DAILY FIELD REPORT

Project	Former A&A Brake Service Site	**Report No.**	83
BCP Site	NYSDEC BCP SITE C224372	**Date**	12/11/2024
Location	558 Sackett Street	**File No.**	0206384
Client	Sackett Heights LLC	**Temperature**	H: 61°F L: 54°F
Contractor	Blue Sky Builders, Blanco	**Wind Direction**	S to N, up to 15 mph
Weather	Moderate to heavy rain	**Personnel on Site**	Calvin Jackson
Humidity	96%	**Time on Site**	6:30 am to 6:15 pm

H & A of New York Engineering and Geology, LLP (Haley & Aldrich) was present document implementation of the May 2024 NYSDEC-Approved Remedial Action Work Plan (RAWP) and Decision Document for the Former A&A Brake Service Site C224372, located at 558 Sackett Street, Brooklyn, NY. Site observations are summarized below.

Daily Observations:

- Contractor (Blanco) continued installation of structural piles.

Waste Disposal/Backfill Import Tracking:

Material Export:

- None.
- Soil disposal is summarized below:

	Facility: Posillico Materials, Farmingdale, NY (Non-Haz Soil)		*Facility: Clean Earth of North Jersey, Kearny, NJ (Haz Soil)*		*Facility: Clean Earth of North Jersey, Kearny, NJ (Non-Haz Soil)*		*Facility: Clean Earth of New Castle, New Castle, DE (Non-Haz Soil)*		*Totals:*	
Today:	0 Loads	0 CY	0 Loads	0 CY	0 Load	0 CY	0 Loads	0 CY	0 Loads	0 CY
Total:	29 Loads	580 CY	1 Load	10 CY	1 Load	20 CY	7 Loads	140 CY	38 Loads	760 CY

*Note, 1 truck estimated at 20 cubic yards. Final tonnages will be presented in the FER

- C&D disposal is summarized below:

	Facility: South Shore Recycling; Staten Island, NY (C&D)		*Totals:*	
Today:	0 Load	0 CY	0 Load	0 CY
Total:	19 Loads	380 CY	19 Loads	380 CY

Material Import:

- None.
- Material import is summarized below:

	Facility: Stavola of Tinton Falls, NJ; Bound Brook Quarry, NJ (1 ½ in Stone)		*Facility: Stavola of Tinton Falls, NJ; Bound Brook Quarry, NJ (¾ in Stone)*		*Totals:*	
Today:	0 Loads	0 CY	0 Loads	0 CY	0 Loads	0 CY
Total:	24 Loads	480 CY	1 Load	20 CY	25 Loads	500 CY

**Note, 1 truck estimated at 20 cubic yards. Final tonnages will be presented in the FER.*

Samples Collected:

- None.

CAMP Activities:

- Air monitoring during ground-intrusive activities was performed at one upwind and one downwind location during ground intrusive work from 6:35 am to 6:00 pm.
- No 15-minute average concentration of volatiles organic compounds (VOCs) or particulate 15-minute average concentration of matter smaller than 10 microns in diameter (PM10) exceeded the action levels. No visible dust was observed leaving the site perimeter.

Activities Planned for Coming Week:

- Contractor (Blanco) will continue structural piling installation.
- Contractor (Blue Sky) to begin load tests on structural piles.

Site Photographs:

Photo 1: View of Blanco installing structural pile, facing Southwest.

Photo 2: View of Blanco installing structural pile, facing Southwest.

DAILY FIELD REPORT

Site Plan:

Wind Direction

LEGEND:

- CAMP Station
- Stabilized Truck Entrance and Truck Wash Area
- Ingress
- Egress
- Approximate Work Area
- Approximate UST Location
- Approximate hydraulic lift Location

558 Sackett Street, Brooklyn NY

Air Monitoring Log

Date : 2024-12-11

Personnel : Calvin Jackson
Weather : Moderate to heavy rain
Humidity : 96%
Wind Direction : S to N, up to 15 mph

Particulate Background (ug/m3) : 11.42
PID Background (ppm) : 0

Action Levels : Downwind perimeter of work area above background levels
PID (ppm) : > 5 ppm for the 15-min average
Dust (ug/m3) : > 150 for the 15-min average

Minute of Time	Avg. PM10 (Station1)	Avg. PM10 (Station2)	Avg. VOC(Station1)	Avg. VOC(Station2)	Odors	Notes Activities/Additional Monitoring
06:30	11.420	66.352	0.0	0.0		
06:45	5.897	86.049	0.0	0.0		
07:00	3.533	18.963	0.0	0.0		
07:15	4.301	16.524	0.0	0.1		
07:30	1.714	1.853	0.0	0.1		
07:45	0.920	0.302	0.0	0.1		
08:00	0.580	4.917	0.0	0.0		
08:15	1.202	0.057	0.0	0.0		
08:30	1.806	0.836	0.0	0.0		
08:45	1.796	10.034	0.0	0.0		
09:00	1.521	9.352	0.0	0.1		
09:15	1.431	7.021	0.0	0.1		
09:30	1.755	2.337	0.0	0.0		
09:45	2.408	3.497	0.0	0.0		
10:00	3.207	5.212	0.0	0.0		
10:15	3.880	9.742	0.0	0.0		
10:30	6.169	14.610	0.0	0.0		
10:45	9.293	18.261	0.0	0.0		

558 Sackett Street, Brooklyn NY

Air Monitoring Log

Minute of Time	Avg. PM10 (Station1)	Avg. PM10 (Station2)	Avg. VOC(Station1)	Avg. VOC(Station2)	Odors	Notes Activities/Additional Monitoring
11:00	8.865	18.645	0.0	0.0		
11:15	9.271	20.052	0.0	0.0		
11:30	6.286	12.887	0.0	0.0		
11:45	6.560	19.091	0.0	0.0		
12:00	6.949	15.671	0.0	0.0		
12:15	9.186	15.245	0.0	0.0		
12:30	6.858	10.978	0.0	0.0		
12:45	5.817	9.807	0.0	0.0		
13:00	5.773	10.898	0.0	0.0		
13:15	7.866	9.356	0.0	0.0		
13:30	4.458	10.199	0.0	0.0		
13:45	4.006	8.226	0.0	0.0		
14:00	4.175		0.0			
14:15	5.453		0.0			
14:30	6.052	12.781	0.0	0.0		
14:45	6.153	13.908	0.0	0.0		
15:00	13.637	15.870	0.0	0.0		
15:15	7.951	16.089	0.0	0.0		
15:30	7.317	15.684	0.0	0.0		
15:45	6.933	15.401	0.0	0.0		
16:00	6.970	15.366	0.0	0.0		
16:15	10.823	11.905	0.0	0.0		
16:30	6.948	11.702	0.0	0.0		
16:45	6.881	13.639	0.0	0.0		
17:00	8.314	18.121	0.0	0.0		
17:15	9.061	14.660	0.0	0.0		
17:30	9.262	16.404	0.0	0.0		
17:45	10.457	16.397	0.0	0.0		
18:00		15.654		0.0		

QUIVER MONITORING

212-897-9946
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www.quivermonitoring.com

WEEKLY MONITORING REPORT

This Weekly Monitoring Report Includes the analysis and data of:

- Vibration Monitoring

Prepared For:
Blue Sky Builders

Prepared By:
Anslem Valmont –
Monitoring Specialist

Weekly Monitoring
12/11/2024 - 12/11/2024

Project Address:
558 Sackett Street,
Brooklyn,
Brooklyn NY 11215
BBL:/443/55

INDEX

Project Address:
558 Sackett Street, Brooklyn,
Brooklyn NY 11215

QUIVER MONITORING

RE: Blue Sky Builders

,

Dear Mr. Hershy Silberstein,

I am delighted to share with you the Weekly Results of the Remote Vibration Monitoring, Optical Surveying Site Visits, and Crack Monitoring Site Visits, conducted this week at your construction site pursuant to the New York City DOB Building Code 3309 “Protection of Adjoining Properties”.

