	0.0	0.0	-102.0
5049	614349.28	4847280.34	155.43	0	N	A	-77.2	-27.0	0.0	-2.2	0.0	0.0	-102.1
5050	614485.96	4847341.43	154.90	0	N	A	-77.2	-27.2	0.0	-3.9	0.0	0.0	-100.5
5051	614486.04	4847341.19	154.90	0	N	A	-77.2	-27.2	0.0	-3.9	0.0	0.0	-100.6
5052	614485.96	4847341.43	156.33	0	N	A	-77.2	-27.2	0.0	-2.3	0.0	0.0	-102.1
5053	614486.04	4847341.19	156.33	0	N	A	-77.2	-27.2	0.0	-2.3	0.0	0.0	-102.1
5082	614374.83	4847293.67	156.59	0	N	A	-77.2	-27.4	0.0	-4.2	0.0	0.0	-100.4
5083	614374.94	4847293.44	156.59	0	N	A	-77.2	-27.5	0.0	-4.2	0.0	0.0	-100.4
5089	614374.83	4847293.67	158.01	0	N	A	-77.2	-27.4	0.0	-2.1	0.0	0.0	-102.6
5090	614374.94	4847293.44	158.01	0	N	A	-77.2	-27.5	0.0	-2.1	0.0	0.0	-102.6
5091	614499.78	4847345.79	155.12	0	N	A	-77.2	-27.7	0.0	-3.9	0.0	0.0	-101.1
5092	614499.86	4847345.55	155.12	0	N	A	-77.2	-27.7	0.0	-3.9	0.0	0.0	-101.1
5097	614499.78	4847345.79	156.54	0	N	A	-77.2	-27.7	0.0	-2.3	0.0	0.0	-102.7
5098	614499.86	4847345.55	156.54	0	N	A	-77.2	-27.7	0.0	-2.3	0.0	0.0	-102.7
5099	614361.71	4847287.01	154.48	0	N	A	-77.2	-27.6	0.0	-4.2	0.0	0.0	-100.6
5100	614361.82	4847286.79	154.48	0	N	A	-77.2	-27.6	0.0	-4.2	0.0	0.0	-100.7
5110	614361.71	4847287.01	155.90	0	N	A	-77.2	-27.6	0.0	-2.2	0.0	0.0	-102.6
5111	614361.82	4847286.79	155.90	0	N	A	-77.2	-27.6	0.0	-2.2	0.0	0.0	-102.7
5127	613538.77	4846872.16	140.87	0	N	A	-77.2	-28.9	0.0	2.1	0.0	0.0	-108.2
5128	613538.87	4846871.93	140.87	0	N	A	-77.2	-28.9	0.0	7.6	0.0	0.0	-113.7
5130	614513.76	4847350.05	155.43	0	N	A	-77.2	-28.1	0.0	-3.8	0.0	0.0	-101.4
5131	614513.84	4847349.81	155.43	0	N	A	-77.2	-28.1	0.0	-3.8	0.0	0.0	-101.5
5132	613538.77	4846872.16	142.30	0	N	A	-77.2	-28.9	0.0	7.6	0.0	0.0	-113.7
5133	613538.87	4846871.93	142.30	0	N	A	-77.2	-28.9	0.0	4.9	0.0	0.0	-111.0

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5144	614513.76	4847350.05	156.86	0	N	A	-77.2	-28.1	0.0	-2.3	0.0	0.0	-103.0
5145	614513.84	4847349.81	156.86	0	N	A	-77.2	-28.1	0.0	-2.2	0.0	0.0	-103.0
5154	614387.88	4847300.46	158.10	0	N	A	-77.2	-27.9	0.0	-4.1	0.0	0.0	-101.0
5155	614387.99	4847300.23	158.10	0	N	A	-77.2	-28.0	0.0	-4.1	0.0	0.0	-101.0
5160	614387.88	4847300.46	159.53	0	N	A	-77.2	-27.9	0.0	-3.0	0.0	0.0	-102.1
5161	614387.99	4847300.23	159.53	0	N	A	-77.2	-28.0	0.0	-3.0	0.0	0.0	-102.1
5183	614381.46	4847297.08	158.10	0	N	A	-77.2	-28.2	0.0	-4.2	0.0	0.0	-101.3
5184	614381.58	4847296.86	158.10	0	N	A	-77.2	-28.3	0.0	-4.2	0.0	0.0	-101.3
5185	614381.46	4847297.08	159.53	0	N	A	-77.2	-28.2	0.0	-2.5	0.0	0.0	-102.9
5186	614381.58	4847296.86	159.53	0	N	A	-77.2	-28.3	0.0	-2.6	0.0	0.0	-102.9
5209	614368.34	4847290.40	154.87	0	N	A	-77.2	-28.5	0.0	-4.2	0.0	0.0	-101.5
5210	614368.46	4847290.17	154.87	0	N	A	-77.2	-28.6	0.0	-4.2	0.0	0.0	-101.6
5223	614368.34	4847290.40	156.30	0	N	A	-77.2	-28.5	0.0	-2.0	0.0	0.0	-103.8
5224	614368.46	4847290.17	156.30	0	N	A	-77.2	-28.6	0.0	-1.9	0.0	0.0	-103.8
5314	614355.81	4847283.99	154.20	0	N	A	-77.2	-29.9	0.0	-4.2	0.0	0.0	-102.9
5315	614355.93	4847283.76	154.20	0	N	A	-77.2	-29.9	0.0	-4.2	0.0	0.0	-103.0
5325	614355.81	4847283.99	155.63	0	N	A	-77.2	-29.9	0.0	-2.2	0.0	0.0	-105.0
5326	614355.93	4847283.76	155.63	0	N	A	-77.2	-29.9	0.0	-2.1	0.0	0.0	-105.0
5386	613148.69	4846672.01	147.30	0	N	A	-77.2	-31.5	0.0	2.1	0.0	0.0	-110.8
5387	613148.82	4846671.80	147.30	0	N	A	-77.2	-31.5	0.0	2.1	0.0	0.0	-110.8
5396	613148.69	4846672.01	148.72	0	N	A	-77.2	-31.5	0.0	2.6	0.0	0.0	-111.3
5397	613148.82	4846671.80	148.72	0	N	A	-77.2	-31.5	0.0	8.1	0.0	0.0	-116.8
5539	613799.33	4846996.58	139.82	0	N	A	-77.2	-32.9	0.0	-4.0	0.0	0.0	-106.1
5545	613799.44	4846996.36	139.82	0	N	A	-77.2	-32.9	0.0	6.5	0.0	0.0	-116.6
5559	613799.33	4846996.58	141.24	0	N	A	-77.2	-32.9	0.0	-2.2	0.0	0.0	-108.0
5560	613799.44	4846996.36	141.24	0	N	A	-77.2	-32.9	0.0	-2.2	0.0	0.0	-108.0
5600	614392.25	4847302.67	158.10	0	N	A	-77.2	-33.1	0.0	-4.1	0.0	0.0	-106.2
5601	614392.35	4847302.44	158.10	0	N	A	-77.2	-33.1	0.0	-4.1	0.0	0.0	-106.2
5609	614392.25	4847302.67	159.53	0	N	A	-77.2	-33.1	0.0	-3.4	0.0	0.0	-106.9
5610	614392.35	4847302.44	159.53	0	N	A	-77.2	-33.1	0.0	-3.4	0.0	0.0	-106.9
5619	613756.49	4846975.02	139.60	0	N	A	-77.2	-33.5	0.0	3.1	0.0	0.0	-113.9
5621	613756.60	4846974.79	139.60	0	N	A	-77.2	-33.5	0.0	5.4	0.0	0.0	-116.1
5622	613756.49	4846975.02	141.02	0	N	A	-77.2	-33.5	0.0	-2.1	0.0	0.0	-108.6
5624	613756.60	4846974.79	141.02	0	N	A	-77.2	-33.5	0.0	-2.1	0.0	0.0	-108.6
5632	612785.09	4846454.88	159.76	0	N	A	-77.2	-34.0	0.0	8.5	0.0	0.0	-119.7
5635	612785.22	4846454.67	159.76	0	N	A	-77.2	-34.0	0.0	2.6	0.0	0.0	-113.8
5648	612785.09	4846454.88	161.19	0	N	A	-77.2	-34.0	0.0	9.2	0.0	0.0	-120.4
5650	612785.22	4846454.67	161.19	0	N	A	-77.2	-34.0	0.0	8.5	0.0	0.0	-119.7
5694	613713.43	4846953.91	139.13	0	N	A	-77.2	-34.1	0.0	-2.7	0.0	0.0	-108.6
5700	613713.54	4846953.68	139.13	0	N	A	-77.2	-34.1	0.0	0.4	0.0	0.0	-111.7
5710	613713.43	4846953.91	140.55	0	N	A	-77.2	-34.1	0.0	-2.1	0.0	0.0	-109.2
5712	613713.54	4846953.68	140.55	0	N	A	-77.2	-34.1	0.0	-2.1	0.0	0.0	-109.2
5750	613670.14	4846933.26	138.69	0	N	A	-77.2	-34.6	0.0	-3.5	0.0	0.0	-108.3
5753	613670.25	4846933.04	138.69	0	N	A	-77.2	-34.6	0.0	1.9	0.0	0.0	-113.7
5754	613670.14	4846933.26	140.12	0	N	A	-77.2	-34.6	0.0	-1.9	0.0	0.0	-109.9
5756	613670.25	4846933.04	140.12	0	N	A	-77.2	-34.6	0.0	4.4	0.0	0.0	-116.2
6409	615680.72	4847590.58	162.40	0	N	A	-77.2	-37.3	0.0	-0.3	0.0	0.0	-114.2
6418	615680.62	4847590.35	162.40	0	N	A	-77.2	-37.3	0.0	1.9	0.0	0.0	-116.4
6516	615680.72	4847590.58	163.83	0	N	A	-77.2	-37.3	0.0	-0.2	0.0	0.0	-114.3
6522	615680.62	4847590.35	163.83	0	N	A	-77.2	-37.3	0.0	1.8	0.0	0.0	-116.3
7008	613359.82	4846788.21	141.17	0	N	A	-77.2	-40.5	0.0	-2.1	0.0	0.0	-115.6
7009	613359.93	4846787.99	141.17	0	N	A	-77.2	-40.5	0.0	-2.1	0.0	0.0	-115.6
7015	613359.82	4846788.21	142.60	0	N	A	-77.2	-40.5	0.0	-1.4	0.0	0.0	-116.4
7016	613359.93	4846787.99	142.60	0	N	A	-77.2	-40.5	0.0	-1.4	0.0	0.0	-116.4
7030	613338.27	4846777.20	141.50	0	N	A	-77.2	-40.7	0.0	-2.1	0.0	0.0	-115.8
7032	613338.39	4846776.98	141.50	0	N	A	-77.2	-40.7	0.0	-2.1	0.0	0.0	-115.8
7035	613338.27	4846777.20	142.92	0	N	A	-77.2	-40.7	0.0	-1.3	0.0	0.0	-116.6
7036	613338.39	4846776.98	142.92	0	N	A	-77.2	-40.7	0.0	-1.3	0.0	0.0	-116.6
7274	615466.67	4847624.29	164.25	0	N	A	-77.2	-42.7	0.0	0.6	0.0	0.0	-120.4
7277	615466.71	4847624.04	164.25	0	N	A	-77.2	-42.7	0.0	-1.2	0.0	0.0	-118.7
7278	615452.04	4847621.09	164.35	0	N	A	-77.2	-42.7	0.0	-1.5	0.0	0.0	-118.4
7280	615452.10	4847620.84	164.35	0	N	A	-77.2	-42.7	0.0	-2.3	0.0	0.0	-117.6
7282	615466.67	4847624.29	165.68	0	N	A	-77.2	-42.7	0.0	-0.4	0.0	0.0	-119.4
7283	615466.71	4847624.04	165.68	0	N	A	-77.2	-42.7	0.0	-1.8	0.0	0.0	-118.0
7284	615452.04	4847621.09	165.77	0	N	A	-77.2	-42.7	0.0	3.3	0.0	0.0	-123.2
7285	615452.10	4847620.84	165.77	0	N	A	-77.2	-42.7	0.0	3.3	0.0	0.0	-123.2

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
7358	615495.23	4847629.05	163.83	0	N	A	-77.2	-42.9	0.0	-2.1	0.0	0.0	-118.0
7364	615495.26	4847628.80	163.83	0	N	A	-77.2	-42.9	0.0	-1.7	0.0	0.0	-118.4
7404	615495.23	4847629.05	165.25	0	N	A	-77.2	-42.9	0.0	-1.2	0.0	0.0	-118.9
7414	615495.26	4847628.80	165.25	0	N	A	-77.2	-42.9	0.0	-1.7	0.0	0.0	-118.4
7487	615510.18	4847630.28	163.46	0	N	A	-77.2	-43.0	0.0	4.0	0.0	0.0	-124.2
7492	615510.20	4847630.03	163.46	0	N	A	-77.2	-43.0	0.0	0.3	0.0	0.0	-120.6
7513	615510.18	4847630.28	164.89	0	N	A	-77.2	-43.0	0.0	-2.6	0.0	0.0	-117.7
7519	615510.20	4847630.03	164.89	0	N	A	-77.2	-43.0	0.0	-1.3	0.0	0.0	-118.9
7572	615480.94	4847627.01	164.15	0	N	A	-77.2	-43.2	0.0	-1.0	0.0	0.0	-119.4
7577	615480.98	4847626.77	164.15	0	N	A	-77.2	-43.2	0.0	-0.8	0.0	0.0	-119.5
7589	615480.94	4847627.01	165.57	0	N	A	-77.2	-43.2	0.0	-1.8	0.0	0.0	-118.6
7594	615480.98	4847626.77	165.57	0	N	A	-77.2	-43.2	0.0	-1.3	0.0	0.0	-119.0
7797	615539.38	4847630.42	163.44	0	N	A	-77.2	-43.3	0.0	-1.4	0.0	0.0	-119.0
7799	615539.37	4847630.17	163.44	0	N	A	-77.2	-43.3	0.0	0.3	0.0	0.0	-120.8
7854	615539.38	4847630.42	164.87	0	N	A	-77.2	-43.3	0.0	-3.9	0.0	0.0	-116.6
7865	615539.37	4847630.17	164.87	0	N	A	-77.2	-43.3	0.0	-3.9	0.0	0.0	-116.6
7926	615524.81	4847630.76	163.43	0	N	A	-77.2	-43.4	0.0	-2.8	0.0	0.0	-117.8
7951	615524.81	4847630.51	163.43	0	N	A	-77.2	-43.4	0.0	-2.6	0.0	0.0	-118.0
7964	615524.81	4847630.76	164.86	0	N	A	-77.2	-43.4	0.0	-4.0	0.0	0.0	-116.6
7970	615524.81	4847630.51	164.86	0	N	A	-77.2	-43.4	0.0	-4.0	0.0	0.0	-116.6
7990	615582.12	4847625.63	163.10	0	N	A	-77.2	-43.5	0.0	0.2	0.0	0.0	-120.9
7997	615582.07	4847625.39	163.10	0	N	A	-77.2	-43.5	0.0	0.4	0.0	0.0	-121.1
8010	615582.12	4847625.63	164.52	0	N	A	-77.2	-43.5	0.0	-1.2	0.0	0.0	-119.6
8013	615582.07	4847625.39	164.52	0	N	A	-77.2	-43.5	0.0	-0.4	0.0	0.0	-120.3
8034	615553.83	4847629.56	163.30	0	N	A	-77.2	-43.6	0.0	-0.5	0.0	0.0	-120.4
8036	615553.82	4847629.32	163.30	0	N	A	-77.2	-43.6	0.0	0.6	0.0	0.0	-121.4
8047	615553.83	4847629.56	164.72	0	N	A	-77.2	-43.6	0.0	0.3	0.0	0.0	-121.1
8052	615553.82	4847629.32	164.72	0	N	A	-77.2	-43.6	0.0	4.0	0.0	0.0	-124.8
8056	615596.67	4847622.27	163.10	0	N	A	-77.2	-43.7	0.0	0.9	0.0	0.0	-121.8
8062	615596.61	4847622.02	163.10	0	N	A	-77.2	-43.7	0.0	0.2	0.0	0.0	-121.1
8094	615567.79	4847628.11	163.15	0	N	A	-77.2	-43.7	0.0	0.8	0.0	0.0	-121.7
8098	615567.76	4847627.86	163.15	0	N	A	-77.2	-43.7	0.0	0.0	0.0	0.0	-120.9
8102	615596.67	4847622.27	164.53	0	N	A	-77.2	-43.7	0.0	1.2	0.0	0.0	-122.1
8106	615596.61	4847622.02	164.53	0	N	A	-77.2	-43.7	0.0	1.1	0.0	0.0	-122.0
8115	615567.79	4847628.11	164.57	0	N	A	-77.2	-43.7	0.0	4.2	0.0	0.0	-125.2
8118	615567.76	4847627.86	164.57	0	N	A	-77.2	-43.7	0.0	3.3	0.0	0.0	-124.2
8211	612961.82	4846566.53	154.91	0	N	A	-77.2	-44.1	0.0	6.7	0.0	0.0	-128.0
8219	612961.95	4846566.32	154.91	0	N	A	-77.2	-44.1	0.0	14.8	0.0	0.0	-136.1
8241	612961.82	4846566.53	156.33	0	N	A	-77.2	-44.1	0.0	0.3	0.0	0.0	-121.6
8247	612961.95	4846566.32	156.33	0	N	A	-77.2	-44.1	0.0	6.0	0.0	0.0	-127.3
8293	613425.17	4846819.45	143.01	0	N	A	-77.2	-44.4	0.0	-2.2	0.0	0.0	-119.4
8295	613425.27	4846819.22	143.01	0	N	A	-77.2	-44.4	0.0	-2.2	0.0	0.0	-119.4
8297	613425.17	4846819.45	144.44	0	N	A	-77.2	-44.4	0.0	-1.2	0.0	0.0	-120.4
8301	613425.27	4846819.22	144.44	0	N	A	-77.2	-44.4	0.0	-1.2	0.0	0.0	-120.4
8355	613414.05	4846814.28	142.10	0	N	A	-77.2	-45.3	0.0	2.1	0.0	0.0	-124.6
8357	613414.16	4846814.05	142.10	0	N	A	-77.2	-45.3	0.0	-2.5	0.0	0.0	-120.0
8360	613414.05	4846814.28	143.52	0	N	A	-77.2	-45.3	0.0	-1.3	0.0	0.0	-121.2
8363	613414.16	4846814.05	143.52	0	N	A	-77.2	-45.3	0.0	-1.3	0.0	0.0	-121.2
8444	613402.45	4846808.86	140.33	0	N	A	-77.2	-45.6	0.0	-0.6	0.0	0.0	-122.3
8448	613402.56	4846808.63	140.33	0	N	A	-77.2	-45.6	0.0	-0.5	0.0	0.0	-122.3
8453	613402.45	4846808.86	141.75	0	N	A	-77.2	-45.6	0.0	-1.2	0.0	0.0	-121.6
8454	613402.56	4846808.63	141.75	0	N	A	-77.2	-45.6	0.0	-1.4	0.0	0.0	-121.4
8462	613274.68	4846742.55	138.87	0	N	A	-77.2	-45.7	0.0	-0.4	0.0	0.0	-122.4
8473	613274.80	4846742.33	138.87	0	N	A	-77.2	-45.7	0.0	-0.2	0.0	0.0	-122.7
8489	613274.68	4846742.55	140.30	0	N	A	-77.2	-45.7	0.0	-1.7	0.0	0.0	-121.2
8492	613274.80	4846742.33	140.30	0	N	A	-77.2	-45.7	0.0	-2.1	0.0	0.0	-120.8
8500	613390.82	4846803.36	140.50	0	N	A	-77.2	-45.8	0.0	-2.4	0.0	0.0	-120.7
8505	613390.93	4846803.14	140.50	0	N	A	-77.2	-45.8	0.0	-2.3	0.0	0.0	-120.7
8513	613390.82	4846803.36	141.93	0	N	A	-77.2	-45.8	0.0	-1.5	0.0	0.0	-121.5
8516	613390.93	4846803.14	141.93	0	N	A	-77.2	-45.8	0.0	-1.5	0.0	0.0	-121.5
8527	613379.22	4846797.80	140.91	0	N	A	-77.2	-46.0	0.0	1.1	0.0	0.0	-124.2
8531	613379.33	4846797.58	140.91	0	N	A	-77.2	-46.0	0.0	2.8	0.0	0.0	-126.0
8538	613379.22	4846797.80	142.34	0	N	A	-77.2	-46.0	0.0	-1.4	0.0	0.0	-121.8
8542	613379.33	4846797.58	142.34	0	N	A	-77.2	-46.0	0.0	-1.4	0.0	0.0	-121.7
8561	613396.60	4846806.10	140.22	0	N	A	-77.2	-46.3	0.0	-1.8	0.0	0.0	-121.6
8565	613396.71	4846805.88	140.22	0	N	A	-77.2	-46.3	0.0	-1.8	0.0	0.0	-121.7

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
8577	613408.18	4846811.54	141.15	0	N	A	-77.2	-46.3	0.0	-1.6	0.0	0.0	-121.9
8581	613408.29	4846811.32	141.15	0	N	A	-77.2	-46.3	0.0	-1.3	0.0	0.0	-122.2
8584	613384.99	4846800.59	140.77	0	N	A	-77.2	-46.3	0.0	-1.7	0.0	0.0	-121.8
8586	613385.10	4846800.36	140.77	0	N	A	-77.2	-46.3	0.0	-1.4	0.0	0.0	-122.1
8594	613396.60	4846806.10	141.65	0	N	A	-77.2	-46.3	0.0	-1.7	0.0	0.0	-121.8
8598	613396.71	4846805.88	141.65	0	N	A	-77.2	-46.3	0.0	-1.7	0.0	0.0	-121.7
8601	613408.18	4846811.54	142.57	0	N	A	-77.2	-46.3	0.0	-2.6	0.0	0.0	-120.9
8607	613408.29	4846811.32	142.57	0	N	A	-77.2	-46.3	0.0	-2.8	0.0	0.0	-120.7
8612	613384.99	4846800.59	142.20	0	N	A	-77.2	-46.3	0.0	-1.4	0.0	0.0	-122.0
8614	613385.10	4846800.36	142.20	0	N	A	-77.2	-46.3	0.0	-1.5	0.0	0.0	-122.0
8619	615409.58	4847609.93	164.55	0	N	A	-77.2	-46.3	0.0	-3.1	0.0	0.0	-120.4
8622	615409.65	4847609.69	164.55	0	N	A	-77.2	-46.3	0.0	-1.8	0.0	0.0	-121.8
8626	613373.42	4846794.99	140.99	0	N	A	-77.2	-46.3	0.0	1.0	0.0	0.0	-124.5
8628	613373.53	4846794.77	140.99	0	N	A	-77.2	-46.3	0.0	2.5	0.0	0.0	-126.0
8666	613285.37	4846748.52	140.16	0	N	A	-77.2	-46.4	0.0	0.1	0.0	0.0	-123.6
8712	613285.50	4846748.31	140.16	0	N	A	-77.2	-46.4	0.0	2.7	0.0	0.0	-126.2
8714	615409.58	4847609.93	165.97	0	N	A	-77.2	-46.3	0.0	-2.1	0.0	0.0	-121.4
8716	615409.65	4847609.69	165.97	0	N	A	-77.2	-46.3	0.0	-2.1	0.0	0.0	-121.4
8718	613373.42	4846794.99	142.42	0	N	A	-77.2	-46.3	0.0	-1.4	0.0	0.0	-122.2
8722	613373.53	4846794.77	142.42	0	N	A	-77.2	-46.3	0.0	-1.4	0.0	0.0	-122.2
8745	613285.37	4846748.52	141.59	0	N	A	-77.2	-46.4	0.0	-1.8	0.0	0.0	-121.8
8749	613285.50	4846748.31	141.59	0	N	A	-77.2	-46.4	0.0	-1.8	0.0	0.0	-121.7
8761	613319.14	4846767.10	141.87	0	N	A	-77.2	-46.5	0.0	25.3	0.0	0.0	-148.9
8763	613319.25	4846766.88	141.87	0	N	A	-77.2	-46.5	0.0	-2.1	0.0	0.0	-121.6
8771	615607.63	4847619.41	163.10	0	N	A	-77.2	-46.5	0.0	0.5	0.0	0.0	-124.2
8772	615607.57	4847619.17	163.10	0	N	A	-77.2	-46.5	0.0	0.7	0.0	0.0	-124.4
8799	613296.57	4846754.75	141.30	0	N	A	-77.2	-46.5	0.0	-3.4	0.0	0.0	-120.3
8807	613296.69	4846754.53	141.30	0	N	A	-77.2	-46.5	0.0	-3.6	0.0	0.0	-120.1
8810	613307.83	4846760.96	141.77	0	N	A	-77.2	-46.5	0.0	6.8	0.0	0.0	-130.5
8815	613307.95	4846760.74	141.77	0	N	A	-77.2	-46.5	0.0	0.2	0.0	0.0	-123.9
8817	613319.14	4846767.10	143.29	0	N	A	-77.2	-46.5	0.0	-1.3	0.0	0.0	-122.4
8819	613319.25	4846766.88	143.29	0	N	A	-77.2	-46.5	0.0	-1.3	0.0	0.0	-122.4
8825	615607.63	4847619.41	164.53	0	N	A	-77.2	-46.5	0.0	0.8	0.0	0.0	-124.5
8837	615607.57	4847619.17	164.53	0	N	A	-77.2	-46.5	0.0	0.5	0.0	0.0	-124.3
8841	613296.57	4846754.75	142.73	0	N	A	-77.2	-46.5	0.0	-1.4	0.0	0.0	-122.3
8842	613296.69	4846754.53	142.73	0	N	A	-77.2	-46.5	0.0	-1.4	0.0	0.0	-122.3
8844	613307.83	4846760.96	143.20	0	N	A	-77.2	-46.5	0.0	-1.3	0.0	0.0	-122.4
8851	613307.95	4846760.74	143.20	0	N	A	-77.2	-46.5	0.0	-1.3	0.0	0.0	-122.4
8876	615755.61	4847559.50	164.06	0	N	A	-77.2	-46.6	0.0	-3.2	0.0	0.0	-120.6
8881	615755.52	4847559.27	164.06	0	N	A	-77.2	-46.6	0.0	-3.1	0.0	0.0	-120.7
8897	615755.61	4847559.50	165.49	0	N	A	-77.2	-46.6	0.0	-3.1	0.0	0.0	-120.7
8903	615755.52	4847559.27	165.49	0	N	A	-77.2	-46.6	0.0	-2.9	0.0	0.0	-120.9
8915	613324.81	4846770.15	141.78	0	N	A	-77.2	-46.7	0.0	-2.3	0.0	0.0	-121.7
8917	613324.93	4846769.93	141.78	0	N	A	-77.2	-46.7	0.0	-1.7	0.0	0.0	-122.2
8921	613324.81	4846770.15	143.20	0	N	A	-77.2	-46.7	0.0	-1.3	0.0	0.0	-122.6
8924	613324.93	4846769.93	143.20	0	N	A	-77.2	-46.7	0.0	-1.3	0.0	0.0	-122.6
8941	613313.50	4846764.05	141.83	0	N	A	-77.2	-46.9	0.0	-3.5	0.0	0.0	-120.5
8943	613313.62	4846763.83	141.83	0	N	A	-77.2	-46.9	0.0	1.6	0.0	0.0	-125.6
8953	613313.50	4846764.05	143.25	0	N	A	-77.2	-46.9	0.0	-1.3	0.0	0.0	-122.8
8954	613313.62	4846763.83	143.25	0	N	A	-77.2	-46.9	0.0	-1.3	0.0	0.0	-122.8
8985	613302.23	4846757.88	141.64	0	N	A	-77.2	-47.0	0.0	-2.4	0.0	0.0	-121.9
8993	613302.35	4846757.66	141.64	0	N	A	-77.2	-47.0	0.0	-1.5	0.0	0.0	-122.8
8995	613302.23	4846757.88	143.06	0	N	A	-77.2	-47.0	0.0	-1.3	0.0	0.0	-122.9
8998	613302.35	4846757.66	143.06	0	N	A	-77.2	-47.0	0.0	-1.3	0.0	0.0	-122.9
9004	615771.28	4847554.85	164.10	0	N	A	-77.2	-47.2	0.0	-1.9	0.0	0.0	-122.5
9012	615771.24	4847554.61	164.10	0	N	A	-77.2	-47.2	0.0	-2.3	0.0	0.0	-122.1
9038	615771.28	4847554.85	165.53	0	N	A	-77.2	-47.2	0.0	8.3	0.0	0.0	-132.7
9042	615771.24	4847554.61	165.53	0	N	A	-77.2	-47.2	0.0	5.6	0.0	0.0	-130.0
9071	613291.03	4846751.68	140.88	0	N	A	-77.2	-47.3	0.0	5.7	0.0	0.0	-130.2
9090	613291.16	4846751.46	140.88	0	N	A	-77.2	-47.3	0.0	-3.3	0.0	0.0	-121.2
9117	615614.55	4847617.46	163.00	0	N	A	-77.2	-47.4	0.0	0.4	0.0	0.0	-124.9
9123	615614.48	4847617.22	163.00	0	N	A	-77.2	-47.4	0.0	-0.2	0.0	0.0	-124.3
9125	613291.03	4846751.68	142.30	0	N	A	-77.2	-47.3	0.0	-1.5	0.0	0.0	-123.1
9128	613291.16	4846751.46	142.30	0	N	A	-77.2	-47.3	0.0	-1.5	0.0	0.0	-123.1
9136	615614.55	4847617.46	164.43	0	N	A	-77.2	-47.4	0.0	-0.8	0.0	0.0	-123.8
9141	615614.48	4847617.22	164.43	0	N	A	-77.2	-47.4	0.0	1.1	0.0	0.0	-125.7

