

## **170 Western Ave S Sound and Vibration mitigation plan**

### **Vibration:**

Starting on 11-10-21, Neighbors at the following addresses were informed of the upcoming construction work by a visit and the attached letter.

555,557, 561 West 7<sup>th</sup>  
175 Western Ave S  
383 Good Hue  
159 Banfil  
159 Western

Following this notice, we installed vibration monitors in the following locations: 555 West 7<sup>th</sup>, 557 West 7<sup>th</sup> and 175 Western Ave. Also, per the request of the owner at Banfil Office Court, we moved the most intrusive work to Saturdays in an attempt to mitigate the concerns of this tenants. The monitors were provided by Northern Technologies Inc and are monitored on cellular service. Daily emails showing a summary of the day's events are sent at 7 pm each evening. In addition, there are two limits at which a notification is sent to the site team informing them that we need to take notice. The attached Vibration Monitoring Response Plan shows the limits, what the limits are based on and how this work is to be monitored.

Since the start of the excavation work, we have been monitoring for vibrations. We would propose continuing this system through the earthwork phase of construction. We would provide the daily reports to the City Inspector, Todd Sutter, showing that we are in compliance with the Response Plan. This can be done by adding him to the automatic distribution list. On the only occasion we reached the limit set forth in the Response Plan, work was stopped. On Saturday December 11<sup>th</sup>, we received two notices of two separate spikes in vibration. After the first spike, the vibration dropped back down right away. After the second, we shut down the job to reassess how the work is being performed. We do not intend to work when vibration is over the limit set forth by the third-party testing agency (NTI). When the vibrations spiked, the work being performed was rock hammering directly next to the 557 building. We have requested approval from the civil engineer to leave the rock level where it is at and alter the plan to allow the storm water retention system to remain at that elevation. Assuming we can get this approval, not further rock hammering will be required in this exact location.

Attached to this document you will find the daily reports since the monitors were turned on, Friday the 3<sup>rd</sup> of December.

### **Sound:**

We intend to monitor sound from the site on a full time basis during bedrock removal, excavation and coring. The properties proposed to be monitored include 557 West 7<sup>th</sup> Street and 175 Western Avenue South which are the closest in each direction to the work. Our consultant will utilize two InstanTel Vibration Monitors, both of which have sound monitoring capabilities in decibels. The sound feature on these monitors, while utilizing modem hookups will allow real time alerts to the construction team should the Sound Level Limit in the City of St. Paul's Noise source limitations table in Section 293.07 be approached or exceeded. Similar to NTI's Vibration Monitoring Response Action Plan, notifications will

be sent to the on-site construction team should sound levels approach the Not to Exceed levels as a warning mechanism for the construction team to pause and adjust methods. Emails will also be sent to the entire construction team should the Not to Exceed level be reached. At this point, the construction team will stop work and meet to assess work methods and discuss alternative options prior to proceeding.

In addition to the monitoring, we would propose placing trailers or connex boxes as a physical barrier between our property and the 557 property. The intent is for the boxes to block sound coming that direction and deflect sound away from that neighbor. This area is in the parking lot of the new building, and we believe we can maintain this barrier until the building is erected. We understand this is only an 8-12' tall barrier, but our belief is that most of the sound is created by the equipment close to the ground. In addition to providing a sound break, these boxes will keep and debris from leaving the site. In areas that are not near these boxes we can have panels with windscreen up against the fence to keep any loose debris on site.

One specific complaint we are aware of is the sound of the backup alarms on the equipment working on site. In reviewing the noise ordinance (Sec.293.07.d.2) there is an exemption for "Emergency signaling devices". We are assuming that these alarms qualify under that exemption. If they do not, we are concerned with accommodating the requirements from OSHA and also with the city of St. Paul. Any guidance here would be appreciated

Our understanding of the sound level ordinance is that it is measured on an "L10" basis. That would mean that sounds could spike above the 85dB level up to 10% of the time, or 6 minutes per hour. We are also making the assumption that the monitoring will be done at the property line and the threshold is 85dB. If these assumptions are incorrect, please let us know. We have laid out the specific methods we are proposing. If you have changes, suggestions or questions we are certainly open to them. We want to do our part to get this work done, but also to affect the surrounding community as little as possible. In addition to this plan, we filed a noise variance request with the City of St. Paul. The intention is that we would use that as final plan if no other solution can be found short of it. If further steps become required during the construction process, we will comply and take them. Thank you for the time you have into this process.

Chris Emond  
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