This “Weekly Monitoring Report’’ contains the comprehensive results of the Vibration, Optical, and Crack Monitoring Services at your construction project located at , conducted by our professional team of Engineers, Surveyors, and filed personnel who performed site visits and inspections based on the outlined requirements detailed in the VMCP (Vibration Monitoring Control Plan) designed by our engineer based on the SOE Plans.

Vibration Monitoring Reports - are generated remotely by our Remote Monitoring Software and are being carefully reviewed by our Monitoring Specialists who oversee and report High Alerts in real time during the work.

Optical Monitoring Results - are documented by our Surveying Team who conducted site visits and inspection at your construction site using high-tech Survey instrumentation to document and record any movements in the optical Targets. The findings of the

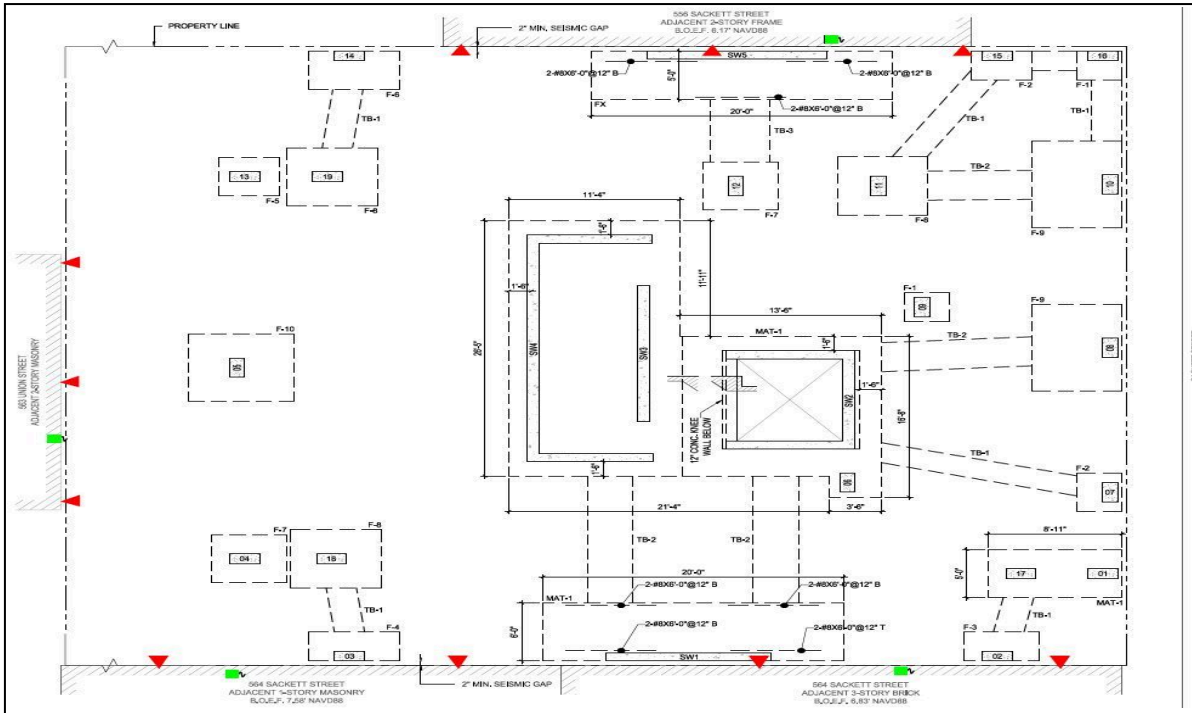
Crack Monitoring Results - are also generated by the findings of our filed team during this week’s site visits at your construction site. These results are documented by photographs of the installed Gauges. Such results are also entered in graph charts to simplify the results.

We greatly appreciate your business and the trust you placed in us to service your professional firm, and strive to continue servicing you with the utmost dedication and professionalism to your great satisfaction and to constantly improve our services.

Please feel free to reach out to me with any questions or comments regarding this report.

Respectfully submitted,

Anslem Valmont – Director of Monitoring
anslemv@quiverleague.com
(212) 897-9947



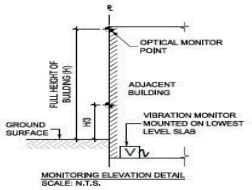
2 MONITORING PLAN

SCALE: 1/4" = 1'-0"

MONITORING PROTOCOL:

1. FOR ALL FOUNDATION AND FOOTING INFORMATION, SEE FO-101.
2. ALL MONITORING REPORT MUST BE SENT TO MONITORING@ELEVATEDENGINEERINGNYC.COM
3. REFER TO MONITORING NOTES ON FO-001 FOR DETAILS.
4. VIBRATION MONITORING SHALL BE PLACED BEFORE EXCAVATION AND PROVIDE REALTIME ALERT TO ENGINEER OF RECORD.
5. OPTICAL MONITORING SHALL BE PLACED PRIOR TO EXCAVATION AND READING IS REQUIRED ONCE A WEEK DURING EXCAVATION WORK
6. THE FOLLOWING ARE THE MONITORING LIMITS:

MONITORING LIMITS		
MONITORING LOCATION	THRESHOLD TYPE	
	REVIEW LEVEL	ACTION LEVEL
OPTICAL		
ADJACENT BUILDINGS	1/4 INCH	1/2 INCH
NYCT STRUCTURES	1/4 INCH	1/2 INCH
STREET AND SIDEWALK PAVEMENT	1/2 INCH	1 INCH
VIBRATION		
ADJACENT BUILDINGS	1.0 INCH/SECOND	2.0 INCH/SECOND
NYCT STRUCTURES	0.25 INCH/SECOND	0.5 INCH/SECOND
CRACK GAUGES		
ADJACENT BUILDINGS	3 MILLIMETERS	6 MILLIMETERS



MONITORING ELEVATION DETAIL
SCALE: N.T.S.

LEGEND

- OPTICAL MONITORING POINT
- VIBRATION MONITORING POINT

MONITORING GENERAL NOTE

1. MONITORING CONTRACTOR IS TO BE NOTIFIED OF ANY AND ALL DESIRED ALTERATIONS TO THE MONITORING PLAN. NO MONITORING DEVICES MAY BE REMOVED OR ALTERATED IN ANY WAY UNLESS DIRECTED BY THE MONITORING CONTRACTOR.
2. AN EXISTING CONDITION SURVEY OF THE ADJACENT BUILDINGS SHOULD BE PREFORMED PRIOR TO THE COMMENCEMENT OF WORK ON SITE.
3. CRACK GAUGE MONITORS ARE TO BE INSTALLED OVER ALL STRUCTURAL CRACKS DISCOVERED IN THE EXISTING CONDITIONS SURVEY.
4. MONITORING CONTRACTOR IS TO BE NOTIFIED IF NEW BUILDING CRACKS ARE DISCOVERED DURING CONSTRUCTION AND ADDITIONAL CRACK GAUGES ARE TO BE INSTALLED.
5. PERMISSION TO PLACE OR INSTALL MONITORING EQUIPMENT ON ANY BUILDING MUST BE OBTAINED FROM THE RESPECTIVE OWNER.
6. MONITORING EQUIPMENT IS TO BE INSTALLED ONE WEEK PRIOR TO COMMENCEMENT OF WORK AND BASELINES DATA IS TO BE RECORDED.

Optical Monitoring Point

Vibration Monitor

NOTICE : this monitoring plan was drafted based on the SOE Plan of the subject property. This Monitoring Plans is intended for Monitoring Layout purpose only.