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
9180	613419.28	4846816.71	142.69	0	N	A	-77.2	-47.5	0.0	8.9	0.0	0.0	-133.6
9185	613419.38	4846816.49	142.69	0	N	A	-77.2	-47.5	0.0	7.8	0.0	0.0	-132.5
9192	613022.71	4846601.48	156.17	0	N	A	-77.2	-47.5	0.0	-1.8	0.0	0.0	-122.9
9197	613022.84	4846601.26	156.17	0	N	A	-77.2	-47.5	0.0	-1.8	0.0	0.0	-122.9
9216	613419.28	4846816.71	144.11	0	N	A	-77.2	-47.5	0.0	-1.2	0.0	0.0	-123.4
9218	613419.38	4846816.49	144.11	0	N	A	-77.2	-47.5	0.0	-1.2	0.0	0.0	-123.4
9222	613022.71	4846601.48	157.59	0	N	A	-77.2	-47.5	0.0	-0.4	0.0	0.0	-124.3
9226	613022.84	4846601.26	157.59	0	N	A	-77.2	-47.5	0.0	-0.4	0.0	0.0	-124.3
9231	615763.60	4847556.71	164.10	0	N	A	-77.2	-47.6	0.0	-1.7	0.0	0.0	-123.2
9233	615763.52	4847556.48	164.10	0	N	A	-77.2	-47.6	0.0	-1.9	0.0	0.0	-123.0
9251	615763.60	4847556.71	165.52	0	N	A	-77.2	-47.6	0.0	5.7	0.0	0.0	-130.5
9257	615763.52	4847556.48	165.52	0	N	A	-77.2	-47.6	0.0	5.6	0.0	0.0	-130.5
9280	615779.06	4847553.70	164.10	0	N	A	-77.2	-47.8	0.0	-1.9	0.0	0.0	-123.1
9281	615779.03	4847553.46	164.10	0	N	A	-77.2	-47.8	0.0	-1.6	0.0	0.0	-123.4
9288	615630.50	4847611.73	162.22	0	N	A	-77.2	-47.8	0.0	4.3	0.0	0.0	-129.3
9298	615630.41	4847611.49	162.22	0	N	A	-77.2	-47.8	0.0	2.3	0.0	0.0	-127.3
9303	615779.06	4847553.70	165.53	0	N	A	-77.2	-47.8	0.0	2.0	0.0	0.0	-127.1
9304	615779.03	4847553.46	165.53	0	N	A	-77.2	-47.8	0.0	8.3	0.0	0.0	-133.3
9305	615630.50	4847611.73	163.65	0	N	A	-77.2	-47.8	0.0	-0.5	0.0	0.0	-124.5
9307	615630.41	4847611.49	163.65	0	N	A	-77.2	-47.8	0.0	0.1	0.0	0.0	-125.2
9315	615416.66	4847612.04	164.53	0	N	A	-77.2	-47.9	0.0	-2.5	0.0	0.0	-122.7
9318	615416.73	4847611.80	164.53	0	N	A	-77.2	-47.9	0.0	0.7	0.0	0.0	-125.9
9323	615416.66	4847612.04	165.95	0	N	A	-77.2	-47.9	0.0	-2.1	0.0	0.0	-123.0
9324	615416.73	4847611.80	165.95	0	N	A	-77.2	-47.9	0.0	-2.1	0.0	0.0	-123.0
9342	615439.13	4847617.78	164.44	0	N	A	-77.2	-48.1	0.0	-2.4	0.0	0.0	-122.9
9344	615439.19	4847617.54	164.44	0	N	A	-77.2	-48.1	0.0	-2.4	0.0	0.0	-122.9
9365	615431.52	4847615.95	164.47	0	N	A	-77.2	-48.1	0.0	-1.7	0.0	0.0	-123.6
9367	615431.58	4847615.71	164.47	0	N	A	-77.2	-48.1	0.0	-2.8	0.0	0.0	-122.5
9375	615439.13	4847617.78	165.87	0	N	A	-77.2	-48.1	0.0	3.3	0.0	0.0	-128.6
9378	615439.19	4847617.54	165.87	0	N	A	-77.2	-48.1	0.0	3.3	0.0	0.0	-128.6
9391	615420.56	4847613.11	164.51	0	N	A	-77.2	-48.1	0.0	-1.7	0.0	0.0	-123.6
9394	615420.63	4847612.87	164.51	0	N	A	-77.2	-48.1	0.0	-2.4	0.0	0.0	-122.9
9397	615431.52	4847615.95	165.90	0	N	A	-77.2	-48.1	0.0	3.3	0.0	0.0	-128.6
9399	615431.58	4847615.71	165.90	0	N	A	-77.2	-48.1	0.0	3.3	0.0	0.0	-128.6
9414	615424.38	4847614.14	164.49	0	N	A	-77.2	-48.2	0.0	-1.5	0.0	0.0	-123.9
9418	615424.45	4847613.90	164.49	0	N	A	-77.2	-48.2	0.0	-0.5	0.0	0.0	-124.9
9429	615420.56	4847613.11	165.94	0	N	A	-77.2	-48.1	0.0	-2.1	0.0	0.0	-123.2
9431	615420.63	4847612.87	165.94	0	N	A	-77.2	-48.1	0.0	-2.1	0.0	0.0	-123.2
9439	615424.38	4847614.14	165.92	0	N	A	-77.2	-48.2	0.0	3.3	0.0	0.0	-128.7
9442	615424.45	4847613.90	165.92	0	N	A	-77.2	-48.2	0.0	3.3	0.0	0.0	-128.7
9458	612902.20	4846529.45	153.88	0	N	A	-77.2	-48.3	0.0	-0.9	0.0	0.0	-124.6
9466	612902.34	4846529.24	153.88	0	N	A	-77.2	-48.3	0.0	-1.5	0.0	0.0	-123.9
9484	612902.20	4846529.45	155.30	0	N	A	-77.2	-48.3	0.0	-0.4	0.0	0.0	-125.0
9487	612902.34	4846529.24	155.30	0	N	A	-77.2	-48.3	0.0	-1.0	0.0	0.0	-124.5
9510	613012.02	4846595.49	156.27	0	N	A	-77.2	-48.4	0.0	-1.8	0.0	0.0	-123.8
9512	613012.15	4846595.27	156.27	0	N	A	-77.2	-48.4	0.0	-1.8	0.0	0.0	-123.8
9527	613012.02	4846595.49	157.70	0	N	A	-77.2	-48.4	0.0	-0.4	0.0	0.0	-125.1
9530	613012.15	4846595.27	157.70	0	N	A	-77.2	-48.4	0.0	-0.4	0.0	0.0	-125.1
9531	615443.00	4847618.83	164.41	0	N	A	-77.2	-48.4	0.0	-2.4	0.0	0.0	-123.2
9533	615443.07	4847618.59	164.41	0	N	A	-77.2	-48.4	0.0	-2.4	0.0	0.0	-123.3
9543	615443.00	4847618.83	165.84	0	N	A	-77.2	-48.4	0.0	3.3	0.0	0.0	-129.0
9545	615443.07	4847618.59	165.84	0	N	A	-77.2	-48.4	0.0	3.3	0.0	0.0	-129.0
9555	615435.32	4847616.83	164.46	0	N	A	-77.2	-48.6	0.0	-0.6	0.0	0.0	-125.2
9557	615435.37	4847616.58	164.46	0	N	A	-77.2	-48.6	0.0	-2.8	0.0	0.0	-122.9
9597	615620.00	4847615.71	162.78	0	N	A	-77.2	-48.6	0.0	-0.6	0.0	0.0	-125.2
9601	615619.92	4847615.48	162.78	0	N	A	-77.2	-48.6	0.0	1.4	0.0	0.0	-127.2
9621	615435.32	4847616.83	165.88	0	N	A	-77.2	-48.6	0.0	3.3	0.0	0.0	-129.1
9622	615435.37	4847616.58	165.88	0	N	A	-77.2	-48.6	0.0	3.3	0.0	0.0	-129.1
9628	613000.87	4846589.20	156.39	0	N	A	-77.2	-48.6	0.0	-1.7	0.0	0.0	-124.1
9631	613000.99	4846588.98	156.39	0	N	A	-77.2	-48.6	0.0	-1.7	0.0	0.0	-124.1
9657	615620.00	4847615.71	164.20	0	N	A	-77.2	-48.6	0.0	-0.3	0.0	0.0	-125.5
9660	615619.92	4847615.48	164.20	0	N	A	-77.2	-48.6	0.0	0.8	0.0	0.0	-126.6
9696	613280.34	4846745.71	139.47	0	N	A	-77.2	-48.7	0.0	0.1	0.0	0.0	-125.9
9728	613280.46	4846745.50	139.47	0	N	A	-77.2	-48.7	0.0	0.0	0.0	0.0	-125.9
9730	613000.87	4846589.20	157.82	0	N	A	-77.2	-48.6	0.0	-0.5	0.0	0.0	-125.4
9732	613000.99	4846588.98	157.82	0	N	A	-77.2	-48.6	0.0	-0.5	0.0	0.0	-125.4

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
9749	613280.34	4846745.71	140.90	0	N	A	-77.2	-48.7	0.0	-0.8	0.0	0.0	-125.1
9753	613280.46	4846745.50	140.90	0	N	A	-77.2	-48.7	0.0	-0.8	0.0	0.0	-125.0
9780	612989.69	4846582.84	156.66	0	N	A	-77.2	-48.8	0.0	-1.7	0.0	0.0	-124.3
9783	612989.81	4846582.62	156.66	0	N	A	-77.2	-48.8	0.0	-1.7	0.0	0.0	-124.3
9805	612989.69	4846582.84	158.09	0	N	A	-77.2	-48.8	0.0	-0.4	0.0	0.0	-125.5
9809	612989.81	4846582.62	158.09	0	N	A	-77.2	-48.8	0.0	-0.4	0.0	0.0	-125.5
9821	612978.54	4846576.42	157.78	0	N	A	-77.2	-48.9	0.0	-1.7	0.0	0.0	-124.4
9823	612978.66	4846576.20	157.78	0	N	A	-77.2	-48.9	0.0	-1.7	0.0	0.0	-124.4
9824	615427.91	4847615.08	164.48	0	N	A	-77.2	-48.9	0.0	-2.8	0.0	0.0	-123.4
9826	615427.97	4847614.84	164.48	0	N	A	-77.2	-48.9	0.0	-2.4	0.0	0.0	-123.8
9830	612978.54	4846576.42	159.20	0	N	A	-77.2	-48.9	0.0	-0.4	0.0	0.0	-125.7
9832	612978.66	4846576.20	159.20	0	N	A	-77.2	-48.9	0.0	-0.4	0.0	0.0	-125.7
9843	615427.91	4847615.08	165.91	0	N	A	-77.2	-48.9	0.0	3.3	0.0	0.0	-129.4
9844	615427.97	4847614.84	165.91	0	N	A	-77.2	-48.9	0.0	3.3	0.0	0.0	-129.4
9848	612912.55	4846536.03	153.38	0	N	A	-77.2	-49.0	0.0	-1.1	0.0	0.0	-125.1
9852	612912.68	4846535.82	153.38	0	N	A	-77.2	-49.0	0.0	-0.6	0.0	0.0	-125.6
9886	612912.55	4846536.03	154.80	0	N	A	-77.2	-49.0	0.0	-0.8	0.0	0.0	-125.4
9896	612912.68	4846535.82	154.80	0	N	A	-77.2	-49.0	0.0	-0.2	0.0	0.0	-126.0
9924	612934.26	4846549.71	151.65	0	N	A	-77.2	-49.1	0.0	-0.1	0.0	0.0	-126.2
9928	612934.40	4846549.50	151.65	0	N	A	-77.2	-49.1	0.0	0.1	0.0	0.0	-126.4
9951	612923.37	4846542.88	152.81	0	N	A	-77.2	-49.1	0.0	1.5	0.0	0.0	-127.8
9963	612923.50	4846542.67	152.81	0	N	A	-77.2	-49.1	0.0	1.3	0.0	0.0	-127.6
9992	612945.20	4846556.49	152.01	0	N	A	-77.2	-49.1	0.0	-0.0	0.0	0.0	-126.3
0010	612945.33	4846556.28	152.01	0	N	A	-77.2	-49.1	0.0	1.1	0.0	0.0	-127.4
0041	612934.26	4846549.71	153.07	0	N	A	-77.2	-49.1	0.0	0.0	0.0	0.0	-126.3
0053	612934.40	4846549.50	153.07	0	N	A	-77.2	-49.1	0.0	1.9	0.0	0.0	-128.1
0078	615812.39	4847557.19	164.67	0	N	A	-77.2	-49.1	0.0	-0.0	0.0	0.0	-126.3
0083	615812.46	4847556.95	164.67	0	N	A	-77.2	-49.1	0.0	-0.0	0.0	0.0	-126.3
0088	612923.37	4846542.88	154.23	0	N	A	-77.2	-49.1	0.0	1.9	0.0	0.0	-128.2
0097	612923.50	4846542.67	154.23	0	N	A	-77.2	-49.1	0.0	2.7	0.0	0.0	-129.0
0126	612945.20	4846556.49	153.44	0	N	A	-77.2	-49.1	0.0	0.5	0.0	0.0	-126.9
0140	612945.33	4846556.28	153.44	0	N	A	-77.2	-49.1	0.0	3.6	0.0	0.0	-130.0
0173	615812.39	4847557.19	166.10	0	N	A	-77.2	-49.1	0.0	0.2	0.0	0.0	-126.6
0175	615812.46	4847556.95	166.10	0	N	A	-77.2	-49.1	0.0	2.0	0.0	0.0	-128.4
0184	612984.09	4846579.63	157.19	0	N	A	-77.2	-49.2	0.0	-1.7	0.0	0.0	-124.7
0195	612984.21	4846579.41	157.19	0	N	A	-77.2	-49.2	0.0	-1.7	0.0	0.0	-124.7
0255	612995.24	4846586.01	156.44	0	N	A	-77.2	-49.2	0.0	-1.7	0.0	0.0	-124.7
0265	612995.37	4846585.79	156.44	0	N	A	-77.2	-49.2	0.0	-1.7	0.0	0.0	-124.7
0268	612984.09	4846579.63	158.61	0	N	A	-77.2	-49.2	0.0	-0.4	0.0	0.0	-126.0
0273	612984.21	4846579.41	158.61	0	N	A	-77.2	-49.2	0.0	-0.4	0.0	0.0	-126.0
0281	612972.98	4846573.17	158.02	0	N	A	-77.2	-49.3	0.0	-1.7	0.0	0.0	-124.8
0284	612973.10	4846572.95	158.02	0	N	A	-77.2	-49.3	0.0	-3.0	0.0	0.0	-123.5
0293	612995.24	4846586.01	157.87	0	N	A	-77.2	-49.2	0.0	-0.5	0.0	0.0	-126.0
0298	612995.37	4846585.79	157.87	0	N	A	-77.2	-49.2	0.0	-0.5	0.0	0.0	-126.0
0347	612972.98	4846573.17	159.44	0	N	A	-77.2	-49.3	0.0	-0.4	0.0	0.0	-126.1
0360	612973.10	4846572.95	159.44	0	N	A	-77.2	-49.3	0.0	-0.4	0.0	0.0	-126.1
0428	613006.38	4846592.31	156.34	0	N	A	-77.2	-49.4	0.0	-1.8	0.0	0.0	-124.8
0434	613006.50	4846592.09	156.34	0	N	A	-77.2	-49.4	0.0	-1.8	0.0	0.0	-124.8
0965	615748.85	4847561.92	163.99	0	N	A	-77.2	-49.4	0.0	-3.5	0.0	0.0	-123.1
0981	615748.77	4847561.68	163.99	0	N	A	-77.2	-49.4	0.0	-3.4	0.0	0.0	-123.2
0993	612950.69	4846559.85	151.95	0	N	A	-77.2	-49.4	0.0	0.4	0.0	0.0	-127.0
1000	612950.82	4846559.64	151.95	0	N	A	-77.2	-49.4	0.0	0.1	0.0	0.0	-126.7
1013	613006.38	4846592.31	157.77	0	N	A	-77.2	-49.4	0.0	-0.4	0.0	0.0	-126.1
1019	613006.50	4846592.09	157.77	0	N	A	-77.2	-49.4	0.0	-0.4	0.0	0.0	-126.1
1048	615748.85	4847561.92	165.42	0	N	A	-77.2	-49.4	0.0	-3.5	0.0	0.0	-123.1
1067	615748.77	4847561.68	165.42	0	N	A	-77.2	-49.4	0.0	-3.4	0.0	0.0	-123.2
1182	615635.22	4847609.89	162.04	0	N	A	-77.2	-49.4	0.0	28.6	0.0	0.0	-155.2
1309	615635.14	4847609.66	162.04	0	N	A	-77.2	-49.4	0.0	26.5	0.0	0.0	-153.2
1327	612950.69	4846559.85	153.37	0	N	A	-77.2	-49.4	0.0	-1.6	0.0	0.0	-125.0
1334	612950.82	4846559.64	153.37	0	N	A	-77.2	-49.4	0.0	-1.6	0.0	0.0	-125.0
1337	612939.74	4846553.12	151.51	0	N	A	-77.2	-49.5	0.0	0.0	0.0	0.0	-126.7
1338	612939.88	4846552.91	151.51	0	N	A	-77.2	-49.5	0.0	0.1	0.0	0.0	-126.8
1342	615635.22	4847609.89	163.47	0	N	A	-77.2	-49.4	0.0	0.3	0.0	0.0	-127.0
1347	615635.14	4847609.66	163.47	0	N	A	-77.2	-49.4	0.0	0.5	0.0	0.0	-127.1
1353	612939.74	4846553.12	152.94	0	N	A	-77.2	-49.5	0.0	0.1	0.0	0.0	-126.8
1359	612939.88	4846552.91	152.94	0	N	A	-77.2	-49.5	0.0	0.6	0.0	0.0	-127.2

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
61373	615744.36	4847563.58	163.92	0	N	A	-77.2	-49.6	0.0	-3.5	0.0	0.0	-123.3
61391	615744.27	4847563.35	163.92	0	N	A	-77.2	-49.6	0.0	-3.5	0.0	0.0	-123.3
61397	612667.96	4846380.29	165.47	0	N	A	-77.2	-49.6	0.0	2.5	0.0	0.0	-129.2
61404	612668.09	4846380.08	165.47	0	N	A	-77.2	-49.6	0.0	2.9	0.0	0.0	-129.6
61455	615744.36	4847563.58	165.34	0	N	A	-77.2	-49.6	0.0	-3.8	0.0	0.0	-122.9
61467	615744.27	4847563.35	165.34	0	N	A	-77.2	-49.6	0.0	-3.7	0.0	0.0	-123.1
61476	612667.96	4846380.29	166.89	0	N	A	-77.2	-49.6	0.0	-0.3	0.0	0.0	-126.5
61480	612668.09	4846380.08	166.89	0	N	A	-77.2	-49.6	0.0	-0.3	0.0	0.0	-126.5
61592	615645.46	4847605.66	161.66	0	N	A	-77.2	-49.6	0.0	1.0	0.0	0.0	-127.8
61637	615645.37	4847605.43	161.66	0	N	A	-77.2	-49.6	0.0	3.1	0.0	0.0	-130.0
61639	612928.84	4846546.32	152.40	0	N	A	-77.2	-49.7	0.0	1.9	0.0	0.0	-128.8
61645	612928.97	4846546.11	152.40	0	N	A	-77.2	-49.7	0.0	2.7	0.0	0.0	-129.5
61659	615645.46	4847605.66	163.08	0	N	A	-77.2	-49.6	0.0	6.4	0.0	0.0	-133.3
61661	615645.37	4847605.43	163.08	0	N	A	-77.2	-49.6	0.0	1.3	0.0	0.0	-128.2
61664	612928.84	4846546.32	153.83	0	N	A	-77.2	-49.7	0.0	3.0	0.0	0.0	-129.9
61667	612928.97	4846546.11	153.83	0	N	A	-77.2	-49.7	0.0	2.6	0.0	0.0	-129.5
61762	615638.93	4847608.46	161.92	0	N	A	-77.2	-49.8	0.0	11.3	0.0	0.0	-138.4
61842	615638.84	4847608.23	161.92	0	N	A	-77.2	-49.8	0.0	12.7	0.0	0.0	-139.8
61854	615638.93	4847608.46	163.34	0	N	A	-77.2	-49.8	0.0	-0.0	0.0	0.0	-127.0
61856	615638.84	4847608.23	163.34	0	N	A	-77.2	-49.8	0.0	1.0	0.0	0.0	-128.0
61996	612918.02	4846539.50	153.14	0	N	A	-77.2	-49.9	0.0	-0.9	0.0	0.0	-126.2
62003	612918.15	4846539.29	153.14	0	N	A	-77.2	-49.9	0.0	1.3	0.0	0.0	-128.4
62048	612918.02	4846539.50	154.57	0	N	A	-77.2	-49.9	0.0	-0.6	0.0	0.0	-126.6
62053	612918.15	4846539.29	154.57	0	N	A	-77.2	-49.9	0.0	1.9	0.0	0.0	-129.0
62247	615413.55	4847611.10	164.54	0	N	A	-77.2	-50.3	0.0	-2.5	0.0	0.0	-125.0
62250	615413.62	4847610.86	164.54	0	N	A	-77.2	-50.3	0.0	-0.6	0.0	0.0	-126.9
62263	615731.06	4847568.99	163.70	0	N	A	-77.2	-50.3	0.0	-3.6	0.0	0.0	-124.0
62271	615730.97	4847568.75	163.70	0	N	A	-77.2	-50.3	0.0	-3.5	0.0	0.0	-124.0
62309	615413.55	4847611.10	165.96	0	N	A	-77.2	-50.3	0.0	-2.1	0.0	0.0	-125.4
62311	615413.62	4847610.86	165.96	0	N	A	-77.2	-50.3	0.0	-2.1	0.0	0.0	-125.4
62319	615626.18	4847613.47	162.43	0	N	A	-77.2	-50.3	0.0	-1.8	0.0	0.0	-125.8
62329	615626.09	4847613.24	162.43	0	N	A	-77.2	-50.3	0.0	-1.5	0.0	0.0	-126.0
62334	615731.06	4847568.99	165.12	0	N	A	-77.2	-50.3	0.0	-3.7	0.0	0.0	-123.8
62337	615730.97	4847568.75	165.12	0	N	A	-77.2	-50.3	0.0	-3.8	0.0	0.0	-123.7
62351	615727.50	4847570.46	163.61	0	N	A	-77.2	-50.4	0.0	-3.4	0.0	0.0	-124.1
62370	615727.41	4847570.23	163.61	0	N	A	-77.2	-50.4	0.0	-3.2	0.0	0.0	-124.4
62380	615626.18	4847613.47	163.86	0	N	A	-77.2	-50.3	0.0	0.3	0.0	0.0	-127.9
62383	615626.09	4847613.24	163.86	0	N	A	-77.2	-50.3	0.0	-0.8	0.0	0.0	-126.8
62391	612657.55	4846373.69	165.57	0	N	A	-77.2	-50.4	0.0	2.8	0.0	0.0	-130.4
62396	612657.69	4846373.48	165.57	0	N	A	-77.2	-50.4	0.0	2.8	0.0	0.0	-130.4
62411	615727.50	4847570.46	165.04	0	N	A	-77.2	-50.4	0.0	-2.3	0.0	0.0	-125.3
62414	615727.41	4847570.23	165.04	0	N	A	-77.2	-50.4	0.0	-0.8	0.0	0.0	-126.8
62425	615715.83	4847575.60	163.28	0	N	A	-77.2	-50.4	0.0	-1.4	0.0	0.0	-126.3
62439	615715.74	4847575.37	163.28	0	N	A	-77.2	-50.4	0.0	9.7	0.0	0.0	-137.4
62442	612657.55	4846373.69	167.00	0	N	A	-77.2	-50.4	0.0	-0.3	0.0	0.0	-127.3
62453	612657.69	4846373.48	167.00	0	N	A	-77.2	-50.4	0.0	-0.3	0.0	0.0	-127.3
62482	615715.83	4847575.60	164.70	0	N	A	-77.2	-50.4	0.0	-2.9	0.0	0.0	-124.8
62485	615715.74	4847575.37	164.70	0	N	A	-77.2	-50.4	0.0	0.4	0.0	0.0	-128.1
62529	613017.05	4846598.31	156.22	0	N	A	-77.2	-50.6	0.0	-1.8	0.0	0.0	-126.0
62535	613017.17	4846598.09	156.22	0	N	A	-77.2	-50.6	0.0	-1.8	0.0	0.0	-126.0
62561	613017.05	4846598.31	157.65	0	N	A	-77.2	-50.6	0.0	-0.4	0.0	0.0	-127.3
62570	613017.17	4846598.09	157.65	0	N	A	-77.2	-50.6	0.0	-0.4	0.0	0.0	-127.3
62578	612646.57	4846366.81	165.67	0	N	A	-77.2	-50.6	0.0	3.1	0.0	0.0	-130.9
62588	612646.70	4846366.60	165.67	0	N	A	-77.2	-50.6	0.0	2.4	0.0	0.0	-130.3
62637	615642.16	4847607.10	161.79	0	N	A	-77.2	-50.6	0.0	24.2	0.0	0.0	-152.0
62658	615642.06	4847606.87	161.79	0	N	A	-77.2	-50.6	0.0	22.5	0.0	0.0	-150.3
62689	615734.52	4847567.51	163.76	0	N	A	-77.2	-50.6	0.0	-3.5	0.0	0.0	-124.4
62700	615734.42	4847567.28	163.76	0	N	A	-77.2	-50.6	0.0	-3.4	0.0	0.0	-124.4
62715	612646.57	4846366.81	167.10	0	N	A	-77.2	-50.6	0.0	-0.3	0.0	0.0	-127.5
62722	612646.70	4846366.60	167.10	0	N	A	-77.2	-50.6	0.0	-0.3	0.0	0.0	-127.5
62744	615642.16	4847607.10	163.21	0	N	A	-77.2	-50.6	0.0	0.7	0.0	0.0	-128.6
62747	615642.06	4847606.87	163.21	0	N	A	-77.2	-50.6	0.0	0.2	0.0	0.0	-128.0
62752	615734.52	4847567.51	165.19	0	N	A	-77.2	-50.6	0.0	-3.9	0.0	0.0	-123.9
62755	615734.42	4847567.28	165.19	0	N	A	-77.2	-50.6	0.0	-3.5	0.0	0.0	-124.3
62774	615737.84	4847566.20	163.82	0	N	A	-77.2	-50.7	0.0	-3.5	0.0	0.0	-124.4
62782	615737.76	4847565.96	163.82	0	N	A	-77.2	-50.7	0.0	-3.5	0.0	0.0	-124.4

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
2787	612635.39	4846359.95	165.80	0	N	A	-77.2	-50.7	0.0	2.3	0.0	0.0	-130.3
2793	612635.52	4846359.74	165.80	0	N	A	-77.2	-50.7	0.0	2.7	0.0	0.0	-130.6
2860	615719.12	4847574.21	163.38	0	N	A	-77.2	-50.7	0.0	0.5	0.0	0.0	-128.4
2913	615719.02	4847573.98	163.38	0	N	A	-77.2	-50.7	0.0	-3.5	0.0	0.0	-124.5
2943	615737.84	4847566.20	165.24	0	N	A	-77.2	-50.7	0.0	-3.6	0.0	0.0	-124.3
2948	615737.76	4847565.96	165.24	0	N	A	-77.2	-50.7	0.0	-3.7	0.0	0.0	-124.2
2951	612635.39	4846359.95	167.22	0	N	A	-77.2	-50.7	0.0	-0.3	0.0	0.0	-127.6
2956	612635.52	4846359.74	167.22	0	N	A	-77.2	-50.7	0.0	-0.3	0.0	0.0	-127.6
2983	615719.12	4847574.21	164.80	0	N	A	-77.2	-50.7	0.0	-3.0	0.0	0.0	-125.0
2984	615719.02	4847573.98	164.80	0	N	A	-77.2	-50.7	0.0	-1.3	0.0	0.0	-126.7
3008	615786.97	4847553.43	164.13	0	N	A	-77.2	-50.9	0.0	-1.7	0.0	0.0	-126.4
3010	615786.98	4847553.18	164.13	0	N	A	-77.2	-50.9	0.0	-2.0	0.0	0.0	-126.1
3012	615790.62	4847553.58	164.23	0	N	A	-77.2	-50.9	0.0	-1.5	0.0	0.0	-126.6
3016	615790.62	4847553.33	164.23	0	N	A	-77.2	-50.9	0.0	-1.8	0.0	0.0	-126.3
3028	615786.97	4847553.43	165.55	0	N	A	-77.2	-50.9	0.0	1.8	0.0	0.0	-129.9
3031	615786.98	4847553.18	165.55	0	N	A	-77.2	-50.9	0.0	8.3	0.0	0.0	-136.4
3036	615790.62	4847553.58	165.65	0	N	A	-77.2	-50.9	0.0	0.2	0.0	0.0	-128.3
3040	615790.62	4847553.33	165.65	0	N	A	-77.2	-50.9	0.0	5.7	0.0	0.0	-133.8
3080	612629.72	4846356.55	165.96	0	N	A	-77.2	-51.2	0.0	2.5	0.0	0.0	-130.9
3085	612629.85	4846356.34	165.96	0	N	A	-77.2	-51.2	0.0	2.2	0.0	0.0	-130.6
3096	612629.72	4846356.55	167.39	0	N	A	-77.2	-51.2	0.0	-0.3	0.0	0.0	-128.0
3099	612629.85	4846356.34	167.39	0	N	A	-77.2	-51.2	0.0	-0.3	0.0	0.0	-128.0
3110	612640.97	4846363.35	165.74	0	N	A	-77.2	-51.2	0.0	3.0	0.0	0.0	-131.5
3116	612641.10	4846363.14	165.74	0	N	A	-77.2	-51.2	0.0	3.1	0.0	0.0	-131.5
3134	612907.68	4846532.94	153.56	0	N	A	-77.2	-51.2	0.0	-1.3	0.0	0.0	-127.1
3145	612907.82	4846532.73	153.56	0	N	A	-77.2	-51.2	0.0	-0.7	0.0	0.0	-127.8
3178	612640.97	4846363.35	167.16	0	N	A	-77.2	-51.2	0.0	-0.3	0.0	0.0	-128.1
3184	612641.10	4846363.14	167.16	0	N	A	-77.2	-51.2	0.0	-0.3	0.0	0.0	-128.1
3187	615800.07	4847554.45	164.58	0	N	A	-77.2	-51.3	0.0	-2.0	0.0	0.0	-126.5
3191	615800.11	4847554.21	164.58	0	N	A	-77.2	-51.3	0.0	-1.6	0.0	0.0	-126.9
3209	612907.68	4846532.94	154.99	0	N	A	-77.2	-51.2	0.0	-0.9	0.0	0.0	-127.5
3219	612907.82	4846532.73	154.99	0	N	A	-77.2	-51.2	0.0	-0.3	0.0	0.0	-128.1
3268	615800.07	4847554.45	166.01	0	N	A	-77.2	-51.3	0.0	5.7	0.0	0.0	-134.1
3272	615800.11	4847554.21	166.01	0	N	A	-77.2	-51.3	0.0	8.1	0.0	0.0	-136.6
3278	615805.84	4847555.51	164.66	0	N	A	-77.2	-51.3	0.0	-2.1	0.0	0.0	-126.4
3283	615805.90	4847555.27	164.66	0	N	A	-77.2	-51.3	0.0	-2.3	0.0	0.0	-126.3
3311	615805.84	4847555.51	166.08	0	N	A	-77.2	-51.3	0.0	0.2	0.0	0.0	-128.7
3313	615805.90	4847555.27	166.08	0	N	A	-77.2	-51.3	0.0	0.2	0.0	0.0	-128.8
3339	612652.01	4846370.20	165.62	0	N	A	-77.2	-51.4	0.0	2.4	0.0	0.0	-131.0
3344	612652.15	4846369.99	165.62	0	N	A	-77.2	-51.4	0.0	3.2	0.0	0.0	-131.8
3369	612652.01	4846370.20	167.04	0	N	A	-77.2	-51.4	0.0	-0.3	0.0	0.0	-128.3
3374	612652.15	4846369.99	167.04	0	N	A	-77.2	-51.4	0.0	-0.3	0.0	0.0	-128.3
3399	615722.02	4847572.85	163.46	0	N	A	-77.2	-51.5	0.0	-3.3	0.0	0.0	-125.4
3444	615721.91	4847572.63	163.46	0	N	A	-77.2	-51.5	0.0	-3.4	0.0	0.0	-125.3
3466	615722.02	4847572.85	164.88	0	N	A	-77.2	-51.5	0.0	-2.2	0.0	0.0	-126.5
3471	615721.91	4847572.63	164.88	0	N	A	-77.2	-51.5	0.0	-0.8	0.0	0.0	-127.9
3561	615740.86	4847565.03	163.86	0	N	A	-77.2	-51.6	0.0	-3.5	0.0	0.0	-125.3
3586	615740.76	4847564.80	163.86	0	N	A	-77.2	-51.6	0.0	-3.5	0.0	0.0	-125.3
3600	615793.98	4847553.71	164.36	0	N	A	-77.2	-51.7	0.0	-1.6	0.0	0.0	-127.3
3603	615793.99	4847553.46	164.36	0	N	A	-77.2	-51.7	0.0	-2.0	0.0	0.0	-126.9
3617	615740.86	4847565.03	165.29	0	N	A	-77.2	-51.6	0.0	-3.6	0.0	0.0	-125.2
3630	615740.76	4847564.80	165.29	0	N	A	-77.2	-51.6	0.0	-3.8	0.0	0.0	-125.0
3662	615623.48	4847614.50	162.59	0	N	A	-77.2	-51.7	0.0	-2.0	0.0	0.0	-126.9
3679	615623.40	4847614.27	162.59	0	N	A	-77.2	-51.7	0.0	-1.8	0.0	0.0	-127.1
3681	615793.98	4847553.71	165.78	0	N	A	-77.2	-51.7	0.0	5.7	0.0	0.0	-134.5
3684	615793.99	4847553.46	165.78	0	N	A	-77.2	-51.7	0.0	8.2	0.0	0.0	-137.1
3719	615623.48	4847614.50	164.01	0	N	A	-77.2	-51.7	0.0	0.1	0.0	0.0	-129.0
3721	615623.40	4847614.27	164.01	0	N	A	-77.2	-51.7	0.0	0.4	0.0	0.0	-129.3
3764	615796.95	4847553.97	164.48	0	N	A	-77.2	-52.0	0.0	-1.8	0.0	0.0	-127.3
3767	615796.98	4847553.73	164.48	0	N	A	-77.2	-52.0	0.0	-2.3	0.0	0.0	-126.8
3802	615724.53	4847571.70	163.53	0	N	A	-77.2	-52.0	0.0	-3.4	0.0	0.0	-125.8
3828	615724.44	4847571.47	163.53	0	N	A	-77.2	-52.0	0.0	-3.5	0.0	0.0	-125.7
3830	615796.95	4847553.97	165.90	0	N	A	-77.2	-52.0	0.0	8.2	0.0	0.0	-137.3
3833	615796.98	4847553.73	165.90	0	N	A	-77.2	-52.0	0.0	5.7	0.0	0.0	-134.8
3842	615724.53	4847571.70	164.96	0	N	A	-77.2	-52.0	0.0	-2.2	0.0	0.0	-127.0
3843	615724.44	4847571.47	164.96	0	N	A	-77.2	-52.0	0.0	-1.1	0.0	0.0	-128.1

