18 March 2026

Katherine F. Watkins, P.E.
Deputy City Manager
City of Cambridge
795 Massachusetts Avenue
Cambridge, MA 02139

Project 200609.05 – Vibration Monitoring Data Report – 8 to 14 March 2026, Riverview Condominiums, 221 Mt. Auburn Street, Cambridge, MA

Dear Ms. Watkins:

At your request, we installed vibration monitors at six properties abutting Riverview Condominiums (Riverview) to document vibrations during the Riverview building demolition. The purpose of this letter is to summarize the weekly vibration records and report "triggering" events if the vibration threshold is exceeded.

1. BACKGROUND

The City of Cambridge (City) started the controlled demolition of the Riverview structure on 17 December 2025. The City requested that Simpson Gumpertz & Heger Inc. (SGH) develop a vibration monitoring program to record vibration at abutting properties during the building demolition. Prior to demolition, SGH conducted preliminary surveys of directly abutting properties to determine monitoring locations. Based on these surveys, we selected six locations to install vibration monitors: 1, 7, and 11 Sparks Street, 38 Bradbury Street, 205 Mt. Auburn Street, and the Bradbury Building (see map in Figure 1 below). At each location, we installed a vibration monitor on the foundation wall or the basement-level slab-on-grade. We installed the vibration monitors approximately one month prior to the scheduled start of demolition to acquire typical ambient baseline vibration data at each monitoring location.

Figure 1

Aerial view of the Riverview Condominiums structure (outlined in red) and the abutting properties selected for vibration monitor installation (marked with yellow stars).

2. DATA COLLECTION

The vibration monitors (VMs) are configured to continuously monitor vibrations and record the Peak Particle Velocity (PPV) in three orthogonal directions at 5 min. intervals. The VMs record a time history when a preset trigger level is exceeded, capturing 4 sec of data, including a 1 sec pre-trigger time, and the data is automatically downloaded to a remote server. Automated email notifications are sent to a predefined distribution list consisting of project team members when a triggering event occurs. If no triggering event occurs during a calendar day, the system sends a summary report for each monitor showing the recorded vibrations for the day, including the peak particle velocity recorded in each orthogonal direction (vertical and two orthogonal

horizontal directions). Table 1 summarizes the maximum peak particle velocity recorded for each location from 8 March 2026 to 14 March 2026. Monitoring data for each location is also included in Appendix A (attached).

Table 1 – Maximum Peak Particle Velocity Recorded

Location	Maximum Peak Particle Velocity (in./sec)[1]		
	Vertical	Horizontal 1	Horizontal 2
Bradbury Building	0.03	0.02	0.02
205 Mt. Auburn Street	0.09	0.04	0.03
38 Bradbury Street	0.05	0.03	0.03
1 Sparks Street	0.12	0.04	0.06
7 Sparks Street	0.04 (2.53)	0.03 (2.86)	0.02 (3.25)
11 Sparks Street	0.04	0.02	0.03

[1] Values in parentheses represent "triggering" values due to disturbance of units by workers in 7 Sparks Street (see discussion).

3. DISCUSSION

Structural vibration monitoring is typically used to correlate construction activities with potential damage to neighboring structures. For the Riverview Demolition Project, we established six vibration monitoring locations around the site to document potential vibrations resulting from the project demolition activities. We established a recommended vibration monitoring threshold of 0.5 in./sec as a "triggering" event to investigate vibrations, as summarized in our letter dated 12 December 2025.

For the week of 8 to 14 March 2026, the project team received multiple notifications of "triggering" events at 7 Sparks Street (11 and 14 March 2026), where the maximum PPVs are listed in parentheses in Table 1. We attach the automatically generated reports showing the associated data for these events in Appendix B. This monitoring unit is weighed down with sandbags rather than anchored to the slab to prevent damage to finishes. We determined the exceedences to be a local incident unrelated to site activities at 221 Mt. Auburn Street for the following reasons:

- For the first occurrence on 11 March 2026, the waveform shows motion only in two horizontal directions, consistent with lateral translation of the unit. We expect exceedances due to construction activities to have a strong vertical component.
- The waveform of the second exceedance on 14 March 2026 is consistent with the unit being disturbed.

- Both exceedances occurred at times when there was no work taking place on site (vibration levels had dropped to after-hours levels), as confirmed by Consigli, and no other units show elevated readings. The project team confirmed with 7 Sparks Street that there were workers hired by the property owner in the vicinity of the unit during the vibration exceedance events.

The elevated readings are localized to the individual unit and do not represent vibrations due to site activities.

Aside from the "triggering" events caused by unrelated work at 7 Sparks Street as described above, all vibration monitoring locations maintained a peak particle velocity below the trigger value during the week's site activities, as shown in Appendix A. If construction activities cause vibrations greater than the set 0.5 in./sec trigger value, we will follow the protocol outlined in our letter dated 12 December 2025 to analyze the causes and potential impacts of the exceedance. We will continue to monitor the vibrations and provide you with an update regarding any changes.