MONITORING SUMMARY & PROTOCOL

MONITORING TYPE	DESCRIPTION	FREQUENCY OF INSPETION	SOFT LIMITS	THRESHOLD	REQUIED ACTION IF THRESHOLD IS EXCEEDED	FREQUENCY OF REPORTS
VIBRATION MONITORING	AUTOMATED REMOTE VIBRATION MONITORING WITH A THREE COMPONENT SEISMOGRAPHS	REMOTE VIBRATION MONITORING DURING ALLOWANCE WORK HOURS. RECORDED EVENTS EXCEEDINGS THE THRESHOLD WILL BE UPLOADED TO A REMOTE SERVER AND AN EMAIL ALERT WILL BE SENT TO ALL RESPONSIBLE PARTIES.	PEAK PRACTICE VELOCITY +1 INS FOR ADJACENT STRUCTURES	PEAK PRACTICE VELOCITY +2 INS FOR ADJACENT STRUCTURES	IF VIBRATIONS EXCEED 2 IPS FOR ADJACENT STRUCTURES STOP ALL WORK IMMEDIATELY AND TAKE ADDITIONAL OPTICAL AND CRACK GAUGE INSPECTIONS. ALL DATA MUST BE REVIEWED BY THE EOR AND MONITORING CONTRACTOR. THE WORK SHALL RESUME UPON APPROVAL BY THE CONSTRUCTION MANAGER, OWNER ENGINEER OF APPROVED REMEDIAL MEASURES AND/OR MODIFIED CONSTRUCTION PROCEDURE.	A WRITTEN REPORT INCLUDING DATA FROM THE OPTICAL, CRACK AND VIBRATION MONITORING SHALL BE PROVIDED AT THE END OF EACH WEEK. SHOULD THE PREDETERMINED THRESHOLD FOR ANY TYPE OF CONSTRUCTION MONITORING BE EXCEEDED, A WRITTEN REPORT INCLUDING ALL RECORDED DATA WILL BE MADE AVAILABLE IMMEDIATELY.
HORIZONTAL AND VERTICAL CONTROLS	MANUAL OPTICAL SURVEYING WITH ELECTRONIC TOTAL STATION	CONDUCT OPTICAL MONITORING AT LEAST WEEKLY DURING ALL STAGES OF FOUNDATION CONSTRUCTION UNTIL COMPLETION OF FIRST FLOOR SLAB	0.25" DISPLACMENT IN ANY DIRECTION	0.5" DISPLACMENT IN ANY DIRECTION	IF VERTICAL OR LATERAL BUILDING MOVEMENT REACHES 0.5", IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER, OWNER, ENGINEER AND STOP WORK. THE WORK SHALL RESUME UPON APPROVAL BY THE CONSTRUCTION MANAGER, OWNER AND ENGINEER OF APPROVED REMEDIAL MEASURES AND/OR MODIFIED CONSTRUCTION PROCEDURES.	
CRACK GAUGE MONITORING	MANUAL OBSERVATION AND RECORDING OF MEASUREMENT WITH TIME STAMPED DIGITAL PHOTOGRAPHY.	AT SAME FREQUENCY AS OPTICAL MONITORING INSPECTIONS	3mm DISPLACMENT IN ANY DIRECTION	6mm DISPLACMENT IN ANY DIRECTION	IF MOVEMENT REACHES 6mm, IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER, OWNER, ENGINEER AND STOP WORK. THE WORK SHALL RESUME UPON APPROVAL BY THE CONSTRUCTION MANAGER, OWNER AND ENGINEER OF APPROVED REMEDIAL MEASURES AND/OR MODIFIED CONSTRUCTION PROCEDURES.	

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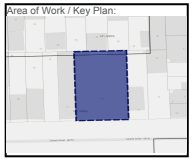
No	Issue / Revision	Date
1	Initial	06/24/2024

Area of Work / Key Plan:



Client: Blue Sky Builders

Project: 558 Sackett Street, Brooklyn Brooklyn NY 11215

Drawing Title: MONITORING PLAN

Engineering Seal:

YT Project #:200605	Drawn By:R.P.
Date:06/24/2024	Checked By:
Drawing No: MO-100.00	
Scale: NOT TO SCALE	Sheet:01 of 1

NEW YORK CITY DEPARTMENT OF BUILDINGS MONITORING CODES

Quiver Monitoring will refer to the following New York City DOB Building Codes:

Section 3309 "Protection of Adjoining Property":

- **3309.3** Physical Examination
- **3309.4** Soil or foundation work affecting adjoining property
- **3309.4.3** Pre construction Survey
- **3309.4.4** Monitoring
- **3309.16** Monitoring Plan

Historic Structures:

- TPPN 10/88 (Technical Policy and Procedure Notice) Historic Structures

NYC Transit / MTA Monitoring

- External Partner Program

3309.3 Physical Examination

When permission to enter upon adjoining property has been obtained, a physical examination of such property shall be conducted by the person causing the construction or demolition operations prior to the commencement of the operations and at reasonable periods during the progress of the work. Observed conditions shall be recorded by the person causing the construction or demolition operations, and such records shall be made available to the department upon request.

3309.4 Soil or foundation work affecting adjoining property

Whenever soil or foundation work occurs, regardless of the depth of such, the person who causes such to be made shall, at all times during the course of such work and at his or her own expense, preserve and protect from damage any adjoining structures, including but not limited to footings and foundations, provided such person is afforded a license in accordance with the requirements of Section 3309.2 to enter and inspect the adjoining buildings and property, and to perform such work thereon as may be necessary for such purpose. If the person who causes the soil or foundation work is not afforded a license, such duty to preserve and protect the p>adjacent property shall devolve to the owner of such adjoining property, who shall be afforded a similar license with respect to the property where the soil or foundation work is to be made.

3309.4.3 Preconstruction Survey

No excavation work to a depth of 5 feet to 10 feet (1524 mm to 3048 mm) within 10 feet (3048 mm) of an adjacent building, or an excavation over 10 feet (3048 mm) anywhere on the site shall commence until the person causing an excavation to be made has documented the existing conditions of all adjacent buildings in a preconstruction survey.

3309.4.4 Monitoring

During the course of excavation work the following shall be monitored in accordance with Section 3309.16:

1. Buildings that are within a distance from the edge of the excavation that is equal to or less than the maximum depth of the excavation.

2. Historic structures that are contiguous to or within a lateral distance of 90 feet (27 432 mm) from the edge of the lot where an excavation is occurring.

Exception: Monitoring is not required for excavations to a depth of five feet (1523 mm) or less, provided:

1. The excavation occurs more than 5 feet (1524 mm) from all footings and foundations; or

2. Where the excavation occurs within five feet (1524 mm) or less from a footing or foundation, such excavation does not occur below the level of the footing or foundation.

3309.16 Monitoring Plan

Where monitoring is required by Section 3309, such monitoring shall be in accordance with a monitoring plan developed by a registered design professional and acceptable to the commissioner. The monitoring plan shall be specific to the structures to be monitored and operations to be undertaken, and shall specify the scope and frequency of monitoring, acceptable tolerances, and reporting criteria for when tolerances are exceeded.

TPPN 10/88 (Technical Policy and Procedure Notice) Historic Structures

BC 3309 references New York City Department of Buildings Technical Policy and Procedure Notice #10/88 (TPPN 10/88) which outlines the documentation and monitoring requirements for adjacent structures located within Landmarks Preservation Commission (LPC) designated Historic Districts. TPPN 10/88 provides for monitoring of Landmark or Historic District buildings within 90 feet of any site with foundation construction or earthwork excavation.

NYC Transit / MTA Monitoring / External Partner Program

Private property owners who are building within 200 feet of MTA property, are required to communicate and provide proposed building plans and monitoring procedures to the NYC Transit Adjacency Projects Team and to follow the External Partner Program.