Road, TNM, Name: "407 Transitway Eastbound5", ID: "407_TW3_Eastbound5"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
64170	615783.92	4847553.28	164.10	0	N	A	-77.2	-52.6	0.0	-2.1	0.0	0.0	-127.7
64177	615783.92	4847553.03	164.10	0	N	A	-77.2	-52.6	0.0	-1.8	0.0	0.0	-127.9
64187	612662.46	4846376.80	165.53	0	N	A	-77.2	-52.6	0.0	2.4	0.0	0.0	-132.3
64199	612662.60	4846376.59	165.53	0	N	A	-77.2	-52.6	0.0	2.8	0.0	0.0	-132.6
64226	615783.92	4847553.28	165.53	0	N	A	-77.2	-52.6	0.0	5.7	0.0	0.0	-135.5
64232	615783.92	4847553.03	165.53	0	N	A	-77.2	-52.6	0.0	5.7	0.0	0.0	-135.4
64263	612662.46	4846376.80	166.96	0	N	A	-77.2	-52.6	0.0	-0.3	0.0	0.0	-129.5
64266	612662.60	4846376.59	166.96	0	N	A	-77.2	-52.6	0.0	-0.3	0.0	0.0	-129.5
64302	615802.97	4847554.95	164.64	0	N	A	-77.2	-52.7	0.0	-2.3	0.0	0.0	-127.6
64305	615803.01	4847554.70	164.64	0	N	A	-77.2	-52.7	0.0	-1.5	0.0	0.0	-128.4
64329	615802.97	4847554.95	166.07	0	N	A	-77.2	-52.7	0.0	0.2	0.0	0.0	-130.1
64331	615803.01	4847554.70	166.07	0	N	A	-77.2	-52.7	0.0	3.9	0.0	0.0	-133.8
64417	615808.59	4847556.15	164.67	0	N	A	-77.2	-53.2	0.0	1.5	0.0	0.0	-131.9
64419	615808.65	4847555.91	164.67	0	N	A	-77.2	-53.2	0.0	-1.8	0.0	0.0	-128.5
64428	615808.59	4847556.15	166.09	0	N	A	-77.2	-53.2	0.0	0.2	0.0	0.0	-130.6
64431	615808.65	4847555.91	166.09	0	N	A	-77.2	-53.2	0.0	0.2	0.0	0.0	-130.6

Road, TNM, Name: "Pine Valley NB - On-Ramp to Hwy 407 EB", ID: "PineV_NB_On_Hwy407EB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
65760	615243.85	4847837.49	161.69	0	N	A	-77.2	-37.0	0.0	-1.5	0.0	0.0	-112.8
65761	615249.30	4847830.46	161.69	0	N	A	-77.2	-37.1	0.0	-0.4	0.0	0.0	-113.9
65765	615101.10	4847546.07	162.95	0	N	A	-77.2	-36.9	0.0	-1.8	0.0	0.0	-112.2
65767	615110.00	4847545.78	162.95	0	N	A	-77.2	-36.9	0.0	10.5	0.0	0.0	-124.6
65849	615214.32	4847813.87	161.17	0	N	A	-77.2	-37.7	0.0	-1.8	0.0	0.0	-113.1
65852	615220.01	4847807.03	161.17	0	N	A	-77.2	-37.7	0.0	0.5	0.0	0.0	-115.4
65873	615308.81	4847881.42	162.81	0	N	A	-77.2	-37.7	0.0	14.7	0.0	0.0	-129.7
65875	615313.60	4847873.92	162.81	0	N	A	-77.2	-37.7	0.0	1.4	0.0	0.0	-116.3
65887	615103.29	4847586.30	163.09	0	N	A	-77.2	-37.6	0.0	-2.8	0.0	0.0	-112.0
65888	615112.16	4847585.58	163.09	0	N	A	-77.2	-37.7	0.0	0.2	0.0	0.0	-115.1
65901	615134.77	4847702.40	162.10	0	N	A	-77.2	-37.7	0.0	31.8	0.0	0.0	-146.8
65903	615142.92	4847698.84	162.10	0	N	A	-77.2	-37.8	0.0	31.1	0.0	0.0	-146.1
65908	615109.55	4847625.88	162.69	0	N	A	-77.2	-37.7	0.0	17.8	0.0	0.0	-132.7
65910	615118.26	4847624.04	162.69	0	N	A	-77.2	-37.8	0.0	45.1	0.0	0.0	-160.1
65912	615276.03	4847860.40	162.45	0	N	A	-77.2	-37.9	0.0	1.2	0.0	0.0	-116.4
65916	615280.84	4847852.92	162.45	0	N	A	-77.2	-38.0	0.0	2.1	0.0	0.0	-117.2
65986	615114.83	4847647.80	162.37	0	N	A	-77.2	-38.2	0.0	2.1	0.0	0.0	-117.6
65988	615123.41	4847645.46	162.37	0	N	A	-77.2	-38.3	0.0	25.2	0.0	0.0	-140.7
65990	615243.85	4847837.49	163.11	0	N	A	-77.2	-37.0	0.0	-0.2	0.0	0.0	-114.1
65992	615249.30	4847830.46	163.11	0	N	A	-77.2	-37.1	0.0	0.7	0.0	0.0	-115.0
65994	615101.10	4847546.07	164.38	0	N	A	-77.2	-36.9	0.0	-2.4	0.0	0.0	-111.7
65996	615110.00	4847545.78	164.38	0	N	A	-77.2	-36.9	0.0	-2.4	0.0	0.0	-111.7
66053	615154.41	4847741.18	161.77	0	N	A	-77.2	-38.8	0.0	1.5	0.0	0.0	-117.4
66055	615162.13	4847736.76	161.77	0	N	A	-77.2	-38.8	0.0	-1.3	0.0	0.0	-114.8
66069	615214.32	4847813.87	162.59	0	N	A	-77.2	-37.7	0.0	-1.8	0.0	0.0	-113.1
66070	615220.01	4847807.03	162.59	0	N	A	-77.2	-37.7	0.0	0.2	0.0	0.0	-115.1
66091	615192.94	4847794.35	161.10	0	N	A	-77.2	-39.0	0.0	-0.4	0.0	0.0	-115.8
66096	615199.36	4847788.19	161.10	0	N	A	-77.2	-39.0	0.0	-0.7	0.0	0.0	-115.6
66102	615308.81	4847881.42	164.23	0	N	A	-77.2	-37.7	0.0	6.6	0.0	0.0	-121.5
66105	615313.60	4847873.92	164.23	0	N	A	-77.2	-37.7	0.0	4.2	0.0	0.0	-119.1
66108	615177.46	4847777.17	161.26	0	N	A	-77.2	-39.0	0.0	-0.6	0.0	0.0	-115.7
66110	615184.26	4847771.43	161.26	0	N	A	-77.2	-39.1	0.0	-0.2	0.0	0.0	-116.0
66114	615103.29	4847586.30	164.52	0	N	A	-77.2	-37.6	0.0	-2.3	0.0	0.0	-112.5
66115	615112.16	4847585.58	164.52	0	N	A	-77.2	-37.7	0.0	-2.3	0.0	0.0	-112.6
66146	615134.77	4847702.40	163.53	0	N	A	-77.2	-37.7	0.0	9.1	0.0	0.0	-124.1
66151	615142.92	4847698.84	163.53	0	N	A	-77.2	-37.8	0.0	10.6	0.0	0.0	-125.6
66152	615109.55	4847625.88	164.12	0	N	A	-77.2	-37.7	0.0	21.7	0.0	0.0	-136.6
66156	615118.26	4847624.04	164.12	0	N	A	-77.2	-37.8	0.0	19.2	0.0	0.0	-134.2
66161	615144.48	4847723.00	161.99	0	N	A	-77.2	-39.2	0.0	2.1	0.0	0.0	-118.5
66164	615152.38	4847718.91	161.99	0	N	A	-77.2	-39.2	0.0	17.6	0.0	0.0	-134.1
66170	615105.69	4847606.21	162.99	0	N	A	-77.2	-39.1	0.0	12.7	0.0	0.0	-129.1
66172	615114.45	4847604.67	162.99	0	N	A	-77.2	-39.2	0.0	21.3	0.0	0.0	-137.8
66192	615276.03	4847860.40	163.87	0	N	A	-77.2	-37.9	0.0	-0.3	0.0	0.0	-114.8
66197	615280.84	4847852.92	163.87	0	N	A	-77.2	-38.0	0.0	0.9	0.0	0.0	-116.0
66200	615339.14	4847900.91	163.26	0	N	A	-77.2	-39.3	0.0	13.5	0.0	0.0	-130.0
66203	615343.98	4847893.45	163.26	0	N	A	-77.2	-39.3	0.0	7.2	0.0	0.0	-123.7

Road, TNM, Name: "Pine Valley NB - On-Ramp to Hwy 407 EB", ID: "PineV_NB_On_Hwy407EB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
6261	615120.60	4847666.46	162.16	0	N	A	-77.2	-39.3	0.0	-1.6	0.0	0.0	-114.8
6266	615128.99	4847663.49	162.16	0	N	A	-77.2	-39.3	0.0	14.1	0.0	0.0	-130.7
6275	615164.82	4847759.34	161.53	0	N	A	-77.2	-39.3	0.0	-1.6	0.0	0.0	-114.9
6279	615172.54	4847754.90	161.53	0	N	A	-77.2	-39.4	0.0	5.0	0.0	0.0	-121.6
6312	615101.95	4847567.17	163.06	0	N	A	-77.2	-39.3	0.0	-3.3	0.0	0.0	-113.3
6314	615110.83	4847566.69	163.06	0	N	A	-77.2	-39.4	0.0	1.9	0.0	0.0	-118.6
6322	615365.00	4847917.71	163.95	0	N	A	-77.2	-39.5	0.0	-2.7	0.0	0.0	-114.1
6325	615369.86	4847910.25	163.95	0	N	A	-77.2	-39.5	0.0	3.2	0.0	0.0	-119.9
6329	615126.52	4847682.53	162.10	0	N	A	-77.2	-39.4	0.0	21.4	0.0	0.0	-138.1
6334	615134.83	4847679.35	162.10	0	N	A	-77.2	-39.5	0.0	-1.6	0.0	0.0	-115.1
6401	615114.83	4847647.80	163.79	0	N	A	-77.2	-38.2	0.0	3.9	0.0	0.0	-119.3
6404	615123.41	4847645.46	163.79	0	N	A	-77.2	-38.3	0.0	23.5	0.0	0.0	-139.0
6632	615154.41	4847741.18	163.20	0	N	A	-77.2	-38.8	0.0	-0.3	0.0	0.0	-115.7
6635	615162.13	4847736.76	163.20	0	N	A	-77.2	-38.8	0.0	-1.2	0.0	0.0	-114.9
6654	615192.94	4847794.35	162.52	0	N	A	-77.2	-39.0	0.0	-2.2	0.0	0.0	-114.0
6659	615199.36	4847788.19	162.52	0	N	A	-77.2	-39.0	0.0	-2.3	0.0	0.0	-113.9
6664	615177.46	4847777.17	162.68	0	N	A	-77.2	-39.0	0.0	-2.1	0.0	0.0	-114.1
6665	615184.26	4847771.43	162.68	0	N	A	-77.2	-39.1	0.0	-1.2	0.0	0.0	-115.1
6737	615144.48	4847723.00	163.42	0	N	A	-77.2	-39.2	0.0	3.4	0.0	0.0	-119.8
6741	615152.38	4847718.91	163.42	0	N	A	-77.2	-39.2	0.0	22.6	0.0	0.0	-139.1
6743	615105.69	4847606.21	164.41	0	N	A	-77.2	-39.1	0.0	-2.2	0.0	0.0	-114.1
6744	615114.45	4847604.67	164.41	0	N	A	-77.2	-39.2	0.0	-2.2	0.0	0.0	-114.2
6761	615339.14	4847900.91	164.69	0	N	A	-77.2	-39.3	0.0	6.5	0.0	0.0	-123.0
6764	615343.98	4847893.45	164.69	0	N	A	-77.2	-39.3	0.0	8.4	0.0	0.0	-124.9
6787	615120.60	4847666.46	163.58	0	N	A	-77.2	-39.3	0.0	-2.2	0.0	0.0	-114.2
6789	615128.99	4847663.49	163.58	0	N	A	-77.2	-39.3	0.0	13.6	0.0	0.0	-130.2
6790	615164.82	4847759.34	162.96	0	N	A	-77.2	-39.3	0.0	-0.9	0.0	0.0	-115.6
6793	615172.54	4847754.90	162.96	0	N	A	-77.2	-39.4	0.0	3.3	0.0	0.0	-119.9
6809	615101.95	4847567.17	164.48	0	N	A	-77.2	-39.3	0.0	-2.3	0.0	0.0	-114.3
6810	615110.83	4847566.69	164.48	0	N	A	-77.2	-39.4	0.0	-2.3	0.0	0.0	-114.4
6813	615365.00	4847917.71	165.38	0	N	A	-77.2	-39.5	0.0	-0.6	0.0	0.0	-116.1
6815	615369.86	4847910.25	165.38	0	N	A	-77.2	-39.5	0.0	1.3	0.0	0.0	-118.0
6825	615126.52	4847682.53	163.53	0	N	A	-77.2	-39.4	0.0	15.0	0.0	0.0	-131.7
6826	615134.83	4847679.35	163.53	0	N	A	-77.2	-39.5	0.0	-1.9	0.0	0.0	-114.8
2972	615243.85	4847837.49	165.25	0	N	A	-77.2	-37.0	0.0	-2.0	0.0	0.0	-112.2
2979	615249.30	4847830.46	165.25	0	N	A	-77.2	-37.1	0.0	-1.9	0.0	0.0	-112.4
2986	615101.10	4847546.07	166.51	0	N	A	-77.2	-36.9	0.0	-2.1	0.0	0.0	-112.0
2987	615110.00	4847545.78	166.51	0	N	A	-77.2	-36.9	0.0	-2.1	0.0	0.0	-112.0
3450	615214.32	4847813.87	164.73	0	N	A	-77.2	-37.7	0.0	-1.5	0.0	0.0	-113.4
3451	615220.01	4847807.03	164.73	0	N	A	-77.2	-37.7	0.0	1.3	0.0	0.0	-116.2
3463	615308.81	4847881.42	166.37	0	N	A	-77.2	-37.7	0.0	-1.6	0.0	0.0	-113.4
3464	615313.60	4847873.92	166.37	0	N	A	-77.2	-37.7	0.0	-2.8	0.0	0.0	-112.1
3496	615103.29	4847586.30	166.65	0	N	A	-77.2	-37.6	0.0	-2.0	0.0	0.0	-112.8
3500	615112.16	4847585.58	166.65	0	N	A	-77.2	-37.7	0.0	-2.0	0.0	0.0	-112.9
3544	615134.77	4847702.40	165.66	0	N	A	-77.2	-37.7	0.0	8.0	0.0	0.0	-123.0
3548	615142.92	4847698.84	165.66	0	N	A	-77.2	-37.8	0.0	4.6	0.0	0.0	-119.7
3549	615109.55	4847625.88	166.25	0	N	A	-77.2	-37.7	0.0	-1.9	0.0	0.0	-113.0
3551	615118.26	4847624.04	166.25	0	N	A	-77.2	-37.8	0.0	-1.9	0.0	0.0	-113.1
3687	615276.03	4847860.40	166.01	0	N	A	-77.2	-37.9	0.0	-3.6	0.0	0.0	-111.5
3689	615280.84	4847852.92	166.01	0	N	A	-77.2	-38.0	0.0	-2.4	0.0	0.0	-112.8
3877	615114.83	4847647.80	165.93	0	N	A	-77.2	-38.2	0.0	-2.0	0.0	0.0	-113.4
3878	615123.41	4847645.46	165.93	0	N	A	-77.2	-38.3	0.0	-2.0	0.0	0.0	-113.5
4236	615154.41	4847741.18	165.33	0	N	A	-77.2	-38.8	0.0	-0.7	0.0	0.0	-115.3
4244	615162.13	4847736.76	165.33	0	N	A	-77.2	-38.8	0.0	-3.1	0.0	0.0	-112.9
4377	615192.94	4847794.35	164.66	0	N	A	-77.2	-39.0	0.0	-2.0	0.0	0.0	-114.2
4379	615199.36	4847788.19	164.66	0	N	A	-77.2	-39.0	0.0	-2.4	0.0	0.0	-113.8
4382	615177.46	4847777.17	164.82	0	N	A	-77.2	-39.0	0.0	-2.5	0.0	0.0	-113.8
4383	615184.26	4847771.43	164.82	0	N	A	-77.2	-39.1	0.0	-2.5	0.0	0.0	-113.8
4389	615144.48	4847723.00	165.55	0	N	A	-77.2	-39.2	0.0	2.7	0.0	0.0	-119.1
4390	615152.38	4847718.91	165.55	0	N	A	-77.2	-39.2	0.0	-2.9	0.0	0.0	-113.5
4391	615105.69	4847606.21	166.55	0	N	A	-77.2	-39.1	0.0	-2.0	0.0	0.0	-114.4
4393	615114.45	4847604.67	166.55	0	N	A	-77.2	-39.2	0.0	-2.0	0.0	0.0	-114.4
4395	615339.14	4847900.91	166.82	0	N	A	-77.2	-39.3	0.0	-1.5	0.0	0.0	-115.0
4399	615343.98	4847893.45	166.82	0	N	A	-77.2	-39.3	0.0	-1.4	0.0	0.0	-115.0
4420	615120.60	4847666.46	165.72	0	N	A	-77.2	-39.3	0.0	-2.0	0.0	0.0	-114.5
4421	615128.99	4847663.49	165.72	0	N	A	-77.2	-39.3	0.0	-2.0	0.0	0.0	-114.5

Road, TNM, Name: "Pine Valley NB - On-Ramp to Hwy 407 EB", ID: "PineV_NB_On_Hwy407EB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
64423	615164.82	4847759.34	165.09	0	N	A	-77.2	-39.3	0.0	-2.7	0.0	0.0	-113.8
64426	615172.54	4847754.90	165.09	0	N	A	-77.2	-39.4	0.0	2.5	0.0	0.0	-119.1
64438	615101.95	4847567.17	166.62	0	N	A	-77.2	-39.3	0.0	-2.0	0.0	0.0	-114.6
64440	615110.83	4847566.69	166.62	0	N	A	-77.2	-39.4	0.0	-2.0	0.0	0.0	-114.7
64445	615365.00	4847917.71	167.51	0	N	A	-77.2	-39.5	0.0	-3.3	0.0	0.0	-113.4
64449	615369.86	4847910.25	167.51	0	N	A	-77.2	-39.5	0.0	-3.2	0.0	0.0	-113.5
64465	615126.52	4847682.53	165.66	0	N	A	-77.2	-39.4	0.0	4.4	0.0	0.0	-121.1
64466	615134.83	4847679.35	165.66	0	N	A	-77.2	-39.5	0.0	7.4	0.0	0.0	-124.1

Road, TNM, Name: "Hwy407 WB - Off-Ramp to Pine Valley", ID: "Hwy407WB_Off_Pine"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
65569	615435.22	4848028.90	167.60	0	N	A	-77.2	-37.2	0.0	-3.0	0.0	0.0	-111.4
65575	615432.32	4848034.04	167.60	0	N	A	-77.2	-37.2	0.0	-3.1	0.0	0.0	-111.3
65604	615031.56	4847947.46	164.10	0	N	A	-77.2	-37.3	0.0	-4.3	0.0	0.0	-110.2
65605	615030.42	4847953.25	164.10	0	N	A	-77.2	-37.3	0.0	-4.4	0.0	0.0	-110.1
65704	615059.52	4847951.72	164.10	0	N	A	-77.2	-37.9	0.0	-4.6	0.0	0.0	-110.5
65708	615058.91	4847957.59	164.10	0	N	A	-77.2	-38.0	0.0	-3.4	0.0	0.0	-111.8
65729	615318.50	4847966.33	164.60	0	N	A	-77.2	-38.3	0.0	1.0	0.0	0.0	-116.5
65732	615315.69	4847971.52	164.60	0	N	A	-77.2	-38.3	0.0	5.2	0.0	0.0	-120.6
65743	615435.22	4848028.90	169.02	0	N	A	-77.2	-37.2	0.0	-1.4	0.0	0.0	-113.0
65746	615432.32	4848034.04	169.02	0	N	A	-77.2	-37.2	0.0	-2.2	0.0	0.0	-112.2
65770	615388.60	4848003.56	166.60	0	N	A	-77.2	-38.6	0.0	-3.4	0.0	0.0	-112.4
65774	615385.91	4848008.81	166.60	0	N	A	-77.2	-38.6	0.0	-3.3	0.0	0.0	-112.4
65775	615031.56	4847947.46	165.53	0	N	A	-77.2	-37.3	0.0	-6.0	0.0	0.0	-108.5
65777	615030.42	4847953.25	165.53	0	N	A	-77.2	-37.3	0.0	-6.0	0.0	0.0	-108.5
65782	615352.84	4847984.81	165.60	0	N	A	-77.2	-38.7	0.0	3.9	0.0	0.0	-119.8
65786	615350.06	4847990.02	165.60	0	N	A	-77.2	-38.7	0.0	-0.7	0.0	0.0	-115.2
65845	615152.76	4847936.91	163.02	0	N	A	-77.2	-39.1	0.0	-2.3	0.0	0.0	-114.0
65847	615154.10	4847942.66	163.02	0	N	A	-77.2	-39.1	0.0	-3.3	0.0	0.0	-113.0
65880	615287.88	4847949.91	163.62	0	N	A	-77.2	-39.2	0.0	5.7	0.0	0.0	-122.1
65885	615285.12	4847955.12	163.62	0	N	A	-77.2	-39.2	0.0	10.0	0.0	0.0	-126.4
65889	615059.52	4847951.72	165.52	0	N	A	-77.2	-37.9	0.0	-6.0	0.0	0.0	-109.1
65890	615058.91	4847957.59	165.52	0	N	A	-77.2	-38.0	0.0	-6.0	0.0	0.0	-109.2
65923	615318.50	4847966.33	166.03	0	N	A	-77.2	-38.3	0.0	-2.9	0.0	0.0	-112.6
65926	615315.69	4847971.52	166.03	0	N	A	-77.2	-38.3	0.0	-1.7	0.0	0.0	-113.8
65928	615082.36	4847952.55	163.90	0	N	A	-77.2	-39.6	0.0	-3.7	0.0	0.0	-113.1
65934	615082.72	4847958.44	163.90	0	N	A	-77.2	-39.6	0.0	-4.0	0.0	0.0	-112.8
65957	615101.26	4847949.86	163.40	0	N	A	-77.2	-39.7	0.0	-5.1	0.0	0.0	-111.7
65964	615102.56	4847955.62	163.40	0	N	A	-77.2	-39.7	0.0	-5.1	0.0	0.0	-111.8
66000	615388.60	4848003.56	168.02	0	N	A	-77.2	-38.6	0.0	-2.6	0.0	0.0	-113.2
66008	615385.91	4848008.81	168.02	0	N	A	-77.2	-38.6	0.0	-1.8	0.0	0.0	-114.0
66023	615352.84	4847984.81	167.03	0	N	A	-77.2	-38.7	0.0	-2.7	0.0	0.0	-113.2
66025	615350.06	4847990.02	167.03	0	N	A	-77.2	-38.7	0.0	-3.4	0.0	0.0	-112.5
66044	615263.64	4847938.91	162.62	0	N	A	-77.2	-40.2	0.0	-0.5	0.0	0.0	-116.9
66047	615261.65	4847944.47	162.62	0	N	A	-77.2	-40.2	0.0	0.7	0.0	0.0	-118.2
66057	615152.76	4847936.91	164.45	0	N	A	-77.2	-39.1	0.0	-2.3	0.0	0.0	-114.0
66058	615154.10	4847942.66	164.45	0	N	A	-77.2	-39.1	0.0	-2.8	0.0	0.0	-113.5
66099	615287.88	4847949.91	165.04	0	N	A	-77.2	-39.2	0.0	5.3	0.0	0.0	-121.7
66100	615285.12	4847955.12	165.04	0	N	A	-77.2	-39.2	0.0	9.4	0.0	0.0	-125.9
66129	615242.89	4847933.08	162.10	0	N	A	-77.2	-40.6	0.0	-1.6	0.0	0.0	-116.2
66132	615241.75	4847938.86	162.10	0	N	A	-77.2	-40.6	0.0	-0.7	0.0	0.0	-117.1
66141	615207.35	4847929.03	162.31	0	N	A	-77.2	-40.6	0.0	5.8	0.0	0.0	-123.6
66145	615207.47	4847934.93	162.31	0	N	A	-77.2	-40.6	0.0	0.3	0.0	0.0	-118.2
66184	615132.93	4847942.01	163.10	0	N	A	-77.2	-40.7	0.0	-3.4	0.0	0.0	-114.5
66190	615134.59	4847947.67	163.10	0	N	A	-77.2	-40.7	0.0	-2.4	0.0	0.0	-115.5
66230	615173.27	4847932.66	162.88	0	N	A	-77.2	-40.7	0.0	-2.0	0.0	0.0	-116.0
66232	615174.27	4847938.47	162.88	0	N	A	-77.2	-40.7	0.0	-2.4	0.0	0.0	-115.6
66281	615082.36	4847952.55	165.32	0	N	A	-77.2	-39.6	0.0	-6.0	0.0	0.0	-110.7
66282	615082.72	4847958.44	165.32	0	N	A	-77.2	-39.6	0.0	-6.0	0.0	0.0	-110.8
66344	615101.26	4847949.86	164.82	0	N	A	-77.2	-39.7	0.0	-6.0	0.0	0.0	-110.9
66355	615102.56	4847955.62	164.82	0	N	A	-77.2	-39.7	0.0	-6.0	0.0	0.0	-110.9
66364	615118.04	4847945.98	163.10	0	N	A	-77.2	-41.0	0.0	-3.0	0.0	0.0	-115.2
66371	615119.41	4847951.72	163.10	0	N	A	-77.2	-41.0	0.0	-5.0	0.0	0.0	-113.3
66439	615189.82	4847930.20	162.66	0	N	A	-77.2	-41.2	0.0	-4.2	0.0	0.0	-114.2
66467	615190.54	4847936.06	162.66	0	N	A	-77.2	-41.2	0.0	-4.1	0.0	0.0	-114.3

