

Appendix Q – yongeTOmorrow Noise and Vibration Preliminary Guidance – Existing Conditions

Yonge Street EA (Queen Street to Carlton/College Street)

Noise and Vibration Preliminary Guidance – Existing Conditions
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INTRODUCTION

Novus will be conducting a noise and vibration study for the proposed Yonge Street EA, between Queen Street and College/Carlton Street. This document summarizes the existing conditions to be considered in a future detailed assessment of alternatives. The noise study area is shown in **Figure 1**.

In order to summarize the background conditions within the study area, the following was performed:

- Identification of noise sensitive areas (NSA) (**Figure 2** and **Figure 3**) within the study area; and,
- Prediction of sound levels from the existing roadway network .

SENSITIVE RECEPTORS

Land uses which are defined as sensitive receptors for evaluating potential noise levels are:

- Private homes such as single family residences;
- Townhouses;
- Multiple unit buildings, such as apartments with an outdoor living areas (OLA) for use by all occupants; and,
- Hospitals, nursing homes for the aged, where there are OLA'S for the patients.

Land uses listed below, by themselves do not qualify as NSA'S:

- Apartment balconies above ground floor;
- Educational facilities (except dormitories with OLA'S);
- Churches;
- Cemeteries;
- Parks and picnic areas which are not inherently part of a NSA;
- Day care centres;
- All commercial; and,
- All industrial.

Google Earth Pro™ was used to help identify all NSA's in close proximity to Yonge Street (within 100 m to the east and west).

NSA's NEAR YONGE STREET

There are very few NSA's in the vicinity of Yonge Street between Queen Street and College/Carlton Street. Yonge-Dundas Square was considered as a NSA for this study due to the types of outdoor activities that are occasionally hosted. This area is shown in **Figure 2**. There are a few ground floor OLA's shown in **Figure 3**, south of Carlton Street behind the commercial buildings fronting Yonge Street.

NOISE DISCUSSION

The existing sound levels were assessed for the 16-hour day period between 07:00 am and 11:00 pm. At Receptors 1 to 3 (**Figure 2**) sound levels are approximately 60 dBA. At Receptor 4 (**Figure 3**), located further from Yonge Street and Dundas Street, the sound level is approximately 50 dBA. Sound levels at Receptors 5 and 6 (**Figure 3**) are approximately 40 dBA.

We only assessed noise from roadway traffic. The ambient noise from other noise sources along this corridor are expected to be considerably higher than this, due to noise generated by mechanical and/or HVAC units in all of the commercial buildings. Due to the presence of large commercial buildings along all of the surrounding streets, road noise decreases considerably at the rear of the buildings due to their size. Road noise is not the dominant noise source, unless the receptor is located next to a major roadway.

VIBRATION DISCUSSION

The assessment of the impact of vibration can be accomplished by estimating the site-specific vibration levels and comparing them with assessment criteria and guidelines. The site specific factors influencing vibration levels include the characteristics of the roadway traffic flow, the unevenness of pavement surface, the transmission path between the source and the receiver, and the building parameters.

In extreme circumstances, traffic-induced ground-borne vibration may be perceptible to residents living near roads. However, it is very unlikely to result in damage to residential buildings. The first option to consider in removing the potential for ground-borne vibration is the maintenance of smooth pavement surfaces. Ground-borne vibration is not usually generated by road traffic from roadways such as Yonge Street. In many areas along Yonge Street, vibration generated by subway trains running below the street can be clearly felt.

Care should be taken in the future design of any roadways alternatives to avoid placing any utility access covers in the wheel paths and the minimization of utility cuts. Another major source of vibration is caused by the incorrect placement of water catch basins within the travelled portion of the roadway.



Figure No. 1

Noise Study Area

Yonge Street Environmentl£11 Pssessment
Queen Street to Carlton St./College St.