The Adjacency Projects Team reviews and approves, or provides a determination of no impact, for residential, commercial, and other developments initiated by the private sector. We will help identify the best design and engineering solutions to mitigate potential impacts to our transit system and customers.

QUIVER MONITORING

APPENDIX A

VIBRATION MONITORING

VIBRATION MONITORING

Remote Vibration Monitoring; Seismographs

Seismograph

Quiver Monitoring recommends the installation and maintenance of (4) Instantel Micromate seismographs for the protection of the adjacent structures. These seismographs will have serial numbers and proof of calibration certificate.

The calibration certificates will be provided prior to the vibration monitoring fieldwork. The seismographs will continuously monitor the two horizontal and one vertical component of motion and visually display the maximum value on screen. The systems will be equipped with a cellular modem to provided automated reporting and notifications. The equipment will be installed on or near the closest foundation wall adjacent to the construction project based on accessibility and permission from the owner. In the event an exceedance is recorded an email or text message will be sent as a notification or alert to designated recipients. Weekly reports will be submitted electronically with a summary of daily vibrations per monitor for that week's duration.

VIBRATION MONITORING LOCATIONS

Quiver Monitoring recommends the following vibration monitoring layout.

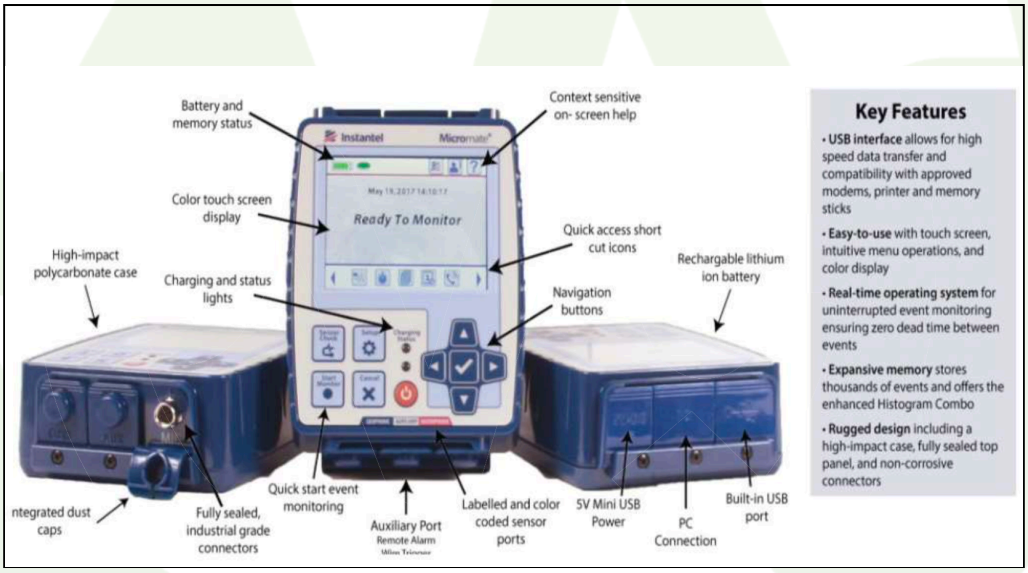
1. **UM17486**: Is installed at the 564 Sackett Street Exterior, front.
2. **UM17502**: Is installed at the 563 Union Street Exterior.
3. **UM22524**: Is installed at the 564 Sackett Street Exterior, rear.

QUIVER MONITORING	Vibration Monitoring Layout 558 Sackett Street, Brooklyn Brooklyn NY 11215	Date of Installation MM/DD/YY 06/24/24

VIBRATION COMPLIANCE

The following vibration protocol will be used by notifications to the client and contractor(s) as follows:

1. A verbal warning shall be given to the client, contractor and the site engineer if any measured vibration level exceeds 1.000 inches per second.
2. A written warning shall be given to client, contractor and the engineer if any measured vibration level exceeds 2.000 inches per second.
3. All vibration producing construction activities must stop if readings exceed 2.000 inches per second. Take additional optical control and telltale readings to be reviewed in conjunction with vibration produced waveform. Work may continue once construction methods and monitoring data is reviewed and approved by all parties.
4. The remote communication system will relay all exceedances to Quiver Monitoring's central office and generate waveform alerts in the form of e-mails immediately to any approved site personnel.



GROUND VIBRATION AND AIR BLAST COMPLIANCE METHODS, UNITED STATES BUREAU OF MINES (USBM – RI8507)

It takes a considerable measure of vibration to harm surface structures, underground structures, pipelines, sewers and water wells. Surface structures, underground facilities and wells are dynamic in nature and in that capacity are dependent upon an assortment of internal and external forces, for example, settlement, weather, and changes in soil saturation, excavation and frost levels,etc.

The forces following up on the previously mentioned don't end upon the origin of vibration delivering activities in the territory. Damage is most effectively shown utilizing seismographic or other geophysical information developed during demolition / development processes.

Throughout the years much research has been given to deciding vibration levels capable for making harm to structures. These investigations were conducted by the United States Bureau of Mines, by the National Research Council of Canada,by insurance companies and by other geo technical consultants.

The consensus of these findings is that acceptable vibration levels is that of which a peak partial velocity (PPV) of 2.0 inches per second in any of the three components of movement is not surpassed by the ground motion at the structure of concern.

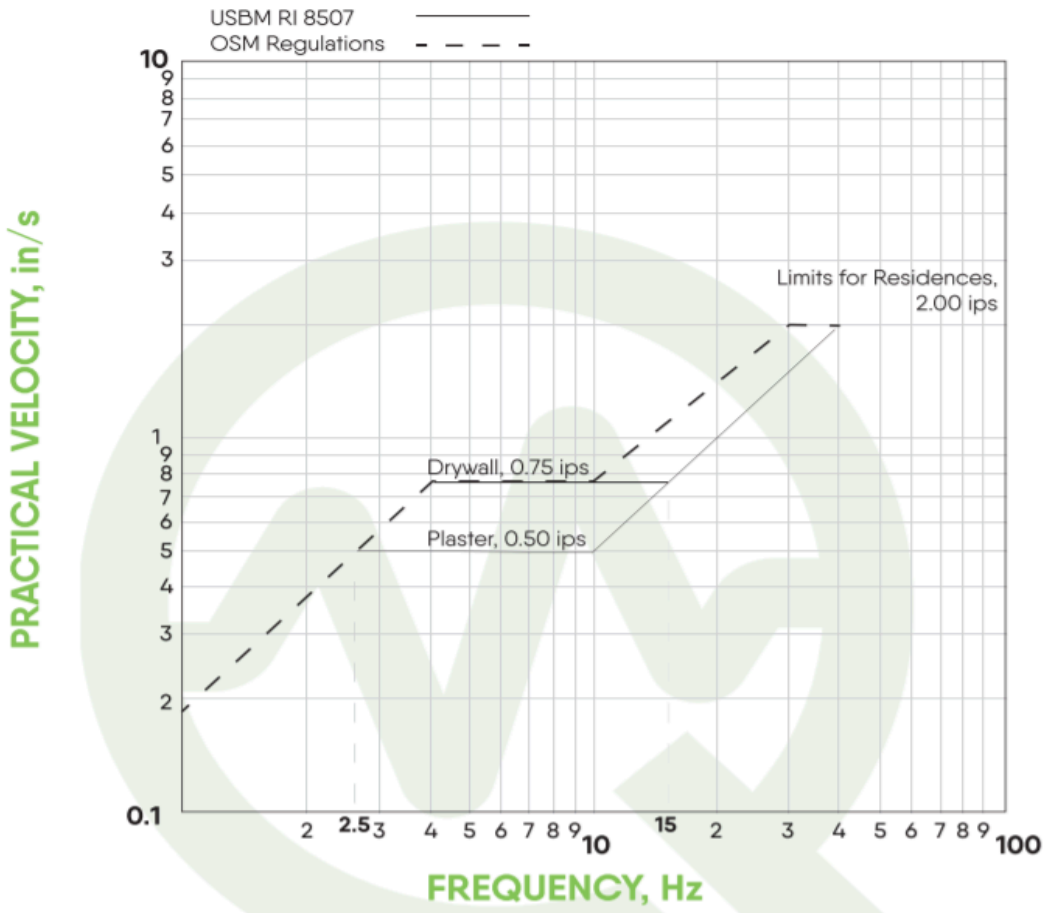
The PPV of 2.0 inches per second limit is generally deemed acceptable as a conservative safe limit for structures in many states for construction activities such as demolition and blasting activities as stated in the U.S Bureau of Mines RI- 8507.