Road, TNM, Name: "Hwy407 WB - Off-Ramp to Pine Valley", ID: "Hwy407WB_Off_Pine"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
6574	615225.08	4847930.00	162.10	0	N	A	-77.2	-41.4	0.0	6.8	0.0	0.0	-125.4
6590	615224.25	4847935.84	162.10	0	N	A	-77.2	-41.4	0.0	8.7	0.0	0.0	-127.3
6606	615263.64	4847938.91	164.04	0	N	A	-77.2	-40.2	0.0	1.5	0.0	0.0	-118.9
6610	615261.65	4847944.47	164.04	0	N	A	-77.2	-40.2	0.0	3.1	0.0	0.0	-120.5
6689	615242.89	4847933.08	163.53	0	N	A	-77.2	-40.6	0.0	-1.4	0.0	0.0	-116.4
6693	615241.75	4847938.86	163.53	0	N	A	-77.2	-40.6	0.0	-0.4	0.0	0.0	-117.5
6697	615207.35	4847929.03	163.74	0	N	A	-77.2	-40.6	0.0	0.4	0.0	0.0	-118.3
6699	615207.47	4847934.93	163.74	0	N	A	-77.2	-40.6	0.0	-0.3	0.0	0.0	-117.6
6721	615132.93	4847942.01	164.53	0	N	A	-77.2	-40.7	0.0	-3.0	0.0	0.0	-114.9
6733	615134.59	4847947.67	164.53	0	N	A	-77.2	-40.7	0.0	-3.1	0.0	0.0	-114.9
6755	615173.27	4847932.66	164.30	0	N	A	-77.2	-40.7	0.0	-2.5	0.0	0.0	-115.4
6759	615174.27	4847938.47	164.30	0	N	A	-77.2	-40.7	0.0	-2.4	0.0	0.0	-115.6
6830	615118.04	4847945.98	164.53	0	N	A	-77.2	-41.0	0.0	-3.2	0.0	0.0	-115.0
6835	615119.41	4847951.72	164.53	0	N	A	-77.2	-41.0	0.0	-5.2	0.0	0.0	-113.1
6848	615189.82	4847930.20	164.09	0	N	A	-77.2	-41.2	0.0	-4.6	0.0	0.0	-113.8
6850	615190.54	4847936.06	164.09	0	N	A	-77.2	-41.2	0.0	-3.3	0.0	0.0	-115.1
6888	615225.08	4847930.00	163.53	0	N	A	-77.2	-41.4	0.0	0.2	0.0	0.0	-118.8
6891	615224.25	4847935.84	163.53	0	N	A	-77.2	-41.4	0.0	0.7	0.0	0.0	-119.4
9912	615435.22	4848028.90	171.16	0	N	A	-77.2	-37.2	0.0	-1.7	0.0	0.0	-112.7
9913	615432.32	4848034.04	171.16	0	N	A	-77.2	-37.2	0.0	-1.7	0.0	0.0	-112.7
0287	615031.56	4847947.46	167.66	0	N	A	-77.2	-37.3	0.0	-6.0	0.0	0.0	-108.5
0288	615030.42	4847953.25	167.66	0	N	A	-77.2	-37.3	0.0	-6.0	0.0	0.0	-108.5
2006	615059.52	4847951.72	167.66	0	N	A	-77.2	-37.9	0.0	-6.0	0.0	0.0	-109.1
2010	615058.91	4847957.59	167.66	0	N	A	-77.2	-38.0	0.0	-6.0	0.0	0.0	-109.2
2238	615318.50	4847966.33	168.16	0	N	A	-77.2	-38.3	0.0	-2.0	0.0	0.0	-113.5
2240	615315.69	4847971.52	168.16	0	N	A	-77.2	-38.3	0.0	-1.6	0.0	0.0	-113.9
2515	615388.60	4848003.56	170.16	0	N	A	-77.2	-38.6	0.0	-1.8	0.0	0.0	-114.0
2523	615385.91	4848008.81	170.16	0	N	A	-77.2	-38.6	0.0	-1.8	0.0	0.0	-114.0
2702	615352.84	4847984.81	169.16	0	N	A	-77.2	-38.7	0.0	-1.8	0.0	0.0	-114.0
2705	615350.06	4847990.02	169.16	0	N	A	-77.2	-38.7	0.0	-1.9	0.0	0.0	-114.0
3073	615152.76	4847936.91	166.58	0	N	A	-77.2	-39.1	0.0	-2.6	0.0	0.0	-113.7
3075	615154.10	4847942.66	166.58	0	N	A	-77.2	-39.1	0.0	-3.0	0.0	0.0	-113.3
3087	615287.88	4847949.91	167.18	0	N	A	-77.2	-39.2	0.0	-2.8	0.0	0.0	-113.6
3091	615285.12	4847955.12	167.18	0	N	A	-77.2	-39.2	0.0	-1.7	0.0	0.0	-114.7
3540	615082.36	4847952.55	167.46	0	N	A	-77.2	-39.6	0.0	-6.0	0.0	0.0	-110.7
3541	615082.72	4847958.44	167.46	0	N	A	-77.2	-39.6	0.0	-6.0	0.0	0.0	-110.8
3690	615101.26	4847949.86	166.96	0	N	A	-77.2	-39.7	0.0	-6.0	0.0	0.0	-110.9
3692	615102.56	4847955.62	166.96	0	N	A	-77.2	-39.7	0.0	-6.0	0.0	0.0	-110.9
3886	615263.64	4847938.91	166.18	0	N	A	-77.2	-40.2	0.0	-2.9	0.0	0.0	-114.5
3888	615261.65	4847944.47	166.18	0	N	A	-77.2	-40.2	0.0	-2.2	0.0	0.0	-115.3
4279	615242.89	4847933.08	165.66	0	N	A	-77.2	-40.6	0.0	-1.6	0.0	0.0	-116.3
4284	615241.75	4847938.86	165.66	0	N	A	-77.2	-40.6	0.0	-0.4	0.0	0.0	-117.5
4288	615207.35	4847929.03	165.87	0	N	A	-77.2	-40.6	0.0	-0.3	0.0	0.0	-117.5
4289	615207.47	4847934.93	165.87	0	N	A	-77.2	-40.6	0.0	0.3	0.0	0.0	-118.2
4332	615132.93	4847942.01	166.66	0	N	A	-77.2	-40.7	0.0	-6.0	0.0	0.0	-111.9
4335	615134.59	4847947.67	166.66	0	N	A	-77.2	-40.7	0.0	-6.0	0.0	0.0	-111.9
4359	615173.27	4847932.66	166.44	0	N	A	-77.2	-40.7	0.0	-4.1	0.0	0.0	-113.8
4368	615174.27	4847938.47	166.44	0	N	A	-77.2	-40.7	0.0	-2.7	0.0	0.0	-115.3
4401	615118.04	4847945.98	166.66	0	N	A	-77.2	-41.0	0.0	-6.0	0.0	0.0	-112.2
4402	615119.41	4847951.72	166.66	0	N	A	-77.2	-41.0	0.0	-6.0	0.0	0.0	-112.2
4432	615189.82	4847930.20	166.22	0	N	A	-77.2	-41.2	0.0	-2.6	0.0	0.0	-115.8
4434	615190.54	4847936.06	166.22	0	N	A	-77.2	-41.2	0.0	-3.3	0.0	0.0	-115.1
4519	615225.08	4847930.00	165.66	0	N	A	-77.2	-41.4	0.0	1.3	0.0	0.0	-119.9
4521	615224.25	4847935.84	165.66	0	N	A	-77.2	-41.4	0.0	0.8	0.0	0.0	-119.4

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4445	614317.70	4847270.79	152.58	0	N	A	-77.2	-18.7	0.0	-4.1	0.0	0.0	-91.7
4446	614252.20	4847236.94	151.10	0	N	A	-77.2	-20.7	0.0	-3.9	0.0	0.0	-94.0
4447	614153.94	4847186.16	148.89	0	N	A	-77.2	-20.7	0.0	2.0	0.0	0.0	-99.9
4448	614022.93	4847118.46	145.93	0	N	A	-77.2	-24.0	0.0	-3.2	0.0	0.0	-98.0
4449	613891.92	4847050.77	142.98	0	N	A	-77.2	-26.5	0.0	-2.9	0.0	0.0	-100.8
4450	614317.59	4847271.01	152.58	0	N	A	-77.2	-18.6	0.0	-4.1	0.0	0.0	-91.7
4451	614252.08	4847237.16	151.10	0	N	A	-77.2	-20.7	0.0	-3.9	0.0	0.0	-94.0
4452	614186.58	4847203.31	149.62	0	N	A	-77.2	-22.8	0.0	3.1	0.0	0.0	-103.1

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4453	614121.07	4847169.46	148.15	0	N	A	-77.2	-24.7	0.0	2.0	0.0	0.0	-103.9
4454	614022.82	4847118.69	145.93	0	N	A	-77.2	-24.0	0.0	-3.2	0.0	0.0	-98.0
4455	613891.81	4847050.99	142.98	0	N	A	-77.2	-26.5	0.0	-2.9	0.0	0.0	-100.8
4456	614317.70	4847270.79	154.00	0	N	A	-77.2	-18.7	0.0	-1.9	0.0	0.0	-94.0
4457	614252.20	4847236.94	152.53	0	N	A	-77.2	-20.7	0.0	-1.9	0.0	0.0	-96.0
4458	614153.94	4847186.16	150.31	0	N	A	-77.2	-20.7	0.0	6.3	0.0	0.0	-104.2
4459	614022.93	4847118.46	147.36	0	N	A	-77.2	-24.0	0.0	-1.8	0.0	0.0	-99.4
4460	613891.92	4847050.77	144.40	0	N	A	-77.2	-26.5	0.0	-1.6	0.0	0.0	-102.1
4461	614317.59	4847271.01	154.00	0	N	A	-77.2	-18.6	0.0	-1.9	0.0	0.0	-93.9
4462	614252.08	4847237.16	152.53	0	N	A	-77.2	-20.7	0.0	-1.9	0.0	0.0	-96.0
4463	614186.58	4847203.31	151.05	0	N	A	-77.2	-22.8	0.0	7.4	0.0	0.0	-107.4
4464	614121.07	4847169.46	149.57	0	N	A	-77.2	-24.7	0.0	-1.9	0.0	0.0	-100.0
4465	614022.82	4847118.69	147.36	0	N	A	-77.2	-24.0	0.0	-1.8	0.0	0.0	-99.4
4467	613891.81	4847050.99	144.40	0	N	A	-77.2	-26.5	0.0	-1.6	0.0	0.0	-102.1
4573	615308.67	4847586.20	163.43	0	N	A	-77.2	-29.5	0.0	-3.3	0.0	0.0	-103.5
4574	615089.01	4847522.51	160.99	0	N	A	-77.2	-27.3	0.0	6.6	0.0	0.0	-111.1
4576	614869.35	4847458.81	158.55	0	N	A	-77.2	-24.2	0.0	0.4	0.0	0.0	-101.9
4577	614704.60	4847411.04	156.72	0	N	A	-77.2	-24.3	0.0	6.7	0.0	0.0	-108.2
4578	614594.77	4847379.19	155.50	0	N	A	-77.2	-21.5	0.0	-2.9	0.0	0.0	-95.8
4580	615308.60	4847586.44	163.43	0	N	A	-77.2	-29.5	0.0	-3.3	0.0	0.0	-103.4
4581	615088.94	4847522.75	160.99	0	N	A	-77.2	-27.3	0.0	12.3	0.0	0.0	-116.8
4582	614869.28	4847459.05	158.55	0	N	A	-77.2	-24.2	0.0	-1.0	0.0	0.0	-100.4
4584	614704.53	4847411.28	156.72	0	N	A	-77.2	-24.3	0.0	15.6	0.0	0.0	-117.1
4585	614594.70	4847379.43	155.50	0	N	A	-77.2	-21.5	0.0	-3.0	0.0	0.0	-95.7
4586	615308.67	4847586.20	164.85	0	N	A	-77.2	-29.5	0.0	-2.3	0.0	0.0	-104.5
4587	615089.01	4847522.51	162.41	0	N	A	-77.2	-27.3	0.0	12.3	0.0	0.0	-116.8
4589	614869.35	4847458.81	159.98	0	N	A	-77.2	-24.2	0.0	-0.4	0.0	0.0	-101.0
4591	614704.60	4847411.04	158.15	0	N	A	-77.2	-24.3	0.0	9.0	0.0	0.0	-110.5
4592	614594.77	4847379.19	156.93	0	N	A	-77.2	-21.5	0.0	-0.9	0.0	0.0	-97.8
4594	615308.60	4847586.44	164.85	0	N	A	-77.2	-29.5	0.0	-2.6	0.0	0.0	-104.1
4596	615088.94	4847522.75	162.41	0	N	A	-77.2	-27.3	0.0	19.8	0.0	0.0	-124.3
4598	614869.28	4847459.05	159.98	0	N	A	-77.2	-24.2	0.0	-2.6	0.0	0.0	-98.8
4600	614704.53	4847411.28	158.15	0	N	A	-77.2	-24.3	0.0	17.1	0.0	0.0	-118.6
4602	614594.70	4847379.43	156.93	0	N	A	-77.2	-21.5	0.0	2.5	0.0	0.0	-101.2
4939	617649.26	4848116.63	191.14	0	N	A	-77.2	-36.4	0.0	2.0	0.0	0.0	-115.6
4940	617128.16	4847959.37	183.63	0	N	A	-77.2	-34.9	0.0	10.8	0.0	0.0	-122.9
4942	616607.07	4847802.11	176.12	0	N	A	-77.2	-33.0	0.0	8.9	0.0	0.0	-119.1
4943	616085.98	4847644.85	168.61	0	N	A	-77.2	-30.7	0.0	-2.2	0.0	0.0	-105.7
4944	617649.18	4848116.87	191.14	0	N	A	-77.2	-36.4	0.0	-2.1	0.0	0.0	-111.5
4945	617128.09	4847959.61	183.63	0	N	A	-77.2	-34.9	0.0	-2.5	0.0	0.0	-109.6
4946	616607.00	4847802.35	176.12	0	N	A	-77.2	-33.0	0.0	2.9	0.0	0.0	-113.1
4947	616085.91	4847645.09	168.61	0	N	A	-77.2	-30.7	0.0	-2.6	0.0	0.0	-105.3
4950	617649.26	4848116.63	192.57	0	N	A	-77.2	-36.4	0.0	-0.5	0.0	0.0	-113.1
4953	617128.16	4847959.37	185.06	0	N	A	-77.2	-34.9	0.0	4.8	0.0	0.0	-116.8
4955	616607.07	4847802.11	177.55	0	N	A	-77.2	-33.0	0.0	17.4	0.0	0.0	-127.6
4956	616085.98	4847644.85	170.03	0	N	A	-77.2	-30.7	0.0	-1.5	0.0	0.0	-106.5
4958	617649.18	4848116.87	192.57	0	N	A	-77.2	-36.4	0.0	-0.5	0.0	0.0	-113.1
4960	617128.09	4847959.61	185.06	0	N	A	-77.2	-34.9	0.0	-2.1	0.0	0.0	-110.0
4961	616607.00	4847802.35	177.55	0	N	A	-77.2	-33.0	0.0	2.9	0.0	0.0	-113.1
4962	616085.91	4847645.09	170.03	0	N	A	-77.2	-30.7	0.0	-1.5	0.0	0.0	-106.5
4983	614426.55	4847324.68	155.63	0	N	A	-77.2	-24.5	0.0	-4.0	0.0	0.0	-97.7
4984	614426.45	4847324.91	155.63	0	N	A	-77.2	-24.5	0.0	-4.0	0.0	0.0	-97.7
4985	614426.55	4847324.68	157.05	0	N	A	-77.2	-24.5	0.0	-2.9	0.0	0.0	-98.8
4986	614426.45	4847324.91	157.05	0	N	A	-77.2	-24.5	0.0	-2.9	0.0	0.0	-98.8
4991	614442.79	4847331.41	154.80	0	N	A	-77.2	-24.9	0.0	-4.0	0.0	0.0	-98.1
4992	614442.70	4847331.64	154.80	0	N	A	-77.2	-24.9	0.0	-4.0	0.0	0.0	-98.1
4993	614442.79	4847331.41	156.23	0	N	A	-77.2	-24.9	0.0	-2.6	0.0	0.0	-99.5
4994	614442.70	4847331.64	156.23	0	N	A	-77.2	-24.9	0.0	-2.7	0.0	0.0	-99.4
4995	614459.20	4847337.71	154.11	0	N	A	-77.2	-25.4	0.0	-3.9	0.0	0.0	-98.7
4996	614459.11	4847337.94	154.11	0	N	A	-77.2	-25.4	0.0	-3.9	0.0	0.0	-98.7
4999	614459.20	4847337.71	155.53	0	N	A	-77.2	-25.4	0.0	-2.7	0.0	0.0	-99.9
5000	614459.11	4847337.94	155.53	0	N	A	-77.2	-25.4	0.0	-2.7	0.0	0.0	-99.9
5023	614354.90	4847290.01	153.43	0	N	A	-77.2	-26.5	0.0	-4.2	0.0	0.0	-99.5
5024	614354.78	4847290.23	153.43	0	N	A	-77.2	-26.5	0.0	-4.2	0.0	0.0	-99.5
5025	614354.90	4847290.01	154.85	0	N	A	-77.2	-26.5	0.0	-1.8	0.0	0.0	-101.9
5026	614354.78	4847290.23	154.85	0	N	A	-77.2	-26.5	0.0	-1.9	0.0	0.0	-101.9

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5057	614394.42	4847309.97	156.60	0	N	A	-77.2	-27.1	0.0	0.4	0.0	0.0	-104.7
5059	614394.31	4847310.19	156.60	0	N	A	-77.2	-27.1	0.0	-1.9	0.0	0.0	-102.4
5060	614394.42	4847309.97	158.03	0	N	A	-77.2	-27.1	0.0	-3.5	0.0	0.0	-100.8
5061	614394.31	4847310.19	158.03	0	N	A	-77.2	-27.1	0.0	-3.5	0.0	0.0	-100.8
5064	614367.54	4847296.51	153.90	0	N	A	-77.2	-27.2	0.0	-4.2	0.0	0.0	-100.1
5065	614367.42	4847296.73	153.90	0	N	A	-77.2	-27.2	0.0	-4.2	0.0	0.0	-100.1
5066	614367.54	4847296.51	155.33	0	N	A	-77.2	-27.2	0.0	-2.0	0.0	0.0	-102.4
5067	614367.42	4847296.73	155.33	0	N	A	-77.2	-27.2	0.0	-2.0	0.0	0.0	-102.4
5075	614380.87	4847303.27	158.10	0	N	A	-77.2	-27.3	0.0	-4.2	0.0	0.0	-100.3
5076	614380.76	4847303.49	158.10	0	N	A	-77.2	-27.3	0.0	-4.2	0.0	0.0	-100.3
5079	614380.87	4847303.27	159.53	0	N	A	-77.2	-27.3	0.0	-2.7	0.0	0.0	-101.8
5080	614380.76	4847303.49	159.53	0	N	A	-77.2	-27.3	0.0	-2.7	0.0	0.0	-101.8
5084	614374.26	4847299.94	156.10	0	N	A	-77.2	-27.4	0.0	7.2	0.0	0.0	-111.8
5086	614374.15	4847300.16	156.10	0	N	A	-77.2	-27.4	0.0	8.7	0.0	0.0	-113.3
5093	614374.26	4847299.94	157.53	0	N	A	-77.2	-27.4	0.0	4.6	0.0	0.0	-109.3
5094	614374.15	4847300.16	157.53	0	N	A	-77.2	-27.4	0.0	3.7	0.0	0.0	-108.3
5095	614408.16	4847316.50	155.31	0	N	A	-77.2	-27.6	0.0	0.7	0.0	0.0	-105.5
5096	614408.05	4847316.73	155.31	0	N	A	-77.2	-27.6	0.0	1.0	0.0	0.0	-105.8
5104	614408.16	4847316.50	156.74	0	N	A	-77.2	-27.6	0.0	-3.1	0.0	0.0	-101.7
5105	614408.05	4847316.73	156.74	0	N	A	-77.2	-27.6	0.0	-3.0	0.0	0.0	-101.7
5112	613545.63	4846882.16	141.58	0	N	A	-77.2	-28.8	0.0	-3.7	0.0	0.0	-102.3
5115	613545.52	4846882.39	141.58	0	N	A	-77.2	-28.8	0.0	-3.5	0.0	0.0	-102.5
5122	613545.63	4846882.16	143.00	0	N	A	-77.2	-28.8	0.0	-1.5	0.0	0.0	-104.5
5123	613545.52	4846882.39	143.00	0	N	A	-77.2	-28.8	0.0	-1.5	0.0	0.0	-104.5
5138	614401.28	4847313.27	155.09	0	N	A	-77.2	-27.9	0.0	1.9	0.0	0.0	-107.0
5139	614401.18	4847313.49	155.09	0	N	A	-77.2	-27.8	0.0	2.3	0.0	0.0	-107.4
5146	614387.66	4847306.65	158.10	0	N	A	-77.2	-27.9	0.0	-4.1	0.0	0.0	-100.9
5147	614387.55	4847306.88	158.10	0	N	A	-77.2	-27.8	0.0	-4.1	0.0	0.0	-100.9
5148	614401.28	4847313.27	156.52	0	N	A	-77.2	-27.9	0.0	4.7	0.0	0.0	-109.8
5149	614401.18	4847313.49	156.52	0	N	A	-77.2	-27.8	0.0	4.4	0.0	0.0	-109.5
5152	614387.66	4847306.65	159.53	0	N	A	-77.2	-27.9	0.0	-3.4	0.0	0.0	-101.7
5153	614387.55	4847306.88	159.53	0	N	A	-77.2	-27.8	0.0	-3.4	0.0	0.0	-101.7
5156	614415.11	4847319.69	155.74	0	N	A	-77.2	-28.0	0.0	-4.0	0.0	0.0	-101.2
5157	614415.01	4847319.92	155.74	0	N	A	-77.2	-28.0	0.0	-4.0	0.0	0.0	-101.1
5167	614415.11	4847319.69	157.16	0	N	A	-77.2	-28.0	0.0	-3.0	0.0	0.0	-102.2
5168	614415.01	4847319.92	157.16	0	N	A	-77.2	-28.0	0.0	-3.0	0.0	0.0	-102.2
5272	614478.17	4847344.43	153.95	0	N	A	-77.2	-29.5	0.0	-3.9	0.0	0.0	-102.8
5273	614478.09	4847344.67	153.95	0	N	A	-77.2	-29.5	0.0	-3.9	0.0	0.0	-102.8
5274	614478.17	4847344.43	155.38	0	N	A	-77.2	-29.5	0.0	-2.4	0.0	0.0	-104.3
5275	614478.09	4847344.67	155.38	0	N	A	-77.2	-29.5	0.0	-2.5	0.0	0.0	-104.2
5276	614361.58	4847293.45	153.62	0	N	A	-77.2	-29.4	0.0	-4.2	0.0	0.0	-102.4
5277	614361.46	4847293.67	153.62	0	N	A	-77.2	-29.4	0.0	-4.2	0.0	0.0	-102.4
5278	614470.93	4847341.96	153.87	0	N	A	-77.2	-29.5	0.0	-3.9	0.0	0.0	-102.8
5279	614470.85	4847342.19	153.87	0	N	A	-77.2	-29.5	0.0	-3.9	0.0	0.0	-102.8
5287	614361.58	4847293.45	155.04	0	N	A	-77.2	-29.4	0.0	-2.3	0.0	0.0	-104.4
5288	614361.46	4847293.67	155.04	0	N	A	-77.2	-29.4	0.0	-2.3	0.0	0.0	-104.4
5289	614470.93	4847341.96	155.30	0	N	A	-77.2	-29.5	0.0	-2.4	0.0	0.0	-104.3
5290	614470.85	4847342.19	155.30	0	N	A	-77.2	-29.5	0.0	-2.5	0.0	0.0	-104.3
5312	614492.64	4847349.15	154.13	0	N	A	-77.2	-29.9	0.0	-3.9	0.0	0.0	-103.3
5313	614492.56	4847349.39	154.13	0	N	A	-77.2	-29.9	0.0	-3.9	0.0	0.0	-103.3
5316	614492.64	4847349.15	155.55	0	N	A	-77.2	-29.9	0.0	-2.3	0.0	0.0	-104.8
5317	614492.56	4847349.39	155.55	0	N	A	-77.2	-29.9	0.0	-2.3	0.0	0.0	-104.8
5330	614485.38	4847346.82	154.06	0	N	A	-77.2	-30.1	0.0	-3.9	0.0	0.0	-103.4
5331	614485.31	4847347.06	154.06	0	N	A	-77.2	-30.1	0.0	-3.9	0.0	0.0	-103.4
5332	614485.38	4847346.82	155.48	0	N	A	-77.2	-30.1	0.0	-2.4	0.0	0.0	-104.9
5333	614485.31	4847347.06	155.48	0	N	A	-77.2	-30.1	0.0	-2.4	0.0	0.0	-104.9
5356	614535.04	4847361.87	154.81	0	N	A	-77.2	-30.4	0.0	-3.8	0.0	0.0	-103.8
5357	614534.98	4847362.11	154.81	0	N	A	-77.2	-30.4	0.0	-3.8	0.0	0.0	-103.8
5361	614507.07	4847353.62	154.34	0	N	A	-77.2	-30.4	0.0	-3.8	0.0	0.0	-103.8
5362	614507.00	4847353.86	154.34	0	N	A	-77.2	-30.4	0.0	-3.8	0.0	0.0	-103.8
5363	614535.04	4847361.87	156.23	0	N	A	-77.2	-30.4	0.0	-2.2	0.0	0.0	-105.4
5364	614534.98	4847362.11	156.23	0	N	A	-77.2	-30.4	0.0	-2.2	0.0	0.0	-105.4
5365	614507.07	4847353.62	155.77	0	N	A	-77.2	-30.4	0.0	-2.2	0.0	0.0	-105.3
5366	614507.00	4847353.86	155.77	0	N	A	-77.2	-30.4	0.0	-2.2	0.0	0.0	-105.3
5380	613153.55	4846680.98	146.82	0	N	A	-77.2	-31.4	0.0	-1.7	0.0	0.0	-107.0
5383	613153.42	4846681.20	146.82	0	N	A	-77.2	-31.4	0.0	-1.7	0.0	0.0	-106.9

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5384	614521.40	4847357.89	154.56	0	N	A	-77.2	-30.7	0.0	-3.8	0.0	0.0	-104.1
5385	614521.33	4847358.13	154.56	0	N	A	-77.2	-30.7	0.0	-3.8	0.0	0.0	-104.1
5388	614499.82	4847351.40	154.27	0	N	A	-77.2	-30.7	0.0	-3.8	0.0	0.0	-104.1
5389	614499.75	4847351.64	154.27	0	N	A	-77.2	-30.7	0.0	-3.8	0.0	0.0	-104.1
5390	613153.55	4846680.98	148.25	0	N	A	-77.2	-31.4	0.0	6.9	0.0	0.0	-115.5
5391	613153.42	4846681.20	148.25	0	N	A	-77.2	-31.4	0.0	-2.8	0.0	0.0	-105.9
5392	614521.40	4847357.89	155.99	0	N	A	-77.2	-30.7	0.0	-2.2	0.0	0.0	-105.7
5393	614521.33	4847358.13	155.99	0	N	A	-77.2	-30.7	0.0	-2.2	0.0	0.0	-105.7
5398	614499.82	4847351.40	155.69	0	N	A	-77.2	-30.7	0.0	-2.3	0.0	0.0	-105.7
5399	614499.75	4847351.64	155.69	0	N	A	-77.2	-30.7	0.0	-2.3	0.0	0.0	-105.6
5462	614514.16	4847355.75	154.45	0	N	A	-77.2	-31.4	0.0	-3.8	0.0	0.0	-104.8
5463	614514.09	4847355.99	154.45	0	N	A	-77.2	-31.4	0.0	-3.8	0.0	0.0	-104.8
5464	614514.16	4847355.75	155.87	0	N	A	-77.2	-31.4	0.0	-2.3	0.0	0.0	-106.4
5465	614514.09	4847355.99	155.87	0	N	A	-77.2	-31.4	0.0	-2.3	0.0	0.0	-106.4
5515	613805.20	4847006.09	141.37	0	N	A	-77.2	-32.8	0.0	-1.3	0.0	0.0	-108.7
5517	613805.08	4847006.32	141.37	0	N	A	-77.2	-32.8	0.0	-3.0	0.0	0.0	-107.0
5525	613805.20	4847006.09	142.79	0	N	A	-77.2	-32.8	0.0	-1.8	0.0	0.0	-108.2
5527	613805.08	4847006.32	142.79	0	N	A	-77.2	-32.8	0.0	-1.8	0.0	0.0	-108.2
5598	614527.83	4847359.77	154.66	0	N	A	-77.2	-33.1	0.0	-3.8	0.0	0.0	-106.6
5599	614527.76	4847360.01	154.66	0	N	A	-77.2	-33.1	0.0	-3.8	0.0	0.0	-106.6
5602	614527.83	4847359.77	156.08	0	N	A	-77.2	-33.1	0.0	-2.2	0.0	0.0	-108.2
5603	614527.76	4847360.01	156.08	0	N	A	-77.2	-33.1	0.0	-2.2	0.0	0.0	-108.1
5606	613762.64	4846984.67	141.19	0	N	A	-77.2	-33.4	0.0	-2.7	0.0	0.0	-107.9
5608	613762.53	4846984.90	141.19	0	N	A	-77.2	-33.4	0.0	-2.7	0.0	0.0	-107.9
5612	613762.64	4846984.67	142.61	0	N	A	-77.2	-33.4	0.0	-1.7	0.0	0.0	-108.9
5615	613762.53	4846984.90	142.61	0	N	A	-77.2	-33.4	0.0	-1.7	0.0	0.0	-108.9
5638	612788.49	4846462.98	159.54	0	N	A	-77.2	-34.0	0.0	2.5	0.0	0.0	-113.7
5642	612788.36	4846463.19	159.54	0	N	A	-77.2	-34.0	0.0	8.5	0.0	0.0	-119.7
5653	612788.49	4846462.98	160.96	0	N	A	-77.2	-34.0	0.0	4.4	0.0	0.0	-115.6
5656	612788.36	4846463.19	160.96	0	N	A	-77.2	-34.0	0.0	4.3	0.0	0.0	-115.5
5675	613719.86	4846963.71	141.01	0	N	A	-77.2	-34.0	0.0	-2.6	0.0	0.0	-108.5
5677	613719.75	4846963.93	141.01	0	N	A	-77.2	-34.0	0.0	-2.6	0.0	0.0	-108.5
5678	613719.86	4846963.71	142.43	0	N	A	-77.2	-34.0	0.0	-1.7	0.0	0.0	-109.5
5679	613719.75	4846963.93	142.43	0	N	A	-77.2	-34.0	0.0	-1.7	0.0	0.0	-109.5
5736	613676.86	4846943.19	140.66	0	N	A	-77.2	-34.5	0.0	-3.4	0.0	0.0	-108.3
5738	613676.75	4846943.42	140.66	0	N	A	-77.2	-34.5	0.0	3.2	0.0	0.0	-114.9
5748	613676.86	4846943.19	142.08	0	N	A	-77.2	-34.5	0.0	-1.7	0.0	0.0	-110.0
5749	613676.75	4846943.42	142.08	0	N	A	-77.2	-34.5	0.0	-1.7	0.0	0.0	-110.0
6526	615704.49	4847586.41	162.49	0	N	A	-77.2	-37.4	0.0	2.1	0.0	0.0	-116.7
6529	615704.59	4847586.64	162.49	0	N	A	-77.2	-37.4	0.0	1.5	0.0	0.0	-116.0
6548	615704.49	4847586.41	163.91	0	N	A	-77.2	-37.4	0.0	4.6	0.0	0.0	-119.2
6550	615704.59	4847586.64	163.91	0	N	A	-77.2	-37.4	0.0	4.7	0.0	0.0	-119.2
6976	613365.88	4846797.83	141.88	0	N	A	-77.2	-40.4	0.0	-2.1	0.0	0.0	-115.4
6978	613365.77	4846798.05	141.88	0	N	A	-77.2	-40.4	0.0	-2.1	0.0	0.0	-115.4
6998	613365.88	4846797.83	143.30	0	N	A	-77.2	-40.4	0.0	-1.2	0.0	0.0	-116.3
7002	613365.77	4846798.05	143.30	0	N	A	-77.2	-40.4	0.0	-1.2	0.0	0.0	-116.3
7019	613343.90	4846786.60	142.26	0	N	A	-77.2	-40.6	0.0	-2.1	0.0	0.0	-115.7
7024	613343.79	4846786.82	142.26	0	N	A	-77.2	-40.6	0.0	-2.1	0.0	0.0	-115.7
7027	613343.90	4846786.60	143.68	0	N	A	-77.2	-40.6	0.0	-1.2	0.0	0.0	-116.6
7028	613343.79	4846786.82	143.68	0	N	A	-77.2	-40.6	0.0	-1.2	0.0	0.0	-116.6
7290	615465.36	4847629.99	164.43	0	N	A	-77.2	-42.8	0.0	1.6	0.0	0.0	-121.5
7291	615465.32	4847630.23	164.43	0	N	A	-77.2	-42.8	0.0	3.1	0.0	0.0	-123.1
7300	615465.36	4847629.99	165.85	0	N	A	-77.2	-42.8	0.0	2.4	0.0	0.0	-122.4
7301	615465.32	4847630.23	165.85	0	N	A	-77.2	-42.8	0.0	2.4	0.0	0.0	-122.4
7341	615479.94	4847632.47	164.25	0	N	A	-77.2	-42.9	0.0	2.5	0.0	0.0	-122.5
7345	615479.91	4847632.72	164.25	0	N	A	-77.2	-42.9	0.0	1.7	0.0	0.0	-121.8
7368	615479.94	4847632.47	165.68	0	N	A	-77.2	-42.9	0.0	2.5	0.0	0.0	-122.6
7370	615479.91	4847632.72	165.68	0	N	A	-77.2	-42.9	0.0	2.5	0.0	0.0	-122.6
7444	615494.62	4847634.26	163.90	0	N	A	-77.2	-43.0	0.0	-2.1	0.0	0.0	-118.1
7480	615494.60	4847634.51	163.90	0	N	A	-77.2	-43.0	0.0	-2.6	0.0	0.0	-117.6
7502	615494.62	4847634.26	165.32	0	N	A	-77.2	-43.0	0.0	2.6	0.0	0.0	-122.8
7507	615494.60	4847634.51	165.32	0	N	A	-77.2	-43.0	0.0	1.9	0.0	0.0	-122.1
7533	615509.37	4847635.36	163.61	0	N	A	-77.2	-43.1	0.0	-3.3	0.0	0.0	-117.0
7567	615509.36	4847635.61	163.61	0	N	A	-77.2	-43.1	0.0	-2.0	0.0	0.0	-118.3
7581	615509.37	4847635.36	165.04	0	N	A	-77.2	-43.1	0.0	-2.5	0.0	0.0	-117.8
7584	615509.36	4847635.61	165.04	0	N	A	-77.2	-43.1	0.0	-1.9	0.0	0.0	-118.4