True
North

Scale: 1: 5,000

Date: 18/11/23

File No.: 16-0362

Drawn By: CTB

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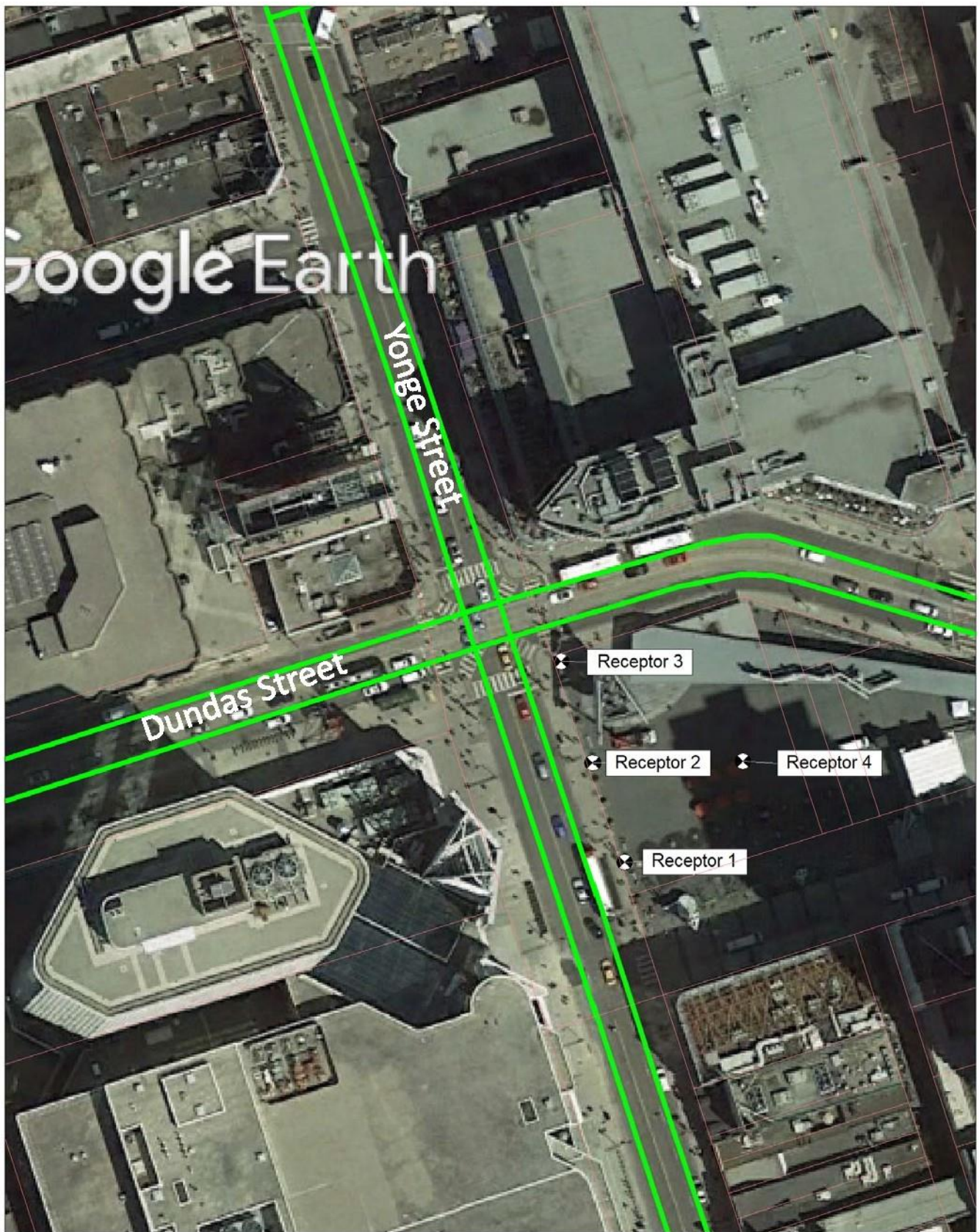


Figure No. 2

Noise Sensitive Area- Near Yonge St. and Dundas St.

Yonge Street Environmental Assessment
Queen Street to Carlton St./College St.