The United States Bureau of Mines (USBM) & Office of Surface Mining (OSM) conducted further research in order to refine damage criteria based upon structure frequency response. The research by the USBM and OSM has established the following criteria relating the event of structural damage to certain frequencies and levels of ground motion.

The USBM report of investigation 8507 states that surface structures are most prone to damage as a result of vibration energy within the frequency range of 4-12hz. Within these parameters, a 0.5 inches per second maximum particle velocity is recommended to limit damage to mortar on wood strip inside parts of an older structure.

A limit of 0.75 inches per second maximum is recommended for the preservation of modern drywall interior construction. The damage threshold is regularly extensively higher for load bearing or other structural portions of a house

USBM REPORT OF INVESTIGATION 8507 DIAGRAM



Classification	Description of Damage
Threshold	Loosening of paint, small plaster cracks of joints between elements, lengthening of old cracks.
Minor	Loosening and falling of plaster, hairline cracks in masonry around openings near partitions, falling of loose mortar.
Major Weakening	Cracks of several millimeter sin walls, structural fall of masonry, e.g. chimneys, and load support ability.

The Peak Particle Velocity of 2.0 in/sec is generally accepted as a conservative safe limit for structures states for construction activities such as demolition and blasting activities. USBM Report of Investigation 8507 states that surface structures are most prone to damage as a result of vibration energy within the frequency range of 4-12 hertz. Within this range, a 0.5 inches per second maximum particle velocity is recommended to preclude 'threshold' damage to plaster-on-wood lath interior portions of older structures. A maximum of 0.75 inches per second is recommended for the protection of modem drywall interior construction. The damage threshold is normally considerably higher for load bearing or other structural portions of a house.

The USBM Report of Investigation 8507 graph is shown on the following page. Above 12 hertz, the allowable vibration intensity Increases to 2.0 inches per second as the frequency increases up to 40 hertz. Above 40 hertz, a constant 2.0 inches per second level is recommended to protect the interior walls and ceiling of structures, regardless of construction material. With respect to vibration induced soil settlement, and underground structure and utility damage, other research has shown that vibration levels in excess of 5.0 inches per second am required for this to occur.

Human Response to Vibrations

Ground-borne vibration is not a phenomenon that most people experience every day. Human response to vibration in buildings is very complex. The degree of annoyance cannot always be explained by the magnitude of the vibration alone.

In some cases, the complaints are associated with measured vibration that is lower than the perception threshold. Other phenomena such as ground-borne noise, rattling, visual effects such as movement flanging objects, and time of day (e.g.. late at night) all play some role in the response of Individuals.

Response Level	Velocity (in./sec.)	Percent of 2.0 in./sec.
Perceptible	.04	2%
Troublesome	.20	10%
Severe	.70	35%

Device Number

UM22524

Exterior, rear 564 Sackett Street

Start	December 11, 2024 06:00:05	**Serial Number**	UM22524
Finish	December 11, 2024 17:59:59	**Model Number**	Micromate ISEE 11.0AK
Number of Intervals/Interval	143.98/300 sec	**Battery Level**	3.8 volts
Sample Rate	1024 sps	**Unit Calibration**	December 22, 2023 by Instantel
Setup File Name	558 Sackett Street S1.mmb	**Event File Name**	UM22524_20241211060005.IDFH
Operator	Quiver League	**USB Sensor Support**	Disabled

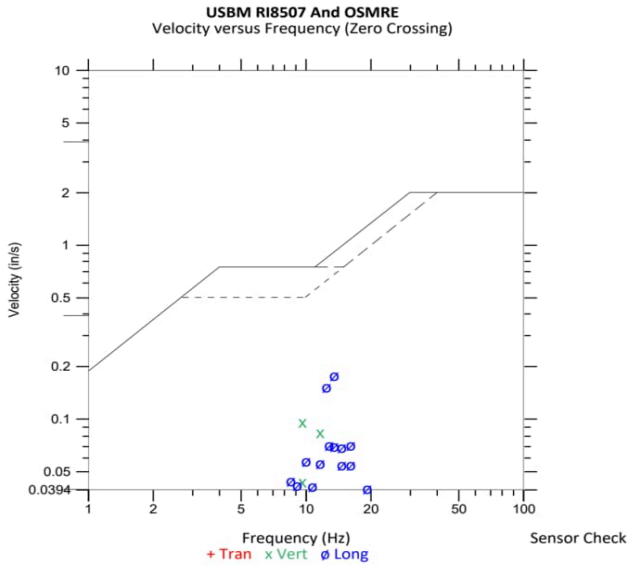
Notes

Location	564 Sackett St building
Client	Bluesky builders
Company	Quiver League
General Notes	558 Sackett Street Project

Extended Note IF VIBRATIONS REACH 0.25 IN/S ALERT THE CONSTRUCTION MANAGER AND ENGINEER. IF VIBRATIONS EXCEEDED 0.50 IN/S STOP ALL VIBRATION PRODUCING ACTIVITIES AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER. FOLLOW UP WITH OPTICAL AND CRACK GAUGE MONITORS AND SUBMIT ALL RESULTS TO THE PROJECT ENGINEER. WORK SHALL RESUME WHEN APPROVED BY CONSTRUCTION MANAGER AND ENGINEER.

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.0366 in/s	0.0956 in/s	0.1794 in/s
Zero Crossing Frequency	13.1 Hz	9.7 Hz	13.5 Hz
Date	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Time	14:35:05	14:35:05	14:35:05
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.1 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.8	4.6	4.3
Peak Vector Sum	0.1891 in/s at December 11, 2024 14:35:05		



Start	December 11, 2024 18:02:04	**Serial Number**	UM22524
Finish	December 11, 2024 19:59:59	**Model Number**	Micromate ISEE 11.0AK
Number of Intervals/Interval	23.58/300 sec	**Battery Level**	3.8 volts
Sample Rate	1024 sps	**Unit Calibration**	December 22, 2023 by Instantel
Setup File Name	558 Sackett Street S1.mmb	**Event File Name**	UM22524_20241211180204.IDFH
Operator	Quiver League	**USB Sensor Support**	Disabled

Notes

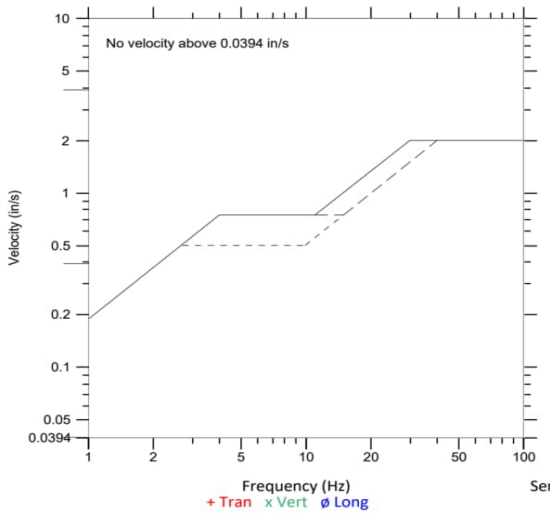
Location	564 Sackett St building
Client	Bluesky builders
Company	Quiver League
General Notes	558 Sackett Street Project

Extended Note IF VIBRATIONS REACH 0.25 IN/S ALERT THE CONSTRUCTION MANAGER AND ENGINEER. IF VIBRATIONS EXCEEDED 0.50 IN/S STOP ALL VIBRATION PRODUCING ACTIVITIES AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER. FOLLOW UP WITH OPTICAL AND CRACK GAUGE MONITORS AND SUBMIT ALL RESULTS TO THE PROJECT ENGINEER. WORK SHALL RESUME WHEN APPROVED BY CONSTRUCTION MANAGER AND ENGINEER.