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
7624	615524.16	4847635.77	163.60	0	N	A	-77.2	-43.2	0.0	-3.2	0.0	0.0	-117.2
7637	615524.15	4847636.02	163.60	0	N	A	-77.2	-43.2	0.0	-3.1	0.0	0.0	-117.3
7813	615524.16	4847635.77	165.03	0	N	A	-77.2	-43.2	0.0	-1.9	0.0	0.0	-118.5
7828	615524.15	4847636.02	165.03	0	N	A	-77.2	-43.2	0.0	-1.6	0.0	0.0	-118.8
7878	615538.94	4847635.48	163.59	0	N	A	-77.2	-43.3	0.0	0.2	0.0	0.0	-120.7
7892	615538.95	4847635.73	163.59	0	N	A	-77.2	-43.3	0.0	-1.5	0.0	0.0	-119.0
7953	615538.94	4847635.48	165.02	0	N	A	-77.2	-43.3	0.0	-1.5	0.0	0.0	-119.0
7956	615538.95	4847635.73	165.02	0	N	A	-77.2	-43.3	0.0	-1.5	0.0	0.0	-119.0
7973	615553.70	4847634.50	163.42	0	N	A	-77.2	-43.4	0.0	-1.2	0.0	0.0	-119.4
7977	615553.72	4847634.75	163.42	0	N	A	-77.2	-43.4	0.0	1.4	0.0	0.0	-122.1
7986	615553.70	4847634.50	164.84	0	N	A	-77.2	-43.4	0.0	0.6	0.0	0.0	-121.2
7988	615553.72	4847634.75	164.84	0	N	A	-77.2	-43.4	0.0	2.0	0.0	0.0	-122.6
8004	615568.39	4847632.83	163.20	0	N	A	-77.2	-43.5	0.0	0.7	0.0	0.0	-121.4
8007	615568.43	4847633.08	163.20	0	N	A	-77.2	-43.5	0.0	0.9	0.0	0.0	-121.6
8022	615568.39	4847632.83	164.63	0	N	A	-77.2	-43.5	0.0	1.0	0.0	0.0	-121.7
8031	615568.43	4847633.08	164.63	0	N	A	-77.2	-43.5	0.0	1.5	0.0	0.0	-122.2
8039	615582.99	4847630.47	163.10	0	N	A	-77.2	-43.6	0.0	-0.7	0.0	0.0	-120.2
8043	615583.04	4847630.71	163.10	0	N	A	-77.2	-43.6	0.0	0.8	0.0	0.0	-121.6
8073	615582.99	4847630.47	164.53	0	N	A	-77.2	-43.6	0.0	-1.1	0.0	0.0	-119.7
8084	615583.04	4847630.71	164.53	0	N	A	-77.2	-43.6	0.0	0.2	0.0	0.0	-121.0
8087	615597.46	4847627.42	163.10	0	N	A	-77.2	-43.7	0.0	-2.8	0.0	0.0	-118.1
8090	615597.52	4847627.66	163.10	0	N	A	-77.2	-43.7	0.0	0.2	0.0	0.0	-121.1
8109	615597.46	4847627.42	164.53	0	N	A	-77.2	-43.7	0.0	-2.9	0.0	0.0	-118.0
8112	615597.52	4847627.66	164.53	0	N	A	-77.2	-43.7	0.0	0.2	0.0	0.0	-121.1
8121	615611.78	4847623.70	162.91	0	N	A	-77.2	-43.8	0.0	-1.8	0.0	0.0	-119.2
8124	615611.85	4847623.94	162.91	0	N	A	-77.2	-43.8	0.0	-2.0	0.0	0.0	-119.0
8127	615611.78	4847623.70	164.33	0	N	A	-77.2	-43.8	0.0	0.3	0.0	0.0	-121.3
8131	615611.85	4847623.94	164.33	0	N	A	-77.2	-43.8	0.0	-0.9	0.0	0.0	-120.1
8148	615625.90	4847619.31	162.41	0	N	A	-77.2	-43.9	0.0	-2.2	0.0	0.0	-118.9
8155	615625.98	4847619.54	162.41	0	N	A	-77.2	-43.9	0.0	-2.2	0.0	0.0	-118.9
8159	615625.90	4847619.31	163.83	0	N	A	-77.2	-43.9	0.0	0.3	0.0	0.0	-121.4
8161	615625.98	4847619.54	163.83	0	N	A	-77.2	-43.9	0.0	0.8	0.0	0.0	-121.9
8226	612965.94	4846575.08	153.54	0	N	A	-77.2	-44.1	0.0	17.8	0.0	0.0	-139.1
8237	612965.82	4846575.30	153.54	0	N	A	-77.2	-44.1	0.0	30.6	0.0	0.0	-151.9
8256	612965.94	4846575.08	154.96	0	N	A	-77.2	-44.1	0.0	19.0	0.0	0.0	-140.3
8261	612965.82	4846575.30	154.96	0	N	A	-77.2	-44.1	0.0	25.9	0.0	0.0	-147.2
8278	613432.02	4846829.44	142.64	0	N	A	-77.2	-44.3	0.0	-2.2	0.0	0.0	-119.3
8283	613431.92	4846829.67	142.64	0	N	A	-77.2	-44.3	0.0	-2.2	0.0	0.0	-119.3
8287	613432.02	4846829.44	144.07	0	N	A	-77.2	-44.3	0.0	-1.2	0.0	0.0	-120.4
8292	613431.92	4846829.67	144.07	0	N	A	-77.2	-44.3	0.0	-1.2	0.0	0.0	-120.4
8346	613420.87	4846824.26	142.38	0	N	A	-77.2	-45.2	0.0	-2.2	0.0	0.0	-120.2
8348	613420.77	4846824.49	142.38	0	N	A	-77.2	-45.2	0.0	-2.2	0.0	0.0	-120.2
8352	613420.87	4846824.26	143.80	0	N	A	-77.2	-45.2	0.0	-1.2	0.0	0.0	-121.2
8354	613420.77	4846824.49	143.80	0	N	A	-77.2	-45.2	0.0	-1.2	0.0	0.0	-121.2
8374	613409.19	4846818.80	142.05	0	N	A	-77.2	-45.5	0.0	-2.2	0.0	0.0	-120.5
8376	613409.09	4846819.03	142.05	0	N	A	-77.2	-45.5	0.0	-2.2	0.0	0.0	-120.5
8401	613279.53	4846751.52	141.07	0	N	A	-77.2	-45.5	0.0	11.8	0.0	0.0	-134.5
8429	613279.41	4846751.74	141.07	0	N	A	-77.2	-45.5	0.0	21.5	0.0	0.0	-144.3
8430	613409.19	4846818.80	143.47	0	N	A	-77.2	-45.5	0.0	-1.2	0.0	0.0	-121.5
8433	613409.09	4846819.03	143.47	0	N	A	-77.2	-45.5	0.0	-1.2	0.0	0.0	-121.5
8437	613279.53	4846751.52	142.49	0	N	A	-77.2	-45.5	0.0	2.2	0.0	0.0	-124.9
8440	613279.41	4846751.74	142.49	0	N	A	-77.2	-45.5	0.0	9.4	0.0	0.0	-132.1
8480	613397.43	4846813.25	141.13	0	N	A	-77.2	-45.7	0.0	0.3	0.0	0.0	-123.2
8482	613397.32	4846813.47	141.13	0	N	A	-77.2	-45.7	0.0	0.3	0.0	0.0	-123.2
8497	613397.43	4846813.25	142.56	0	N	A	-77.2	-45.7	0.0	-1.4	0.0	0.0	-121.5
8498	613397.32	4846813.47	142.56	0	N	A	-77.2	-45.7	0.0	-1.3	0.0	0.0	-121.5
8507	613385.65	4846807.60	141.47	0	N	A	-77.2	-45.8	0.0	0.4	0.0	0.0	-123.4
8512	613385.55	4846807.83	141.47	0	N	A	-77.2	-45.8	0.0	1.3	0.0	0.0	-124.3
8518	613385.65	4846807.60	142.90	0	N	A	-77.2	-45.8	0.0	-1.3	0.0	0.0	-121.7
8521	613385.55	4846807.83	142.90	0	N	A	-77.2	-45.8	0.0	-1.3	0.0	0.0	-121.7
8545	613403.28	4846816.02	141.55	0	N	A	-77.2	-46.1	0.0	1.8	0.0	0.0	-125.1
8546	613403.18	4846816.24	141.55	0	N	A	-77.2	-46.1	0.0	1.8	0.0	0.0	-125.1
8547	613391.53	4846810.43	141.29	0	N	A	-77.2	-46.1	0.0	3.0	0.0	0.0	-126.3
8548	613391.42	4846810.65	141.29	0	N	A	-77.2	-46.1	0.0	3.0	0.0	0.0	-126.4
8551	613403.28	4846816.02	142.97	0	N	A	-77.2	-46.1	0.0	-1.3	0.0	0.0	-122.0
8552	613403.18	4846816.24	142.97	0	N	A	-77.2	-46.1	0.0	-1.3	0.0	0.0	-122.0

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
8553	613379.76	4846804.74	141.58	0	N	A	-77.2	-46.2	0.0	-2.2	0.0	0.0	-121.2
8555	613379.65	4846804.96	141.58	0	N	A	-77.2	-46.2	0.0	-2.2	0.0	0.0	-121.2
8557	613391.53	4846810.43	142.71	0	N	A	-77.2	-46.1	0.0	-1.3	0.0	0.0	-122.0
8558	613391.42	4846810.65	142.71	0	N	A	-77.2	-46.1	0.0	-1.3	0.0	0.0	-122.0
8567	613379.76	4846804.74	143.01	0	N	A	-77.2	-46.2	0.0	-1.3	0.0	0.0	-122.1
8573	613379.65	4846804.96	143.01	0	N	A	-77.2	-46.2	0.0	-1.3	0.0	0.0	-122.1
8590	613414.97	4846821.51	142.17	0	N	A	-77.2	-46.2	0.0	-2.2	0.0	0.0	-121.2
8592	613414.86	4846821.73	142.17	0	N	A	-77.2	-46.2	0.0	-2.2	0.0	0.0	-121.2
8623	613414.97	4846821.51	143.59	0	N	A	-77.2	-46.2	0.0	-1.2	0.0	0.0	-122.2
8625	613414.86	4846821.73	143.59	0	N	A	-77.2	-46.2	0.0	-1.2	0.0	0.0	-122.2
8641	613290.26	4846757.52	142.78	0	N	A	-77.2	-46.3	0.0	-1.3	0.0	0.0	-122.3
8646	613290.14	4846757.74	142.78	0	N	A	-77.2	-46.3	0.0	0.4	0.0	0.0	-123.9
8650	613324.40	4846776.30	142.54	0	N	A	-77.2	-46.3	0.0	-2.1	0.0	0.0	-121.4
8652	613324.28	4846776.52	142.54	0	N	A	-77.2	-46.3	0.0	-2.1	0.0	0.0	-121.4
8725	613290.26	4846757.52	144.20	0	N	A	-77.2	-46.3	0.0	-1.2	0.0	0.0	-122.4
8731	613290.14	4846757.74	144.20	0	N	A	-77.2	-46.3	0.0	-1.2	0.0	0.0	-122.4
8734	613324.40	4846776.30	143.96	0	N	A	-77.2	-46.3	0.0	-1.2	0.0	0.0	-122.4
8739	613324.28	4846776.52	143.96	0	N	A	-77.2	-46.3	0.0	-1.1	0.0	0.0	-122.4
8742	613312.92	4846770.06	142.79	0	N	A	-77.2	-46.4	0.0	-2.1	0.0	0.0	-121.5
8743	613312.80	4846770.28	142.79	0	N	A	-77.2	-46.4	0.0	-2.1	0.0	0.0	-121.5
8754	613301.53	4846763.79	143.10	0	N	A	-77.2	-46.4	0.0	-2.1	0.0	0.0	-121.6
8758	613301.41	4846764.00	143.10	0	N	A	-77.2	-46.4	0.0	-2.1	0.0	0.0	-121.6
8764	613312.92	4846770.06	144.22	0	N	A	-77.2	-46.4	0.0	-1.1	0.0	0.0	-122.5
8765	613312.80	4846770.28	144.22	0	N	A	-77.2	-46.4	0.0	-1.1	0.0	0.0	-122.5
8767	613301.53	4846763.79	144.53	0	N	A	-77.2	-46.4	0.0	-1.1	0.0	0.0	-122.5
8768	613301.41	4846764.00	144.53	0	N	A	-77.2	-46.4	0.0	-1.1	0.0	0.0	-122.5
8887	613330.17	4846779.40	142.45	0	N	A	-77.2	-46.6	0.0	-2.1	0.0	0.0	-121.7
8891	613330.06	4846779.62	142.45	0	N	A	-77.2	-46.6	0.0	-2.1	0.0	0.0	-121.7
8905	613330.17	4846779.40	143.87	0	N	A	-77.2	-46.6	0.0	-1.2	0.0	0.0	-122.6
8909	613330.06	4846779.62	143.87	0	N	A	-77.2	-46.6	0.0	-1.2	0.0	0.0	-122.6
8918	613318.67	4846773.20	142.65	0	N	A	-77.2	-46.7	0.0	-2.1	0.0	0.0	-121.9
8920	613318.55	4846773.42	142.65	0	N	A	-77.2	-46.7	0.0	-2.1	0.0	0.0	-121.9
8928	613318.67	4846773.20	144.07	0	N	A	-77.2	-46.7	0.0	-1.1	0.0	0.0	-122.8
8929	613318.55	4846773.42	144.07	0	N	A	-77.2	-46.7	0.0	-1.1	0.0	0.0	-122.8
8947	615421.07	4847618.80	164.64	0	N	A	-77.2	-46.9	0.0	-1.7	0.0	0.0	-122.4
8950	615421.00	4847619.04	164.64	0	N	A	-77.2	-46.9	0.0	-3.7	0.0	0.0	-120.4
8956	615421.07	4847618.80	166.06	0	N	A	-77.2	-46.9	0.0	-2.1	0.0	0.0	-121.9
8959	615421.00	4847619.04	166.06	0	N	A	-77.2	-46.9	0.0	-2.1	0.0	0.0	-121.9
8961	613307.25	4846766.94	142.99	0	N	A	-77.2	-46.9	0.0	-2.1	0.0	0.0	-122.1
8963	613307.13	4846767.16	142.99	0	N	A	-77.2	-46.9	0.0	-2.1	0.0	0.0	-122.1
8964	613307.25	4846766.94	144.41	0	N	A	-77.2	-46.9	0.0	-1.1	0.0	0.0	-123.0
8966	613307.13	4846767.16	144.41	0	N	A	-77.2	-46.9	0.0	-1.1	0.0	0.0	-123.0
9055	613295.96	4846760.69	143.04	0	N	A	-77.2	-47.2	0.0	-2.1	0.0	0.0	-122.4
9058	613295.83	4846760.91	143.04	0	N	A	-77.2	-47.2	0.0	-2.1	0.0	0.0	-122.4
9106	613295.96	4846760.69	144.47	0	N	A	-77.2	-47.2	0.0	-1.1	0.0	0.0	-123.3
9109	613295.83	4846760.91	144.47	0	N	A	-77.2	-47.2	0.0	-1.1	0.0	0.0	-123.3
9144	613426.12	4846826.70	142.54	0	N	A	-77.2	-47.4	0.0	-3.6	0.0	0.0	-121.0
9146	613426.02	4846826.93	142.54	0	N	A	-77.2	-47.4	0.0	-2.2	0.0	0.0	-122.4
9151	613027.56	4846610.45	153.64	0	N	A	-77.2	-47.4	0.0	-1.8	0.0	0.0	-122.9
9178	613027.44	4846610.67	153.64	0	N	A	-77.2	-47.4	0.0	-1.8	0.0	0.0	-122.9
9200	613426.12	4846826.70	143.97	0	N	A	-77.2	-47.4	0.0	-1.2	0.0	0.0	-123.4
9201	613426.02	4846826.93	143.97	0	N	A	-77.2	-47.4	0.0	-1.2	0.0	0.0	-123.4
9205	613027.56	4846610.45	155.06	0	N	A	-77.2	-47.4	0.0	-0.6	0.0	0.0	-124.1
9211	613027.44	4846610.67	155.06	0	N	A	-77.2	-47.4	0.0	-0.6	0.0	0.0	-124.1
9264	615428.39	4847620.90	164.62	0	N	A	-77.2	-47.7	0.0	-1.1	0.0	0.0	-123.8
9274	615428.32	4847621.14	164.62	0	N	A	-77.2	-47.7	0.0	-1.0	0.0	0.0	-123.9
9275	615428.39	4847620.90	166.04	0	N	A	-77.2	-47.7	0.0	-2.1	0.0	0.0	-122.7
9276	615428.32	4847621.14	166.04	0	N	A	-77.2	-47.7	0.0	-2.1	0.0	0.0	-122.7
9312	615436.14	4847623.07	164.60	0	N	A	-77.2	-47.9	0.0	-1.8	0.0	0.0	-123.2
9314	615436.07	4847623.32	164.60	0	N	A	-77.2	-47.9	0.0	-2.8	0.0	0.0	-122.3
9321	615436.14	4847623.07	166.03	0	N	A	-77.2	-47.9	0.0	3.3	0.0	0.0	-128.4
9322	615436.07	4847623.32	166.03	0	N	A	-77.2	-47.9	0.0	3.3	0.0	0.0	-128.4
9325	615444.04	4847625.19	164.55	0	N	A	-77.2	-48.0	0.0	5.5	0.0	0.0	-130.6
9328	615443.97	4847625.43	164.55	0	N	A	-77.2	-48.0	0.0	3.7	0.0	0.0	-128.9
9330	615767.49	4847560.82	164.10	0	N	A	-77.2	-48.0	0.0	-3.3	0.0	0.0	-122.0
9333	615767.54	4847561.06	164.10	0	N	A	-77.2	-48.0	0.0	-3.1	0.0	0.0	-122.1

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
9334	615444.04	4847625.19	165.98	0	N	A	-77.2	-48.0	0.0	3.3	0.0	0.0	-128.5
9335	615443.97	4847625.43	165.98	0	N	A	-77.2	-48.0	0.0	3.3	0.0	0.0	-128.5
9338	615452.07	4847627.19	164.51	0	N	A	-77.2	-48.0	0.0	2.2	0.0	0.0	-127.4
9339	615452.01	4847627.43	164.51	0	N	A	-77.2	-48.0	0.0	1.5	0.0	0.0	-126.7
9346	615774.31	4847559.55	164.10	0	N	A	-77.2	-48.0	0.0	-2.5	0.0	0.0	-122.7
9351	615774.34	4847559.80	164.10	0	N	A	-77.2	-48.0	0.0	-2.0	0.0	0.0	-123.2
9356	615767.49	4847560.82	165.53	0	N	A	-77.2	-48.0	0.0	-3.1	0.0	0.0	-122.1
9360	615767.54	4847561.06	165.53	0	N	A	-77.2	-48.0	0.0	-3.0	0.0	0.0	-122.2
9370	615452.07	4847627.19	165.93	0	N	A	-77.2	-48.0	0.0	2.3	0.0	0.0	-127.5
9372	615452.01	4847627.43	165.93	0	N	A	-77.2	-48.0	0.0	2.4	0.0	0.0	-127.6
9373	615781.21	4847558.85	164.10	0	N	A	-77.2	-48.1	0.0	3.2	0.0	0.0	-128.4
9374	615781.23	4847559.10	164.10	0	N	A	-77.2	-48.1	0.0	-2.4	0.0	0.0	-122.9
9379	615774.31	4847559.55	165.53	0	N	A	-77.2	-48.0	0.0	-2.2	0.0	0.0	-123.1
9380	615774.34	4847559.80	165.53	0	N	A	-77.2	-48.0	0.0	-1.7	0.0	0.0	-123.5
9403	615788.15	4847558.71	164.23	0	N	A	-77.2	-48.1	0.0	-0.0	0.0	0.0	-125.3
9405	615788.15	4847558.96	164.23	0	N	A	-77.2	-48.1	0.0	-0.0	0.0	0.0	-125.3
9410	615781.21	4847558.85	165.53	0	N	A	-77.2	-48.1	0.0	0.2	0.0	0.0	-125.5
9413	615781.23	4847559.10	165.53	0	N	A	-77.2	-48.1	0.0	-2.2	0.0	0.0	-123.0
9424	615795.08	4847559.13	164.46	0	N	A	-77.2	-48.2	0.0	1.4	0.0	0.0	-126.8
9427	615795.05	4847559.38	164.46	0	N	A	-77.2	-48.2	0.0	1.5	0.0	0.0	-126.9
9434	615788.15	4847558.71	165.65	0	N	A	-77.2	-48.1	0.0	0.2	0.0	0.0	-125.5
9436	615788.15	4847558.96	165.65	0	N	A	-77.2	-48.1	0.0	0.2	0.0	0.0	-125.5
9445	615795.08	4847559.13	165.89	0	N	A	-77.2	-48.2	0.0	1.8	0.0	0.0	-127.2
9451	615795.05	4847559.38	165.89	0	N	A	-77.2	-48.2	0.0	0.2	0.0	0.0	-125.6
9472	612905.61	4846537.56	153.71	0	N	A	-77.2	-48.2	0.0	3.9	0.0	0.0	-129.4
9474	612905.48	4846537.78	153.71	0	N	A	-77.2	-48.2	0.0	2.2	0.0	0.0	-127.6
9495	612905.61	4846537.56	155.14	0	N	A	-77.2	-48.2	0.0	5.2	0.0	0.0	-130.6
9501	612905.48	4846537.78	155.14	0	N	A	-77.2	-48.2	0.0	1.3	0.0	0.0	-126.7
9503	613016.84	4846604.44	153.73	0	N	A	-77.2	-48.3	0.0	-1.8	0.0	0.0	-123.8
9506	613016.72	4846604.65	153.73	0	N	A	-77.2	-48.3	0.0	-1.8	0.0	0.0	-123.8
9514	613016.84	4846604.44	155.16	0	N	A	-77.2	-48.3	0.0	-0.6	0.0	0.0	-124.9
9518	613016.72	4846604.65	155.16	0	N	A	-77.2	-48.3	0.0	-0.6	0.0	0.0	-124.9
9521	615456.13	4847628.13	164.48	0	N	A	-77.2	-48.3	0.0	2.3	0.0	0.0	-127.8
9522	615456.08	4847628.38	164.48	0	N	A	-77.2	-48.3	0.0	1.5	0.0	0.0	-127.0
9523	615448.05	4847626.21	164.53	0	N	A	-77.2	-48.4	0.0	2.9	0.0	0.0	-128.5
9524	615447.99	4847626.45	164.53	0	N	A	-77.2	-48.4	0.0	2.2	0.0	0.0	-127.8
9536	615456.13	4847628.13	165.91	0	N	A	-77.2	-48.3	0.0	2.4	0.0	0.0	-127.9
9538	615456.08	4847628.38	165.91	0	N	A	-77.2	-48.3	0.0	2.3	0.0	0.0	-127.9
9539	615448.05	4847626.21	165.96	0	N	A	-77.2	-48.4	0.0	3.1	0.0	0.0	-128.6
9542	615447.99	4847626.45	165.96	0	N	A	-77.2	-48.4	0.0	2.3	0.0	0.0	-127.9
9546	615440.09	4847624.15	164.58	0	N	A	-77.2	-48.4	0.0	5.6	0.0	0.0	-131.3
9548	615440.03	4847624.39	164.58	0	N	A	-77.2	-48.4	0.0	3.5	0.0	0.0	-129.2
9550	615440.09	4847624.15	166.00	0	N	A	-77.2	-48.4	0.0	3.3	0.0	0.0	-129.0
9553	615440.03	4847624.39	166.00	0	N	A	-77.2	-48.4	0.0	3.3	0.0	0.0	-129.0
9559	613005.60	4846598.10	153.90	0	N	A	-77.2	-48.5	0.0	-1.7	0.0	0.0	-124.0
9568	613005.48	4846598.32	153.90	0	N	A	-77.2	-48.5	0.0	-1.7	0.0	0.0	-124.0
9579	615668.32	4847602.35	161.10	0	N	A	-77.2	-48.6	0.0	15.6	0.0	0.0	-141.3
9592	615668.42	4847602.58	161.10	0	N	A	-77.2	-48.6	0.0	14.1	0.0	0.0	-139.8
9615	613285.21	4846754.69	142.32	0	N	A	-77.2	-48.6	0.0	-4.1	0.0	0.0	-121.6
9620	613285.09	4846754.91	142.32	0	N	A	-77.2	-48.6	0.0	13.2	0.0	0.0	-139.0
9634	613005.60	4846598.10	155.33	0	N	A	-77.2	-48.5	0.0	-0.6	0.0	0.0	-125.1
9638	613005.48	4846598.32	155.33	0	N	A	-77.2	-48.5	0.0	-0.6	0.0	0.0	-125.1
9643	615668.32	4847602.35	162.52	0	N	A	-77.2	-48.6	0.0	1.1	0.0	0.0	-126.8
9654	615668.42	4847602.58	162.52	0	N	A	-77.2	-48.6	0.0	1.6	0.0	0.0	-127.3
9663	613285.21	4846754.69	143.75	0	N	A	-77.2	-48.6	0.0	-1.2	0.0	0.0	-124.5
9667	613285.09	4846754.91	143.75	0	N	A	-77.2	-48.6	0.0	-1.2	0.0	0.0	-124.6
9740	615432.29	4847622.01	164.61	0	N	A	-77.2	-48.6	0.0	-2.9	0.0	0.0	-122.9
9745	615432.23	4847622.25	164.61	0	N	A	-77.2	-48.6	0.0	-3.6	0.0	0.0	-122.2
9756	612994.30	4846591.67	154.08	0	N	A	-77.2	-48.7	0.0	-1.7	0.0	0.0	-124.2
9759	612994.17	4846591.89	154.08	0	N	A	-77.2	-48.7	0.0	-1.7	0.0	0.0	-124.2
9761	615432.29	4847622.01	166.04	0	N	A	-77.2	-48.6	0.0	3.3	0.0	0.0	-129.1
9762	615432.23	4847622.25	166.04	0	N	A	-77.2	-48.6	0.0	3.3	0.0	0.0	-129.1
9764	612994.30	4846591.67	155.50	0	N	A	-77.2	-48.7	0.0	-0.6	0.0	0.0	-125.3
9766	612994.17	4846591.89	155.50	0	N	A	-77.2	-48.7	0.0	-0.6	0.0	0.0	-125.3
9793	612982.98	4846585.15	154.73	0	N	A	-77.2	-48.8	0.0	-1.7	0.0	0.0	-124.3
9796	612982.86	4846585.37	154.73	0	N	A	-77.2	-48.8	0.0	-1.7	0.0	0.0	-124.3