Sincerely yours,

John M. Porter, P.E.
Senior Principal
MA License No. 45684

Linda M. Seymour, Ph.D., P.E.
Consulting Engineer
MA License No. 60847

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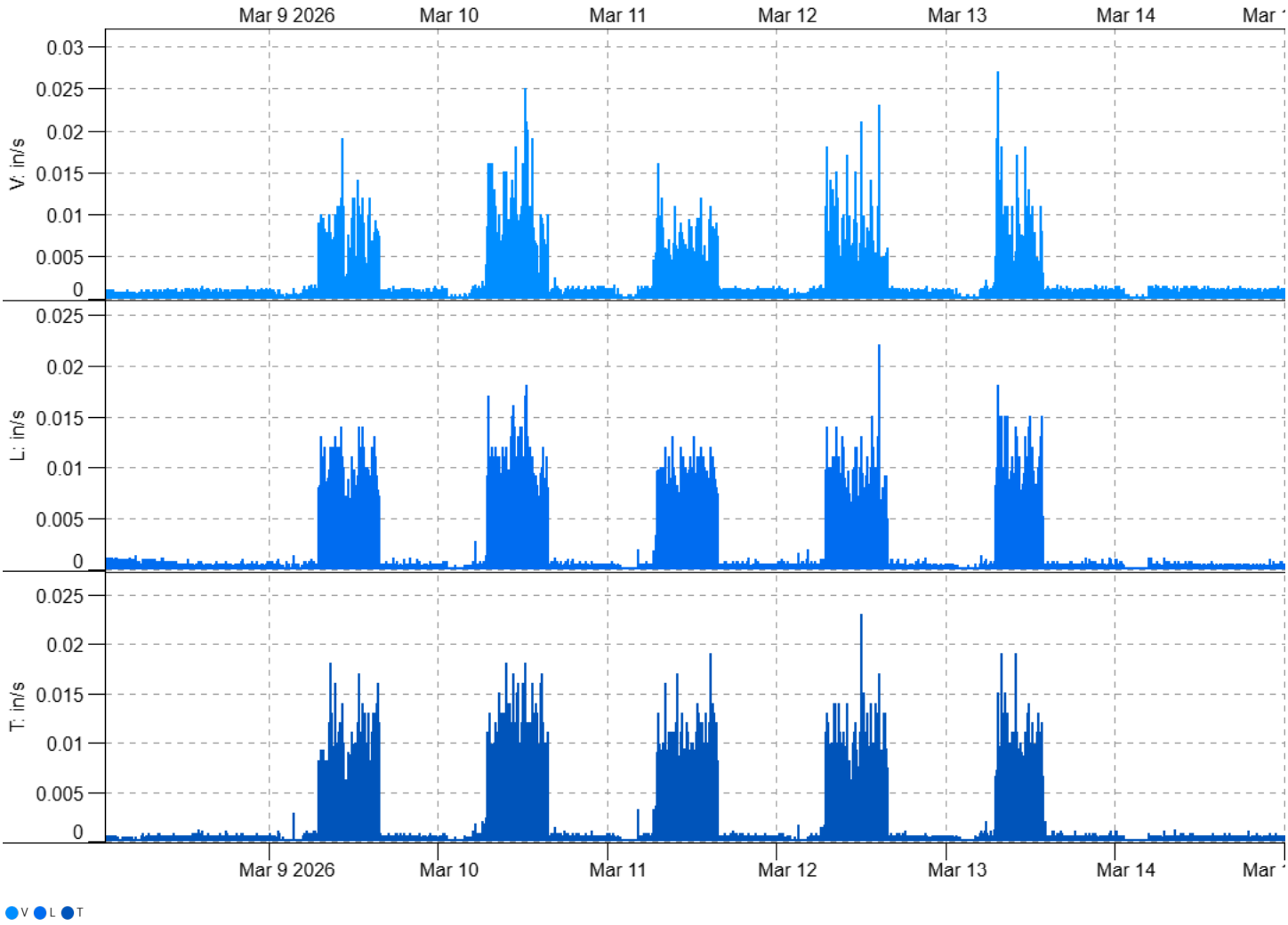
18 March 2026

APPENDIX A

Multi report

Project	Riverview Demo
Project maintainer	-
Time frame	2026-03-08 00:00 - 2026-03-15 00:00 (America/New_York)

Riv1, Bradbury Building [22 Bradbury St.], C22, Serial number: 110294, Calibrated: 2025-07-30,



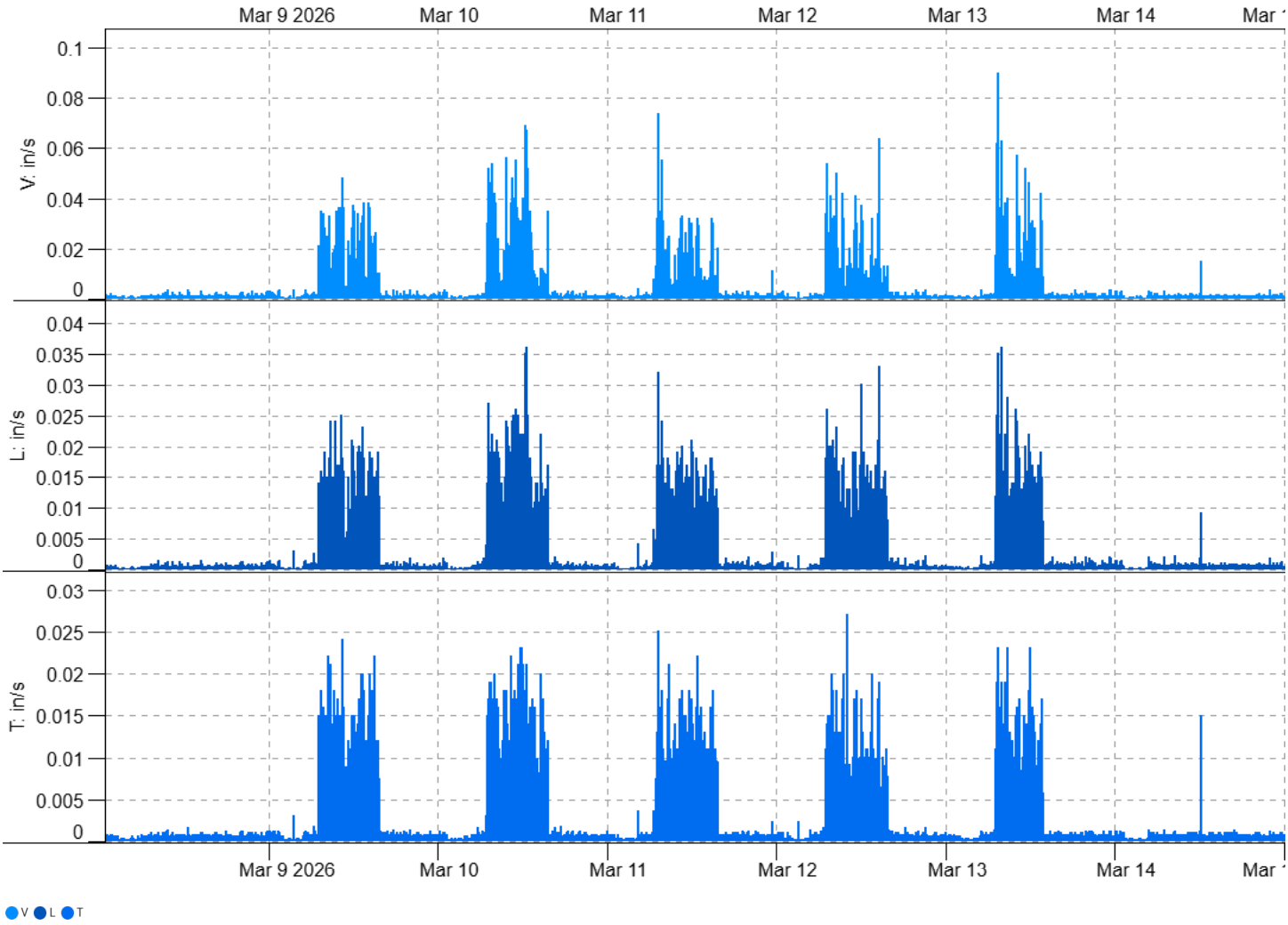
X-span	2026-03-08 00:00 - 2026-03-15 00:00
Y-span	V: 0 - 0.03 in/s, L: 0 - 0.02 in/s, T: 0 - 0.02 in/s