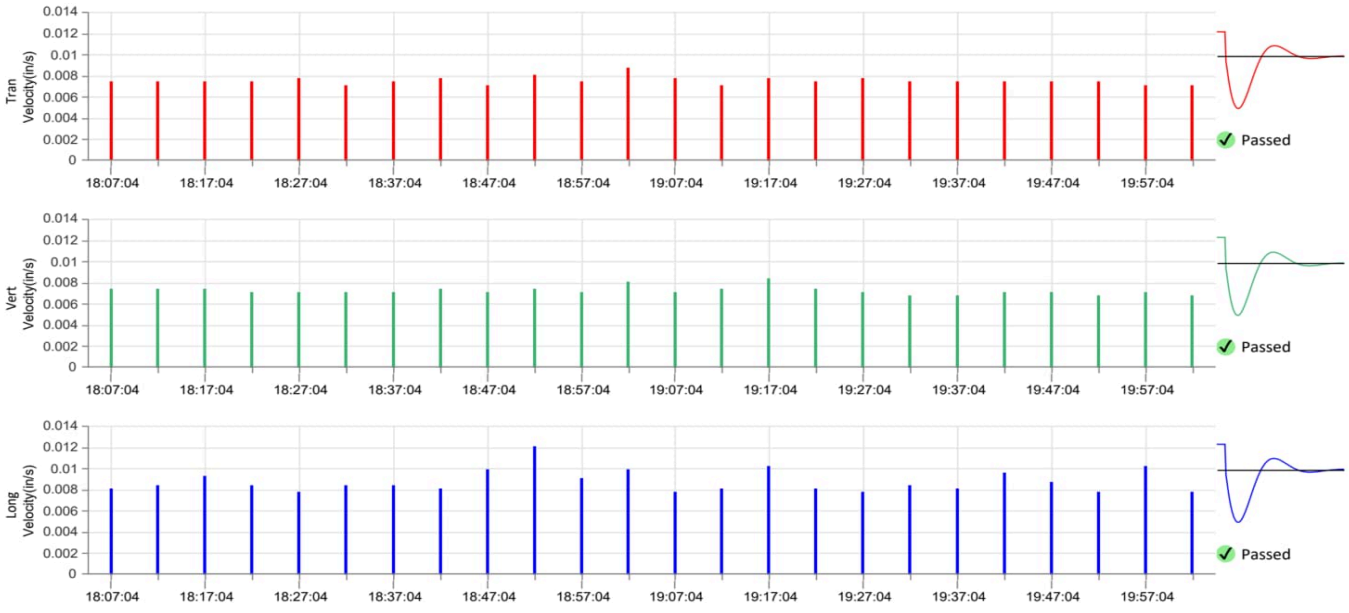
Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.0087 in/s	0.0084 in/s	0.0121 in/s
Zero Crossing Frequency	42.7 Hz	46.5 Hz	15.5 Hz
Date	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Time	19:02:04	19:17:04	18:52:04
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.8	4.6	4.3
Peak Vector Sum	0.0141 in/s at December 11, 2024 18:52:04		

USBM RI8507 And OSMRE
Velocity versus Frequency (Zero Crossing)



Sensor Check



Device Number

UM17502

Exterior 563 Union Street

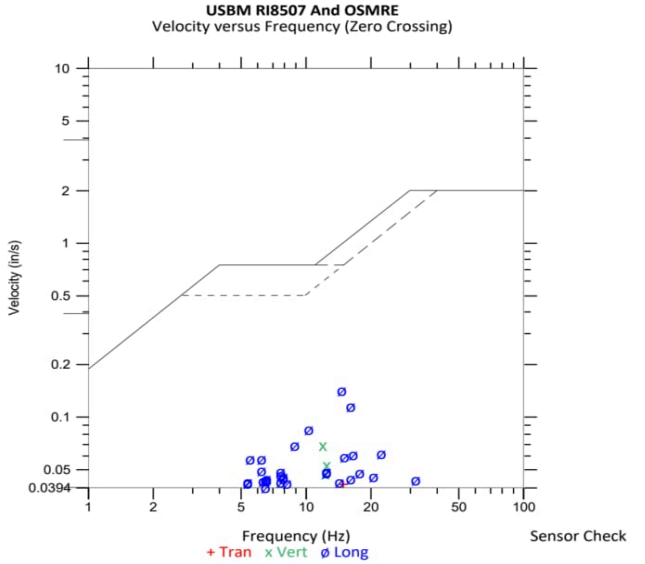
Start	December 11, 2024 06:00:05	**Serial Number**	UM17502
Finish	December 11, 2024 17:59:58	**Model Number**	Micromate ISEE 11.0AK
Number of Intervals/Interval	143.98/300 sec	**Battery Level**	3.8 volts
Sample Rate	1024 sps	**Unit Calibration**	April 25, 2024 by Instantel
Setup File Name	558 Sackett Street S2.mmb	**Event File Name**	UM17502_20241211060005.IDFH
Operator	Quiver League	**USB Sensor Support**	Disabled

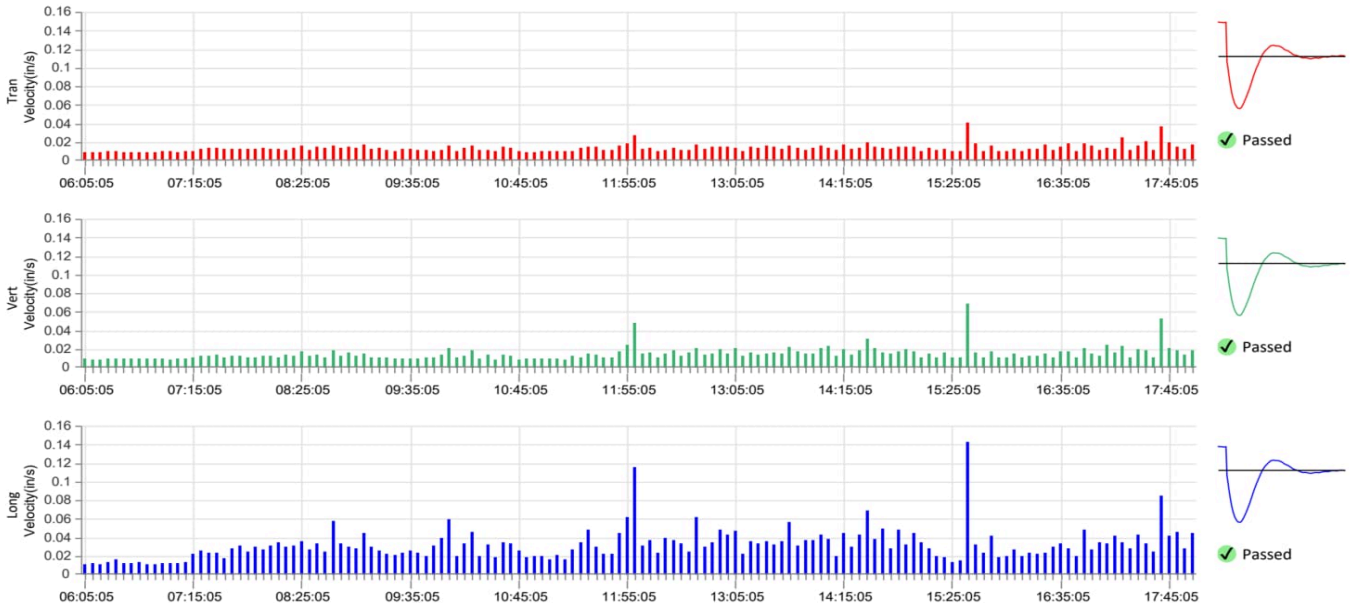
Notes
Location 563 union st building (rear of site)
Client Bluesky builders
Company Quiver League
General Notes 558 Sackett Street Project