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
49817	612982.98	4846585.15	156.16	0	N	A	-77.2	-48.8	0.0	-0.6	0.0	0.0	-125.4
49819	612982.86	4846585.37	156.16	0	N	A	-77.2	-48.8	0.0	-0.6	0.0	0.0	-125.4
49836	612915.99	4846544.16	153.31	0	N	A	-77.2	-49.0	0.0	2.4	0.0	0.0	-128.5
49841	612915.85	4846544.37	153.31	0	N	A	-77.2	-48.9	0.0	0.6	0.0	0.0	-126.8
49856	612915.99	4846544.16	154.74	0	N	A	-77.2	-49.0	0.0	8.9	0.0	0.0	-135.1
49861	612915.85	4846544.37	154.74	0	N	A	-77.2	-48.9	0.0	6.1	0.0	0.0	-132.2
49866	612949.00	4846564.85	152.07	0	N	A	-77.2	-49.0	0.0	6.8	0.0	0.0	-133.0
49875	612948.87	4846565.06	152.07	0	N	A	-77.2	-49.0	0.0	6.3	0.0	0.0	-132.6
49905	612926.89	4846551.06	152.47	0	N	A	-77.2	-49.0	0.0	-1.3	0.0	0.0	-124.9
49907	612926.75	4846551.27	152.47	0	N	A	-77.2	-49.0	0.0	2.6	0.0	0.0	-128.9
49916	612937.90	4846557.97	152.11	0	N	A	-77.2	-49.0	0.0	3.8	0.0	0.0	-130.0
49921	612937.77	4846558.18	152.11	0	N	A	-77.2	-49.0	0.0	3.6	0.0	0.0	-129.9
49935	612949.00	4846564.85	153.49	0	N	A	-77.2	-49.0	0.0	9.6	0.0	0.0	-135.8
49945	612948.87	4846565.06	153.49	0	N	A	-77.2	-49.0	0.0	8.2	0.0	0.0	-134.4
49975	612926.89	4846551.06	153.90	0	N	A	-77.2	-49.0	0.0	6.2	0.0	0.0	-132.5
49981	612926.75	4846551.27	153.90	0	N	A	-77.2	-49.0	0.0	6.2	0.0	0.0	-132.4
50019	612937.90	4846557.97	153.53	0	N	A	-77.2	-49.0	0.0	-0.5	0.0	0.0	-125.7
50028	612937.77	4846558.18	153.53	0	N	A	-77.2	-49.0	0.0	-1.7	0.0	0.0	-124.5
50106	612988.62	4846588.42	154.23	0	N	A	-77.2	-49.1	0.0	-1.7	0.0	0.0	-124.6
50118	612988.50	4846588.63	154.23	0	N	A	-77.2	-49.1	0.0	-1.7	0.0	0.0	-124.6
50144	612977.32	4846581.85	155.34	0	N	A	-77.2	-49.1	0.0	-1.7	0.0	0.0	-124.6
50152	612977.19	4846582.07	155.34	0	N	A	-77.2	-49.1	0.0	-1.7	0.0	0.0	-124.6
50158	612999.92	4846594.88	153.97	0	N	A	-77.2	-49.1	0.0	-1.7	0.0	0.0	-124.6
50169	612999.80	4846595.10	153.97	0	N	A	-77.2	-49.1	0.0	-1.7	0.0	0.0	-124.6
50177	612988.62	4846588.42	155.66	0	N	A	-77.2	-49.1	0.0	-0.6	0.0	0.0	-125.7
50179	612988.50	4846588.63	155.66	0	N	A	-77.2	-49.1	0.0	-0.6	0.0	0.0	-125.7
50207	612977.32	4846581.85	156.77	0	N	A	-77.2	-49.1	0.0	-0.5	0.0	0.0	-125.8
50215	612977.19	4846582.07	156.77	0	N	A	-77.2	-49.1	0.0	-0.5	0.0	0.0	-125.8
50233	612999.92	4846594.88	155.39	0	N	A	-77.2	-49.1	0.0	-0.6	0.0	0.0	-125.8
50245	612999.80	4846595.10	155.39	0	N	A	-77.2	-49.1	0.0	-0.6	0.0	0.0	-125.8
50312	615661.35	4847605.40	161.17	0	N	A	-77.2	-49.3	0.0	3.0	0.0	0.0	-129.5
50322	615661.45	4847605.63	161.17	0	N	A	-77.2	-49.3	0.0	9.9	0.0	0.0	-136.4
50326	612954.59	4846568.27	151.70	0	N	A	-77.2	-49.3	0.0	12.1	0.0	0.0	-138.6
50344	612954.46	4846568.48	151.70	0	N	A	-77.2	-49.3	0.0	10.3	0.0	0.0	-136.8
50368	613011.16	4846601.24	153.85	0	N	A	-77.2	-49.3	0.0	-1.7	0.0	0.0	-124.8
50375	613011.04	4846601.46	153.85	0	N	A	-77.2	-49.3	0.0	-1.7	0.0	0.0	-124.8
50385	615638.71	4847614.77	162.03	0	N	A	-77.2	-49.3	0.0	0.6	0.0	0.0	-127.1
50391	615638.80	4847615.00	162.03	0	N	A	-77.2	-49.3	0.0	1.7	0.0	0.0	-128.2
50397	615661.35	4847605.40	162.59	0	N	A	-77.2	-49.3	0.0	-1.9	0.0	0.0	-124.6
50399	615661.45	4847605.63	162.59	0	N	A	-77.2	-49.3	0.0	0.8	0.0	0.0	-127.3
50404	612954.59	4846568.27	153.13	0	N	A	-77.2	-49.3	0.0	1.7	0.0	0.0	-128.2
50421	612954.46	4846568.48	153.13	0	N	A	-77.2	-49.3	0.0	2.1	0.0	0.0	-128.6
50611	615646.40	4847611.72	161.74	0	N	A	-77.2	-49.3	0.0	3.0	0.0	0.0	-129.6
50754	615646.50	4847611.96	161.74	0	N	A	-77.2	-49.3	0.0	3.3	0.0	0.0	-129.8
50763	613011.16	4846601.24	155.27	0	N	A	-77.2	-49.3	0.0	-0.6	0.0	0.0	-125.9
50767	613011.04	4846601.46	155.27	0	N	A	-77.2	-49.3	0.0	-0.6	0.0	0.0	-125.9
50770	615638.71	4847614.77	163.46	0	N	A	-77.2	-49.3	0.0	1.0	0.0	0.0	-127.5
50773	615638.80	4847615.00	163.46	0	N	A	-77.2	-49.3	0.0	0.6	0.0	0.0	-127.1
50885	615653.95	4847608.58	161.45	0	N	A	-77.2	-49.3	0.0	1.6	0.0	0.0	-128.1
50940	615654.05	4847608.81	161.45	0	N	A	-77.2	-49.4	0.0	23.6	0.0	0.0	-150.2
51024	615646.40	4847611.72	163.17	0	N	A	-77.2	-49.3	0.0	0.2	0.0	0.0	-126.8
51027	615646.50	4847611.96	163.17	0	N	A	-77.2	-49.3	0.0	0.2	0.0	0.0	-126.7
51030	615653.95	4847608.58	162.87	0	N	A	-77.2	-49.3	0.0	6.3	0.0	0.0	-132.8
51034	615654.05	4847608.81	162.87	0	N	A	-77.2	-49.4	0.0	0.6	0.0	0.0	-127.2
51077	612943.46	4846561.42	152.28	0	N	A	-77.2	-49.4	0.0	4.0	0.0	0.0	-130.6
51081	612943.33	4846561.64	152.28	0	N	A	-77.2	-49.4	0.0	14.8	0.0	0.0	-141.4
51339	612943.46	4846561.42	153.70	0	N	A	-77.2	-49.4	0.0	-0.4	0.0	0.0	-126.2
51341	612943.33	4846561.64	153.70	0	N	A	-77.2	-49.4	0.0	-0.7	0.0	0.0	-125.9
51407	612671.37	4846388.41	165.32	0	N	A	-77.2	-49.6	0.0	-1.4	0.0	0.0	-125.4
51413	612671.24	4846388.62	165.32	0	N	A	-77.2	-49.6	0.0	-1.4	0.0	0.0	-125.4
51417	612932.41	4846554.53	152.02	0	N	A	-77.2	-49.6	0.0	14.7	0.0	0.0	-141.5
51426	612932.28	4846554.75	152.02	0	N	A	-77.2	-49.6	0.0	-2.6	0.0	0.0	-124.2
51438	615634.80	4847616.25	162.10	0	N	A	-77.2	-49.6	0.0	-1.0	0.0	0.0	-125.8
51447	615634.89	4847616.48	162.10	0	N	A	-77.2	-49.6	0.0	-1.2	0.0	0.0	-125.5
51487	612671.37	4846388.41	166.75	0	N	A	-77.2	-49.6	0.0	-0.3	0.0	0.0	-126.4
51494	612671.24	4846388.62	166.75	0	N	A	-77.2	-49.6	0.0	-0.3	0.0	0.0	-126.4

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
61647	612932.41	4846554.53	153.45	0	N	A	-77.2	-49.6	0.0	10.6	0.0	0.0	-137.4
61652	612932.28	4846554.75	153.45	0	N	A	-77.2	-49.6	0.0	10.5	0.0	0.0	-137.3
61655	615634.80	4847616.25	163.53	0	N	A	-77.2	-49.6	0.0	1.9	0.0	0.0	-128.7
61656	615634.89	4847616.48	163.53	0	N	A	-77.2	-49.6	0.0	0.2	0.0	0.0	-127.0
61673	615642.56	4847613.27	161.89	0	N	A	-77.2	-49.7	0.0	10.7	0.0	0.0	-137.6
61680	615642.66	4847613.50	161.89	0	N	A	-77.2	-49.7	0.0	9.2	0.0	0.0	-136.1
61685	615642.56	4847613.27	163.32	0	N	A	-77.2	-49.7	0.0	0.7	0.0	0.0	-127.6
61688	615642.66	4847613.50	163.32	0	N	A	-77.2	-49.7	0.0	0.6	0.0	0.0	-127.5
61846	612921.49	4846547.65	152.94	0	N	A	-77.2	-49.9	0.0	0.6	0.0	0.0	-127.7
61851	612921.36	4846547.86	152.94	0	N	A	-77.2	-49.9	0.0	0.6	0.0	0.0	-127.6
61870	615424.93	4847619.91	164.63	0	N	A	-77.2	-49.9	0.0	-4.0	0.0	0.0	-123.1
61902	615424.86	4847620.15	164.63	0	N	A	-77.2	-49.9	0.0	-4.0	0.0	0.0	-123.0
61950	615650.18	4847610.17	161.60	0	N	A	-77.2	-49.9	0.0	19.1	0.0	0.0	-146.1
61988	615650.27	4847610.40	161.60	0	N	A	-77.2	-49.9	0.0	23.5	0.0	0.0	-150.6
62017	612921.49	4846547.65	154.36	0	N	A	-77.2	-49.9	0.0	6.2	0.0	0.0	-133.3
62021	612921.36	4846547.86	154.36	0	N	A	-77.2	-49.9	0.0	9.3	0.0	0.0	-136.3
62023	615424.93	4847619.91	166.05	0	N	A	-77.2	-49.9	0.0	-2.1	0.0	0.0	-124.9
62027	615424.86	4847620.15	166.05	0	N	A	-77.2	-49.9	0.0	-2.1	0.0	0.0	-124.9
62031	615650.18	4847610.17	163.02	0	N	A	-77.2	-49.9	0.0	-0.2	0.0	0.0	-126.8
62033	615650.27	4847610.40	163.02	0	N	A	-77.2	-49.9	0.0	1.4	0.0	0.0	-128.5
62137	615657.62	4847607.02	161.30	0	N	A	-77.2	-50.2	0.0	-1.9	0.0	0.0	-125.5
62234	615657.72	4847607.25	161.30	0	N	A	-77.2	-50.2	0.0	-2.3	0.0	0.0	-125.1
62243	615657.62	4847607.02	162.72	0	N	A	-77.2	-50.2	0.0	1.5	0.0	0.0	-128.9
62246	615657.72	4847607.25	162.72	0	N	A	-77.2	-50.2	0.0	1.3	0.0	0.0	-128.7
62287	615740.03	4847570.75	163.91	0	N	A	-77.2	-50.3	0.0	-3.4	0.0	0.0	-124.1
62306	615740.13	4847570.98	163.91	0	N	A	-77.2	-50.3	0.0	-3.3	0.0	0.0	-124.1
62372	615740.03	4847570.75	165.33	0	N	A	-77.2	-50.3	0.0	-2.1	0.0	0.0	-125.4
62377	615740.13	4847570.98	165.33	0	N	A	-77.2	-50.3	0.0	-1.1	0.0	0.0	-126.4
62465	612661.05	4846381.86	165.43	0	N	A	-77.2	-50.4	0.0	-1.4	0.0	0.0	-126.2
62474	612660.92	4846382.07	165.43	0	N	A	-77.2	-50.4	0.0	-1.4	0.0	0.0	-126.2
62495	612661.05	4846381.86	166.85	0	N	A	-77.2	-50.4	0.0	-0.3	0.0	0.0	-127.3
62498	612660.92	4846382.07	166.85	0	N	A	-77.2	-50.4	0.0	-0.3	0.0	0.0	-127.3
62502	613021.89	4846607.27	153.70	0	N	A	-77.2	-50.5	0.0	-1.8	0.0	0.0	-125.9
62507	613021.76	4846607.49	153.70	0	N	A	-77.2	-50.5	0.0	-1.8	0.0	0.0	-125.9
62547	613021.89	4846607.27	155.12	0	N	A	-77.2	-50.5	0.0	-0.6	0.0	0.0	-127.1
62554	613021.76	4846607.49	155.12	0	N	A	-77.2	-50.5	0.0	-0.6	0.0	0.0	-127.1
62759	612650.26	4846375.09	165.51	0	N	A	-77.2	-50.7	0.0	-1.4	0.0	0.0	-126.5
62762	612650.12	4846375.30	165.51	0	N	A	-77.2	-50.7	0.0	-1.4	0.0	0.0	-126.5
62929	612650.26	4846375.09	166.94	0	N	A	-77.2	-50.7	0.0	-0.3	0.0	0.0	-127.5
62933	612650.12	4846375.30	166.94	0	N	A	-77.2	-50.7	0.0	-0.3	0.0	0.0	-127.5
62961	615823.54	4847565.65	164.82	0	N	A	-77.2	-50.8	0.0	-3.3	0.0	0.0	-124.7
62968	615823.47	4847565.89	164.82	0	N	A	-77.2	-50.8	0.0	-3.3	0.0	0.0	-124.7
62993	615823.54	4847565.65	166.25	0	N	A	-77.2	-50.8	0.0	0.4	0.0	0.0	-128.3
62997	615823.47	4847565.89	166.25	0	N	A	-77.2	-50.8	0.0	4.7	0.0	0.0	-132.7
63001	612639.38	4846368.42	165.61	0	N	A	-77.2	-50.8	0.0	-1.4	0.0	0.0	-126.7
63005	612639.25	4846368.64	165.61	0	N	A	-77.2	-50.8	0.0	-1.4	0.0	0.0	-126.7
63019	612639.38	4846368.42	167.03	0	N	A	-77.2	-50.8	0.0	-0.4	0.0	0.0	-127.7
63023	612639.25	4846368.64	167.03	0	N	A	-77.2	-50.8	0.0	-0.4	0.0	0.0	-127.7
63049	612628.45	4846361.93	165.83	0	N	A	-77.2	-51.0	0.0	-1.4	0.0	0.0	-126.8
63056	612628.32	4846362.14	165.83	0	N	A	-77.2	-51.0	0.0	-1.4	0.0	0.0	-126.8
63061	612628.45	4846361.93	167.26	0	N	A	-77.2	-51.0	0.0	-0.4	0.0	0.0	-127.8
63067	612628.32	4846362.14	167.26	0	N	A	-77.2	-51.0	0.0	-0.4	0.0	0.0	-127.8
63119	612911.10	4846541.06	153.58	0	N	A	-77.2	-51.2	0.0	4.1	0.0	0.0	-132.5
63128	612910.97	4846541.27	153.58	0	N	A	-77.2	-51.2	0.0	2.2	0.0	0.0	-130.6
63154	615745.10	4847568.54	163.99	0	N	A	-77.2	-51.2	0.0	-3.5	0.0	0.0	-124.9
63164	615745.20	4847568.77	163.99	0	N	A	-77.2	-51.2	0.0	-3.4	0.0	0.0	-125.0
63198	612911.10	4846541.06	155.00	0	N	A	-77.2	-51.2	0.0	8.5	0.0	0.0	-136.9
63202	612910.97	4846541.27	155.00	0	N	A	-77.2	-51.2	0.0	6.0	0.0	0.0	-134.4
63224	615745.10	4847568.54	165.41	0	N	A	-77.2	-51.2	0.0	-2.3	0.0	0.0	-126.1
63234	615745.20	4847568.77	165.41	0	N	A	-77.2	-51.2	0.0	-3.1	0.0	0.0	-125.3
63289	612633.91	4846365.14	165.66	0	N	A	-77.2	-51.3	0.0	-1.4	0.0	0.0	-127.1
63294	612633.78	4846365.35	165.66	0	N	A	-77.2	-51.3	0.0	-1.4	0.0	0.0	-127.1
63302	612644.80	4846371.72	165.56	0	N	A	-77.2	-51.3	0.0	-1.4	0.0	0.0	-127.1
63308	612644.67	4846371.93	165.56	0	N	A	-77.2	-51.3	0.0	-1.4	0.0	0.0	-127.1
63321	612633.91	4846365.14	167.08	0	N	A	-77.2	-51.3	0.0	-0.4	0.0	0.0	-128.1
63333	612633.78	4846365.35	167.08	0	N	A	-77.2	-51.3	0.0	-0.4	0.0	0.0	-128.1

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
3350	612644.80	4846371.72	166.98	0	N	A	-77.2	-51.3	0.0	-0.4	0.0	0.0	-128.2
3355	612644.67	4846371.93	166.98	0	N	A	-77.2	-51.3	0.0	-0.4	0.0	0.0	-128.2
3454	612655.59	4846378.42	165.47	0	N	A	-77.2	-51.4	0.0	-1.4	0.0	0.0	-127.2
3458	612655.46	4846378.63	165.47	0	N	A	-77.2	-51.4	0.0	-1.4	0.0	0.0	-127.2
3479	612655.59	4846378.42	166.90	0	N	A	-77.2	-51.4	0.0	-0.3	0.0	0.0	-128.3
3483	612655.46	4846378.63	166.90	0	N	A	-77.2	-51.4	0.0	-0.3	0.0	0.0	-128.3
3489	615664.64	4847603.96	161.10	0	N	A	-77.2	-51.5	0.0	15.3	0.0	0.0	-144.1
3494	615664.74	4847604.19	161.10	0	N	A	-77.2	-51.5	0.0	15.3	0.0	0.0	-144.1
3521	615750.29	4847566.38	164.06	0	N	A	-77.2	-51.6	0.0	-3.5	0.0	0.0	-125.3
3535	615750.38	4847566.61	164.06	0	N	A	-77.2	-51.6	0.0	-3.5	0.0	0.0	-125.3
3537	615664.64	4847603.96	162.52	0	N	A	-77.2	-51.5	0.0	0.6	0.0	0.0	-129.3
3539	615664.74	4847604.19	162.52	0	N	A	-77.2	-51.5	0.0	0.6	0.0	0.0	-129.3
3592	615750.29	4847566.38	165.49	0	N	A	-77.2	-51.6	0.0	-3.7	0.0	0.0	-125.1
3597	615750.38	4847566.61	165.49	0	N	A	-77.2	-51.6	0.0	-3.6	0.0	0.0	-125.2
3633	615818.23	4847564.07	164.73	0	N	A	-77.2	-51.6	0.0	-3.1	0.0	0.0	-125.8
3641	615818.16	4847564.31	164.73	0	N	A	-77.2	-51.6	0.0	-3.2	0.0	0.0	-125.6
3696	615818.23	4847564.07	166.16	0	N	A	-77.2	-51.6	0.0	-3.0	0.0	0.0	-125.9
3714	615818.16	4847564.31	166.16	0	N	A	-77.2	-51.6	0.0	-3.2	0.0	0.0	-125.7
3735	615755.40	4847564.40	164.10	0	N	A	-77.2	-51.8	0.0	-3.5	0.0	0.0	-125.5
3745	615755.48	4847564.64	164.10	0	N	A	-77.2	-51.8	0.0	-3.9	0.0	0.0	-125.1
3758	615755.40	4847564.40	165.53	0	N	A	-77.2	-51.8	0.0	-3.6	0.0	0.0	-125.4
3762	615755.48	4847564.64	165.53	0	N	A	-77.2	-51.8	0.0	-4.0	0.0	0.0	-125.0
3770	615812.82	4847562.56	164.64	0	N	A	-77.2	-51.9	0.0	-2.4	0.0	0.0	-126.7
3774	615812.76	4847562.80	164.64	0	N	A	-77.2	-51.9	0.0	-2.0	0.0	0.0	-127.1
3835	615812.82	4847562.56	166.07	0	N	A	-77.2	-51.9	0.0	-2.3	0.0	0.0	-126.8
3838	615812.76	4847562.80	166.07	0	N	A	-77.2	-51.9	0.0	-1.7	0.0	0.0	-127.4
3853	615760.43	4847562.68	164.10	0	N	A	-77.2	-52.0	0.0	-3.5	0.0	0.0	-125.8
3863	615760.50	4847562.92	164.10	0	N	A	-77.2	-52.0	0.0	-3.5	0.0	0.0	-125.8
3870	615760.43	4847562.68	165.52	0	N	A	-77.2	-52.0	0.0	-3.4	0.0	0.0	-125.8
3874	615760.50	4847562.92	165.52	0	N	A	-77.2	-52.0	0.0	-3.4	0.0	0.0	-125.8
3879	615807.51	4847561.22	164.61	0	N	A	-77.2	-52.1	0.0	3.0	0.0	0.0	-132.3
3880	615807.45	4847561.46	164.61	0	N	A	-77.2	-52.1	0.0	-2.1	0.0	0.0	-127.2
3882	615807.51	4847561.22	166.03	0	N	A	-77.2	-52.1	0.0	2.0	0.0	0.0	-131.3
3884	615807.45	4847561.46	166.03	0	N	A	-77.2	-52.1	0.0	-1.7	0.0	0.0	-127.6
3907	615752.87	4847565.35	164.09	0	N	A	-77.2	-52.2	0.0	-3.5	0.0	0.0	-125.9
3924	615752.96	4847565.59	164.09	0	N	A	-77.2	-52.2	0.0	-3.5	0.0	0.0	-126.0
3928	615802.31	4847560.12	164.59	0	N	A	-77.2	-52.3	0.0	-0.0	0.0	0.0	-129.4
3934	615802.27	4847560.37	164.59	0	N	A	-77.2	-52.3	0.0	1.4	0.0	0.0	-130.9
3961	615747.74	4847567.42	164.03	0	N	A	-77.2	-52.3	0.0	-3.4	0.0	0.0	-126.1
4006	615747.84	4847567.65	164.03	0	N	A	-77.2	-52.3	0.0	-3.5	0.0	0.0	-126.0
4012	615752.87	4847565.35	165.52	0	N	A	-77.2	-52.2	0.0	-3.5	0.0	0.0	-125.9
4022	615752.96	4847565.59	165.52	0	N	A	-77.2	-52.2	0.0	-3.8	0.0	0.0	-125.7
4026	615802.31	4847560.12	166.01	0	N	A	-77.2	-52.3	0.0	1.8	0.0	0.0	-131.3
4028	615802.27	4847560.37	166.01	0	N	A	-77.2	-52.3	0.0	0.2	0.0	0.0	-129.7
4036	615757.93	4847563.50	164.10	0	N	A	-77.2	-52.3	0.0	-3.5	0.0	0.0	-126.0
4080	615758.01	4847563.74	164.10	0	N	A	-77.2	-52.3	0.0	-3.5	0.0	0.0	-126.0
4084	615747.74	4847567.42	165.45	0	N	A	-77.2	-52.3	0.0	-3.7	0.0	0.0	-125.8
4086	615747.84	4847567.65	165.45	0	N	A	-77.2	-52.3	0.0	-2.3	0.0	0.0	-127.2
4095	615757.93	4847563.50	165.53	0	N	A	-77.2	-52.3	0.0	-3.0	0.0	0.0	-126.5
4102	615758.01	4847563.74	165.53	0	N	A	-77.2	-52.3	0.0	-3.0	0.0	0.0	-126.6
4116	615762.91	4847561.93	164.10	0	N	A	-77.2	-52.5	0.0	-3.5	0.0	0.0	-126.2
4133	615762.98	4847562.17	164.10	0	N	A	-77.2	-52.5	0.0	-3.5	0.0	0.0	-126.2
4150	615762.91	4847561.93	165.53	0	N	A	-77.2	-52.5	0.0	-3.4	0.0	0.0	-126.2
4163	615762.98	4847562.17	165.53	0	N	A	-77.2	-52.5	0.0	-3.5	0.0	0.0	-126.2
4209	615810.14	4847561.86	164.61	0	N	A	-77.2	-52.6	0.0	-1.7	0.0	0.0	-128.1
4218	615810.08	4847562.10	164.61	0	N	A	-77.2	-52.6	0.0	-2.4	0.0	0.0	-127.4
4248	615804.89	4847560.64	164.60	0	N	A	-77.2	-52.6	0.0	3.0	0.0	0.0	-132.8
4252	615804.84	4847560.88	164.60	0	N	A	-77.2	-52.6	0.0	3.0	0.0	0.0	-132.8
4255	612665.90	4846384.93	165.39	0	N	A	-77.2	-52.6	0.0	-1.4	0.0	0.0	-128.4
4260	612665.77	4846385.14	165.39	0	N	A	-77.2	-52.6	0.0	-1.4	0.0	0.0	-128.4
4291	615810.14	4847561.86	166.04	0	N	A	-77.2	-52.6	0.0	-1.4	0.0	0.0	-128.3
4295	615810.08	4847562.10	166.04	0	N	A	-77.2	-52.6	0.0	-2.2	0.0	0.0	-127.6
4307	615804.89	4847560.64	166.03	0	N	A	-77.2	-52.6	0.0	0.2	0.0	0.0	-130.1
4309	615804.84	4847560.88	166.03	0	N	A	-77.2	-52.6	0.0	3.8	0.0	0.0	-133.6
4314	612665.90	4846384.93	166.81	0	N	A	-77.2	-52.6	0.0	-0.3	0.0	0.0	-129.5
4318	612665.77	4846385.14	166.81	0	N	A	-77.2	-52.6	0.0	-0.3	0.0	0.0	-129.5

Road, TNM, Name: "407 Transitway Westbound2", ID: "407_TW3_Westbound2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
64320	615799.75	4847559.68	164.58	0	N	A	-77.2	-52.7	0.0	3.0	0.0	0.0	-132.9
64321	615799.71	4847559.93	164.58	0	N	A	-77.2	-52.7	0.0	1.4	0.0	0.0	-131.3
64323	615815.48	4847563.28	164.69	0	N	A	-77.2	-52.7	0.0	-2.1	0.0	0.0	-127.8
64327	615815.41	4847563.53	164.69	0	N	A	-77.2	-52.7	0.0	-3.1	0.0	0.0	-126.8
64337	615799.75	4847559.68	166.00	0	N	A	-77.2	-52.7	0.0	0.2	0.0	0.0	-130.1
64340	615799.71	4847559.93	166.00	0	N	A	-77.2	-52.7	0.0	0.2	0.0	0.0	-130.1
64345	615815.48	4847563.28	166.11	0	N	A	-77.2	-52.7	0.0	-1.8	0.0	0.0	-128.1
64350	615815.41	4847563.53	166.11	0	N	A	-77.2	-52.7	0.0	-2.9	0.0	0.0	-127.0
64486	615742.74	4847569.56	163.95	0	N	A	-77.2	-53.4	0.0	-3.6	0.0	0.0	-127.0
64512	615742.84	4847569.79	163.95	0	N	A	-77.2	-53.4	0.0	-3.6	0.0	0.0	-127.0
64525	615742.74	4847569.56	165.38	0	N	A	-77.2	-53.4	0.0	-2.2	0.0	0.0	-128.4
64528	615742.84	4847569.79	165.38	0	N	A	-77.2	-53.4	0.0	-2.3	0.0	0.0	-128.3
64551	615820.71	4847564.80	164.77	0	N	A	-77.2	-53.8	0.0	-3.1	0.0	0.0	-127.9
64555	615820.64	4847565.04	164.77	0	N	A	-77.2	-53.8	0.0	-3.1	0.0	0.0	-127.9
64561	615820.71	4847564.80	166.20	0	N	A	-77.2	-53.8	0.0	0.4	0.0	0.0	-131.4
64564	615820.64	4847565.04	166.20	0	N	A	-77.2	-53.8	0.0	0.9	0.0	0.0	-132.0

Road, TNM, Name: "Pine Valley SB - On-Ramp to Hwy 407 EB", ID: "PineV_SB_On_Hwy407EB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
45798	614988.19	4847695.79	158.10	0	N	A	-77.2	-36.0	0.0	-2.7	0.0	0.0	-110.5
45800	614991.30	4847690.78	158.10	0	N	A	-77.2	-36.0	0.0	-2.6	0.0	0.0	-110.5
45824	615012.03	4847710.28	158.31	0	N	A	-77.2	-36.1	0.0	-2.6	0.0	0.0	-110.7
45825	615015.05	4847705.21	158.31	0	N	A	-77.2	-36.1	0.0	-2.6	0.0	0.0	-110.7
45935	615046.93	4847619.44	164.28	0	N	A	-77.2	-36.9	0.0	-2.6	0.0	0.0	-111.6
45938	615042.00	4847622.68	164.28	0	N	A	-77.2	-36.9	0.0	-2.6	0.0	0.0	-111.5
45966	614998.85	4847596.59	162.30	0	N	A	-77.2	-37.0	0.0	-2.7	0.0	0.0	-111.5
45968	614999.52	4847602.45	162.30	0	N	A	-77.2	-37.0	0.0	-2.7	0.0	0.0	-111.6
46031	614979.60	4847602.10	161.42	0	N	A	-77.2	-37.2	0.0	-3.4	0.0	0.0	-111.1
46034	614982.23	4847607.38	161.42	0	N	A	-77.2	-37.3	0.0	-3.6	0.0	0.0	-110.9
46035	614988.19	4847695.79	159.52	0	N	A	-77.2	-36.0	0.0	-2.3	0.0	0.0	-110.9
46036	614991.30	4847690.78	159.52	0	N	A	-77.2	-36.0	0.0	-2.3	0.0	0.0	-110.9
46037	615012.03	4847710.28	159.74	0	N	A	-77.2	-36.1	0.0	-2.3	0.0	0.0	-111.0
46038	615015.05	4847705.21	159.74	0	N	A	-77.2	-36.1	0.0	-2.3	0.0	0.0	-111.0
46039	614954.78	4847652.48	158.98	0	N	A	-77.2	-37.4	0.0	-3.0	0.0	0.0	-111.6
46042	614960.59	4847651.51	158.98	0	N	A	-77.2	-37.5	0.0	-3.3	0.0	0.0	-111.4
46059	614960.38	4847669.13	158.48	0	N	A	-77.2	-37.7	0.0	-2.7	0.0	0.0	-112.2
46061	614965.59	4847666.36	158.48	0	N	A	-77.2	-37.7	0.0	-3.5	0.0	0.0	-111.5
46118	615018.52	4847598.21	162.96	0	N	A	-77.2	-37.9	0.0	-3.6	0.0	0.0	-111.5
46119	615016.73	4847603.84	162.96	0	N	A	-77.2	-37.9	0.0	-2.6	0.0	0.0	-112.4
46255	614970.47	4847682.69	158.10	0	N	A	-77.2	-38.0	0.0	-2.7	0.0	0.0	-112.6
46256	614974.59	4847678.46	158.10	0	N	A	-77.2	-38.1	0.0	-2.7	0.0	0.0	-112.6
46301	614954.51	4847635.95	159.57	0	N	A	-77.2	-38.1	0.0	0.6	0.0	0.0	-115.9
46310	614960.33	4847636.90	159.57	0	N	A	-77.2	-38.2	0.0	5.4	0.0	0.0	-120.8
46327	615046.93	4847619.44	165.70	0	N	A	-77.2	-36.9	0.0	-1.9	0.0	0.0	-112.3
46328	615042.00	4847622.68	165.70	0	N	A	-77.2	-36.9	0.0	-1.9	0.0	0.0	-112.2
46374	614998.85	4847596.59	163.72	0	N	A	-77.2	-37.0	0.0	-2.1	0.0	0.0	-112.1
46376	614999.52	4847602.45	163.72	0	N	A	-77.2	-37.0	0.0	-2.0	0.0	0.0	-112.2
46500	614966.09	4847612.08	160.59	0	N	A	-77.2	-38.4	0.0	0.4	0.0	0.0	-116.0
46507	614970.59	4847615.90	160.59	0	N	A	-77.2	-38.4	0.0	-1.2	0.0	0.0	-114.5
46552	614979.60	4847602.10	162.85	0	N	A	-77.2	-37.2	0.0	-2.1	0.0	0.0	-112.3
46555	614982.23	4847607.38	162.85	0	N	A	-77.2	-37.3	0.0	-2.1	0.0	0.0	-112.4
46612	614954.78	4847652.48	160.40	0	N	A	-77.2	-37.4	0.0	-2.3	0.0	0.0	-112.3
46613	614960.59	4847651.51	160.40	0	N	A	-77.2	-37.5	0.0	-1.7	0.0	0.0	-113.0
46643	615033.51	4847604.89	163.51	0	N	A	-77.2	-39.0	0.0	-2.6	0.0	0.0	-113.6
46644	615030.39	4847609.90	163.51	0	N	A	-77.2	-39.0	0.0	-2.6	0.0	0.0	-113.6
46647	614960.38	4847669.13	159.90	0	N	A	-77.2	-37.7	0.0	-2.3	0.0	0.0	-112.6
46650	614965.59	4847666.36	159.90	0	N	A	-77.2	-37.7	0.0	-2.3	0.0	0.0	-112.6
46680	614958.65	4847622.87	160.07	0	N	A	-77.2	-39.1	0.0	-1.0	0.0	0.0	-115.2
46681	614963.87	4847625.63	160.07	0	N	A	-77.2	-39.1	0.0	2.4	0.0	0.0	-118.8
46684	615018.52	4847598.21	164.38	0	N	A	-77.2	-37.9	0.0	-2.0	0.0	0.0	-113.0
46686	615016.73	4847603.84	164.38	0	N	A	-77.2	-37.9	0.0	-2.0	0.0	0.0	-113.1
46781	614970.47	4847682.69	159.53	0	N	A	-77.2	-38.0	0.0	-2.3	0.0	0.0	-112.9
46782	614974.59	4847678.46	159.53	0	N	A	-77.2	-38.1	0.0	-2.3	0.0	0.0	-113.0
46798	614954.51	4847635.95	160.99	0	N	A	-77.2	-38.1	0.0	-1.1	0.0	0.0	-114.2
46807	614960.33	4847636.90	160.99	0	N	A	-77.2	-38.2	0.0	-2.6	0.0	0.0	-112.7