	V	L	T
Max	0.03 in/s	0.02 in/s	0.02 in/s
Date	2026-03-13	2026-03-12	2026-03-12
Time	07:22:30	14:32:30	12:02:30
Hz	5.05	4.15	3.6

Multi report

Project	Riverview Demo
Project maintainer	-
Time frame	2026-03-08 00:00 - 2026-03-15 00:00 (America/New_York)

Riv2, 205 Mt. Auburn St., Cambridge, MA, C22, Serial number: 102013, Calibrated: 2025-07-23,



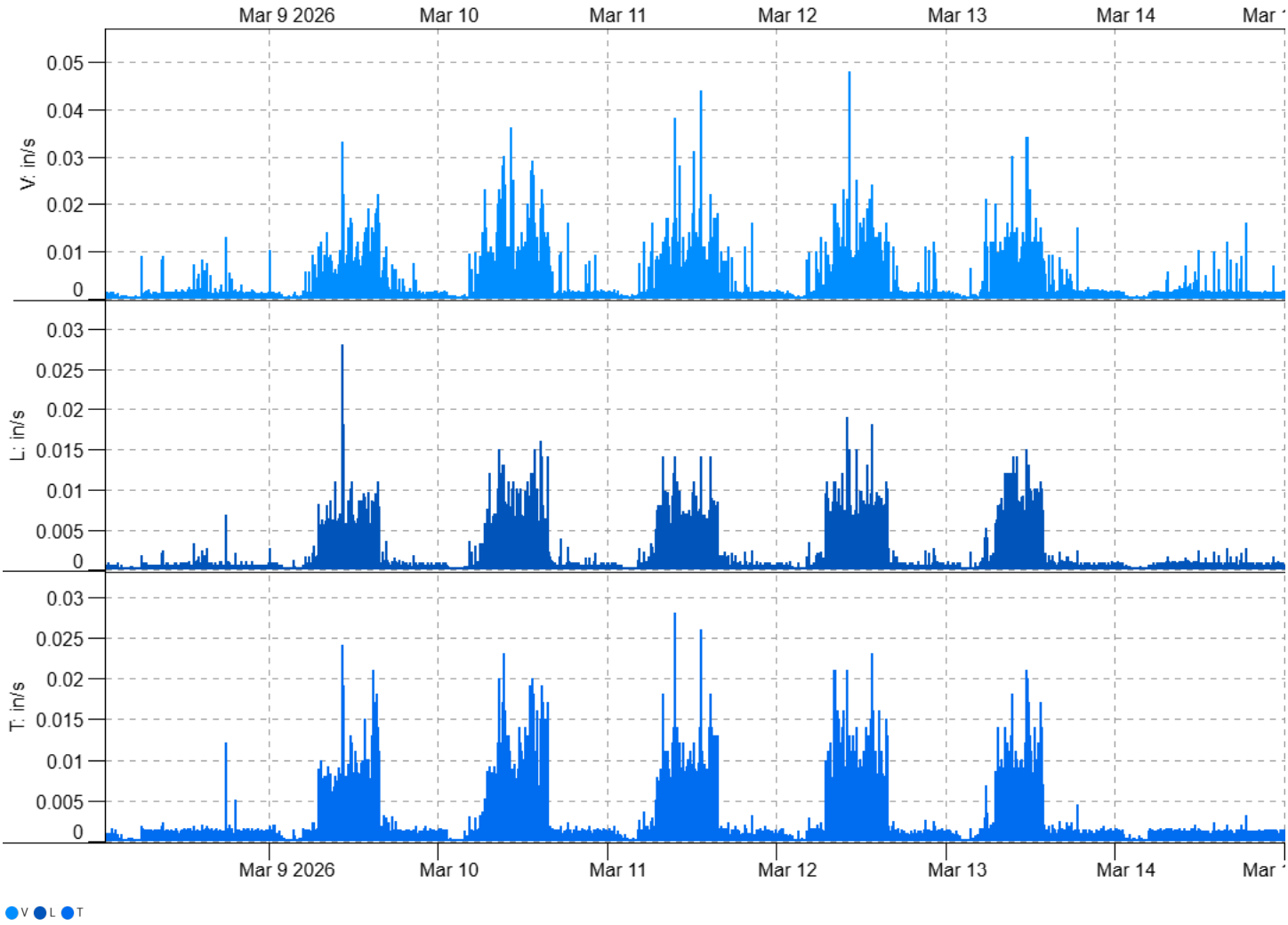
X-span	2026-03-08 00:00 - 2026-03-15 00:00
Y-span	V: 0 - 0.09 in/s, L: 0 - 0.04 in/s, T: 0 - 0.03 in/s