Extended Note IF VIBRATIONS REACH 0.25 IN/S ALERT THE CONSTRUCTION MANAGER AND ENGINEER. IF VIBRATIONS EXCEEDED 0.50 IN/S STOP ALL VIBRATION PRODUCING ACTIVITIES AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER. FOLLOW UP WITH OPTICAL AND CRACK GAUGE MONITORS AND SUBMIT ALL RESULTS TO THE PROJECT ENGINEER. WORK SHALL RESUME WHEN APPROVED BY CONSTRUCTION MANAGER AND ENGINEER.

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.0410 in/s	0.0689 in/s	0.1427 in/s
Zero Crossing Frequency	15.1 Hz	11.9 Hz	14.6 Hz
Date	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Time	15:35:05	15:35:05	15:35:05
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.5 Hz	7.3 Hz	7.3 Hz
Overswing Ratio	4.6	4.8	5.0
Peak Vector Sum	0.1434 in/s at December 11, 2024 15:35:05		





Instantel

QUIVER MONITORING

Start	December 11, 2024 18:02:05	**Serial Number**	UM17502
Finish	December 11, 2024 19:59:59	**Model Number**	Micromate ISEE 11.0AK
Number of Intervals/Interval	23.58/300 sec	**Battery Level**	3.8 volts
Sample Rate	1024 sps	**Unit Calibration**	April 25, 2024 by Instantel
Setup File Name	558 Sackett Street S2.mmb	**Event File Name**	UM17502_20241211180205.IDFH
Operator	Quiver League	**USB Sensor Support**	Disabled

Notes

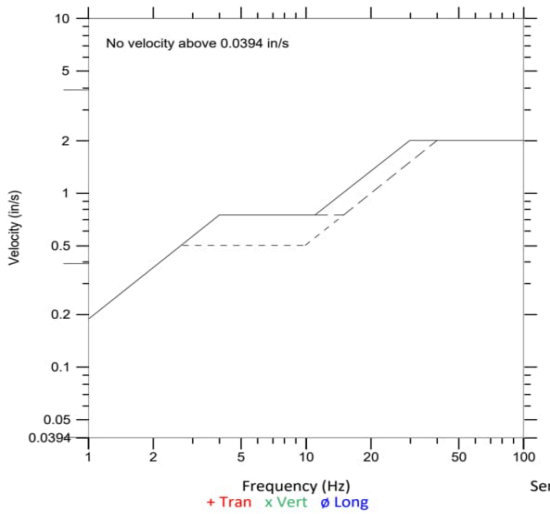
Location	563 union st building (rear of site)
Client	Bluesky builders
Company	Quiver League
General Notes	558 Sackett Street Project

Extended Note IF VIBRATIONS REACH 0.25 IN/S ALERT THE CONSTRUCTION MANAGER AND ENGINEER. IF VIBRATIONS EXCEEDED 0.50 IN/S STOP ALL VIBRATION PRODUCING ACTIVITIES AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER. FOLLOW UP WITH OPTICAL AND CRACK GAUGE MONITORS AND SUBMIT ALL RESULTS TO THE PROJECT ENGINEER. WORK SHALL RESUME WHEN APPROVED BY CONSTRUCTION MANAGER AND ENGINEER.

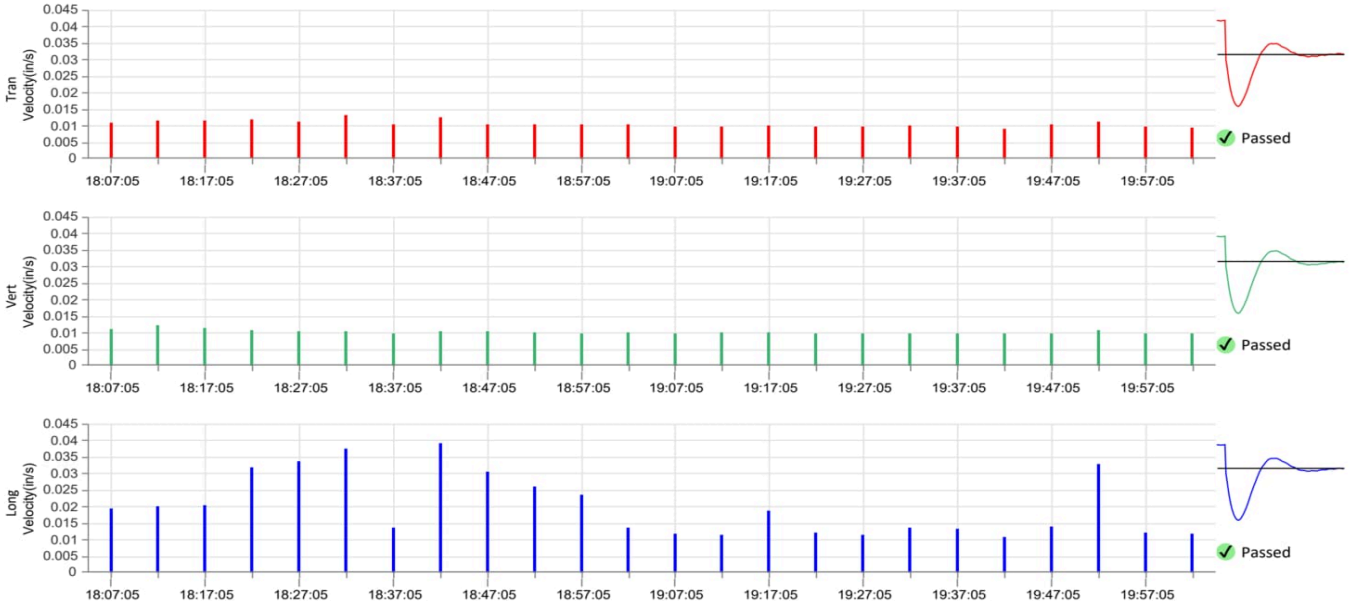
Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.0130 in/s	0.0121 in/s	0.0391 in/s
Zero Crossing Frequency	46.5 Hz	42.7 Hz	5.4 Hz
Date	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Time	18:32:05	18:12:05	18:42:05
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.5 Hz	7.3 Hz	7.3 Hz
Overswing Ratio	4.7	4.8	5.1
Peak Vector Sum	0.0398 in/s at December 11, 2024 18:42:05		

USBM RI8507 And OSMRE
Velocity versus Frequency (Zero Crossing)



Sensor Check



Created by version 1.5.0.29.