Road, TNM, Name: "Pine Valley SB - On-Ramp to Hwy 407 EB", ID: "PineV_SB_On_Hwy407EB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
6851	614966.09	4847612.08	162.01	0	N	A	-77.2	-38.4	0.0	-3.9	0.0	0.0	-111.7
6853	614970.59	4847615.90	162.01	0	N	A	-77.2	-38.4	0.0	0.5	0.0	0.0	-116.2
6922	615033.51	4847604.89	164.94	0	N	A	-77.2	-39.0	0.0	-2.0	0.0	0.0	-114.2
6924	615030.39	4847609.90	164.94	0	N	A	-77.2	-39.0	0.0	-1.9	0.0	0.0	-114.3
6946	614958.65	4847622.87	161.50	0	N	A	-77.2	-39.1	0.0	-3.0	0.0	0.0	-113.3
6949	614963.87	4847625.63	161.50	0	N	A	-77.2	-39.1	0.0	-3.0	0.0	0.0	-113.3
3042	614988.19	4847695.79	161.66	0	N	A	-77.2	-36.0	0.0	-2.1	0.0	0.0	-111.0
3043	614991.30	4847690.78	161.66	0	N	A	-77.2	-36.0	0.0	-2.1	0.0	0.0	-111.1
3069	615012.03	4847710.28	161.87	0	N	A	-77.2	-36.1	0.0	-2.1	0.0	0.0	-111.2
3071	615015.05	4847705.21	161.87	0	N	A	-77.2	-36.1	0.0	-2.1	0.0	0.0	-111.2
3775	615046.93	4847619.44	167.84	0	N	A	-77.2	-36.9	0.0	-1.7	0.0	0.0	-112.5
3777	615042.00	4847622.68	167.84	0	N	A	-77.2	-36.9	0.0	-1.7	0.0	0.0	-112.4
3845	614998.85	4847596.59	165.86	0	N	A	-77.2	-37.0	0.0	-1.8	0.0	0.0	-112.4
3846	614999.52	4847602.45	165.86	0	N	A	-77.2	-37.0	0.0	-1.8	0.0	0.0	-112.4
4007	614979.60	4847602.10	164.98	0	N	A	-77.2	-37.2	0.0	-1.9	0.0	0.0	-112.6
4009	614982.23	4847607.38	164.98	0	N	A	-77.2	-37.3	0.0	-1.9	0.0	0.0	-112.6
4134	614954.78	4847652.48	162.54	0	N	A	-77.2	-37.4	0.0	-2.1	0.0	0.0	-112.5
4135	614960.59	4847651.51	162.54	0	N	A	-77.2	-37.5	0.0	-2.1	0.0	0.0	-112.6
4370	614960.38	4847669.13	162.04	0	N	A	-77.2	-37.7	0.0	-2.1	0.0	0.0	-112.8
4371	614965.59	4847666.36	162.04	0	N	A	-77.2	-37.7	0.0	-2.1	0.0	0.0	-112.8
4385	615018.52	4847598.21	166.52	0	N	A	-77.2	-37.9	0.0	-1.8	0.0	0.0	-113.3
4386	615016.73	4847603.84	166.52	0	N	A	-77.2	-37.9	0.0	-1.8	0.0	0.0	-113.3
4405	614970.47	4847682.69	161.66	0	N	A	-77.2	-38.0	0.0	-2.1	0.0	0.0	-113.1
4407	614974.59	4847678.46	161.66	0	N	A	-77.2	-38.1	0.0	-2.1	0.0	0.0	-113.1
4435	614954.51	4847635.95	163.13	0	N	A	-77.2	-38.1	0.0	-2.1	0.0	0.0	-113.1
4436	614960.33	4847636.90	163.13	0	N	A	-77.2	-38.2	0.0	-2.1	0.0	0.0	-113.2
4534	614966.09	4847612.08	164.15	0	N	A	-77.2	-38.4	0.0	-2.0	0.0	0.0	-113.6
4535	614970.59	4847615.90	164.15	0	N	A	-77.2	-38.4	0.0	-2.0	0.0	0.0	-113.6
4581	615033.51	4847604.89	167.07	0	N	A	-77.2	-39.0	0.0	-1.8	0.0	0.0	-114.5
4585	615030.39	4847609.90	167.07	0	N	A	-77.2	-39.0	0.0	-1.7	0.0	0.0	-114.5
4591	614958.65	4847622.87	163.63	0	N	A	-77.2	-39.1	0.0	-2.1	0.0	0.0	-114.2
4593	614963.87	4847625.63	163.63	0	N	A	-77.2	-39.1	0.0	-2.1	0.0	0.0	-114.2

Road, TNM, Name: "Pine Valley SB1", ID: "PineV_SB1"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
5087	614970.54	4848090.31	164.58	0	N	A	-77.2	-32.1	0.0	-1.6	0.0	0.0	-107.7
5088	614964.77	4848089.08	164.58	0	N	A	-77.2	-32.0	0.0	-1.4	0.0	0.0	-107.8
5216	614947.69	4848198.62	164.71	0	N	A	-77.2	-33.8	0.0	-3.9	0.0	0.0	-107.1
5218	614957.70	4848150.75	164.74	0	N	A	-77.2	-41.6	0.0	12.1	0.0	0.0	-130.9
5219	614942.36	4848195.26	164.71	0	N	A	-77.2	-33.5	0.0	-3.9	0.0	0.0	-106.9
5222	614952.37	4848147.39	164.74	0	N	A	-77.2	-43.4	0.0	14.2	0.0	0.0	-134.8
5236	614963.45	4848123.61	166.10	0	N	A	-77.2	-36.4	0.0	5.4	0.0	0.0	-119.0
5237	614974.96	4848069.57	165.94	0	N	A	-77.2	-34.1	0.0	-2.1	0.0	0.0	-109.2
5238	614957.56	4848122.94	166.11	0	N	A	-77.2	-36.5	0.0	-0.7	0.0	0.0	-113.0
5240	614969.07	4848068.90	165.95	0	N	A	-77.2	-33.9	0.0	-3.6	0.0	0.0	-107.5
5334	614947.69	4848198.62	166.14	0	N	A	-77.2	-33.8	0.0	-2.2	0.0	0.0	-108.8
5335	614957.70	4848150.75	166.16	0	N	A	-77.2	-41.6	0.0	5.4	0.0	0.0	-124.3
5337	614942.36	4848195.26	166.14	0	N	A	-77.2	-33.5	0.0	-2.2	0.0	0.0	-108.5
5339	614952.37	4848147.39	166.16	0	N	A	-77.2	-43.4	0.0	15.8	0.0	0.0	-136.3
5376	614931.54	4848274.63	164.90	0	N	A	-77.2	-35.0	0.0	0.4	0.0	0.0	-112.6
5377	614925.77	4848273.38	164.90	0	N	A	-77.2	-35.0	0.0	-2.5	0.0	0.0	-109.6
5497	614931.54	4848274.63	166.32	0	N	A	-77.2	-35.0	0.0	0.1	0.0	0.0	-112.4
5498	614925.77	4848273.38	166.32	0	N	A	-77.2	-35.0	0.0	-0.8	0.0	0.0	-111.4
5919	614983.73	4848027.51	164.42	0	N	A	-77.2	-39.7	0.0	-5.4	0.0	0.0	-111.5
5921	614977.94	4848026.41	164.42	0	N	A	-77.2	-39.6	0.0	-5.4	0.0	0.0	-111.4
6283	614983.73	4848027.51	165.85	0	N	A	-77.2	-39.7	0.0	-6.0	0.0	0.0	-110.9
6284	614977.94	4848026.41	165.85	0	N	A	-77.2	-39.6	0.0	-6.0	0.0	0.0	-110.8
8967	614970.54	4848090.31	168.14	0	N	A	-77.2	-32.1	0.0	-2.2	0.0	0.0	-107.0
8968	614964.77	4848089.08	168.14	0	N	A	-77.2	-32.0	0.0	-3.3	0.0	0.0	-106.0
9381	614947.69	4848198.62	168.27	0	N	A	-77.2	-33.8	0.0	-2.1	0.0	0.0	-108.9
9383	614957.70	4848150.75	168.30	0	N	A	-77.2	-41.6	0.0	6.7	0.0	0.0	-125.6
9384	614942.36	4848195.26	168.27	0	N	A	-77.2	-33.5	0.0	-2.1	0.0	0.0	-108.6
9386	614952.37	4848147.39	168.30	0	N	A	-77.2	-43.4	0.0	4.6	0.0	0.0	-125.2
2056	614931.54	4848274.63	168.46	0	N	A	-77.2	-35.0	0.0	-3.3	0.0	0.0	-109.0
2059	614925.77	4848273.38	168.46	0	N	A	-77.2	-35.0	0.0	-3.0	0.0	0.0	-109.2

Road, TNM, Name: "Pine Valley SB1", ID: "PineV_SB1"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
64599	614983.73	4848027.51	167.98	0	N	A	-77.2	-39.7	0.0	-6.0	0.0	0.0	-110.9
64602	614977.94	4848026.41	167.98	0	N	A	-77.2	-39.6	0.0	-6.0	0.0	0.0	-110.8

Road, TNM, Name: "Pine Valley SB - On-Ramp to Hwy 407 WB", ID: "PineV_SB_On_Hwy407WB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
65432	614757.22	4847632.85	156.20	0	N	A	-77.2	-31.2	0.0	-3.8	0.0	0.0	-104.6
65446	614753.32	4847638.55	156.20	0	N	A	-77.2	-31.2	0.0	-3.7	0.0	0.0	-104.7
65450	614789.76	4847654.88	156.59	0	N	A	-77.2	-31.3	0.0	-4.0	0.0	0.0	-104.5
65451	614785.92	4847660.61	156.59	0	N	A	-77.2	-31.3	0.0	-3.1	0.0	0.0	-105.3
65454	614729.40	4847613.60	156.10	0	N	A	-77.2	-31.3	0.0	-3.4	0.0	0.0	-105.1
65456	614725.44	4847619.25	156.10	0	N	A	-77.2	-31.3	0.0	-4.0	0.0	0.0	-104.5
65503	614822.52	4847678.46	156.99	0	N	A	-77.2	-32.3	0.0	-3.2	0.0	0.0	-106.3
65505	614818.29	4847683.91	156.99	0	N	A	-77.2	-32.3	0.0	15.2	0.0	0.0	-124.7
65506	614757.22	4847632.85	157.63	0	N	A	-77.2	-31.2	0.0	-0.0	0.0	0.0	-108.4
65507	614753.32	4847638.55	157.63	0	N	A	-77.2	-31.2	0.0	-3.6	0.0	0.0	-104.8
65512	614789.76	4847654.88	158.02	0	N	A	-77.2	-31.3	0.0	0.4	0.0	0.0	-108.9
65513	614785.92	4847660.61	158.02	0	N	A	-77.2	-31.3	0.0	-4.0	0.0	0.0	-104.5
65518	614729.40	4847613.60	157.53	0	N	A	-77.2	-31.3	0.0	-0.0	0.0	0.0	-108.5
65519	614725.44	4847619.25	157.53	0	N	A	-77.2	-31.3	0.0	-2.8	0.0	0.0	-105.7
65672	614822.52	4847678.46	158.42	0	N	A	-77.2	-32.3	0.0	-2.1	0.0	0.0	-107.4
65673	614818.29	4847683.91	158.42	0	N	A	-77.2	-32.3	0.0	15.8	0.0	0.0	-125.4
65794	614889.25	4847738.97	158.52	0	N	A	-77.2	-34.5	0.0	-1.6	0.0	0.0	-110.2
65796	614884.06	4847743.52	158.52	0	N	A	-77.2	-34.5	0.0	0.9	0.0	0.0	-112.6
65826	614847.01	4847697.94	157.10	0	N	A	-77.2	-34.8	0.0	16.8	0.0	0.0	-128.8
65832	614842.62	4847703.26	157.10	0	N	A	-77.2	-34.8	0.0	-1.2	0.0	0.0	-110.7
65970	614977.63	4847992.72	164.14	0	N	A	-77.2	-35.6	0.0	-5.1	0.0	0.0	-107.7
65973	614970.73	4847992.49	164.14	0	N	A	-77.2	-35.5	0.0	-5.1	0.0	0.0	-107.6
66014	614927.04	4847790.49	159.77	0	N	A	-77.2	-35.7	0.0	-0.4	0.0	0.0	-112.5
66017	614921.18	4847794.13	159.77	0	N	A	-77.2	-35.7	0.0	-0.4	0.0	0.0	-112.4
66027	614889.25	4847738.97	159.95	0	N	A	-77.2	-34.5	0.0	-2.9	0.0	0.0	-108.8
66029	614884.06	4847743.52	159.95	0	N	A	-77.2	-34.5	0.0	-1.3	0.0	0.0	-110.4
66049	614847.01	4847697.94	158.52	0	N	A	-77.2	-34.8	0.0	15.6	0.0	0.0	-127.6
66050	614842.62	4847703.26	158.52	0	N	A	-77.2	-34.8	0.0	-0.4	0.0	0.0	-111.6
66111	614958.25	4847858.29	162.14	0	N	A	-77.2	-36.4	0.0	-1.3	0.0	0.0	-112.3
66113	614951.70	4847860.48	162.14	0	N	A	-77.2	-36.4	0.0	-1.2	0.0	0.0	-112.4
66241	614939.67	4847813.48	160.60	0	N	A	-77.2	-36.6	0.0	-2.2	0.0	0.0	-111.6
66252	614933.43	4847816.42	160.60	0	N	A	-77.2	-36.6	0.0	-0.5	0.0	0.0	-113.3
66377	614977.63	4847992.72	165.56	0	N	A	-77.2	-35.6	0.0	-6.0	0.0	0.0	-106.8
66378	614970.73	4847992.49	165.56	0	N	A	-77.2	-35.5	0.0	-6.0	0.0	0.0	-106.7
66381	614872.96	4847721.51	157.52	0	N	A	-77.2	-36.9	0.0	-1.3	0.0	0.0	-112.8
66387	614868.19	4847726.49	157.52	0	N	A	-77.2	-36.9	0.0	0.9	0.0	0.0	-115.0
66476	614927.04	4847790.49	161.19	0	N	A	-77.2	-35.7	0.0	-0.1	0.0	0.0	-112.8
66494	614921.18	4847794.13	161.19	0	N	A	-77.2	-35.7	0.0	-0.2	0.0	0.0	-112.7
66533	614905.11	4847757.77	159.10	0	N	A	-77.2	-37.1	0.0	0.3	0.0	0.0	-114.6
66540	614902.99	4847766.21	159.10	0	N	A	-77.2	-41.0	0.0	-2.0	0.0	0.0	-116.1
66543	614897.36	4847759.09	159.10	0	N	A	-77.2	-39.4	0.0	-0.1	0.0	0.0	-116.5
66563	614949.27	4847834.57	161.37	0	N	A	-77.2	-37.2	0.0	-1.1	0.0	0.0	-113.3
66567	614942.94	4847837.33	161.37	0	N	A	-77.2	-37.1	0.0	-0.9	0.0	0.0	-113.5
66597	614861.76	4847710.81	157.10	0	N	A	-77.2	-37.3	0.0	-0.7	0.0	0.0	-113.7
66601	614857.00	4847715.80	157.10	0	N	A	-77.2	-37.2	0.0	-3.0	0.0	0.0	-111.5
66640	614965.57	4847882.90	162.87	0	N	A	-77.2	-37.5	0.0	-1.1	0.0	0.0	-113.6
66641	614958.88	4847884.60	162.87	0	N	A	-77.2	-37.5	0.0	-4.3	0.0	0.0	-110.3
66666	614961.38	4847867.68	163.92	0	N	A	-77.2	-41.8	0.0	-5.7	0.0	0.0	-113.3
66669	614958.22	4847858.22	163.56	0	N	A	-77.2	-40.2	0.0	-2.1	0.0	0.0	-115.3
66671	614955.09	4847848.83	163.21	0	N	A	-77.2	-41.7	0.0	-0.6	0.0	0.0	-118.4
66672	614955.00	4847870.37	163.94	0	N	A	-77.2	-42.4	0.0	-5.8	0.0	0.0	-113.8
66674	614952.38	4847862.50	163.64	0	N	A	-77.2	-41.1	0.0	-2.3	0.0	0.0	-116.0
66676	614949.08	4847852.61	163.27	0	N	A	-77.2	-40.2	0.0	-0.2	0.0	0.0	-117.2
66706	614917.30	4847774.99	159.34	0	N	A	-77.2	-40.5	0.0	-2.2	0.0	0.0	-115.5
66708	614912.93	4847768.24	159.18	0	N	A	-77.2	-41.2	0.0	-0.1	0.0	0.0	-118.3
66716	614909.51	4847775.65	159.27	0	N	A	-77.2	-37.8	0.0	-0.3	0.0	0.0	-114.7
66773	614939.67	4847813.48	162.02	0	N	A	-77.2	-36.6	0.0	-1.1	0.0	0.0	-112.7
66780	614933.43	4847816.42	162.02	0	N	A	-77.2	-36.6	0.0	-0.2	0.0	0.0	-113.6
66794	614975.94	4847939.69	163.77	0	N	A	-77.2	-38.0	0.0	-4.7	0.0	0.0	-110.5
66795	614969.08	4847940.41	163.77	0	N	A	-77.2	-37.9	0.0	-4.7	0.0	0.0	-110.5

Road, TNM, Name: "Pine Valley SB - On-Ramp to Hwy 407 WB", ID: "PineV_SB_On_Hwy407WB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
6839	614872.96	4847721.51	158.95	0	N	A	-77.2	-36.9	0.0	-0.7	0.0	0.0	-113.4
6843	614868.19	4847726.49	158.95	0	N	A	-77.2	-36.9	0.0	0.8	0.0	0.0	-114.9
6854	614905.11	4847757.77	160.53	0	N	A	-77.2	-37.1	0.0	-1.8	0.0	0.0	-112.5
6870	614902.99	4847766.21	160.52	0	N	A	-77.2	-41.0	0.0	-1.9	0.0	0.0	-116.3
6874	614897.36	4847759.09	160.53	0	N	A	-77.2	-39.4	0.0	-1.9	0.0	0.0	-114.7
6883	614949.27	4847834.57	162.79	0	N	A	-77.2	-37.2	0.0	-0.6	0.0	0.0	-113.8
6885	614942.94	4847837.33	162.79	0	N	A	-77.2	-37.1	0.0	-0.2	0.0	0.0	-114.2
6894	614861.76	4847710.81	158.53	0	N	A	-77.2	-37.3	0.0	-0.6	0.0	0.0	-113.9
6899	614857.00	4847715.80	158.53	0	N	A	-77.2	-37.2	0.0	-2.7	0.0	0.0	-111.7
6901	614977.73	4847961.07	164.04	0	N	A	-77.2	-38.7	0.0	-5.0	0.0	0.0	-110.9
6904	614970.84	4847961.47	164.04	0	N	A	-77.2	-38.6	0.0	-5.1	0.0	0.0	-110.7
6915	614965.57	4847882.90	164.30	0	N	A	-77.2	-37.5	0.0	-5.5	0.0	0.0	-109.2
6918	614958.88	4847884.60	164.30	0	N	A	-77.2	-37.5	0.0	-6.0	0.0	0.0	-108.6
6930	614973.13	4847919.44	163.33	0	N	A	-77.2	-38.9	0.0	-4.5	0.0	0.0	-111.6
6934	614966.34	4847920.68	163.33	0	N	A	-77.2	-38.8	0.0	-4.5	0.0	0.0	-111.6
6941	614969.98	4847902.44	163.10	0	N	A	-77.2	-39.0	0.0	-4.5	0.0	0.0	-111.7
6943	614963.20	4847903.72	163.10	0	N	A	-77.2	-39.0	0.0	-4.4	0.0	0.0	-111.8
6955	614917.30	4847774.99	160.77	0	N	A	-77.2	-40.5	0.0	-1.9	0.0	0.0	-115.8
6957	614912.93	4847768.24	160.60	0	N	A	-77.2	-41.2	0.0	-2.0	0.0	0.0	-116.4
6961	614909.51	4847775.65	160.69	0	N	A	-77.2	-37.8	0.0	-0.0	0.0	0.0	-115.0
6964	614975.94	4847939.69	165.19	0	N	A	-77.2	-38.0	0.0	-6.0	0.0	0.0	-109.2
6968	614969.08	4847940.41	165.19	0	N	A	-77.2	-37.9	0.0	-6.0	0.0	0.0	-109.1
6971	614977.73	4847961.07	165.46	0	N	A	-77.2	-38.7	0.0	-5.4	0.0	0.0	-110.6
6972	614970.84	4847961.47	165.46	0	N	A	-77.2	-38.6	0.0	-6.0	0.0	0.0	-109.8
7003	614973.13	4847919.44	164.76	0	N	A	-77.2	-38.9	0.0	-6.0	0.0	0.0	-110.1
7004	614966.34	4847920.68	164.76	0	N	A	-77.2	-38.8	0.0	-6.0	0.0	0.0	-110.0
7011	614969.98	4847902.44	164.53	0	N	A	-77.2	-39.0	0.0	-6.0	0.0	0.0	-110.2
7012	614963.20	4847903.72	164.53	0	N	A	-77.2	-39.0	0.0	-5.9	0.0	0.0	-110.3
9044	614757.22	4847632.85	159.76	0	N	A	-77.2	-31.2	0.0	2.3	0.0	0.0	-110.7
9046	614753.32	4847638.55	159.76	0	N	A	-77.2	-31.2	0.0	-2.8	0.0	0.0	-105.6
9047	614789.76	4847654.88	160.15	0	N	A	-77.2	-31.3	0.0	2.4	0.0	0.0	-110.9
9049	614785.92	4847660.61	160.15	0	N	A	-77.2	-31.3	0.0	-3.7	0.0	0.0	-104.7
9111	614729.40	4847613.60	159.66	0	N	A	-77.2	-31.3	0.0	-3.1	0.0	0.0	-105.4
9112	614725.44	4847619.25	159.66	0	N	A	-77.2	-31.3	0.0	2.2	0.0	0.0	-110.7
9519	614822.52	4847678.46	160.55	0	N	A	-77.2	-32.3	0.0	-2.6	0.0	0.0	-107.0
9520	614818.29	4847683.91	160.55	0	N	A	-77.2	-32.3	0.0	15.9	0.0	0.0	-125.5
2708	614889.25	4847738.97	162.08	0	N	A	-77.2	-34.5	0.0	-3.5	0.0	0.0	-108.2
2711	614884.06	4847743.52	162.08	0	N	A	-77.2	-34.5	0.0	-3.4	0.0	0.0	-108.3
3024	614847.01	4847697.94	160.66	0	N	A	-77.2	-34.8	0.0	15.4	0.0	0.0	-127.4
3025	614842.62	4847703.26	160.66	0	N	A	-77.2	-34.8	0.0	-0.7	0.0	0.0	-111.3
3722	614977.63	4847992.72	167.70	0	N	A	-77.2	-35.6	0.0	-6.0	0.0	0.0	-106.8
3724	614970.73	4847992.49	167.70	0	N	A	-77.2	-35.5	0.0	-6.0	0.0	0.0	-106.7
3754	614927.04	4847790.49	163.33	0	N	A	-77.2	-35.7	0.0	-4.4	0.0	0.0	-108.5
3755	614921.18	4847794.13	163.33	0	N	A	-77.2	-35.7	0.0	-4.4	0.0	0.0	-108.5
4178	614958.25	4847858.29	165.70	0	N	A	-77.2	-36.4	0.0	-5.9	0.0	0.0	-107.7
4180	614951.70	4847860.48	165.70	0	N	A	-77.2	-36.4	0.0	-6.0	0.0	0.0	-107.6
4373	614939.67	4847813.48	164.16	0	N	A	-77.2	-36.6	0.0	-5.0	0.0	0.0	-108.9
4374	614933.43	4847816.42	164.16	0	N	A	-77.2	-36.6	0.0	-4.8	0.0	0.0	-109.0
4413	614872.96	4847721.51	161.08	0	N	A	-77.2	-36.9	0.0	-4.1	0.0	0.0	-110.0
4415	614868.19	4847726.49	161.08	0	N	A	-77.2	-36.9	0.0	-3.3	0.0	0.0	-110.8
4450	614905.11	4847757.77	162.66	0	N	A	-77.2	-37.1	0.0	-4.0	0.0	0.0	-110.3
4457	614904.58	4847768.21	162.66	0	N	A	-77.2	-45.9	0.0	-3.7	0.0	0.0	-119.4
4460	614902.23	4847765.25	162.66	0	N	A	-77.2	-42.6	0.0	-4.3	0.0	0.0	-115.5
4462	614897.36	4847759.09	162.66	0	N	A	-77.2	-39.4	0.0	-3.6	0.0	0.0	-113.0
4468	614949.27	4847834.57	164.93	0	N	A	-77.2	-37.2	0.0	-5.2	0.0	0.0	-109.2
4470	614942.94	4847837.33	164.93	0	N	A	-77.2	-37.1	0.0	-5.3	0.0	0.0	-109.0
4530	614861.76	4847710.81	160.66	0	N	A	-77.2	-37.3	0.0	-0.6	0.0	0.0	-113.9
4531	614857.00	4847715.80	160.66	0	N	A	-77.2	-37.2	0.0	-2.9	0.0	0.0	-111.6
4545	614965.57	4847882.90	166.43	0	N	A	-77.2	-37.5	0.0	-5.2	0.0	0.0	-109.5
4547	614958.88	4847884.60	166.43	0	N	A	-77.2	-37.5	0.0	-5.7	0.0	0.0	-109.0
4570	614917.30	4847774.99	162.90	0	N	A	-77.2	-40.5	0.0	-4.9	0.0	0.0	-112.8
4571	614912.93	4847768.24	162.74	0	N	A	-77.2	-41.2	0.0	-4.1	0.0	0.0	-114.3
4574	614912.48	4847780.24	162.94	0	N	A	-77.2	-42.8	0.0	-2.6	0.0	0.0	-117.4
4577	614908.11	4847773.49	162.77	0	N	A	-77.2	-39.4	0.0	-3.6	0.0	0.0	-113.0
4586	614975.94	4847939.69	167.33	0	N	A	-77.2	-38.0	0.0	-6.0	0.0	0.0	-109.2
4589	614969.08	4847940.41	167.33	0	N	A	-77.2	-37.9	0.0	-6.0	0.0	0.0	-109.1

Road, TNM, Name: "Pine Valley SB - On-Ramp to Hwy 407 WB", ID: "PineV_SB_On_Hwy407WB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
64605	614977.73	4847961.07	167.60	0	N	A	-77.2	-38.7	0.0	-6.0	0.0	0.0	-109.9
64608	614970.84	4847961.47	167.60	0	N	A	-77.2	-38.6	0.0	-6.0	0.0	0.0	-109.8
64613	614973.13	4847919.44	166.89	0	N	A	-77.2	-38.9	0.0	-6.0	0.0	0.0	-110.1
64616	614966.34	4847920.68	166.89	0	N	A	-77.2	-38.8	0.0	-6.0	0.0	0.0	-110.0
64618	614969.98	4847902.44	166.66	0	N	A	-77.2	-39.0	0.0	-6.0	0.0	0.0	-110.2
64620	614963.20	4847903.72	166.66	0	N	A	-77.2	-39.0	0.0	-6.0	0.0	0.0	-110.2

Road, TNM, Name: "Pine Valley NB1", ID: "PineV_NB1"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
44989	615111.21	4847434.47	161.10	0	N	A	-77.2	-30.3	0.0	-3.8	0.0	0.0	-103.7
44990	615117.00	4847435.58	161.10	0	N	A	-77.2	-30.3	0.0	-3.7	0.0	0.0	-103.9
45016	615111.21	4847434.47	162.53	0	N	A	-77.2	-30.3	0.0	-2.5	0.0	0.0	-105.0
45017	615117.00	4847435.58	162.53	0	N	A	-77.2	-30.3	0.0	-2.5	0.0	0.0	-105.0
45054	615130.29	4847338.78	160.10	0	N	A	-77.2	-32.8	0.0	-3.8	0.0	0.0	-106.2
45055	615136.06	4847340.01	160.10	0	N	A	-77.2	-32.9	0.0	11.7	0.0	0.0	-121.7
45225	615130.29	4847338.78	161.53	0	N	A	-77.2	-32.8	0.0	-4.2	0.0	0.0	-105.8
45226	615136.06	4847340.01	161.53	0	N	A	-77.2	-32.9	0.0	-3.6	0.0	0.0	-106.4
45626	615098.09	4847502.60	162.16	0	N	A	-77.2	-38.9	0.0	0.8	0.0	0.0	-117.0
45627	615103.87	4847503.78	162.16	0	N	A	-77.2	-39.0	0.0	5.8	0.0	0.0	-122.0
45838	615098.09	4847502.60	163.58	0	N	A	-77.2	-38.9	0.0	2.8	0.0	0.0	-119.0
45839	615103.87	4847503.78	163.58	0	N	A	-77.2	-39.0	0.0	2.9	0.0	0.0	-119.1
48925	615111.21	4847434.47	164.66	0	N	A	-77.2	-30.3	0.0	-2.2	0.0	0.0	-105.3
48927	615117.00	4847435.58	164.66	0	N	A	-77.2	-30.3	0.0	-2.2	0.0	0.0	-105.3
50392	615130.29	4847338.78	163.66	0	N	A	-77.2	-32.8	0.0	-2.3	0.0	0.0	-107.7
50394	615136.06	4847340.01	163.66	0	N	A	-77.2	-32.9	0.0	-2.3	0.0	0.0	-107.8
54622	615098.09	4847502.60	165.72	0	N	A	-77.2	-38.9	0.0	-2.3	0.0	0.0	-113.9
54624	615103.87	4847503.78	165.72	0	N	A	-77.2	-39.0	0.0	-2.3	0.0	0.0	-113.9