	V	L	T
Max	0.09 in/s	0.04 in/s	0.03 in/s
Date	2026-03-13	2026-03-10	2026-03-12
Time	07:22:30	12:32:30	10:02:30
Hz	5.05	4.4	5.4

Multi report

Project	Riverview Demo
Project maintainer	-
Time frame	2026-03-08 00:00 - 2026-03-15 00:00 (America/New_York)

Riv3, 38 Bradbury St., Cambridge, MA, C22, Serial number: 103199, Calibrated: 2025-06-09,



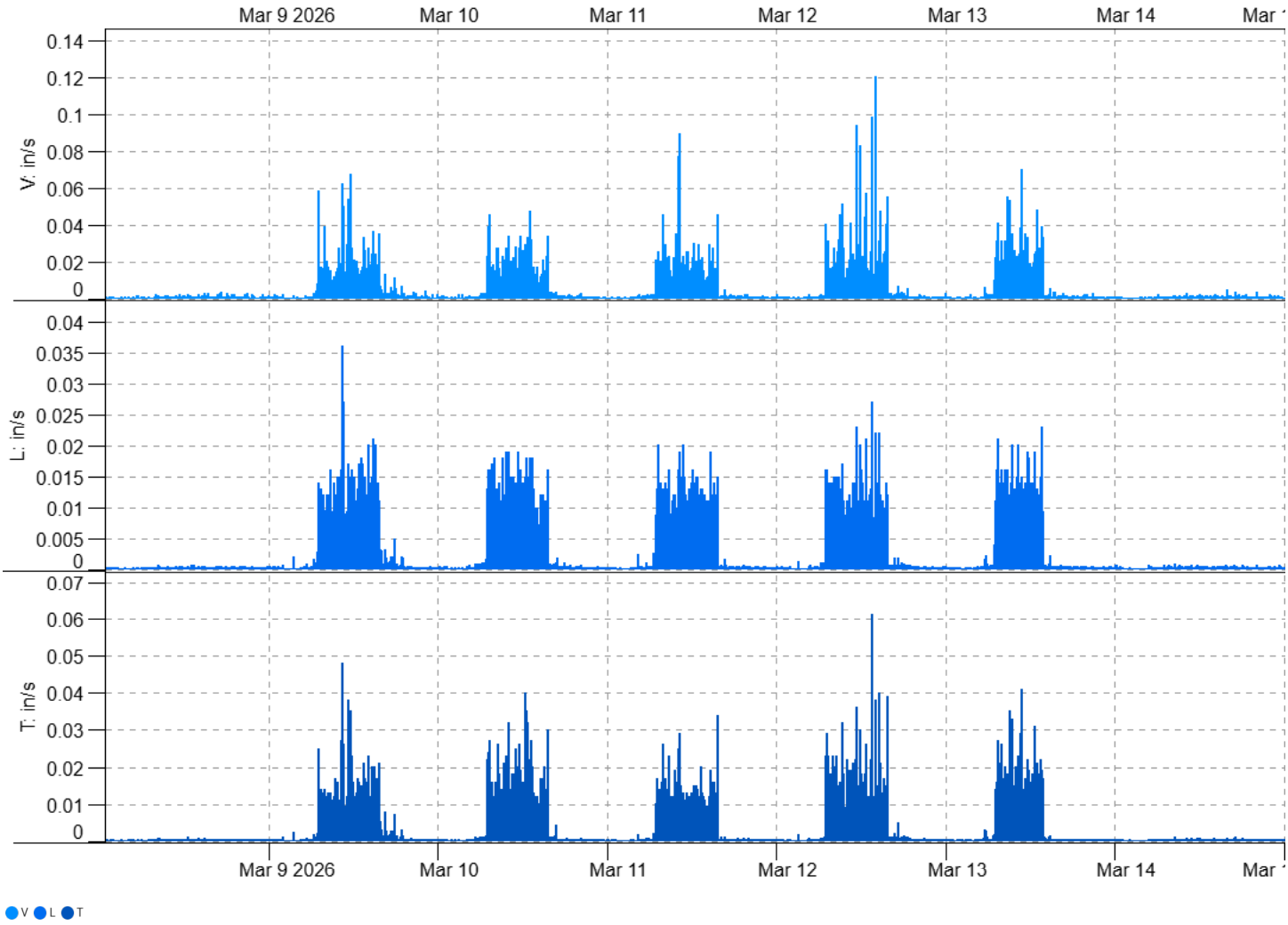
X-span	2026-03-08 00:00 - 2026-03-15 00:00
Y-span	V: 0 - 0.05 in/s, L: 0 - 0.03 in/s, T: 0 - 0.03 in/s

	V	L	T
Max	0.05 in/s	0.03 in/s	0.03 in/s
Date	2026-03-12	2026-03-09	2026-03-11
Time	10:22:30	10:32:30	09:42:30
Hz	9.85	5.35	5.95

Multi report

Project	Riverview Demo
Project maintainer	-
Time frame	2026-03-08 00:00 - 2026-03-15 00:00 (America/New_York)

Riv4, 1 Sparks St., Cambridge, MA, C22, Serial number: 102403, Calibrated: 2025-07-02,



X-span	2026-03-08 00:00 - 2026-03-15 00:00
Y-span	V: 0 - 0.12 in/s, L: 0 - 0.04 in/s, T: 0 - 0.06 in/s