True
North

Scale: 1: 1,000

Date: 18/11/23

File No.: 16-0362

Drawn By: CTB

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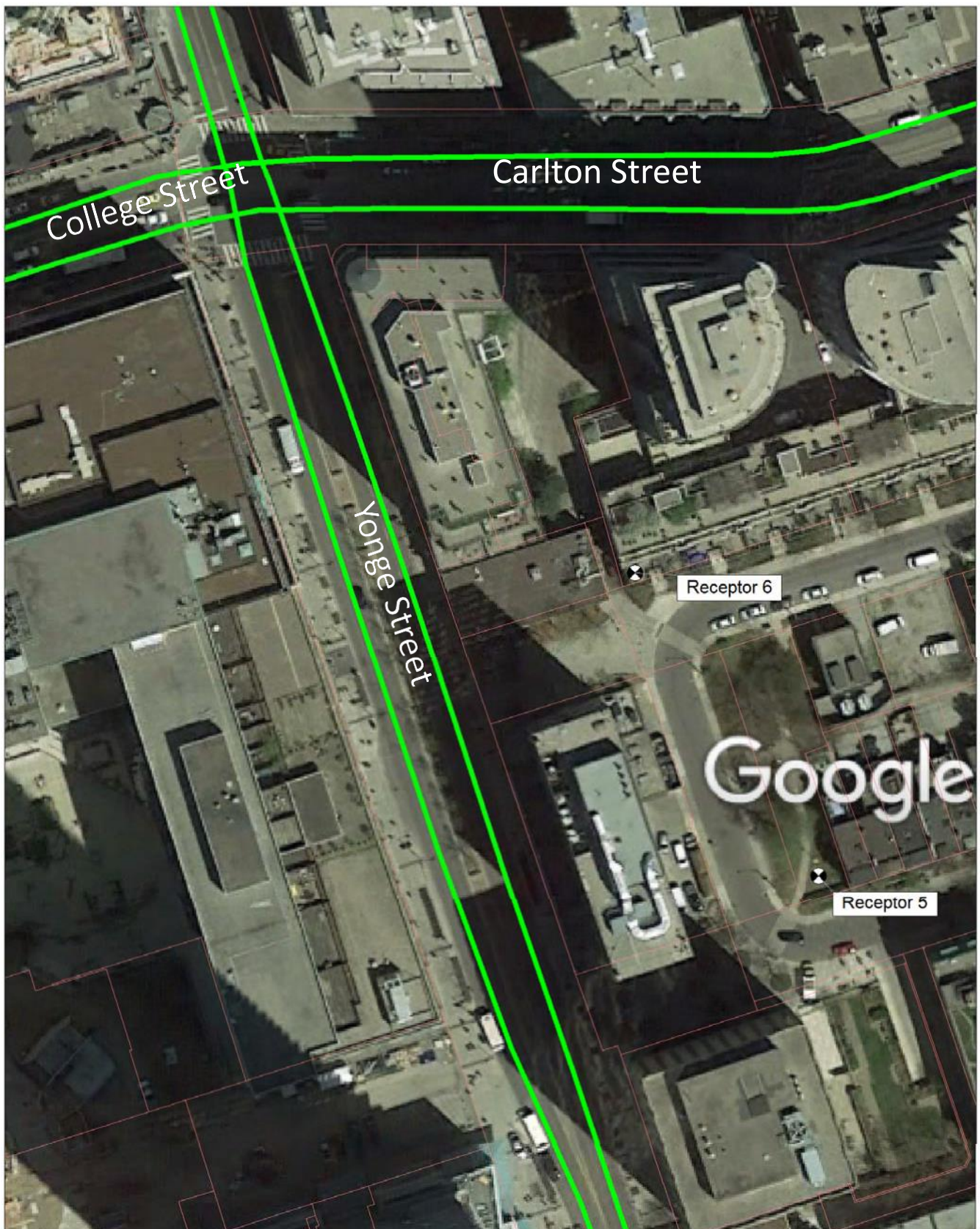
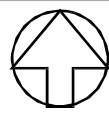


Figure No. 3
**Noise Sensitive Area – South of College St.
 /Carlton St.**

Yonge Street Environmental Assessment
 Queen Street to Carlton St./College St.



True
 North

Scale: 1: 1,000
 Date: 18/11/23
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