DST consulting engineers a division of Englobe

Legend

Approximate Location of Construction Activities

Approximate Location of Vibration Monitor

0	18/02/2021	Final	S.G
Revision	Date	Issue	Approval

Client: **Queens University**

Site: **St. Mary's Of the lake Hospital**

Report Title: **Vibration Monitor Locations**

DrawingTitle: **Site Map**

Designed By	Scale
S.G	As Shown
Drawn By	**Date**
C.W	February 2021
Approved By	**Project No.**
S.G	2101810.000

Figure No2: **1**

Table 1 - Vibration Exceedance Protocol at Neighboring Structures (Adopted from City of Ottawa SP. F-1201)

Frequency Hz	PPV mm/s	Required Action	Description of Event
All	PPV < 20	No Action Required	
≤ 40	PPV ≥ 20	First Exceedance – Review construction operations and alter procedures as necessary. Proceed with caution with activities subject to the approval of the Contractor. Second Consecutive Exceedance – Contractor to cease all operations, review activities and submit revised work methodology to the Owners and Project Team.	Notification email sent, vibration expert to review vibration event for contract compliance.
	PPV ≥ 50	First Exceedance – Contractor to cease all operations, review activities and submit revised work methodology to the Owners and Project Team.	Notification email sent, vibration expert to review vibration event for contract compliance.
> 40	PPV < 45	No Action Required	
	45 ≤ PPV < 50	Warning Level – Review construction operations and alter procedures if necessary. Proceed with caution with activities.	Notification email sent, vibration expert to review vibration event for contract compliance.
	PPV ≥ 50	First Exceedance – Review construction operations and alter procedures as necessary. Proceed with caution with activities subject to the approval of the Contractor. Second Consecutive Exceedance – Contractor to cease all operations, review activities and submit revised work methodology to the Owners and Project Team.	Notification email sent, vibration expert to review vibration event for contract compliance.

Subject: Vibration Monitoring Summary – February 19 to March 4, 2021
Project: St. Mary's of the Lake Renovations
Client: Queens University
Ref No: 02101810.000

Table 2: Maximum Peak Particle Velocity

Seismograph Location	Date of Installation	Maximum Peak Particle Velocity (PPV) [mm/s]	Date of Maximum Vibration Trigger
18 Centre Street	February 19, 2021	0.254	February 19, 2021
26 Centre Street	February 19, 2021	0.508	February 28, 2021
31 Ellerbeck Street	February 19, 2021	0.381	February 24, 2021
365 King Street West	February 19, 2021	1.143	February 22, 2021

GLOSSARY:
H: Histogram
W: Waveform
***: Not Available
Tran: Maximum peak particle velocity along the tranverse plane
Vert: Maximum peak particle velocity along the vertical plane
Long: Maximum peak particle velocity along the longitudinal plane
Freq: Frequency
PVS: Peak Vector Sum
Highest Vibration level recorded at this monitoring location during this monitoring period


Queens - PPV vs Hz Vibration Data
100
10
1
0.1
PPV (mm/S)
1
10
100
Frequency (Hz)
<40 Hz Alert I
< 40 Hz Alert II
>40 Hz - Warning
>40 Hz - Alert
18 Centre Street - Transverse
18 Centre Street - Vertical
18 Centre Street - Longitudinal
26 Centre Street - Transverse
26 Centre Street - Vertical
26 Centre Street - Longitudinal
31 Ellerbeck Street - Transverse
31 Ellerbeck Street - Vertical
31 Ellerbeck Street - Longitudinal
365 King Street West - Transverse
365 King Street West - Vertical
365 King Street West - Longitudinal