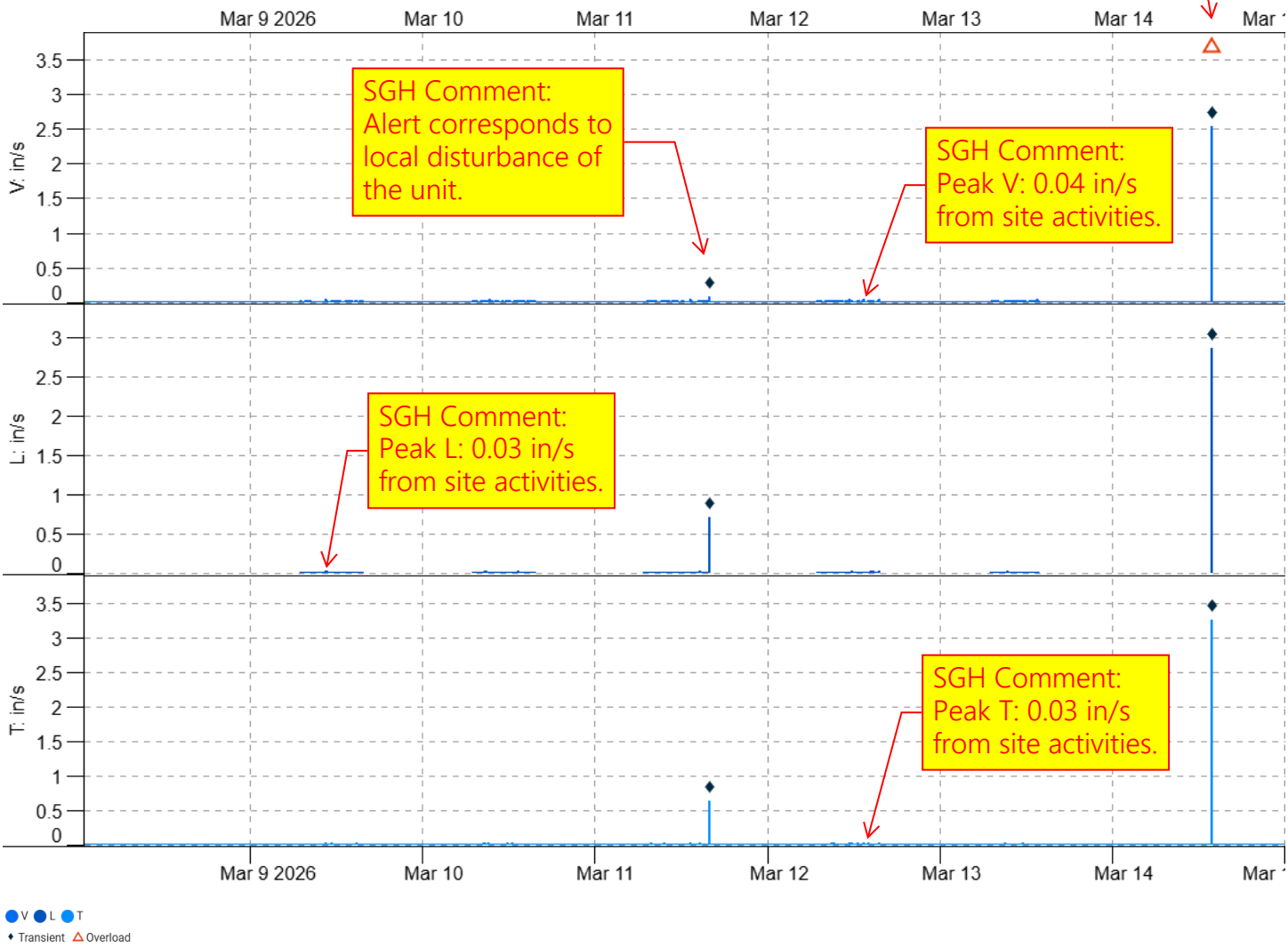
	V	L	T
Max	0.12 in/s	0.04 in/s	0.06 in/s
Date	2026-03-12	2026-03-09	2026-03-12
Time	14:07:30	10:32:30	13:32:30
Hz	12.5	5.5	4.85

Multi report

Project	Riverview Demo
Project maintainer	-
Time frame	2026-03-08 00:00 - 2026-03-15 00:00 (America/New_York)

SGH Comment: Alert and peak correspond to local disturbance of unit.

Riv5, 7 Sparks St., Cambridge, MA, C22, Serial number: 104002, Calibrated: 2025-07-02,