Device Number

UM17486

Exterior, front 564 Sackett Street

Instantel

QUIVER MONITORING

Start	December 11, 2024 06:00:06	**Serial Number**	UM17486
Finish	December 11, 2024 17:59:59	**Model Number**	Micromate ISEE 10.90GC
Number of Intervals/Interval	143.98/300 sec	**Battery Level**	3.8 volts
Sample Rate	1024 sps	**Unit Calibration**	March 22, 2023 by Instantel
Setup File Name	558 Sackett Street S4.mmb	**Event File Name**	UM17486_20241211060006.IDFH
Operator	Quiver League	**USB Sensor Support**	Disabled

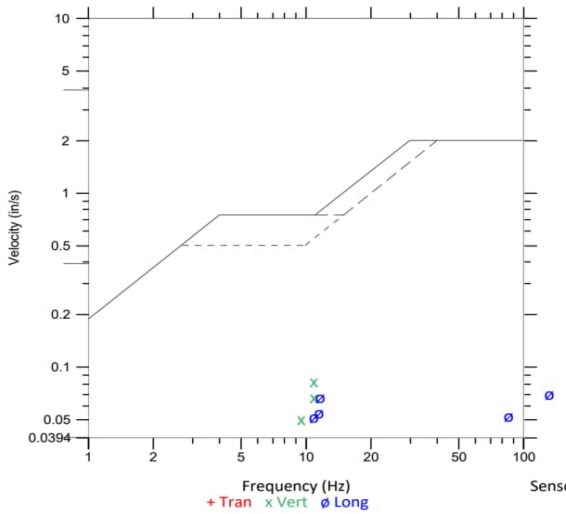
Notes
Location 564 Sackett St building front
Client Bluesky builders
Company Quiver League
General Notes 558 Sackett Street Project

Extended Note IF VIBRATIONS REACH 0.25 IN/S ALERT THE CONSTRUCTION MANAGER AND ENGINEER. IF VIBRATIONS EXCEEDED 0.50 IN/S STOP ALL VIBRATION PRODUCING ACTIVITIES AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER. FOLLOW UP WITH OPTICAL AND CRACK GAUGE MONITORS AND SUBMIT ALL RESULTS TO THE PROJECT ENGINEER. WORK SHALL RESUME WHEN APPROVED BY CONSTRUCTION MANAGER AND ENGINEER.

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.0348 in/s	0.0829 in/s	0.0701 in/s
Zero Crossing Frequency	13.8 Hz	10.9 Hz	>100 Hz
Date	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Time	15:35:06	15:35:06	17:25:06
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.7 Hz	7.3 Hz
Overswing Ratio	4.1	3.8	4.2
Peak Vector Sum	0.0884 in/s at December 11, 2024 15:35:06		

USBM RI8507 And OSMRE
Velocity versus Frequency (Zero Crossing)



Sensor Check

✓ Passed
✓ Passed
✓ Passed

Start	December 11, 2024 18:02:06	**Serial Number**	UM17486
Finish	December 11, 2024 19:59:59	**Model Number**	Micromate ISEE 10.90GC
Number of Intervals/Interval	23.58/300 sec	**Battery Level**	3.8 volts
Sample Rate	1024 sps	**Unit Calibration**	March 22, 2023 by Instantel
Setup File Name	558 Sackett Street S4.mmb	**Event File Name**	UM17486_20241211180206.IDFH
Operator	Quiver League	**USB Sensor Support**	Disabled

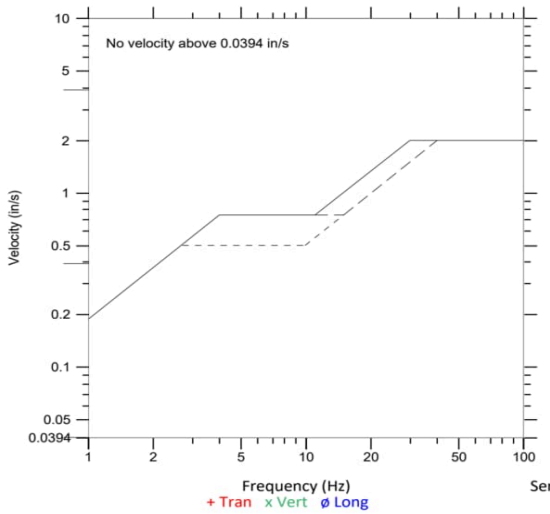
Notes
Location 564 Sackett St building front
Client Bluesky builders
Company Quiver League
General Notes 558 Sackett Street Project

Extended Note IF VIBRATIONS REACH 0.25 IN/S ALERT THE CONSTRUCTION MANAGER AND ENGINEER. IF VIBRATIONS EXCEEDED 0.50 IN/S STOP ALL VIBRATION PRODUCING ACTIVITIES AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER. FOLLOW UP WITH OPTICAL AND CRACK GAUGE MONITORS AND SUBMIT ALL RESULTS TO THE PROJECT ENGINEER. WORK SHALL RESUME WHEN APPROVED BY CONSTRUCTION MANAGER AND ENGINEER.

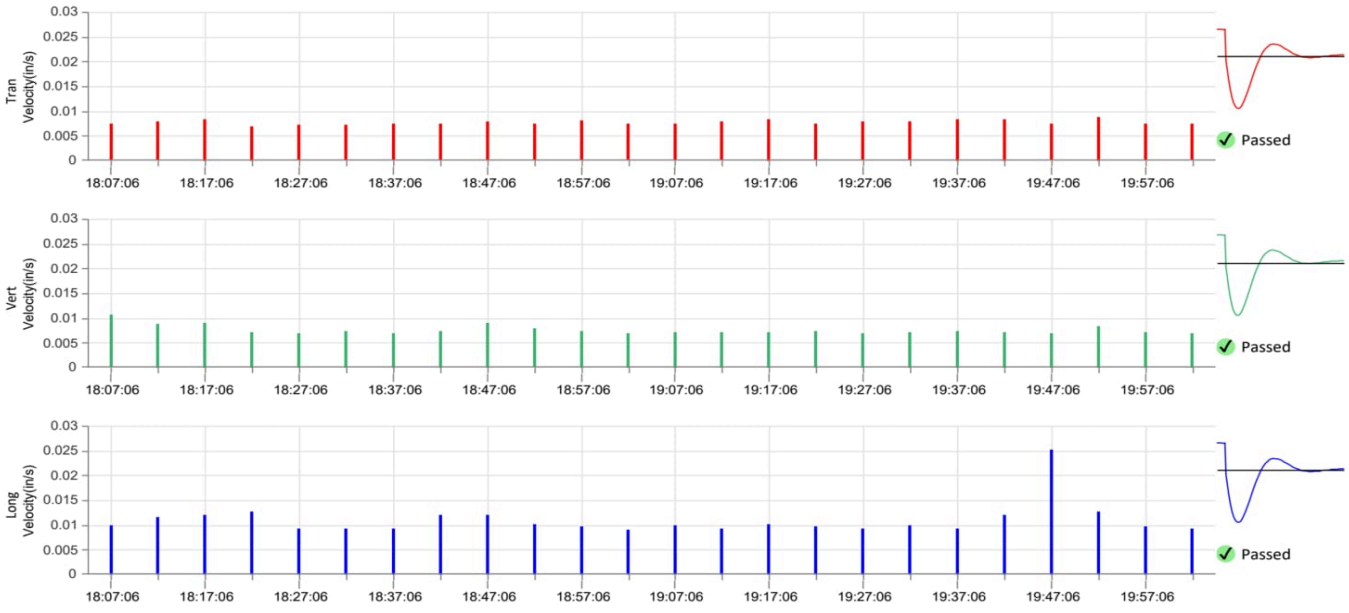
Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.0087 in/s	0.0106 in/s	0.0251 in/s
Zero Crossing Frequency	51.2 Hz	11.4 Hz	12.2 Hz
Date	Dec 11, 2024	Dec 11, 2024	Dec 11, 2024
Time	19:52:06	18:07:06	19:47:06
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.5 Hz	7.7 Hz	7.3 Hz
Overswing Ratio	4.1	3.8	4.3
Peak Vector Sum	0.0260 in/s at December 11, 2024 19:47:06		

USBM RI8507 And OSMRE
Velocity versus Frequency (Zero Crossing)



Sensor Check



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