Road, TNM, Name: "Pine Valley NB - On-Ramp to Hwy 407 WB", ID: "PineV_NB_On_Hwy407WB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
46617	615085.43	4847825.40	160.10	0	N	A	-77.2	-37.4	0.0	-0.7	0.0	0.0	-113.9
46626	615083.24	4847828.62	160.10	0	N	A	-77.2	-37.4	0.0	-0.5	0.0	0.0	-114.1
46909	615085.43	4847825.40	161.52	0	N	A	-77.2	-37.4	0.0	-0.9	0.0	0.0	-113.8
46911	615083.24	4847828.62	161.52	0	N	A	-77.2	-37.4	0.0	-0.7	0.0	0.0	-114.0
46989	615113.38	4847847.09	160.48	0	N	A	-77.2	-40.2	0.0	-0.9	0.0	0.0	-116.6
46997	615110.58	4847849.80	160.48	0	N	A	-77.2	-40.2	0.0	5.6	0.0	0.0	-122.9
47039	615102.30	4847837.21	160.10	0	N	A	-77.2	-40.8	0.0	-0.4	0.0	0.0	-117.6
47042	615099.97	4847840.34	160.10	0	N	A	-77.2	-40.8	0.0	-0.8	0.0	0.0	-117.3
47051	615033.31	4847907.64	164.62	0	N	A	-77.2	-41.2	0.0	-6.0	0.0	0.0	-112.3
47055	615036.82	4847905.94	164.62	0	N	A	-77.2	-41.2	0.0	-6.0	0.0	0.0	-112.4
47071	615068.77	4847935.52	163.06	0	N	A	-77.2	-41.3	0.0	-3.5	0.0	0.0	-115.0
47090	615069.47	4847931.68	163.06	0	N	A	-77.2	-41.3	0.0	-4.6	0.0	0.0	-113.9
47098	615056.62	4847931.70	163.74	0	N	A	-77.2	-41.3	0.0	-5.9	0.0	0.0	-112.6
47109	615058.26	4847928.16	163.74	0	N	A	-77.2	-41.3	0.0	-4.2	0.0	0.0	-114.3
47120	615106.32	4847926.29	162.10	0	N	A	-77.2	-41.3	0.0	-2.5	0.0	0.0	-116.0
47134	615103.82	4847923.30	162.10	0	N	A	-77.2	-41.3	0.0	-2.8	0.0	0.0	-115.7
47166	615081.82	4847936.05	162.49	0	N	A	-77.2	-41.3	0.0	1.3	0.0	0.0	-119.8
47174	615081.45	4847932.17	162.49	0	N	A	-77.2	-41.3	0.0	-5.3	0.0	0.0	-113.2
47178	615094.66	4847933.10	162.17	0	N	A	-77.2	-41.4	0.0	-4.5	0.0	0.0	-114.1
47186	615093.30	4847929.44	162.17	0	N	A	-77.2	-41.4	0.0	-2.1	0.0	0.0	-116.5
47187	615127.33	4847879.60	161.10	0	N	A	-77.2	-41.4	0.0	3.1	0.0	0.0	-121.7
47189	615123.44	4847879.84	161.10	0	N	A	-77.2	-41.4	0.0	0.0	0.0	0.0	-118.6
47204	615039.60	4847917.60	164.12	0	N	A	-77.2	-41.5	0.0	-5.3	0.0	0.0	-113.4
47220	615039.90	4847911.77	164.14	0	N	A	-77.2	-48.0	0.0	-5.1	0.0	0.0	-120.1
47227	615043.42	4847916.11	164.12	0	N	A	-77.2	-42.6	0.0	-5.7	0.0	0.0	-114.1
47229	615113.38	4847847.09	161.91	0	N	A	-77.2	-40.2	0.0	-0.9	0.0	0.0	-116.5
47230	615110.58	4847849.80	161.91	0	N	A	-77.2	-40.2	0.0	4.6	0.0	0.0	-122.0
47238	615126.64	4847892.48	161.17	0	N	A	-77.2	-41.6	0.0	-3.4	0.0	0.0	-115.4
47246	615122.80	4847891.81	161.17	0	N	A	-77.2	-41.6	0.0	-3.2	0.0	0.0	-115.6
47249	615121.78	4847858.43	160.98	0	N	A	-77.2	-41.7	0.0	0.5	0.0	0.0	-119.4
47252	615118.28	4847860.16	160.98	0	N	A	-77.2	-41.7	0.0	2.6	0.0	0.0	-121.6
47257	615046.98	4847925.48	164.10	0	N	A	-77.2	-42.1	0.0	-6.0	0.0	0.0	-113.3
47260	615049.60	4847922.60	164.10	0	N	A	-77.2	-42.1	0.0	-4.8	0.0	0.0	-114.5
47263	615102.30	4847837.21	161.53	0	N	A	-77.2	-40.8	0.0	2.4	0.0	0.0	-120.5

Road, TNM, Name: "Pine Valley NB - On-Ramp to Hwy 407 WB", ID: "PineV_NB_On_Hwy407WB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
7269	615099.97	4847840.34	161.53	0	N	A	-77.2	-40.8	0.0	-0.6	0.0	0.0	-117.4
7287	615033.31	4847907.64	166.05	0	N	A	-77.2	-41.2	0.0	-6.0	0.0	0.0	-112.3
7288	615036.82	4847905.94	166.05	0	N	A	-77.2	-41.2	0.0	-6.0	0.0	0.0	-112.4
7295	615068.77	4847935.52	164.49	0	N	A	-77.2	-41.3	0.0	-6.0	0.0	0.0	-112.5
7298	615069.47	4847931.68	164.49	0	N	A	-77.2	-41.3	0.0	-5.9	0.0	0.0	-112.6
7304	615056.62	4847931.70	165.16	0	N	A	-77.2	-41.3	0.0	-4.1	0.0	0.0	-114.4
7308	615058.26	4847928.16	165.16	0	N	A	-77.2	-41.3	0.0	-3.9	0.0	0.0	-114.7
7315	615114.76	4847917.93	162.10	0	N	A	-77.2	-42.6	0.0	-4.0	0.0	0.0	-115.9
7319	615111.72	4847915.48	162.10	0	N	A	-77.2	-42.6	0.0	-3.7	0.0	0.0	-116.1
7324	615106.32	4847926.29	163.53	0	N	A	-77.2	-41.3	0.0	-3.1	0.0	0.0	-115.4
7329	615103.82	4847923.30	163.53	0	N	A	-77.2	-41.3	0.0	-3.2	0.0	0.0	-115.3
7334	615081.82	4847936.05	163.92	0	N	A	-77.2	-41.3	0.0	-4.6	0.0	0.0	-113.9
7339	615081.45	4847932.17	163.92	0	N	A	-77.2	-41.3	0.0	-5.9	0.0	0.0	-112.6
7386	615094.66	4847933.10	163.59	0	N	A	-77.2	-41.4	0.0	-5.5	0.0	0.0	-113.1
7395	615093.30	4847929.44	163.59	0	N	A	-77.2	-41.4	0.0	-2.3	0.0	0.0	-116.3
7415	615127.33	4847879.60	162.53	0	N	A	-77.2	-41.4	0.0	3.9	0.0	0.0	-122.5
7417	615123.44	4847879.84	162.53	0	N	A	-77.2	-41.4	0.0	0.8	0.0	0.0	-119.4
7422	615125.66	4847868.37	161.10	0	N	A	-77.2	-42.8	0.0	2.3	0.0	0.0	-122.2
7424	615121.90	4847869.40	161.10	0	N	A	-77.2	-42.7	0.0	2.5	0.0	0.0	-122.4
7497	615039.60	4847917.60	165.55	0	N	A	-77.2	-41.5	0.0	-6.0	0.0	0.0	-112.7
7498	615042.63	4847915.14	165.55	0	N	A	-77.2	-41.5	0.0	-6.0	0.0	0.0	-112.7
7601	615126.64	4847892.48	162.60	0	N	A	-77.2	-41.6	0.0	-3.9	0.0	0.0	-114.9
7607	615122.80	4847891.81	162.60	0	N	A	-77.2	-41.6	0.0	-4.1	0.0	0.0	-114.7
7698	615123.86	4847903.10	161.58	0	N	A	-77.2	-43.0	0.0	0.0	0.0	0.0	-120.2
7794	615120.22	4847901.69	161.58	0	N	A	-77.2	-43.0	0.0	-1.4	0.0	0.0	-118.8
7841	615121.78	4847858.43	162.41	0	N	A	-77.2	-41.7	0.0	2.6	0.0	0.0	-121.6
7844	615118.28	4847860.16	162.41	0	N	A	-77.2	-41.7	0.0	3.8	0.0	0.0	-122.7
8044	615046.98	4847925.48	165.53	0	N	A	-77.2	-42.1	0.0	-6.0	0.0	0.0	-113.3
8046	615049.60	4847922.60	165.53	0	N	A	-77.2	-42.1	0.0	-6.0	0.0	0.0	-113.3
8186	615120.00	4847910.80	162.01	0	N	A	-77.2	-43.8	0.0	-4.1	0.0	0.0	-116.9
8206	615116.73	4847908.67	162.01	0	N	A	-77.2	-43.8	0.0	-4.0	0.0	0.0	-117.0
8265	615114.76	4847917.93	163.53	0	N	A	-77.2	-42.6	0.0	-4.4	0.0	0.0	-115.5
8267	615111.72	4847915.48	163.53	0	N	A	-77.2	-42.6	0.0	-4.7	0.0	0.0	-115.1
8271	615125.66	4847868.37	162.53	0	N	A	-77.2	-42.8	0.0	4.5	0.0	0.0	-124.4
8275	615121.90	4847869.40	162.53	0	N	A	-77.2	-42.7	0.0	3.1	0.0	0.0	-123.0
8319	615123.86	4847903.10	163.00	0	N	A	-77.2	-43.0	0.0	-2.4	0.0	0.0	-117.8
8339	615120.22	4847901.69	163.00	0	N	A	-77.2	-43.0	0.0	-2.9	0.0	0.0	-117.3
8366	615120.00	4847910.80	163.43	0	N	A	-77.2	-43.8	0.0	-4.7	0.0	0.0	-116.3
8373	615116.73	4847908.67	163.43	0	N	A	-77.2	-43.8	0.0	-4.3	0.0	0.0	-116.7
4539	615085.43	4847825.40	163.66	0	N	A	-77.2	-37.4	0.0	-2.0	0.0	0.0	-112.6
4543	615083.24	4847828.62	163.66	0	N	A	-77.2	-37.4	0.0	-1.9	0.0	0.0	-112.8
4632	615113.38	4847847.09	164.04	0	N	A	-77.2	-40.2	0.0	-1.6	0.0	0.0	-115.8
4648	615110.58	4847849.80	164.04	0	N	A	-77.2	-40.2	0.0	0.5	0.0	0.0	-117.9
4653	615102.30	4847837.21	163.66	0	N	A	-77.2	-40.8	0.0	7.7	0.0	0.0	-125.8
4659	615099.97	4847840.34	163.66	0	N	A	-77.2	-40.8	0.0	-2.1	0.0	0.0	-115.9
4669	615033.31	4847907.64	168.18	0	N	A	-77.2	-41.2	0.0	-6.0	0.0	0.0	-112.3
4674	615036.82	4847905.94	168.18	0	N	A	-77.2	-41.2	0.0	-5.9	0.0	0.0	-112.5
4679	615068.77	4847935.52	166.62	0	N	A	-77.2	-41.3	0.0	-6.0	0.0	0.0	-112.5
4680	615069.47	4847931.68	166.62	0	N	A	-77.2	-41.3	0.0	-6.0	0.0	0.0	-112.5
4684	615056.62	4847931.70	167.30	0	N	A	-77.2	-41.3	0.0	-6.0	0.0	0.0	-112.5
4687	615058.26	4847928.16	167.30	0	N	A	-77.2	-41.3	0.0	-6.0	0.0	0.0	-112.5
4695	615106.32	4847926.29	165.66	0	N	A	-77.2	-41.3	0.0	-3.7	0.0	0.0	-114.9
4704	615103.82	4847923.30	165.66	0	N	A	-77.2	-41.3	0.0	-3.8	0.0	0.0	-114.7
4708	615081.82	4847936.05	166.05	0	N	A	-77.2	-41.3	0.0	-6.0	0.0	0.0	-112.5
4710	615081.45	4847932.17	166.05	0	N	A	-77.2	-41.3	0.0	-6.0	0.0	0.0	-112.5
4713	615094.66	4847933.10	165.73	0	N	A	-77.2	-41.4	0.0	-6.0	0.0	0.0	-112.6
4717	615093.30	4847929.44	165.73	0	N	A	-77.2	-41.4	0.0	-6.0	0.0	0.0	-112.6
4725	615127.33	4847879.60	164.66	0	N	A	-77.2	-41.4	0.0	0.3	0.0	0.0	-118.9
4730	615123.44	4847879.84	164.66	0	N	A	-77.2	-41.4	0.0	1.3	0.0	0.0	-119.9
4735	615039.60	4847917.60	167.68	0	N	A	-77.2	-41.5	0.0	-6.0	0.0	0.0	-112.7
4736	615042.63	4847915.14	167.68	0	N	A	-77.2	-41.5	0.0	-6.0	0.0	0.0	-112.7
4745	615126.64	4847892.48	164.73	0	N	A	-77.2	-41.6	0.0	-4.7	0.0	0.0	-114.2
4755	615122.80	4847891.81	164.73	0	N	A	-77.2	-41.6	0.0	-4.5	0.0	0.0	-114.3
4761	615121.78	4847858.43	164.54	0	N	A	-77.2	-41.7	0.0	1.6	0.0	0.0	-120.5
4765	615118.28	4847860.16	164.54	0	N	A	-77.2	-41.7	0.0	2.7	0.0	0.0	-121.7
4767	615046.98	4847925.48	167.66	0	N	A	-77.2	-42.1	0.0	-6.0	0.0	0.0	-113.3

Road, TNM, Name: "Pine Valley NB - On-Ramp to Hwy 407 WB", ID: "PineV_NB_On_Hwy407WB"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
64769	615049.60	4847922.60	167.66	0	N	A	-77.2	-42.1	0.0	-6.0	0.0	0.0	-113.3
64775	615114.76	4847917.93	165.66	0	N	A	-77.2	-42.6	0.0	-3.3	0.0	0.0	-116.5
64785	615111.72	4847915.48	165.66	0	N	A	-77.2	-42.6	0.0	-3.2	0.0	0.0	-116.6
64790	615125.66	4847868.37	164.66	0	N	A	-77.2	-42.8	0.0	0.9	0.0	0.0	-120.9
64796	615121.90	4847869.40	164.66	0	N	A	-77.2	-42.7	0.0	1.8	0.0	0.0	-121.8
64821	615123.86	4847903.10	165.14	0	N	A	-77.2	-43.0	0.0	-3.3	0.0	0.0	-116.9
64876	615120.22	4847901.69	165.14	0	N	A	-77.2	-43.0	0.0	-3.9	0.0	0.0	-116.2
64882	615120.00	4847910.80	165.57	0	N	A	-77.2	-43.8	0.0	-3.7	0.0	0.0	-117.3
64886	615116.73	4847908.67	165.57	0	N	A	-77.2	-43.8	0.0	-3.6	0.0	0.0	-117.4

Road, TNM, Name: "Pine Valley NB2", ID: "PineV_NB2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
45021	615075.52	4847612.73	164.47	0	N	A	-77.2	-32.1	0.0	7.0	0.0	0.0	-116.4
45022	615081.30	4847613.93	164.47	0	N	A	-77.2	-32.2	0.0	11.0	0.0	0.0	-120.4
45034	615016.89	4847899.14	164.82	0	N	A	-77.2	-34.0	0.0	-6.0	0.0	0.0	-105.2
45035	615011.08	4847929.77	164.38	0	N	A	-77.2	-45.4	0.0	-4.6	0.0	0.0	-118.1
45036	615008.98	4847940.80	164.23	0	N	A	-77.2	-39.2	0.0	-4.6	0.0	0.0	-111.9
45040	615022.60	4847900.71	164.81	0	N	A	-77.2	-34.0	0.0	-5.9	0.0	0.0	-105.4
45041	615016.80	4847931.26	164.38	0	N	A	-77.2	-46.7	0.0	-4.5	0.0	0.0	-119.5
45042	615014.79	4847941.83	164.23	0	N	A	-77.2	-39.3	0.0	-4.5	0.0	0.0	-112.0
45062	615089.91	4847542.80	163.02	0	N	A	-77.2	-32.8	0.0	4.3	0.0	0.0	-114.3
45063	615095.70	4847543.98	163.02	0	N	A	-77.2	-32.9	0.0	2.6	0.0	0.0	-112.7
45068	615061.01	4847682.28	165.60	0	N	A	-77.2	-32.9	0.0	1.9	0.0	0.0	-112.0
45069	615066.79	4847683.49	165.60	0	N	A	-77.2	-33.0	0.0	1.5	0.0	0.0	-111.7
45174	615038.72	4847791.36	166.10	0	N	A	-77.2	-33.8	0.0	-1.9	0.0	0.0	-109.1
45175	615044.50	4847792.57	166.10	0	N	A	-77.2	-33.9	0.0	-0.3	0.0	0.0	-110.8
45181	615075.52	4847612.73	165.89	0	N	A	-77.2	-32.1	0.0	-1.9	0.0	0.0	-107.4
45182	615081.30	4847613.93	165.89	0	N	A	-77.2	-32.2	0.0	-1.9	0.0	0.0	-107.5
45195	615049.39	4847739.19	166.10	0	N	A	-77.2	-34.1	0.0	-2.5	0.0	0.0	-108.8
45196	615055.18	4847740.33	166.10	0	N	A	-77.2	-34.1	0.0	-3.0	0.0	0.0	-108.3
45197	615031.19	4847827.30	165.95	0	N	A	-77.2	-38.9	0.0	-3.6	0.0	0.0	-112.4
45200	615025.86	4847853.32	165.51	0	N	A	-77.2	-36.0	0.0	-5.3	0.0	0.0	-107.9
45201	615036.78	4847829.42	165.94	0	N	A	-77.2	-38.5	0.0	-3.0	0.0	0.0	-112.7
45208	615031.45	4847855.44	165.50	0	N	A	-77.2	-36.3	0.0	2.2	0.0	0.0	-115.7
45212	615014.80	4847910.18	166.09	0	N	A	-77.2	-32.6	0.0	-6.0	0.0	0.0	-103.8
45214	615020.59	4847911.28	166.09	0	N	A	-77.2	-32.7	0.0	-6.0	0.0	0.0	-103.9
45229	615089.91	4847542.80	164.45	0	N	A	-77.2	-32.8	0.0	-2.4	0.0	0.0	-107.6
45231	615095.70	4847543.98	164.45	0	N	A	-77.2	-32.9	0.0	-2.4	0.0	0.0	-107.7
45233	615061.01	4847682.28	167.02	0	N	A	-77.2	-32.9	0.0	-1.8	0.0	0.0	-108.4
45234	615066.79	4847683.49	167.02	0	N	A	-77.2	-33.0	0.0	-1.8	0.0	0.0	-108.4
45310	615038.72	4847791.36	167.53	0	N	A	-77.2	-33.8	0.0	-2.1	0.0	0.0	-108.9
45311	615044.50	4847792.57	167.53	0	N	A	-77.2	-33.9	0.0	-2.1	0.0	0.0	-109.0
45340	615049.39	4847739.19	167.53	0	N	A	-77.2	-34.1	0.0	-1.8	0.0	0.0	-109.5
45342	615055.18	4847740.33	167.53	0	N	A	-77.2	-34.1	0.0	-1.8	0.0	0.0	-109.6
45346	615031.19	4847827.30	167.38	0	N	A	-77.2	-38.9	0.0	-2.2	0.0	0.0	-113.8
45347	615025.86	4847853.32	166.94	0	N	A	-77.2	-36.0	0.0	-6.0	0.0	0.0	-107.2
45348	615036.78	4847829.42	167.36	0	N	A	-77.2	-38.5	0.0	-2.2	0.0	0.0	-113.5
45351	615031.45	4847855.44	166.92	0	N	A	-77.2	-36.3	0.0	-5.7	0.0	0.0	-107.9
48164	615007.13	4847950.47	164.10	0	N	A	-77.2	-49.6	0.0	-4.6	0.0	0.0	-122.2
48166	615012.90	4847951.70	164.10	0	N	A	-77.2	-49.6	0.0	-4.6	0.0	0.0	-122.3
48449	615007.13	4847950.47	165.53	0	N	A	-77.2	-49.6	0.0	-6.0	0.0	0.0	-120.8
48450	615012.90	4847951.70	165.53	0	N	A	-77.2	-49.6	0.0	-6.0	0.0	0.0	-120.8
49768	615075.52	4847612.73	168.03	0	N	A	-77.2	-32.1	0.0	-1.7	0.0	0.0	-107.6
49772	615081.30	4847613.93	168.03	0	N	A	-77.2	-32.2	0.0	-1.7	0.0	0.0	-107.7
50057	615014.80	4847910.18	168.22	0	N	A	-77.2	-32.6	0.0	-6.0	0.0	0.0	-103.8
50065	615020.59	4847911.28	168.22	0	N	A	-77.2	-32.7	0.0	-5.9	0.0	0.0	-104.0
51335	615089.91	4847542.80	166.58	0	N	A	-77.2	-32.8	0.0	-2.1	0.0	0.0	-107.9
51336	615095.70	4847543.98	166.58	0	N	A	-77.2	-32.9	0.0	-2.1	0.0	0.0	-108.0
51348	615061.01	4847682.28	169.16	0	N	A	-77.2	-32.9	0.0	-1.6	0.0	0.0	-108.5
51350	615066.79	4847683.49	169.16	0	N	A	-77.2	-33.0	0.0	-1.6	0.0	0.0	-108.6
52401	615038.72	4847791.36	169.66	0	N	A	-77.2	-33.8	0.0	-2.1	0.0	0.0	-108.9
52405	615044.50	4847792.57	169.66	0	N	A	-77.2	-33.9	0.0	-2.1	0.0	0.0	-109.0
52741	615049.39	4847739.19	169.66	0	N	A	-77.2	-34.1	0.0	-1.7	0.0	0.0	-109.6
52742	615055.18	4847740.33	169.66	0	N	A	-77.2	-34.1	0.0	-1.7	0.0	0.0	-109.7
52916	615031.19	4847827.30	169.51	0	N	A	-77.2	-38.9	0.0	-2.2	0.0	0.0	-113.9

Road, TNM, Name: "Pine Valley NB2", ID: "PineV_NB2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
52918	615025.86	4847853.32	169.07	0	N	A	-77.2	-36.0	0.0	-5.8	0.0	0.0	-107.4
52919	615036.78	4847829.42	169.50	0	N	A	-77.2	-38.5	0.0	-2.2	0.0	0.0	-113.5
52920	615031.45	4847855.44	169.06	0	N	A	-77.2	-36.3	0.0	-5.8	0.0	0.0	-107.7
54887	615007.13	4847950.47	167.66	0	N	A	-77.2	-49.6	0.0	-6.0	0.0	0.0	-120.8
54888	615012.90	4847951.70	167.66	0	N	A	-77.2	-49.6	0.0	-6.0	0.0	0.0	-120.8

Road, TNM, Name: "Pine Valley SB2", ID: "PineV_SB2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
45073	615035.71	4847770.01	166.10	0	N	A	-77.2	-31.7	0.0	-2.5	0.0	0.0	-106.4
45074	615029.96	4847768.67	166.10	0	N	A	-77.2	-31.6	0.0	-2.5	0.0	0.0	-106.3
45102	615063.94	4847638.17	165.01	0	N	A	-77.2	-31.9	0.0	-2.5	0.0	0.0	-106.6
45103	615058.19	4847636.86	165.01	0	N	A	-77.2	-31.9	0.0	-2.6	0.0	0.0	-106.5
45140	614993.86	4847974.62	164.26	0	N	A	-77.2	-32.4	0.0	-5.0	0.0	0.0	-104.6
45141	614988.07	4847973.51	164.26	0	N	A	-77.2	-32.3	0.0	-5.2	0.0	0.0	-104.3
45227	615035.71	4847770.01	167.53	0	N	A	-77.2	-31.7	0.0	-2.0	0.0	0.0	-106.9
45228	615029.96	4847768.67	167.53	0	N	A	-77.2	-31.6	0.0	-2.0	0.0	0.0	-106.9
45243	615063.94	4847638.17	166.44	0	N	A	-77.2	-31.9	0.0	-1.9	0.0	0.0	-107.3
45244	615058.19	4847636.86	166.44	0	N	A	-77.2	-31.9	0.0	-1.9	0.0	0.0	-107.2
45249	615017.77	4847851.11	165.54	0	N	A	-77.2	-35.4	0.0	-5.8	0.0	0.0	-106.8
45255	615023.78	4847822.25	165.96	0	N	A	-77.2	-38.4	0.0	-3.7	0.0	0.0	-111.9
45256	615012.19	4847848.98	165.55	0	N	A	-77.2	-35.2	0.0	-5.6	0.0	0.0	-106.8
45258	615018.20	4847820.12	165.97	0	N	A	-77.2	-38.8	0.0	-3.4	0.0	0.0	-112.6
45260	615003.15	4847926.10	164.18	0	N	A	-77.2	-42.3	0.0	-4.6	0.0	0.0	-114.9
45261	615004.17	4847920.72	164.29	0	N	A	-77.2	-48.3	0.0	-4.6	0.0	0.0	-120.9
45263	615009.07	4847895.03	164.78	0	N	A	-77.2	-34.6	0.0	-6.0	0.0	0.0	-105.7
45264	614997.34	4847925.05	164.18	0	N	A	-77.2	-42.3	0.0	-4.6	0.0	0.0	-114.8
45266	614998.44	4847919.26	164.29	0	N	A	-77.2	-46.7	0.0	-4.6	0.0	0.0	-119.3
45267	615003.35	4847893.52	164.79	0	N	A	-77.2	-34.6	0.0	-6.0	0.0	0.0	-105.8
45270	614993.86	4847974.62	165.68	0	N	A	-77.2	-32.4	0.0	-6.0	0.0	0.0	-103.6
45271	614988.07	4847973.51	165.68	0	N	A	-77.2	-32.3	0.0	-6.0	0.0	0.0	-103.5
45295	615050.41	4847702.00	165.90	0	N	A	-77.2	-33.9	0.0	-2.6	0.0	0.0	-108.6
45296	615044.61	4847700.91	165.90	0	N	A	-77.2	-33.9	0.0	-2.5	0.0	0.0	-108.5
45403	615017.77	4847851.11	166.96	0	N	A	-77.2	-35.4	0.0	-5.9	0.0	0.0	-106.7
45404	615023.78	4847822.25	167.39	0	N	A	-77.2	-38.4	0.0	-2.3	0.0	0.0	-113.4
45405	615012.19	4847848.98	166.98	0	N	A	-77.2	-35.2	0.0	-5.8	0.0	0.0	-106.6
45406	615018.20	4847820.12	167.40	0	N	A	-77.2	-38.8	0.0	-2.3	0.0	0.0	-113.7
45408	615008.04	4847900.41	166.10	0	N	A	-77.2	-33.7	0.0	-5.9	0.0	0.0	-105.1
45409	615002.25	4847899.31	166.10	0	N	A	-77.2	-33.7	0.0	-6.0	0.0	0.0	-104.9
45429	615050.41	4847702.00	167.33	0	N	A	-77.2	-33.9	0.0	-1.7	0.0	0.0	-109.4
45430	615044.61	4847700.91	167.33	0	N	A	-77.2	-33.9	0.0	-1.7	0.0	0.0	-109.4
45458	615075.97	4847582.35	163.87	0	N	A	-77.2	-35.6	0.0	-2.5	0.0	0.0	-110.2
45459	615070.17	4847581.26	163.87	0	N	A	-77.2	-35.5	0.0	-2.6	0.0	0.0	-110.2
45563	615075.97	4847582.35	165.30	0	N	A	-77.2	-35.6	0.0	-2.2	0.0	0.0	-110.6
45564	615070.17	4847581.26	165.30	0	N	A	-77.2	-35.5	0.0	-2.2	0.0	0.0	-110.6
48935	615035.71	4847770.01	169.66	0	N	A	-77.2	-31.7	0.0	-1.9	0.0	0.0	-107.0
48936	615029.96	4847768.67	169.66	0	N	A	-77.2	-31.6	0.0	-1.9	0.0	0.0	-106.9
49000	615063.94	4847638.17	168.57	0	N	A	-77.2	-31.9	0.0	-1.7	0.0	0.0	-107.5
49001	615058.19	4847636.86	168.57	0	N	A	-77.2	-31.9	0.0	-1.7	0.0	0.0	-107.4
49142	614993.86	4847974.62	167.82	0	N	A	-77.2	-32.4	0.0	-6.0	0.0	0.0	-103.6
49143	614988.07	4847973.51	167.82	0	N	A	-77.2	-32.3	0.0	-6.0	0.0	0.0	-103.5
49786	615017.77	4847851.11	169.10	0	N	A	-77.2	-35.4	0.0	-5.6	0.0	0.0	-107.1
49788	615023.78	4847822.25	169.52	0	N	A	-77.2	-38.4	0.0	-2.2	0.0	0.0	-113.4
49789	615012.19	4847848.98	169.11	0	N	A	-77.2	-35.2	0.0	-5.4	0.0	0.0	-106.9
49790	615018.20	4847820.12	169.53	0	N	A	-77.2	-38.8	0.0	-2.2	0.0	0.0	-113.8
49810	615008.04	4847900.41	168.24	0	N	A	-77.2	-33.7	0.0	-6.0	0.0	0.0	-104.9
49812	615002.25	4847899.31	168.24	0	N	A	-77.2	-33.7	0.0	-6.0	0.0	0.0	-104.9
50070	615050.41	4847702.00	169.46	0	N	A	-77.2	-33.9	0.0	-1.6	0.0	0.0	-109.6
50076	615044.61	4847700.91	169.46	0	N	A	-77.2	-33.9	0.0	-1.6	0.0	0.0	-109.5
52988	615075.97	4847582.35	167.43	0	N	A	-77.2	-35.6	0.0	-1.9	0.0	0.0	-110.9
52990	615070.17	4847581.26	167.43	0	N	A	-77.2	-35.5	0.0	-1.9	0.0	0.0	-110.8
54595	615079.15	4847565.47	163.43	0	N	A	-77.2	-58.6	0.0	-2.5	0.0	0.0	-133.3
54596	615073.37	4847564.29	163.43	0	N	A	-77.2	-58.6	0.0	-2.6	0.0	0.0	-133.2
54626	615079.15	4847565.47	164.85	0	N	A	-77.2	-58.6	0.0	-2.2	0.0	0.0	-133.6
54627	615073.37	4847564.29	164.85	0	N	A	-77.2	-58.6	0.0	-2.2	0.0	0.0	-133.6
54890	615079.15	4847565.47	166.99	0	N	A	-77.2	-58.6	0.0	-1.9	0.0	0.0	-133.9

Road, TNM, Name: "Pine Valley SB2", ID: "PineV_SB2"													
Nr.	X	Y	Z	Refl.	DEN	Freq.	Lw	Ad	Aair	Agr	Afol	RL	Lr
	(m)	(m)	(m)			(Hz)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)
4891	615073.37	4847564.29	166.99	0	N	A	-77.2	-58.6	0.0	-1.9	0.0	0.0	-133.9

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