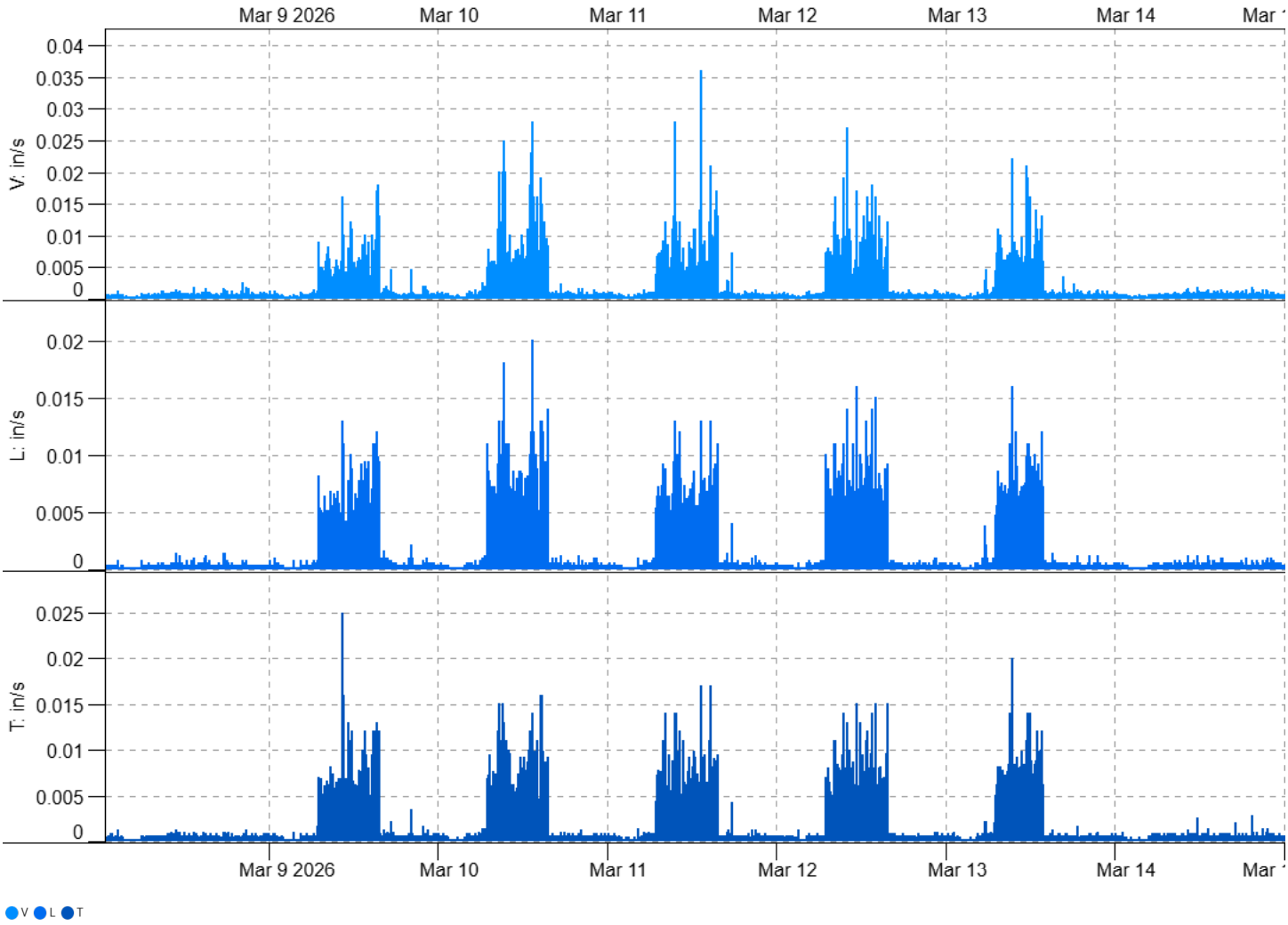


X-span	2026-03-08 00:00 - 2026-03-15 00:00		
Y-span	V: 0 - 2.53 in/s, L: 0 - 2.86 in/s, T: 0 - 3.25 in/s		
	V	**L**	**T**
Max	2.53 in/s	2.86 in/s	3.25 in/s
Date	2026-03-14	2026-03-14	2026-03-14
Time	13:57:30	13:57:30	13:57:30
Hz	9.6	2.25	4.15

Multi report

Project	Riverview Demo
Project maintainer	-
Time frame	2026-03-08 00:00 - 2026-03-15 00:00 (America/New_York)

Riv6, 11 Sparks St., Cambrdige, MA, C22, Serial number: 110329, Calibrated: 2025-07-02,



X-span	2026-03-08 00:00 - 2026-03-15 00:00
Y-span	V: 0 - 0.04 in/s, L: 0 - 0.02 in/s, T: 0 - 0.03 in/s

	V	L	T
Max	0.04 in/s	0.02 in/s	0.03 in/s
Date	2026-03-11	2026-03-10	2026-03-09
Time	13:22:30	13:22:30	10:32:30
Hz	5.95	5.2	5.3

APPENDIX B

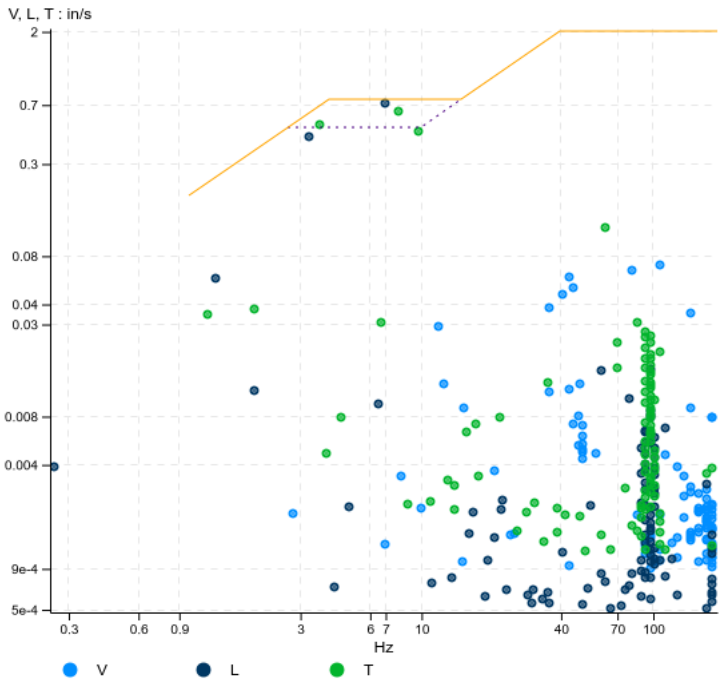
Transient report

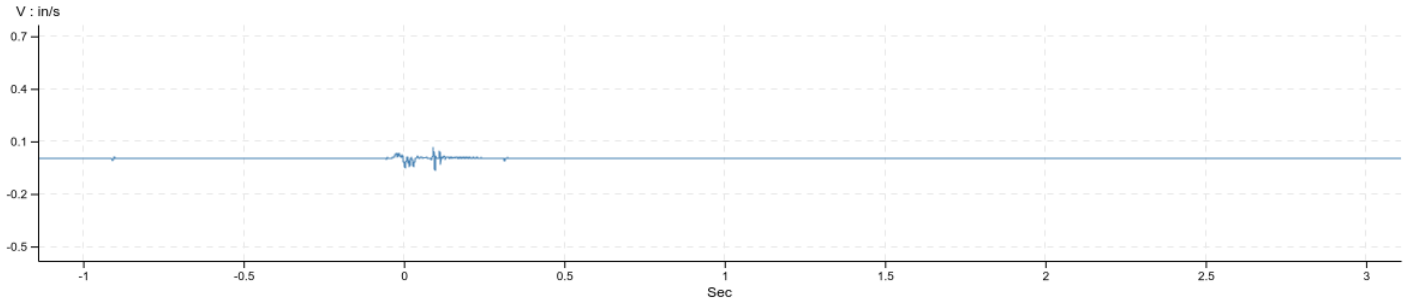
Project	Riverview Demo
Time zone	America/New_York

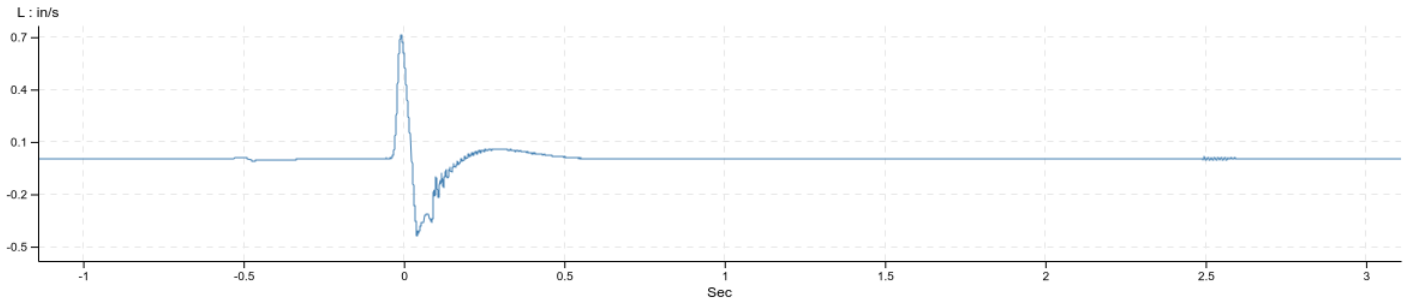
Measuring point	Riv5
Description	7 Sparks St., Cambridge, MA
Sensor serial no.	104002
Latest calibration	2025-07-02
Standard text	(51B) ISEE Seismograph 1 in/s 2-250Hz

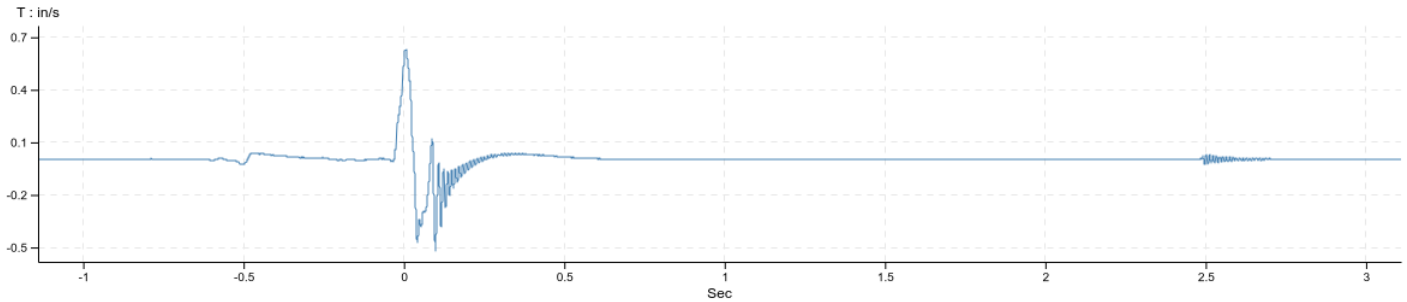
Channel	V	L	T
Sensor	C22	C22	C22
Serial number	104002	104002	104002
Trigger type	internal	internal	internal
Max values	0.0702 in/s 0.05 g 0.57 mil 107.79 Hz	0.709 in/s 0.06 g 21.08 mil 7.14 Hz	0.629 in/s 0.09 g 23.87 mil 8.03 Hz
Date and time	2026-03-11 15:56:44	2026-03-11 15:56:44	2026-03-11 15:56:44
Geophone check	passed	passed	passed
Sensor tilt check	passed		

OSM/USBM (in/s)









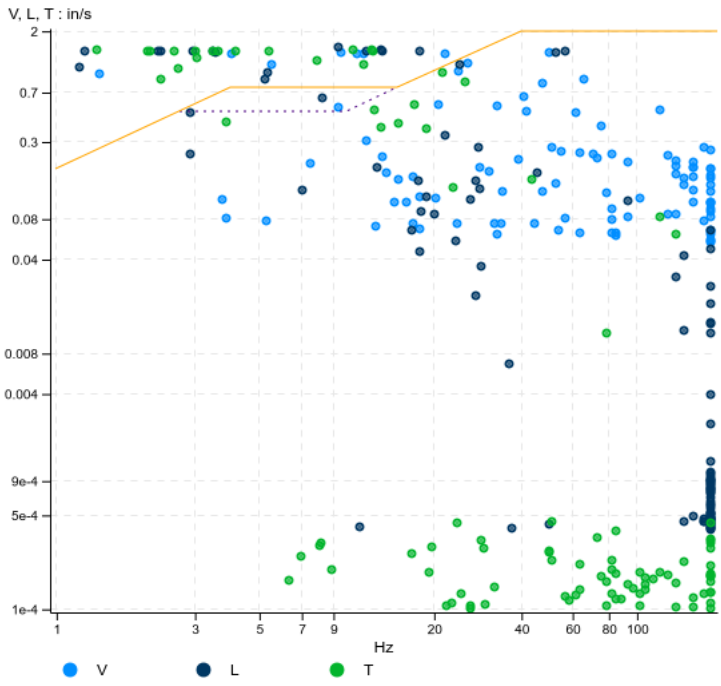
Transient report

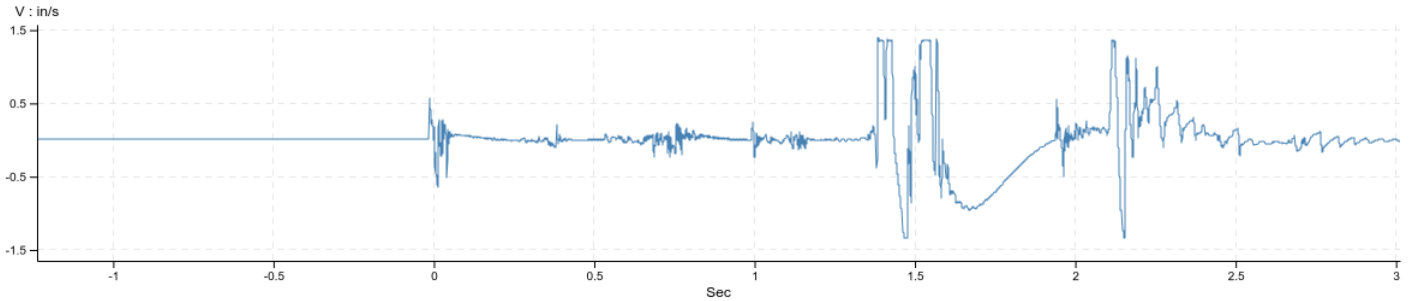
Project	Riverview Demo
Time zone	America/New_York

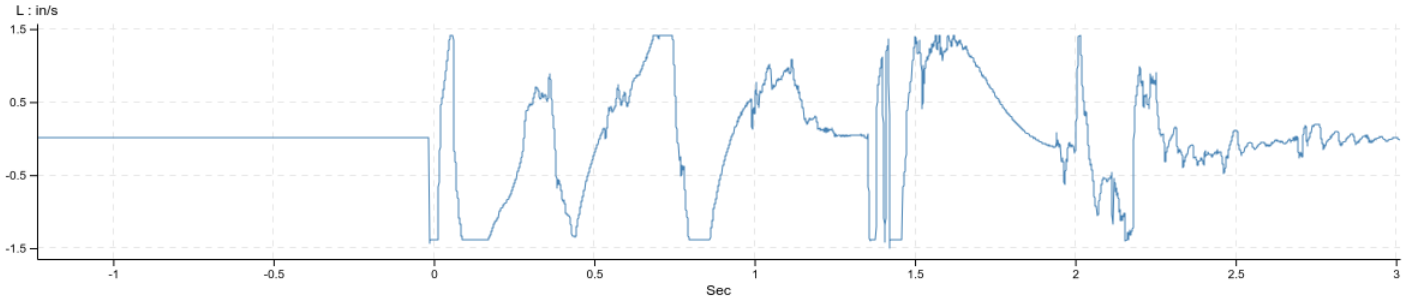
Measuring point	Riv5
Description	7 Sparks St., Cambridge, MA
Sensor serial no.	104002
Latest calibration	2025-07-02
Standard text	(51B) ISEE Seismograph 1 in/s 2-250Hz

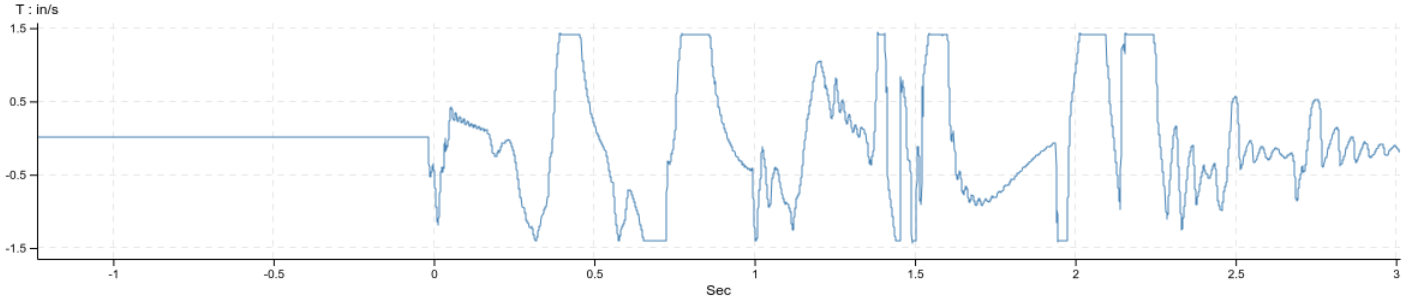
Channel	V	L	T
Sensor	C22	C22	C22
Serial number	104002	104002	104002
Trigger type	internal	internal	internal
Max values	2.53 in/s 1.12 g 98.7 mil 9.62 Hz	2.86 in/s 1.91 g 308.15 mil 9.39 Hz	3.25 in/s 1.66 g 166.39 mil 10.61 Hz
Date and time	2026-03-14 13:56:09	2026-03-14 13:56:09	2026-03-14 13:56:09
Geophone check	passed	passed	passed
Sensor tilt check	na		

OSM/USBM (in/s)









Transient report

Project	Riverview Demo
Time zone	America/New_York

Measuring point	Riv5
Description	7 Sparks St., Cambridge, MA
Sensor serial no.	104002
Latest calibration	2025-07-02
Standard text	(51B) ISEE Seismograph 1 in/s 2-250Hz

Channel	V	L	T
Sensor	C22	C22	C22
Serial number	104002	104002	104002
Trigger type	internal	internal	internal
Max values	0.230 in/s 0.21 g 4.84 mil 146.29 Hz	0.206 in/s 0.13 g 3.29 mil 22.76 Hz	0.546 in/s 0.16 g 47.17 mil 17.96 Hz
Date and time	2026-03-14 13:56:12	2026-03-14 13:56:12	2026-03-14 13:56:12
Geophone check	passed	passed	passed
Sensor tilt check	passed		

OSM/USBM (in/s)